Innuos ZENith SE MkII server

by Jason Kennedy

Noise. That's what's wrong with digital audio reproduction. Yet how could this be? CD introduced the silent background, the hiss free 'inky blackness' that allowed the music to stand out. But it didn't... it just seemed to; digital audio appears to have very low noise, yet when you hear a system with far, far less noise it's a revelation. I know this for sure because I have heard it and it is not a subtle thing. This digital audio server makes it blindingly clear that noise is the biggest problem in digital audio. We know that the source is king – and in analogue this idea is well established – yet with digital audio we have been upsampling, filtering, and trying numerous other ideas to make things better and progress has been at best incremental. That's because these technologies do not address the fundamental problem, which is that noise (even at very low levels) undermines the potential of the medium. By dropping the noise so dramatically, the ZENith SE Mk II has made more progress in the quest for high fidelity in digital audio than all upsampling and high-resolution formats combined. But first the product.

Usually the SE suffix means a few tweaks here and there that refine a product without making any significant changes to its construction. Innuos has decided to go down the decidedly British route of understatement for its SE, and given that this ZENith SE MK II looks pretty much the same as its standard form stable-mate, you'd be forgiven for thinking that not much has changed except the colour of the faceplate. But you'd be wrong; this Special Edition is very special indeed.

However, what it is might need to be explained. The ZENith SE Mk II is a network server: essentially a NAS drive, but one that's been developed specifically for the purpose of serving up audio files to a streamer or DAC. It has connections for USB and Ethernet and its operating system is related to the one behind the Squeezebox network streamers that started this whole malarkey off. There are a few competitors in the audio server market place, but nowhere near as many as there are network streamers; it's a product type whose worth has yet to gain full recognition, a state of affairs that this Innuos will change.

A regular ZENith MkII can be purchased with 2TB of SSD drive capacity for £2,899 (or £2,299 with 1TB); the SE version is one whole pound under five grand for 2TB so where's the extra cost coming from? There are a number of differences, but the one that Innuos emphasises is the power supply, which was designed by Sean Jacobs who runs the misleadingly titled Custom HiFi Cables, a company that appears to specialise in power supply upgrades. Sean has a background in robotics and defence electronics, but clearly has a very good grasp of what matters in audio if the SE is anything to go by.

Other differences to the regular ZENith include three anti-vibration feet arranged underneath key components within the box. It looks a bit odd when you turn it over, but if this helps then the occasional tip when you lean on the wrong corner is a small price to pay. Innuos have also upgraded the internal wiring and improved the protection against EMI (electromagnetic interference).

Most of the set up options for Innuos servers are accessed via your web browser: just go to my.innuos.com and it will find the server on your network and give you a dashboard where you can choose to import files from various sources, select ripping format – that slot on the front is for this purpose – and even choose between fast and noisy or slow and quiet ripping modes. This is also where you can configure streaming accounts with a choice of Tidal, Qobuz, and Spotify Connect, a feature I've not seen on other servers to date, but whose function is limited to USB connections where you are pushing data direct to a DAC. Another feature that is even rarer is full Roon Core compatibility; few audio components have the computing power to run Roon in full effect and as a result often require an external PC for the purpose, but the ZENith SE Mk II does not. Other choices include whether to transcode DSD onboard or send a native signal to the DAC, and the option to use low latency with USB.

When using the ZENith's USB output you can control it with an app called iPeng that was developed for Squeezebox devices. It's a nice app, too; not free but inexpensive and better than many on the market. The Tidal/Qobuz interfaces aren't the slickest but they sound good coming from the ZENith SE, more open than I'm used to with network streamers.

The connections on the back consist of Ethernet for network and DAC and USB for back-up and DAC. Through the network connection, the ZENith acts as a switch, meaning one less (electrically) noisy computer peripheral in the room polluting the mains with its switched mode supply.

The ZENith SE Mk II's OS is not entirely idiot-proof when it comes to loading files. It uses three basic methods for file loading: direct from an attached USB drive, importing from a NAS, or by using the 'Auto-import' folder on the desktop. The latter seems the most straightforward until you try it on a wirelessly connected laptop and discover that it's painfully slow. This is because the data has to go through the PC between the source drive and the ZENith. The NAS import system is better because it bypasses that route but you need to know the precise path name of the NAS to keep it happy. This shouldn't be difficult and I succeeded when transferring from a Naim Unitiserve, but was less successful with a Melco N1A. The degree of ease seems to depend on the server software on the host drive.

The import process itself is a bit of a control freak. It goes through every file with a fine tooth comb to establish it's exact nature, which should be good for the state of the resulting library but results in numerous albums being rejected and put in the 'Unsorted' folder. You then have to figure out what's amiss with them and put them back into 'Auto-import' and hope that they pass next time. All library programs have foibles, but this one is the fussiest I have yet encountered.

This inconvenience is more than compensated by the results. Listening commenced with a USB connection to the mighty CAD 1543 MkII DAC, which revealed subtlety, precision, and a real sense of high resolution with CD quality material. The phrasing of brass was superb as was the sense of swing in the music; then I noticed involuntary movement of my fingers and realised that the 'air piano' playing had kicked in. It's a bad habit, I know, and one that I thought I had under control, usually with familiar material it's not an issue, but this told me something was different, something ▶

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▶ rather good was coming out of the system. Having found in the past that Ethernet is generally more musical than USB, I switched to an AURALiC VEGA G2 streamer/DAC and hooked up the Ethernet to the ZENith. The first thing that became apparent was just how quiet the background was on Anouar Brahem's *Blue Maqams*. This isn't noise *per se;* it's a reduction in the noise floor, something you can't hear directly, but it's clear when it goes down. This means you can hear more of the room acoustic and the quietest parts of the music, which while they may not be significant in themselves are what creates a sense of realism. They allow the recording environment to be brought into your room where a virtual live music event takes place; that is what happened with the ZENith/VEGA combination. The improvement was not directly attributable to the VEGA G2 itself, which I had used with my regular server for some time beforehand, but rather was due to the ZENith. Plainly the VEGA G2 had previously been held back by the source.

The more great performances I played the stronger this impression became, 'La Canción de Sofia' by Corea, Clarke, and White [*Forever* Concorde Records] is a live performance highlighting Stanley Clarke's double bass skills, in which the preamble to the solo does not draw attention. Here the atmosphere was electric and it was impossible not to be drawn in, so that when the solo came along the sense of presence was uncannily palpable, and it felt like being there in the audience. This degree of realism is not easy to achieve whatever the source, and frankly speaking digital audio would not be my choice when attempting it. Yet it prompted me to think: 'so this is what this system is capable of!'

The ZENith SE has such low distortion that you can turn the system up as far as you like. It's so effortlessly relaxed that it brings to mind reel to reel tape, but without hiss. Yes, it's that good. It also makes it clear that the order of importance with digital audio is not what we thought; if you can make 16/44.1 sound this good then sample rate isn't the issue; noise is the problem. It's insidious and cannot be removed from the music by merely doubling sample rate; only by removing it as far back in the chain as possible can we achieve genuine high fidelity. It comes back to the old adage that source is king, the server is in effect the turntable and arm while the streamer is the cartridge and the DAC the phono stage. They all matter but if the first part is distorted or just plain noisy then nothing later in the chain can make up for it. ▶

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TECHNICAL SPECIFICATIONS

Type: Solid-state music server with SSD storage and CD ripper

Storage: 2TB Samsung EVO SSD

Network connection: RJ45 Ethernet

Digital Outputs: RJ45 Ethernet direct, USB 2.0

Back up connection: USB

Formats supported: WAV, AIFF, FLAC, ALAC, OGG Vorbis, AAC, MP3, DoP (DSD over PCM)

CD rip format: FLAC (zero compression)

Streaming services supported: Qobuz, Tidal, Spotify Premium, Roon

User Interface: Web browser, third party control applications

Other Features: UPnP server, DLNA device compatible.

Dimensions (H×W×D): 70 × 420 × 320mm

Weight: 11kg

Price: £4,999

Manufacturer: Innuos

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URL: www.innuos.com

▶ Back to the music, and switching up a gear in resolution terms in the process, I gave some DSD a spin and was faced by a whole wall of music courtesy of Mozart's 'Violin concerto in D major' [Marianne Thorsen, *TrondheimSolistene*, 2L]. This encouraged an attempt at realistic concert hall volume in my listening room, something that proved a little bit much for the system/room combination. The laws of physics cannot be bent when it comes to physical scale it seems, which is why smaller ensembles and live performances work so much better. A larger live experience is to be found on an audience recording of Ryan Adams and the Cardinals performing 'Hallelujah' [*Live at Das Haus*, archive.org] where audience noise combines with a quiet song to produce a lump-in-the-throat experience that's very powerful indeed. All it takes is to close your eyes and you're in the auditorium, soaking up the energy in such a convincing way that it's hard to think of ways in which the sound could be bettered. Captivating is not a sufficient word to describe what this device is capable of. 'Gobsmacking' gets closer.

It seems that the path to digital audio nirvana has lain within the grasp of a canny engineer for some time. None of the elements employed within the ZENith SE Mk II are new but Innuos is the first, to my knowledge, to have put them together, to take the server that seriously. The company is a

server specialist, but not the only one. The closest competition I've heard is the CAD CAT (computer audio transport), which is in the same league but dedicated to USB operation (CAD has an Ethernet connection but it doesn't do what the Innuos does). With a run limited to 100 units I suspect that the ZENith SE MkII will be pretty scarce within a few months; hopefully it will be resurrected if demand is sufficient, but there's no guarantee. If you really want to know just how good audio reproduction in the home can be I strongly recommend that you audition this server at the earliest opportunity. Just remember to turn it up and close your eyes. They say that the only magic left is art. This product makes a strong case for that statement where music is concerned and I want one! +