

Nordost QNET network switch

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Nordost's QNET is not the first audiophile network switch, and that's a good thing. Instead of being first out the door with such a device, Nordost analysed what was good and bad about those first network switches and made a product that sets a new standard.

By the comparatively slow-moving pace of modern hi-fi, the audiophile-grade network switch had a surprisingly quick start. Only a few years ago, every part of the network infrastructure south of the streamer itself was pulled from the computer world, in no small part because we all accepted that because network data is packetized, none of the usual audiophile considerations need apply. However, after those first tentative steps into networked audio, it became clear that the ingress of radio frequency noise and electromagnetic interference were not only just as important to networked audio, but in a very real way, those off-the-shelf computer products were a source of interference for the entire audio system.

In short, that network switch connected to your streamer might just be messing up the sound of your turntable as well as your network audio!

The Early Years

The first generation of network switches varied between devices that added increasing levels of filtration and isolation to help limit the amount of noise being transmitted across your Local Area Network. Then, others realised that while network switches designed for general use were moving to ever faster Gigabit Ethernet pathways, for audio use moving to a deliberate low-speed network connection improves sound quality thanks to having less high-frequency noise in the 'pathway' itself.

With QNET, Nordost essentially draws together the amassed knowledge of what makes a good audio-grade network switch, and both builds upon that knowledge and adds its own distinct Nordost-shaped improvements to the mix. The five-port QNET features three 1Gbit/s and two 100Mbits/s ports, with the two 100Mbits per second >>





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» ports designed specifically for the audio side of the network (streamer and NAS drive, for example). The QNET is also unique among network switches in being hockey-puck shaped. This allows the five ports to be physically separated from one another, compared to the usual side-by-side connections found on everything from the most basic D-Link switch to distinctly highfalutin ones with price tags in the upper stratosphere. That physical spacing might not seem like too big of a deal, but with the radiation patterns of typical RJ45 connectors, proximity is a potential problem; having that 1Gbit/s connection to your router sitting next to the 100Mbits/s connector to your streamer may create some local RF breakthrough that could be drastically reduced simply moving the connectors a couple of centimetres apart. Nordost bakes this spacing into the QNET by virtue of its very design.

The puck itself is too small to house a power supply, and that's no bad thing too. Having an external power supply removes one further potential source of noise. What's more, the switch is designed to be upgraded by an external linear power supply; Nordost's QSource designed for the Qpoint resonance synchronisers is an ideal upgrade to the base QNET. That's sort of underselling the QSource; a linear PSU takes the already good QNET and transforms it. You are probably going to have high-grade Ethernet cables between QNET and everything it connects to, but if the next upgrade is either a better cable or QSource, go with QSource... every time.

I don't want to over-stress this upgrade path too strongly because the QNET on its own is a strong product in and of itself. I'd argue that even without the power supply, it is already in the top percentile audio-grade network switches. But, as soon as you move from the plug-top power to the QSource, there's a jump to be had. But this whole issue points to a potential change in the hierarchy of network audio.

When it comes to the 'audiophilication' of a home network, most tend to work backwards from the media renderer, starting with the media server, then the cabling and finally the network hardware itself. This is perhaps understandable as they arrived on the market in that order. However, I'd argue that the QNET pushes the importance of the network switch further up that order of purchases. In fact, I'd place it second after choosing a good media renderer/streamer, possibly even before you start picking out appropriate network cables!

Granted, I suspect that almost no-one will heed the 'switch-first' approach, but I think it's a worthy consideration to make alongside audio-grade Ethernet cables rather than afterward. Because wherever you are on the continuum of network audio, the QNET is going to enhance that system's performance.

To compare, we went from one extreme to another, with a simple Netgear Gigabit Ethernet switch to establish a baseline and an Ansuz switch to act as an audiophile competitor. I used both Naim and Melco servers (not at the same time), a QNAP NAS box and an Aavik S-580 streamer. Cables ranged from generic CAT 5e and CAT 6 Ethernet cables to a broad spread of more audiophile-related designs (I consciously avoided both Ansuz and Nordost cables, just in case using them stacked the deck in favour of either switch).

The big showdown

Starting with the Netgear device, on the plus side it can send data between devices efficiently and gets a slight dewy-eyed pass because it was the device that sat in my system for so long. Against this is what it does to the music by comparison. Music sounds flat, listless, and lifeless here. It's a grey and flaccid music, robbing the sound of its potential as well as energy. At its worst, it sounds like the reason people listened to streaming and stayed with CD. It can be polished with the right tools, but the fundamental sound compromised when compared to The Right Stuff.

Nordost's QNET is very much made of 'The Right Stuff.' In truth, I've often found some of the first generation of audiophile network switches to be a little 'Meh!'; they do a better job than the computer-side equipment, but the sound they make is still a little grey and flat. Less grey and more inspiring than a cheap switch, but not by enough to really warrant the time and money involved in purchase and installation. The Ansuz is one of the exceptions, as it removes so much noise from the signal, it remains a distinct benefit to performance. But QNET goes to the next level, as befits what is very likely the next generation in a fast-moving subset of audio.

What QNET does better than the network switches I've tried thus far is make the music sound more 'believable'. I think this might be the 'electronicky' sound that some think sets physical discs apart from their streamed and downloaded counterparts. I must admit that this more 'believable' sound is somewhat intangible, or more





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» accurately is something that exists outside of our usual set of audio descriptors and terminology. However, it's clear throughout; the slightly distorted, English-language version of 'Hatikvah' (the Israeli national anthem) at the start of 'Come Down' by Anderson .Paak both comes through with greater clarity but also just hangs together and integrates with the rap in the rest of the track. The track 'works' even on the most basic of network infrastructure, but on the QNET, the choice of intro makes more sense, and the track sounds considerably more real and believable.

The acid test



Arguably the acid test of streaming is to play a track you know well on CD, on the ripped version of that CD stored locally, and then a third time from an online streamed source. I did this with several tracks, ranging from tracks like 'Isis' from Bob Dylan's *Desire* album, through Gould's rendition of Bach's 'Goldberg Variations', right through to a quick blast of a few Infected Mushroom tracks. In each case, when using the QNET, the CD and the ripped version of the CD performed equally well, and the online version was either functionally identical, better, or worse depending on mastering, but in all cases retained the expressive and communicative nature of the CD player, something that can get a little lost in the network.

Thanks to Nordost's QNET, network audio just took a leap forward in listenability. It makes your streamed music sound more like music and it's only when you realise just how far from that goal we usually are with networked audio that you begin to understand how important this humble-looking audiophile hockey puck is going to be. +

Technical specifications

Type Streaming audio network switch.
LAN Ethernet ports two 100Mb, three 1GB (via RJ45).
Switching environment Layer 2, unmanaged
Port types Auto-negotiated (ports 1, 2, 3) and fixed/full-duplex (4, 5)
Clock low-noise oscillator, frequency not specified
Features external SMPS with upgrade option
Finish Black
Dimensions (HxWxD) 34.2 × 34.2 × 165mm
Weight 880g
Price £2,890

Manufacturer Nordost  nordost.com

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