



iFi Audio NEO iDSD

IT'S NOT QUITE THE LATEST ARRIVAL FROM THE SOUTHPORT-BASED COMPANY – THE SPEED AT WHICH IT'S LAUNCHING NEW PRODUCTS HAS SEEN TO THAT – BUT THIS SLENDER AND FLEXIBLE DAC/HEADPHONE AMP/PREAMP IS A REMARKABLY APPEALING DEVICE, SAYS ANDREW EVERARD

Sometimes it's hard to keep up with the range offered by British-based outfit iFi Audio, so rapidly does it seem to launch new models. As an example, the NEO iDSD isn't the only product from its stable to feature in this issue of HIFICRITIC: elsewhere Chris Kelly finds himself rather taken with the very affordable Zen Phono, which is an excellent solution for the vinyl enthusiast on a budget, while that entry-level Zen range has also recently gained two new Signature models – a DAC and a headphone amp – featuring upgraded components and a still-very-attractive price of £249 apiece.

Given the lead-times involved in magazine publishing (although we run tighter than most in this respect), chances are there'll be even more iFi Audio products by the time you read this. They'll join a range running from the whimsically-styled hip-dac portable DAC/headphone amp up to the striking Aurora all-in-one music system and the flagship Pro iDSD. If you have a need for just about anything digital, the company has something to offer.

As a desktop digital converter, the NEO iDSD slots in between the ZEN models at one end of the range and that flagship Pro iDSD and, at £699, is a fraction of the price of the £2499 top-end model. It's mains-

powered only, with an iFi Audio iPower plugtop power supply provided – though given that the power requirements are 5V DC/2.5A, you could run it using a suitable USB cable (not that there would much advantage in doing so, given the quality of the supplied power unit). As an alternative, you can upgrade the power source to the company's iPower X, using the company's latest-generation Active Noise Cancellation, for an additional £99.

The NEO iDSD may be slender, measuring just 21.4cm wide and standing a smidge under 4cm tall, but it packs plenty of flexibility into its compact frame, along with much of the technology the company

has developed for its digital range. It's a simpler configuration than the Pro iDSD, which offers features such as switchable solid-state/valve output stages and a choice of digital filters, but for most hi-fi enthusiasts the NEO iDSD will offer everything necessary, along with a high standard of performance.

Multiformat Bluetooth

Inputs are provided on optical, coaxial and USB 3.0 sockets, with a substantial cable provided for the last of these, and the NEO iDSD also has Bluetooth – or, as the company puts it, 'bleeding-edge Bluetooth', in that it conforms to the latest 5.0 standard, thanks to the use of latest-generation Qualcomm QCC5100 Bluetooth processing silicon. This handles all the common Bluetooth codecs, plus a wide choice of the proprietary HD formats adopted by the mobile phone companies: the full range is Qualcomm's aptX Adaptive and aptX HD, capable of handling 48kHz/24bit; Sony's LDAC and Huawei's LHDC, each of which are 96kHz/24bit-capable, regular aptX and aptX Low Latency, as well as AAC and SBC. The Qualcomm chip is upgradable 'over the air', which should promise ongoing compatibility

Depending which of the wired digital inputs you use, the NEO iDSD can handle PCM-based audio up to 768kHz/32bit (including single- and double-speed DXD), and single-bit audio all the way up to DSD512/11.2MHz. Of course, the highest resolutions are only available with a USB input from a computer, which is surely how the unit is most likely to be used, but an interesting twist here – as in other iFi Audio DACs – is the use of entirely separate digital signal paths for PCM and DSD audio.

This is made possible by the use of the company's favoured Burr-Brown conversion, the four-channel DAC package offering 'True Native' working, ensuring bit-perfect operation, unlike DACs designed to handle DSD via translation to PCM. The NEO iDSD also has full MQA decoding, able to deliver sampling rates up to 384kHz.

The digital processing upstream of the DAC is of in-house design, running on a low-latency X MOS 16-core processor with 512KB of memory and a 2000MIPS clock speed to handle the S/PDIF inputs as well as the high-speed USB connection. However, there's no DSP manipulation of the digital signal between input and DAC.

The unit also uses the company's GMT (Global Master Timing) femto-precision clock and intelligent memory buffer to suppress jitter, along with high-quality components from Murata, TDK and TI, and the internal switching is FET-based, with a microcontroller designed only to be active when a setting is being changed, before going back to sleep to reduce interference. Even the display is an OLED 'SilentLine' design, switching off when not in use.

The NEO iDSD offers balanced and unbalanced outputs for connection to a preamp or power amplifier – thanks to switchable line/variable level working – on XLRs and RCA sockets, with a decent connector cable provided for the latter, as well as connections for conventional and balanced headphones. Front-panel headphone outputs are on a standard 6.3mm stereo socket (with a 3.5mm adapter provided) and a four-pole 4.4mm Pentaconn for balanced, which seems to be developing as a popular choice for such connections, even if we seem to be some way from having a standard for balanced working. Fortunately there's a good range of adapters and cables out there for the various balanced plug options provided by headphone manufacturers, from different sizes of Pentaconn to variations on the XLR theme: for most users this will involve just one adapter to suit their choice of headphones, but 'head-fi' enthusiasts (and hi-fi reviewers!) may amass a boxful of connectors.

The analogue section of the NEO iDSD matches the directness of the circuitry upstream of the DAC, being of a dual-mono, symmetrical balanced design built to keep signal paths as short as possible. iFi Audio, which – as you may have gathered by now – has something of a penchant for swish names for its technology, calls this PureWave, and claims for it 'exceptional linearity and infinitesimally low levels of noise and distortion.'

Desktop appeal

Many users will want to place a device such as this on their desktop, between a computer and either headphones or powered/active speakers, so – along with a 'credit card' remote handset for input/volume adjustment – iFi Audio also supplies a neat little stand, of the same high-grade aluminium as the NEO iDSD's casework, into which the DAC can be placed on end, thus greatly reducing its already-not-exactly-huge footprint. Do this and the display, now at the top of the unit rather than on the left side, re-orientates itself to suit the upright format – it's not a unique trick in the hi-fi world, but it's still a neat one.

Slender and stylish the NEO iDSD may be, but this is no 'toy hi-fi': whether it's used as a main hi-fi component – where admittedly it will be dwarfed by the rest of the contents of your equipment rack – or to provide desktop listening, this is a very serious piece of equipment, miniaturised. And the pleasure in using it isn't just in the sound it delivers, however you use it: while some may bemoan the lack of tweakability here, in the form of multiple modes of working, my view is to applaud the iFi Audio engineers for finding the configuration they like, and then sticking with it.

I've spent far too much time when reviewing other digital components fiddling with various filter profiles

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Specifications

iFi Audio NEO iDSD

Type DAC/headphone amp/
preamplifier

Price £699

Inputs Optical/coaxial digital,
USB 3.0, Bluetooth 5.0

Outputs Unbalanced headphones
on 6.3mm socket,
balanced headphones on
4.4mm Pentaconn socket,
fixed/variable level analogue
on RCAs and balanced XLRs

File formats

PCM up to 768kHz/32bit,
DSD up to DSD512,
DXD/DXDx2, Bluetooth with
aptX/aptX HD/Adaptive/
Low Latency, LDAC, LHDC,
AAC and SBC

Accessories supplied

Stand for 'vertical' use,
iPower power supply,
remote control,
RCA analogue interconnect,
USB type B cable,
3.5-6.35mm headphone
adapter,
Bluetooth antenna

Dimensions (WxHxD)

21.4 x 4.1 x 14.6cm

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and other settings, at the expense of listening: it's unlikely you'll settle on a single set-up that sounds optimal for every track on an album, let alone every album in your collection, and the niggling thought 'I wonder what happens if...' is without doubt a path to indecision and frustration. For those reasons, the decision here to 'KISS' – keep it simple, stupid – makes it easy not only to get the NEO iDSD up and running, but also enjoy what it can do.

Power, poise and control

And what it can do is very special indeed: it has the power, poise and control to drive a wide range of headphones extremely convincingly, while at the same time being a good choice as either a DAC or a DAC/pre, being by no means outclassed – or 'found out' – when used with high-quality amplification and speakers. There's weight, bass grip and speed here, allied to a beautifully forthright yet refined midband and treble, as is clear with Allen Toussaint's 'Yes We Can Can', opening the Nonesuch *Our New Orleans* benefit album from back in 2005: heavens, this is a vivid track, from the focused vocals through every instrument the mix, and the NEO iDSD delivers it with all its vitality and presence intact, whether through the revealing Focal Spirit Pro headphones or the warmer sounding Bowers & Wilkins P9 Signatures, not to mention when running through powerful amplification and big speakers.

In fact, the whole of this album is not just musically uplifting, but of demonstration quality (in the good sense), to the extent that a friend and I were marvelling the other day that it isn't better-known in hi-fi circles, and whether with the Randy Newman's 'Louisiana 1927', complete with full orchestral back, or the punchy Ry Cooder/Buckwheat Zydeco take on 'Let's Work Together', it

has the wherewithal to let this rich but fine-detailed component do its stuff.

There's something totally unforced and organic in the sound here, far from the old cliché of digital audio, as is apparent with the gloriously light touch of the Sinfonia of London under the redoubtable John Wilson playing Britten's 'Variations on a Theme by Frank Bridge' on the recent *English Music for Strings* set (Chandos). The power of the headphone output is much in evidence with the speed and deftness of the playing of the second variation – especially so when driving a pair of Oppo's PM-1 planar magnetics in balanced mode – before sliding into the smoothness of the third section, while the glorious string tone is maintained throughout.

Oh, and this little DAC/amp has plenty of growl up its sleeve, as is clear with the slick electronica of Steven Wilson's *The Future Bites* set, whether with the sparse backing of 'King Ghost', or the grumbling bass of 'Eminent Sleaze' underpinning its strings: this album sounds mighty fine through speakers, but for the full sense of unease, immerse yourself in via a pair of cans and let the soundscapes bounce around you. Then lighten up with Anna Vinnitskaya's set of four ballades and four impromptus by Chopin on Alpha, at turns featherlight and delicate and pulsating with power, and let the effortless precision in the sound sweep you along with the playing.

That detailed, layered sound also serves well the electronic soundscapes of Ákos Nagy's 'Hommage à Rothko', which is presented in both electroacoustic form and with conventional instruments on the *Lineaments Vol. 1* set (Hunnia Records) in the DSD256 in which it was recorded.

With due modesty(!), Nagy says in the liner notes, 'As I think to myself as a par excellence electronic composer', but you can hardly argue with the rich, textured and occasionally disturbing sonic pictures he creates, delivered with impact and energy via the NEO iDSD, from the two 'Rothko' versions to the ghostly foghorn tones of 'In dem Nebel.'

Concluding the formal listening with the recently-released DG recording of Rachmaninoff's *Symphonic Dances* (Philadelphia Orchestra, conducted by Yannick Nézet-Séguin), through which the NEO iDSD slid with consummate ease, explosive power and a sound to captivate, I found myself coming to the inescapable conclusion that this little device is pretty close to all the DAC most listeners would ever need: it's space-efficient, fine-sounding, flexible, simple to use, beautifully engineered and finished – and remarkably affordable for all it offers. Yes, it may be part of a range encompassing a dozen DACs – at least at the time of writing, but there may well be more by the time you read this! – but this is far from just another 'me too' product.

