NEO iDSD 2 Bluetooth Ultra-Res DAC with Headphone Amplifier User Manual

User Manual

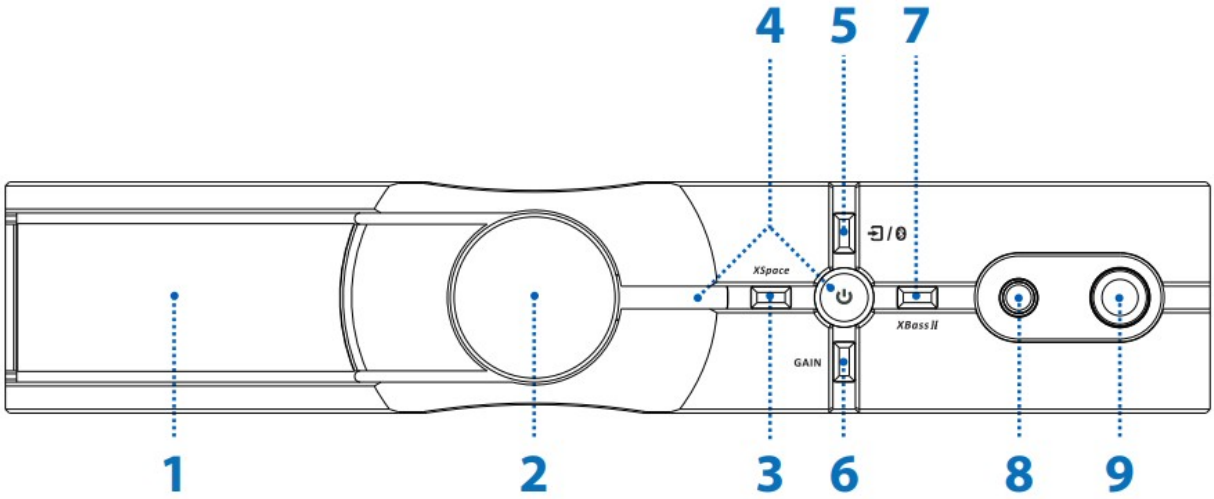
Thank you for purchasing the iDSD from Neo series. The NEO iDSD 2 is a balanced USB and Bluetooth Ultra-Res DAC + headphone amplier

Contents

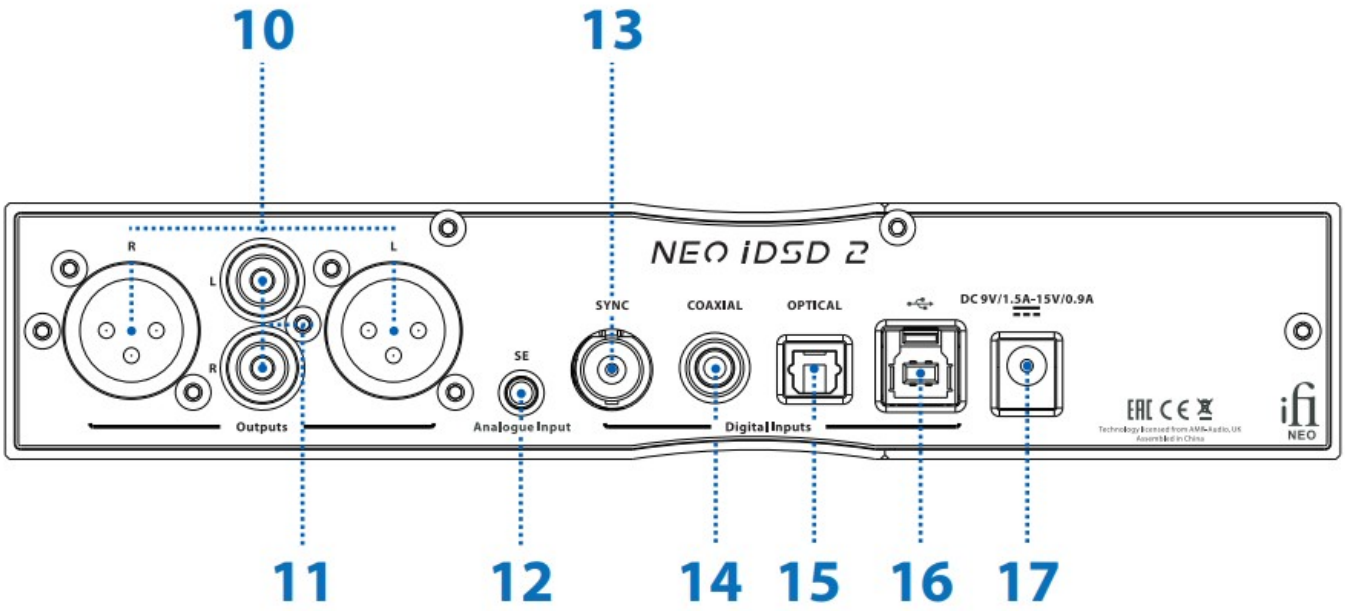
FEATURES:

- 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 lters – ne-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 rst-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



1	TFT display	P. 4
2	Multi-function knob	P.4-7
3	XSpace matrix On/Off	P. 7
4	Power On/Off and Brightness	P. 8
5	Input channel selector/Bluetooth pairing button	P. 8-9
6	Gain selection	P. 9
7	XBass II selection	P. 10
8	Balanced 4.4mm headphone output	P. 10
9	Unbalanced 6.3mm headphone output	P. 10



10	Balanced XLR analogue line output	P. 11
11	Unbalanced RCA analogue line output	P.11
12	Unbalanced 3.5mm analogue line input	P. 11
13	Clock sync input	P.11
14	Coaxial digital input	P. 11
15	Optical digital input	P. 11
16	USB audio input	P. 11
17	DC power supply connection	P. 12

1. TFT Display
The TFT display shows the current input channel, 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 Knob 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 the rotary dial.
Menu settings (long press 3s)
Controls:
– Digital Filters
– Volume sync
– BT Voice Prompt
– External Sync Clock
– Line volume ctrl
– HP Line out coexist
– Factory Reset
Note: Rotate to select function, short press to conffrm selection or toggle on/off mode. No operation within 10 seconds, the display will return to the home.

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):

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
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:**

Note: Please select the input channel according to your audio source input mode. 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, aptX Lossless, aptX Adaptive, LDAC, LHDC/HWA, AAC and SBC.

Bluetooth pairing

When the Bluetooth input is selected, the Bluetooth icon in the display will flash 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, flnd 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:

Note: Research into headphone frequency response showed that apurely 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:The menu setting External Sync Clock needs to be on in order to use this input. If no 10MHz clock is detected or if there is an error in the external clock, the screen will indicate an error and the NEO iDSD 2 will automatically switch back to the internal clock.
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/**
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.

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** 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 (Over the Air Technology), or Over the Air download technology, automatically 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.

https://www.youtube.com/playlist?list=PLsD3o2R0heuncfJGQf64fS4-VRIoSTq32

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.

SPECIFICATIONS

Digital stage

Hi-res support	DSD 512 / 22.6MHz PCM 768kHz full MQA Decoder
Bluetooth formats	full MQA Decoder aptX Lossless, aptX Adaptive, aptX, LDAC, LHDC/HWA, AAC, SBC

Line stage

Line output – XLR	19.5V max. (variable); 4.4V (Ωxed)
Line output – RCA	10.5V max. (variable); 2.2V (Ωxed)
Output impedance	XLR ≤100Ω; RCA ≤50Ω
SNR	≥120dB(A) @ 0dBFS
DNR	≥120dB(A) @ -60dBFS
THD+N	<0.0015% @ 0dBFS

Outputs:

Headphone output – 4.4mm	3.5V/19.5V max. (12Ω- 600Ω headphones)
Headphone output – 6.3mm	4.5V/9.5V max. (12Ω – 300Ω headphones)
Output power – 4.4mm	>19.5V/650mW (@ 600Ω); >13.3V/5551mW (@ 32Ω)
Output power – 6.3mm	>10.5V/184mW (@ 600Ω); >9.5V/2832mW (@ 32Ω)
Output impedance	≤1Ω
SNR	≥120dB(A) (3.3V 6.3mm/6.2V 4.4mm)
DNR	≥20dB(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	214x158x41mm (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
**12 months typical or as permitted/required by local reseller laws.
***Specifications are subject to change without notice

Documents / Resources

	ifi NEO iDSD 2 Bluetooth Ultra-Res DAC with Headphone Amplifier [pdf] User Manual Neo iDSD2, NEO iDSD 2, NEO iDSD 2 Bluetooth Ultra-Res DAC with Headphone Amplifier, Bluetooth Ultra-Res DAC with Headphone Amplifier, Ultra-Res DAC with Headphone Amplifier, Headphone Amplifier, Amplifier