

Press release

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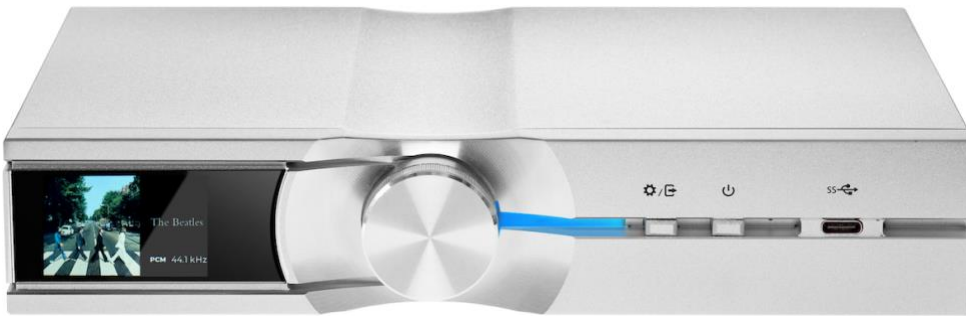
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Above iFi NEO Stream network audio streamer

Sweet streams

The latest device to join iFi's mid-level NEO Series is a music streamer/DAC that delivers class-leading versatility and performance

Southport, England – Digital streaming is now the primary method by which music is consumed, whether from online services or locally stored files. There are various ways to invite network music streaming into one's home, from Wi-Fi-equipped smart speakers that can cost less than £50, to more expensive all-in-one streaming systems, to multi-component separates systems. As with physical formats like CD and vinyl, building a system from well-chosen separates – for example, matching a music streamer with an amp and a pair of speakers – will achieve the best sound quality.

iFi's new NEO Stream is built from the ground up to deliver optimal versatility and sonic performance. It combines the latest version of iFi's exceptional network streaming engine with a superbly engineered DAC stage; combine it with the amp and speakers of your choice and it will deliver a level of audio streaming performance previously unattainable without spending much more than its £1,299 price tag.

The NEO Stream is distinctly different from other music streamers on the market, thanks to its clean-sheet design and raft of proprietary tech. Most manufacturers 'buy in' streaming platforms and hardware to incorporate in their music streamers; this means there is little to choose between them in terms of functionality and performance. Some tie you down to a 'walled garden' approach, limiting you

to a specific control app and/or partnering equipment. The NEO Stream completely removes these limitations, both functionally and sonically. It's the ideal streamer for passionate music lovers who want to access their music through *their* choice of control app or music platform, and always experience exceptional sound quality, without the exorbitant price tags of other high-end streamers.

NEO by name – and by nature

The NEO Stream is the second device to join the NEO Series – iFi's mid-level mains-powered range for home use, sitting between the ZEN Series and Pro Series. The name 'NEO' was chosen because the first device in the series, the NEO iDSD, featured an all-new design and several features new to its product category. The NEO iDSD – a DAC/headphone amp with USB, S/PDIF and Bluetooth connectivity – remains current, but while it may be tempting to assume the NEO Stream is a NEO iDSD with a streaming module added and the headphone amp removed, this assumption would be inaccurate.

The NEO Stream's desktop-size chassis and aluminium casework clearly resembles the NEO iDSD. But while its circuitry builds on existing iFi designs, its internal architecture and attendant attributes are unlike anything else on the market. This is a new kind of music streamer, built by passionate enthusiasts, expressly *for* passionate enthusiasts.



Left The NEO Stream's neat, compact form belies the sophistication of its purpose-built, high-performance circuitry and versatile design

Open-source architecture – audio streaming unleashed

Many audio streaming devices lock users into a specific platform. That is not necessarily a problem, assuming the facilities on offer are in line with the user's requirements and they are happy with the interface. But, if they want to select their preferred streaming platforms and apps without restriction, with the ability to adapt and evolve as requirements change, a device with an open-source architecture offers clear advantages.

iFi has developed its own streaming engine, purpose built to deliver flexibility and performance. Its open-source nature, built on a powerful quad-core ARM Cortex processor and Linux-based operating system, enables it to evolve over time, whilst ensuring users are not locked into a specific platform. You choose the way you want stream, select your favourite app or streaming platform, and rest assured that music will be delivered at the highest possible sound quality, however your system is configured.

Crucially, iFi's streaming engine has been designed from the ground up for the sole purpose of high-quality audio streaming. The hardware has been built to deliver the best possible sound quality, working in harmony with iFi's in-house software development. From the device drivers, to the kernel (the heart of the operating system), to the shell (which interfaces with the kernel), to the applications and the user interface, everything is fully optimised for seamless operation and excellent sonic performance.

The firmware at the heart of this bespoke streaming engine was first utilised in the ZEN Stream – a 'streaming transport' that launched in 2021 – and has evolved significantly since. ZEN Stream users have already benefitted from updates to improve performance and functionality; the NEO Stream combines the latest version of this firmware with enhanced hardware to deliver something truly special.



Left The NEO Stream can be positioned vertically as well as horizontally, its display rotating 90 degrees automatically, making its footprint even smaller

Superb sound, no matter how you stream

There are multiple ways in which the NEO Stream can interface with online streaming services or music stored on your local network, and thanks to the NEO Stream's open-source architecture these will expand over time. Here are some of the options provided at launch:

- **Roon Ready**
The Roon platform has become the standard-bearer for high-quality digital music management and streaming, thanks to a great interface, strong flexibility and high-quality sound. The NEO Stream has Roon Ready certification, which means it's ready to slot straight into a Roon audio environment and work seamlessly with Roon software.
- **DLNA/UPnP**
Any DLNA/UPnP-compatible streaming app (for example: BubbleUPnP, mconnect, Audirvana and so on) can be used to control the NEO Stream and access audio content from online services and DLNA-certified network storage devices.
- **Integrated Tidal Connect and Spotify Connect**
Users of these hugely popular online music services can stream directly from the Tidal and Spotify apps – simple, seamless and effective.

- **Apple AirPlay**
Integrated Airplay ensures easy streaming from Apple devices.
- **NAA operation**
The NEO Stream can operate as an NAA (Network Audio Adapter) in conjunction with Sygnalist HQPlayer software – favoured by many serious music streaming enthusiasts. This means it can direct packets of audio data received over Wi-Fi or Ethernet cable straight to the connected DAC without applying processing.
- **Streaming from local storage with Stream-iFi app**
iFi's 'Stream-iFi' app is simple tool to aid initial set-up of the NEO Stream and initiate streaming from local storage devices – a NAS drive, for example.



Left Stream albums, radio stations and more via your favourite platforms, in every possible format and resolution

Ultra-resolution digital audio

The NEO Stream can be used in two ways: connect to an amp and speakers via the onboard DAC stage and analogue outputs, or connect one of the available digital outputs to an external DAC. In the latter mode, the NEO Stream acts as a 'streaming transport' or 'network bridge', like the ZEN Stream but with a higher level of 'ultra-resolution' performance.

Whether the onboard DAC is engaged or not, the NEO Stream's hi-res audio support is state-of-the-art: PCM data to 32-bit/768kHz, all levels of DSD up to DSD512, and single- and double-speed DXD. Remarkably, this level of hi-res audio is not only supported over the LAN and USB cable inputs but over Wi-Fi too. (A stable, full-strength 5GHz Wi-Fi signal is required for 384kHz PCM, DSD256 and above.)

MQA – the hi-res streaming technology, as used by Tidal's 'HiFi Plus' tier – is comprehensively supported, with full decoding of MQA files up to 384kHz. This means that the full 'three unfold' decoding process can be performed internally, as opposed to only the final unfold in the manner of an MQA 'renderer'. When the digital outputs are used to connect an external MQA-supporting DAC, both MQA passthrough and 'first unfold' are supported.

Custom DAC stage for exceptional sound

The NEO Stream's integral DAC stage is based around a Burr-Brown chipset that iFi uses extensively, selected for its natural-sounding 'musicality' and True Native architecture. iFi's experience with this IC means it knows how to make the most of it; but whilst intrinsic to the resulting sound, the creation of an exemplary DAC stage involves much more than the selection of a particular DAC chip.

One such critical component is the XMOS chip that iFi uses to process audio data received over the digital inputs. The NEO Stream incorporates a 16-core XMOS microcontroller, programmed by iFi's in-house team to optimise sound quality and ensure a perfect partnership with the Burr-Brown DAC.

Thanks to the DAC chip's four-channel True Native design, PCM and DSD take separate pathways and remain 'bit-perfect' in their direct-native form, right through to analogue conversion. In the case of DSD, there is no conversion to PCM or application of multi-bit processing – this is unusual and makes the NEO Stream an excellent choice for DSD purists.

Well connected. And then some...

The NEO Stream offers a connectivity array that is unique in a network music streamer at its price, both in breadth and specification, providing unparalleled versatility across a range of system configurations.

Inputs

- Dual-band Wi-Fi reception (2.4GHz and 5GHz) with 802.11 a/b/g/n/ac support
- Gigabit Ethernet (LAN) – 1x RJ45; 1x M12; 1x Optical LAN (see below for more information)
- 2x USB-A (USB2.0 and SuperSpeed USB3.0 supported)
- 1x USB-C system update port (OTA – Over The Air – updates also available)

Outputs

- Analogue – 1x stereo RCA; 1x 4.4mm balanced
- Ultra-res digital (PCM 768kHz, DSD512) – 1x HDMI-I2S; 1x USB-A (USB3.0)
- Hi-res S/PDIF digital (PCM 192kHz) – 1x optical; 1x coaxial; 1x AES/EBU



Left Around the back, the NEO Stream's remarkable array of connectivity options adds to its versatility

Optical LAN – for the clearest view of the music

For those connecting to their network router via cable rather than relying on Wi-Fi, the NEO Stream includes a unique option alongside its RJ45 and M12 ports – optical LAN. This is iFi's own technology and it works by connecting an OptiBox transceiver to the router, and the NEO Stream to the OptiBox via an optical cable – both the OptiBox and cable are included with the NEO Stream.

Optical LAN delivers the highest quality digital audio connection possible between the router and the streamer, enabling ultra-fast data speeds of up to 10Gbps and bit-perfect transmission of ultra-resolution audio, with minimal degradation across distances of up to 1km. The LAN signal from the

router is regenerated, reclocked and rebalanced by the OptiBox; true galvanic isolation is applied, with zero parasitic capacitance and inductance.

Come on, heal the noise

From the digital inputs to the true-differential balanced analogue output stage, the NEO Stream has been painstakingly engineered to remove noise and distortion from the audio signal. The USB ports – both input and output – benefit from iFi's ANC II active noise cancellation; similarly, the S/PDIF outputs incorporate iPurifier technology. The digital signal is regulated by the latest version of iFi's femto-precision GMT (Global Master Timing) clock circuitry to eradicate jitter – an insidious form of digital distortion. Even the two-inch retina-grade TFT display boasts SilentLine design, ensuring it generates no electrical noise to interfere with the audio signal.

Carefully chosen circuit components include discrete, high-grade surface-mounted devices such as TDK COG multilayer ceramic capacitors and inductors from Taiyo Yuden and Murata. These are more costly than commonly used equivalents, but class-leading qualities such as low ESR (Equivalent Series Resistance), high linearity and low noise pay great dividends in terms of sound quality.

Voltage regulators with high PSRR (Power Supply Rejection Ratio), low idle current and low dropout are used, together with a synchronous 1.2MHz high-speed power supply controller which improves filtering efficiency and ensures power supply noise is vanishingly low. This couples with iFi's iPower 2 AC/DC adapter, which engenders significantly less noise than other similar devices owing to ANC II technology and is included with the NEO Stream (£69 when sold separately).

All this attention to detail contributes to the NEO Stream's pure, distortion-free performance. To the ear, this translates as more clarity and texture, and a more dynamic and engaging performance – quite simply, you hear more of the music, just as the artist intended.



Left The NEO Stream's dual-sided circuit board combines advanced ICs, discrete audiophile-grade components and specially designed low-profile heatsinks

Suits you, sir

Several different settings allow users to tailor the NEO Stream's performance to suit their system and the way they like to stream. For example, users can select between Exclusive Modes – individual settings that optimise performance by focusing operation on one mode of use. There are specific settings for Roon, Tidal Masters, DLNA and NAA, as well as a general mode for multi-platform use.

Further personal tailoring is provided by four user-selectable digital filters, each of which has a subtle but clearly discernible effect on sound. Users can switch between Bit-Perfect, GTO (Gibbs Transient Optimised), Minimum Phase and Standard, according to personal taste and whichever setting best suits their choice of music.

Small yet mighty

The NEO Stream's compact form (214x151x41mm) means it can be accommodated in tighter spaces than network streamers of traditional 'hi-fi separates' size. It can be positioned horizontally, or vertically on the supplied stand – its display flips automatically to suit the user's preferred orientation – while a smooth-acting multifunction rotary control ensures the NEO Stream is simple to use, despite its sophistication and versatility.

The two-inch retina-grade TFT colour display may be smaller than the displays found on some other streamers, but iFi believes the advantages of more compact device that's easier to fit on a desk or shelf outweigh the benefits of a larger display. Most people will spend far more time looking at the screen on their control device – a smartphone, tablet or laptop, for example – than the display on the streamer. Even so, the NEO Stream's display shows a useful array of text and graphics, including cover art.

The NEO Stream is available from selected retailers from 23rd September, at an RRP of £1,299. Accessories supplied in the box include: OptiBox optical LAN transceiver and optical cable; USB-A to USB-C cable; RJ45 Ethernet cable; analogue RCA cable; iPower 2 power supply; aluminium stand for vertical orientation.



iFi is the sister-brand of Abbingdon Music Research (AMR) and is headquartered in Southport, UK. The two brands respectively design and manufacture portable, desktop and lifestyle audio products and high-end hi-fi components. Combined in-house hardware and software development teams and a 'music first' approach enable iFi and AMR to create advanced audio products that deliver new levels of design, functionality and performance at their respective price points. Since iFi's formation in 2012, its products have earned many awards around the world, helping it to become one of the fastest-growing brands in its field.

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