



*NEO iDSD 2*

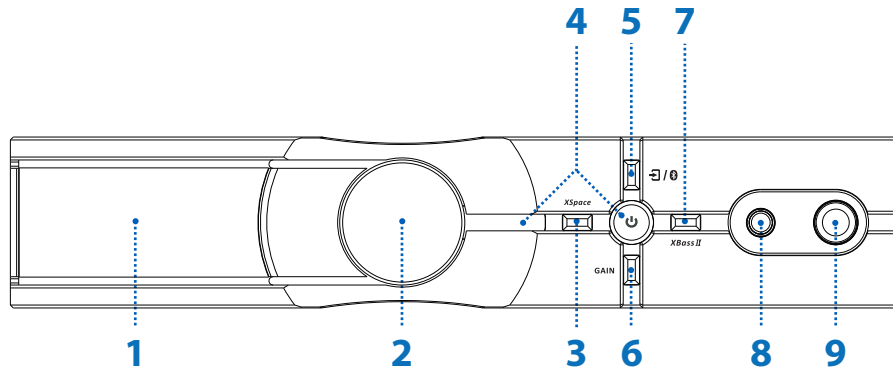
User Manual



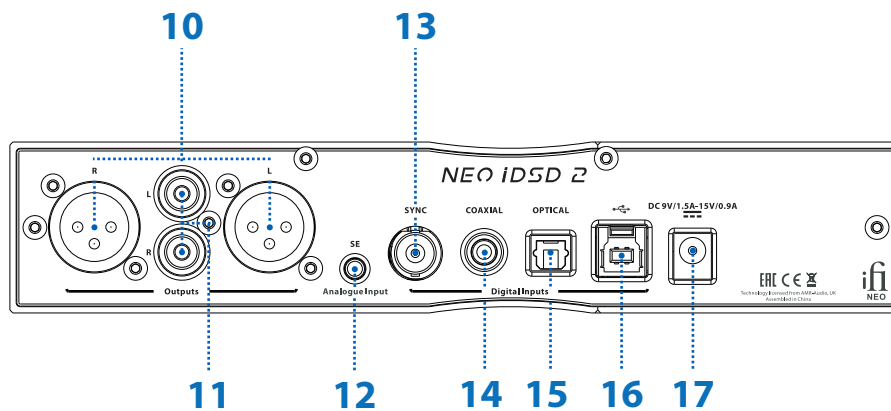
**Thank you for purchasing the iDSD from Neo series.** The **NEO iDSD 2** is a balanced USB and Bluetooth Ultra-Res DAC + headphone amplifier

### **FEATURES:**

- Versatile audio hub: DAC, preamp and headphone amp
- Ultra-Res digital audio – 32-bit/784kHz PCM, DSD512 and full MQA decoding
- Dual-core DAC design enables true-native DSD and PCM
- Advanced jitter reduction – GMT femto-precision clock and smart storage cache
- Four user-selectable digital filters – fine-tune sound to suit the source material
- State-of-the-art HD Bluetooth 5.4 – fully optimised performance, whatever your source device
- Every Bluetooth format supported: aptX Lossless, aptX Adaptive, LDAC, LHDC/HWA and more
- Enhanced PureWave fully balanced dual-mono circuit design delivers ultra-low distortion
- Exceptional power drives the toughest headphone loads (5x the power of the first-gen NEO iDSD)
- **XSpace** and **XBass II** – adjust soundstage and frequency response to match your headphones
- iPower 2 included – audiophile AC/DC power supply with Active Noise Cancelation
- Position horizontally or vertically – 2-inch colour display rotates to suit orientation



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## 1. TFT Display

The TFT display shows the current input channel, Gain, XBass, XSpace, format, sample rate, and power mode.

*Tip: TFT screen should be on the left-hand side when NEO iDSD 2 is positioned horizontally, and at the top when positioned vertically.*

## 2. Multi-function dial

Controls:

- Analogue volume control (turn)
- Mute (short press)
- Menu settings (long press 3s)

### **Analogue volume control and Mute**

Turn the dial to change the volume. The analogue volume control in the NEO iDSD 2 is superior to any digital volume control.

### **Mute**

Press the rotary dial to mute. To unmute, press it again or turn it.

## Menu settings (long press 3s)

Controls:

- Digital Filters
- Gain
- Volume sync
- BT voice prompt
- External sync clock
- Line out volume ctrl
- Factory Reset
- About

*Note: Rotate to select function, short press to confirm selection or toggle on/off mode. No operation within 10 seconds, the display will return to the home. If there is no operation within 10 seconds, the display will return to the home screen.*

### I) Digital Filters

The following 4 digital filters are available:

- 'BP'** Bit-Perfect: no digital filtering, no pre or post ringing
- 'STD'** Standard, modest filtering, modest pre and post ringing
- 'MIN'** Minimum phase, slow roll-off, minimum pre and post ringing
- 'GTO'** Gibbs Transient-Optimised: up-sampled to 352.8/384kHz, minimum filtering, no pre ringing, minimum post ringing

*Note: If the GTO filter is selected, the display indicates the sample rate as 352.8kHz or 384kHz, illustrating the upsampling operation of this filter.*



## II) Gain

Can be switched between these four gain modes (see item 6 for details):



iEMatch > Normal > Turbo > Nitro

## III) Volume Sync

Turns the volume sync on/off. It is off by default.

## IV) BT voice prompt

Turns the bluetooth voice announcement on/off. It is off by default.

## V) External Sync Clock\*

10MHz External Sync Clock input on/off. It is off by default.

When set to "On", if no 10MHz clock is detected, or if there is an error in the external clock signal, the display will indicate the error and the NEO iDSD 2 will automatically switch back to its internal clock.

## VI) Line output volume ctrl (control)

Turns the line output volume control on/off. It is off by default.

This mode will determine whether the NEO iDSD 2 analogue line output section volume control is used.



## VII) Factory Reset

Select "Apply" to perform a factory reset. The iFi logo will appear on the screen and the device will reboot after a successful operation.

*Warning: Factory reset will delete all stored Bluetooth pairings, digital filtering will default to BP, Bluetooth voice announcement on, default screen brightness high, default input channel USB, default volume 68dB, default gain 0dB, default XBass and XSpace off.*

## VIII) About

View the device name and the current firmware version number.

### 3. XSpace Matrix On/Off

The **XSpace** Matrix on/off recreates a holographic sound field.

It is a purely analogue signal processing circuit designed for listening to headphones as if one was listening to speakers. This addresses the 'music inside the head' sensation, which can make for uneasy listening.







## 4. Power On/Off and Brightness

### Power ON/OFF

Long press the power switch to power on/off.

### Screen Brightness (Short press)

-  **High** High brightness mode. The display brightness always remains High.
-  **Med** Medium brightness mode. The display brightness always remains Medium.
-  **Low** Low brightness mode. The display brightness always remains Low.
-  **Off** Sleep mode. If no operation is performed within 10 seconds, the display will turn off.

## 5. Input selector/Bluetooth pairing

This cycles between the following inputs:



USB



Bluetooth



Coaxial



Optical



Line (3.5mm)



Auto

*Note: Please select the input channel according to your audio source. For example, when using USB input, you need to switch the input channel to "USB".*

*Note: When Auto mode is selected, the input signal is detected and the input channel is automatically switched.*

*The NEO iDSD 2 receives Bluetooth signals via aptX Lossless, aptX Adaptive, aptX, LDAC, LHDC/HWA, AAC and SBC.*

## Bluetooth pairing

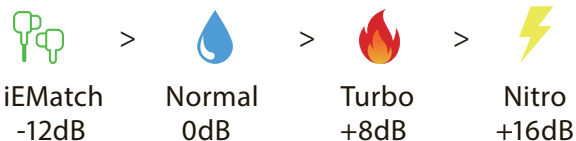
When the Bluetooth input is selected, the Bluetooth icon in the display will repeatedly blink twice and search for a previously paired device. If a stored device is not found, it will automatically enter pairing mode and flash.

Press and hold the button (1s) to enter pairing mode until the Bluetooth icon flashes. To pair, find the 'iFi Lossless Audio' Bluetooth device on your audio source device such as a mobile phone.

The NEO iDSD 2 can store up to 8 paired Bluetooth devices. To delete all previously stored devices, please perform a factory reset (item 2 - VII).

## 6. Gain selection

Short press cycles through these four gain modes:



*Note: Always start from 0dB and then increase the gain level to attain an enjoyable and comfortable level of volume from the headphones.*

*Warning: At the outset do not use excessive gain, otherwise damage to hearing or connected headphones may ensue. AMR/iFi audio is not responsible for any damage/injury from misuse.*



## 7. XBass II selection

Cycle through the three bass modes to select:

**Off** > **XBass** > **XBass** > **XBass**  
Off            XBass            Presence            XBass + Presence

**XBass II** is an analogue circuit designed to 'add back' the lost bass response for more accurate reproduction of the original music.

*Note: Research into headphone frequency response showed that a purely flat response may not be correct. Our long present XBass fits the profile of the low-frequency correction required. However, it was also shown that a certain amount of upper midrange boost is needed to give many headphones a more 'natural' sound.*

*This upper midrange region is usually called the 'presence' region; we have used this term to indicate the upper midrange correction. In the NEO iDSD2, XBass II (or perhaps better HPEQ) can be selected to have either Bass + Presence correction, only Bass or only Presence correction.*

*Note: Sonically-hindering DSP is NOT used for XBass II nor XSpace matrix systems. They use the highest-quality discrete components and operate purely in the analogue domain. Hence all the clarity and resolution of the original music is retained.*

## 8. Balanced 4.4mm headphone output

Connect balanced 4.4mm headphones.

## 9. Unbalanced 6.3mm headphone output

Connection for 6.3 single ended headphones . Please use 3.5 to 6.3 mm adaptor for 3.5 single ended headphones.

### **10. Balanced XLR analogue line output**

Connection of 4.4mm to XLR or similarly balanced interconnects.

### **11. Unbalanced RCA analogue line Output**

Single-ended unbalanced signal output to an amplifier.

### **12. Unbalanced 3.5mm analogue line input**

Connect to an analogue line level audio source with stereo 3.5mm connector.

### **13. Clock sync input**

Connect to an external clock source (10MHz) (Optional)

*Tip: To use this feature, set External Sync Clock in the menu to On.*

*If no 10MHz clock is detected, or if there is an error in the external clock, the display will indicate the error and the NEO iDSD 2 will automatically switch back to its internal clock.*

*A sine or square wave signal may be used, 1Vpp nominal, 75Ω.*

### **14. Coaxial Digital input**

Connect an S/PDIF source such as Apple TV, Google Chromecast, PS5, a high-end CD transport, etc.

### **15. Optical Digital input**

Connect an S/PDIF source such as Apple TV, Google Chromecast, PS5, Xbox, a high-end CD transport, etc.

### **16. USB audio input**

This is a USB3.0 B input (USB2.0 compatible). For a superior connection to a computer, use the enclosed USB3.0 cable. It connects the NEO iDSD 2 to the computer audio source.



## 17. DC Power Supply Connection

DC 9V/1.5A - 15V/0.9A\* power input. Please connect NEO iDSD 2 to the enclosed power supply.

*\*A power supply unit must be able to deliver minimum rated repetitive current.*

**Tip:** It is preferable to use a USB 3.0 over using a USB 2.0 port on the PC.

**Note:** For use with PC it is necessary to download drivers.

**Tip:** For all latest firmware updates please refer to our website here: [www.ifi-audio.com/download-hub/](http://www.ifi-audio.com/download-hub/)

## MQA

NEO iDSD 2 includes MQA technology, which enables you to play back MQA audio files and streams, delivering the sound of the original master recording.



'MQA' or 'MQA.' indicates that the product is decoding and playing an MQA stream or file, and denotes provenance to ensure that the sound is identical to that of the source material. 'MQA.' indicates it is playing an MQA Studio file, which has either been approved in the studio by the artist/producer or has been verified by the copyright owner. 'OFS' confirms that the product is receiving an MQA stream or file. This delivers the final unfold of the MQA file and displays the original sample rate.

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### MQA

- 1) Listen to MQA (Master Quality Authenticated) files straight out of the box.
- 2) For MQA tracks, simply connect to Tidal and check the options to stream MQA.
- 3) Visit [mqa.co.uk](http://mqa.co.uk) for more information.



**Download the Nexis app for added features and future updates**

### **Set up your NEO iDSD 2 using our iFi Nexis App**

Please search for "NEO iDSD 2" within the iFi Nexis app.

The iFi Nexis app helps you to use all the features and settings of the NEO iDSD 2, such as OTA upgrades\*, remote control\*\* and more.

*\*OTA, or Over the Air download technology, downloads firmware upgrade packages and upgrades automatically over the network.*

*\*\*Provides users with a convenient and easy-to-use way to control their device as an alternative to the traditional remote control, for adjusting all the functions and settings of the NEO iDSD 2 more easily, conveniently and freely.*





**Scan the QR code to view the official iFi audio NEO iDSD 2 video on YouTube.**

### **Cautions**

1. Avoid extreme heat, cold and humidity.
2. Avoid dropping or crushing the NEO iDSD 2.
3. If you experience discomfort or pain, try lowering the volume or discontinuing use temporarily.
4. Always check the actual output volume on your earphone, headphone, or loudspeakers before playing audio, as many music player software and operating systems do not appropriately apply industrial standards governing volume control (e.g., USB Device Class Denition for Human Interface Devices). If in doubt, before playing any music, turn o CyberSync or any other volume synchronization feature on the iFi Product and bring the volume down to the lowest setting.

### **Prolonged Heat Exposure**

Your iFi Product may become very warm during normal use. It is important to keep your iFi Product on a hard, stable, and well-ventilated work surface when in use or charging.

*Warning: To prevent possible hearing damage, do not listen at high volume levels for long periods.*



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## SPECIFICATIONS

### Digital stage

#### Hi-res support

DSD 512 / 22.6MHz

PCM 768kHz

full MQA Decoder

#### Bluetooth formats

aptX Lossless, aptX Adaptive, aptX\*, LDAC™, LHDC/HWA, AAC, SBC

### Line stage

#### Line output – XLR

19.5V max. (variable); 4.4V (fixed)

#### Line output – RCA

10.5V max. (variable); 2.2V (fixed)

### Output impedance

XLR  $\leq 100\Omega$ ;

#### XLR

RCA  $\leq 50\Omega$

#### SNR

$\geq 120\text{dB(A)}$  @ 0dBFS

#### DNR

$\geq 120\text{dB(A)}$  @ -60dBFS

#### THD+N

$< 0.0015\%$  @ 0dBFS

### Headphon Outputs:

Output Level – 4.4mm	3.5V/19.5V max. (12Ω - 600Ω)
Output Level – 6.3mm	4.5V/9.5V max. (12Ω - 300Ω)
Max <sup>^</sup> . Output power – 4.4mm	>19.5V/650mW (@ 600Ω); >13.3V/5551mW (@ 32Ω)
Max <sup>^</sup> . Output power – 6.3mm	>10.5V/184mW (@ 600Ω); >9.5V/2832mW (@ 32Ω)
RMS Output power – 4.4mm	>12.7V/2532mW (@ 64Ω)
RMS Output power – 6.3mm	>8.4V/2244mW (@ 32Ω)

### Output impedance

≤1Ω (Enable iEMatch ≤7Ω)

### SNR

≥120dB(A) (3.3V 6.3mm/6.2V 4.4mm)

### DNR

≥120dB(A)

### THD+N

<0.0015% (125mW @ 32Ω)

### General

#### Power supply requirement

DC 9V/1.5A - 15V/0.9A (centre +ve)

#### Power consumption

No signal ~5W; Max signal ~13.5W

#### Dimensions

214 x 158 x 41mm (8.4"x6.2"x1.6")

#### Net weight

916g (2.0lbs)

#### Limited warranty

12 months\*

\*A power supply unit must be able to deliver minimum rated repetitive current

\*\*\*Specifications are subject to change without notice

\*\*12 months typical or as permitted/required by local reseller laws.

^See FAQ at [ifi-audio.com](http://ifi-audio.com) for more information.

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