

The iFi logo, featuring a stylized lowercase 'i' followed by a lowercase 'fi' in a serif font.

iDSD GR 2

User Manual

Thank you for choosing the iDSD GR 2 . The iDSD GR 2 is an Ultra-Res Portable DAC + Headphone Amp for ultra-resolution audio.

The **iDSD GR 2** takes the iconic design of one of iFi's most popular DACs and pushes the boundaries even further for a new generation. An entirely new DAC chipset and architecture give greater potential for incredible sound than ever before, while all-new touch controls and iFi Nexis compatibility put every feature at your fingertips, no matter where you are.

With a range of digital and analogue input options, including lossless Bluetooth, and a host of innovative features for the on-the-go audiophile, the **iDSD GR 2** is the

most versatile true-portable DAC we've ever made.

FEATURES:

DIGITAL

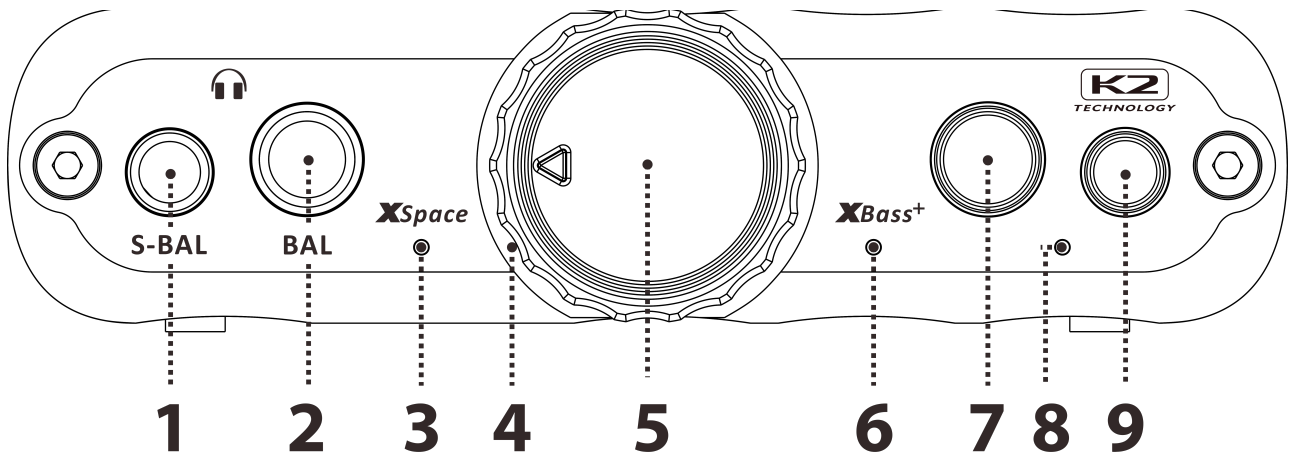
- All-new Burr Brown PCM1795 DAC chipset and architecture offer uncompromising sonic potential
- aptX Lossless Bluetooth codec allows CD-Quality audio without data loss
- Wide range of digital filters, and JVCKENWOOD's K2 and K2HD technology for harmonic restoration
- Multiple digital input options, including SPDIF for integrating into desktops and home audio systems

ANALOGUE

- Up to 2,173mW max peak output for impressive power in a compact, portable form factor
- Three distinct power modes, including iEMatch to optimise output for sensitive IEMs
- New discrete amplifier circuit minimises distortion, and delivers explosive dynamics and crystal-clear transparency
- Analogue input options for greater versatility across a range of setups and uses
- XSpace and XBass+ analogue filters for fine-tuning your soundstage

GENERAL

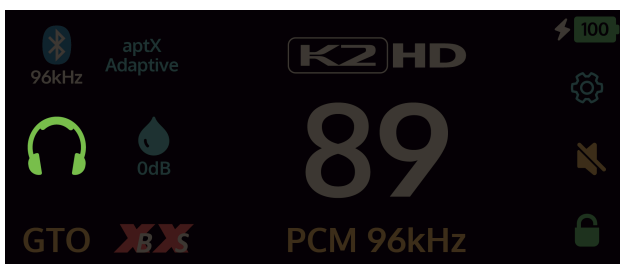
- Vibrant OLED display with capacitive touch control for quick access to on-board features
- iFi Nexis app compatibility for seamless updating and additional options
- 4,900mAh battery offers an impressive 7 hours of listening time
- Battery Health and Hybrid power options to maximise long-term battery lifespan



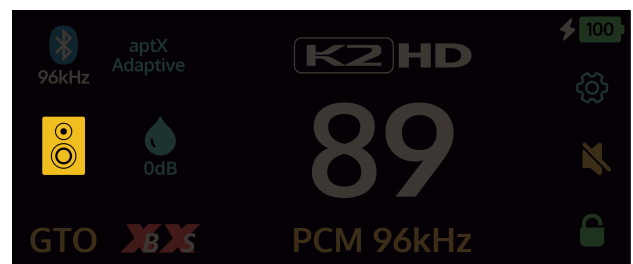
1. S-Balanced^ 3.5mm Headphone Output or Line Output (Variable)

a) Headphone Output - When the output mode displayed on the main screen is switched to headphone output mode (tap to switch; a headphone icon will appear), use this connection for 3.5mm single-ended or balanced headphones (compatible with standard TRS configuration).

b) Headphone Line Output - When the output mode displayed on the main screen is switched to line output mode (tap to switch; a speaker icon will appear), this can be used as a line output connection for analogue output to connect to active speakers or amplifiers that have a volume control.



Headphone Output Mode



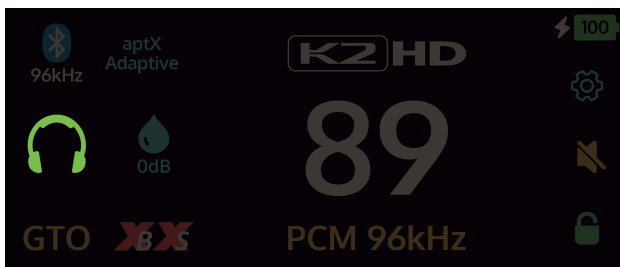
Line Output Mode

Tip: iFi's exclusive S-Balanced circuit delivers maximum performance from single-ended and balanced headphones alike.

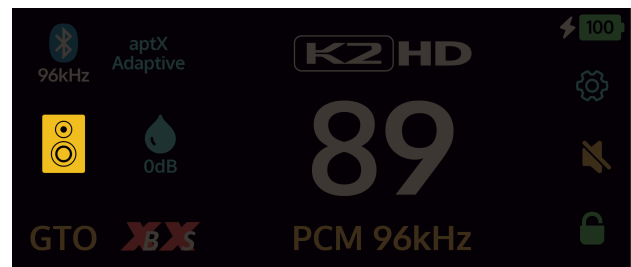
2. Balanced 4.4mm Headphone Output or Line Output (Variable)

a) Headphone Output - When the output mode displayed on the main screen is switched to headphone output mode (tap to switch; a headphone icon will appear), use this connection for 4.4mm balanced headphones.

b) Headphone Line Output - When the output mode displayed on the main screen is switched to line output mode (tap to switch; a speaker icon will appear), this can be used as a line output connection for analogue output to connect to active speakers or amplifiers that have a volume control.



Headphone Output Mode



Line Output Mode

Tip: As the iDSD GR 2 is balanced (reduces noise and crosstalk in the signal path by fully separating the left and right channels.), we recommend the 4.4mm output.

3. XSpace Matrix LED

XSpace Matrix holographic sound field indicator: press (7) briefly to turn the XSpace Matrix on/off; if the indicator lights up, this indicates that the XSpace function is enabled (For information on XSpace, please refer to item 7).

The corresponding XSpace icon is displayed simultaneously on the main screen; you can also switch modes by tapping the screen, and the icon will update accordingly.

4. Volume LED

The LED colour scheme indicates the current volume level.

LED

Volume

Flashing	Mute
Blue	1 to 17
Magenta	18 to 37
Cyan	38 to 57
Green	58 to 75
Yellow	76 to 90
Red	91 to 100

5. Multi-Function Dial

Controls:

- **Power ON/OFF (long press 3s)**

- **Analogue volume control (turn)**

- **Mute/Unmute (short press)***

- **Menu settings**

**Only SPDIF/Line in mode*

- **Pause/play (short press once)***

- **Previous song (press three times briefly)***

- **Next song (press twice briefly)***

**Only valid in USB/Bluetooth input mode*

Power ON/OFF

Long press $\geq 3s$ the switch to power on/off.



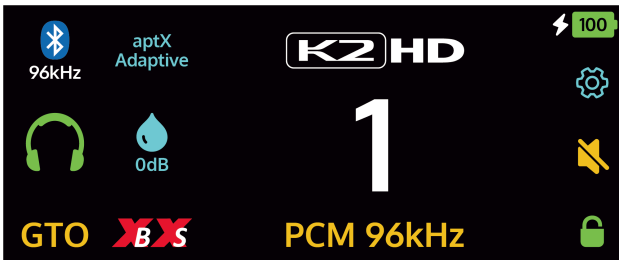
ON



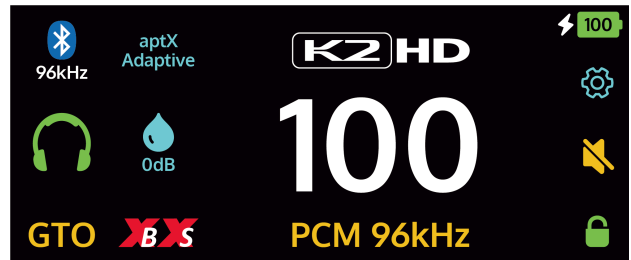
OFF

Analogue volume control

Warning: Due to the high power of the iDSD GR 2, always start at a low volume level, so there is no risk of damage to your headphones or your hearing. iFi audio is not responsible for any hearing or equipment damage from misuse.



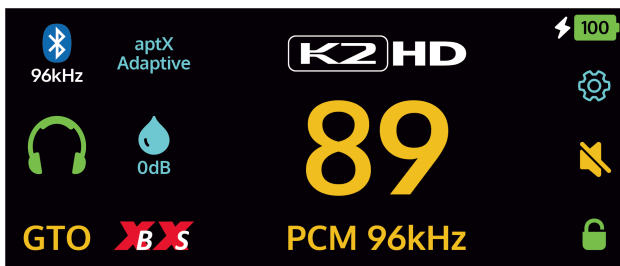
Turn Volume



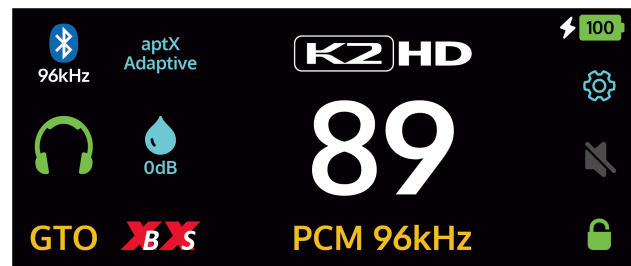
Turn Volume

Mute/Unmute

Short press the icon to mute. To unmute, press it again or turn it.



Mute



Unmute

Tip: When the device is in silent mode, the Volume LED (4) flashes.

6. XBass+ LED

XBass+ indicator: press (7) briefly to turn XBass+ on/off; if the indicator lights up, this indicates that the XBass+ function is enabled (For information on XBass+, please refer to item 7).

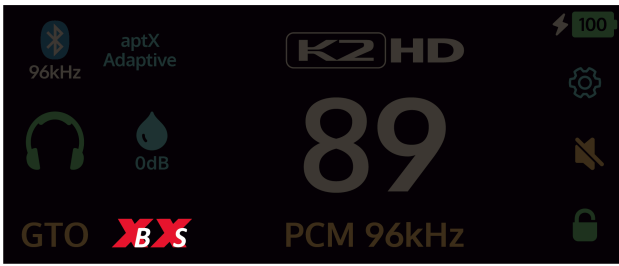
The corresponding XBass+ icon is displayed simultaneously on the main screen; you can also switch modes by tapping the screen, and the icon will update accordingly.

7. XSpace/XBass+/Menu Settings

XSpace/XBass+ Selection (short press or tap icon)

Cycles between:

Off > XBass+ > XSpace > XBass+ and XSpace



XBass+ and XSpace Mode

Off > XBass+ > XSpace > XBass+ and XSpace

XBass+: Many headphones lack the correct sub-bass response. XBass+ is an analogue circuit designed to 'add back' this lost bass response for a more accurate reproduction of the original music.

XSpace: A pure 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 makes for uneasy listening.

Menu Settings (long press ≥3s or tap icon)

<p>Tap Menu Settings icon</p>	<p>ON</p>	<p>OFF</p>
<p>- BT Pairing</p>	<p>- Dual Charge</p>	<p>- Hybrid Mode</p>

- Battery Health Mode	- Bluetooth Voice Prompt	- Line Out Volume Control
- Volume Sync	- Volume Ramp	- Brightness
- Info	- Factory Reset	

Tip: The iDSD GR2 has two operating modes: one is operated via a touch screen and the other is operated via physical buttons and the multi-function dial.

a) Once in the menu, touch the relevant icons on the screen to select or toggle settings on or off.

b) Once in the menu, rotate the multi-function dial to select the function, and short press it to confirm selection or toggle on/off mode.

Press (7) or (9) briefly to return to the home screen; if no operation is performed within 10 seconds, the display will return to the home screen.

I) BT Pairing

To manually enter Bluetooth pairing mode, short press the Bluetooth pairing icon. When pairing mode is active, the Bluetooth icon will flash repeatedly. To pair, find the 'iFi Lossless Audio' Bluetooth device on your audio source device such as a mobile phone.

The iDSD GR 2 can store up to 8 paired Bluetooth devices. When the 9th device is paired, the oldest paired Bluetooth device will be removed from the pairing list and you may need to manually reconnect it when using it. To delete all previously stored devices, please perform a factory reset.

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

II) Dual Charge (Dual Port Charging)

Short press the icon to turn Dual Charge on/off. It is off by default. See (12).

- On** This port supports both charging and data input through a single USB connection (Item 12).
- Off** This port supports data input only.

III) Hybrid Mode

Short press the icon to turn the Hybrid Mode on/off. It is off by default.

Hybrid Mode

When there is no external power, the battery is used for power supply. When an external power supply is inserted, external power is given priority. If extra power is needed, the iDSD GR 2 will draw power from the internal battery, and then automatically return to prioritising external power once the demand is reduced.

Pure Battery Mode

Only powered by the internal battery.

IV) Battery Health Mode

Short press the icon to turn the Battery Health Mode on/off. It is off by default.

When the battery health charging mode is enabled, battery charging stops when the battery charge level is $\geq 90\%$, and the iDSD GR 2 will automatically shut down when the charge level is below 5%.

Battery Health Mode balances the charging voltage of the internal battery, reducing overcharge and over discharge situations. This helps extend battery life and improve charging efficiency through precise management and intelligent equalisation techniques. It also controls the temperature and voltage during charging to prevent lithium decomposition and overheating to ensure safety.

V) Bluetooth Voice Prompt

Short press the icon to turn the Bluetooth Voice Prompt on/off. It is off by default.

VII) Line Out Volume Control

Short press the icon to turn the Line Out Volume Control on/off. It is off by default.

Line Out ON When the headphone output ports (1) and (2) are in use, the line output ports (14) and (15) will automatically mute. Similarly, when the line output ports are in use, the headphone outputs will be muted.

Line Out OFF The headphone output ports (1) and (2), and line output ports (14) (15) all output signal at the same time.

VI) Volume Sync

Short press the icon to turn Volume Sync on/off. It is off by default.

When enabled, the iDSD GR 2's analogue volume will be synchronised with the volume level on the source device.

Note: The Volume Sync function is only available via USB and Bluetooth input. Some source devices may not be able to provide the data required to synchronise volume.

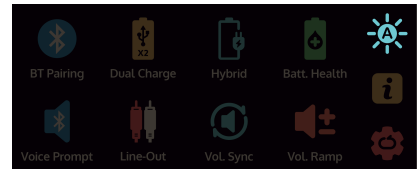
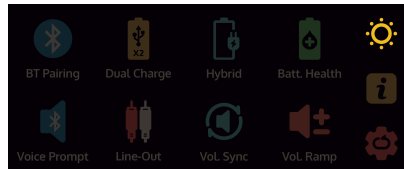
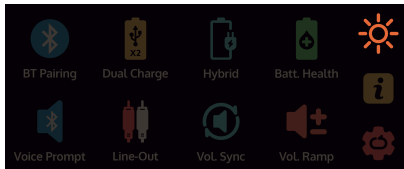
VIII) Volume Ramp

Short press the icon to turn the Volume Ramp on/off . It is on by default.

When enabled, volume changes take place smoothly over 2s to prevent sudden, unwanted jumps in loudness.

IX) Brightness

Short press the icon to adjust the Brightness mode. It is Soft mode by default.



Bright

Soft

Auto

Bright

The display will be bright.

Soft

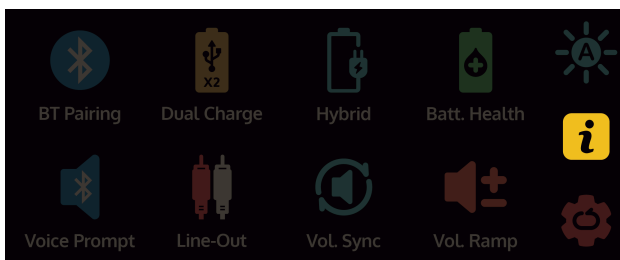
The display will be softly lit.

Auto

Auto sleep mode. If no operation is performed within 10s, the display will turn off.

X) Info

Short press the icon to view the device name and the current firmware version number.

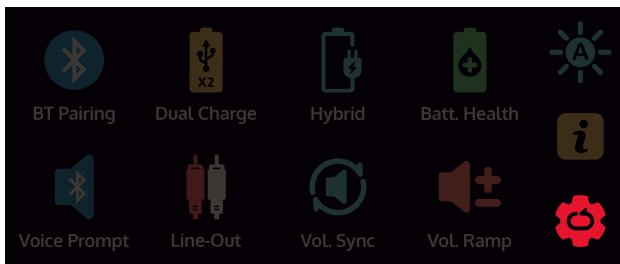


Short press the icon

Info

XI) Factory reset

Short press the icon and select 'Confirm' to perform a factory reset; the device reboots after successful operation.



Short press the icon

Confirm

Warning: Performing a factory reset will erase all saved Bluetooth pairings and restore the following default settings — Volume: 70; Power Mode: 'Normal 0dB'; XBass+: 'Off'; XSpace: 'Off'; Digital Filter: 'STD'; Dual Charge: 'Off'; Hybrid Mode: 'Off'; Battery Health Mode: 'Off'; Bluetooth Voice Prompt: 'Off'; Line Out Volume Control: 'Off'; Volume Sync: 'Off'; Volume Ramp: 'Off'; Brightness: 'Soft'.

8. K2/K2 HD Technology Mode LED

K2/K2 HD Technology Mode indicator: press (9) briefly to turn K2/K2 HD on/off; if the indicator lights up, this indicates that the K2/K2 HD function is enabled (For information on K2/K2 HD Technology, please see the next section).

LED	Mode
Green	K2
Orange	K2 HD

Off

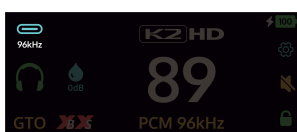
Off

9. Input Selector/K2 HD Technology Settings

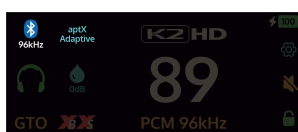
Input Selector (short press)

Short press the icon to cycle between the following inputs:

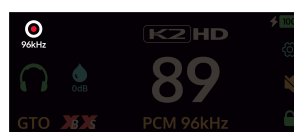
USB > Bluetooth > S/PDIF > Line (4.4mm/3.5mm)



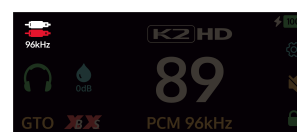
USB



Bluetooth



S/PDIF



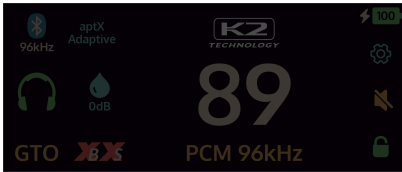
**Line
(4.4mm/3.5mm)**

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

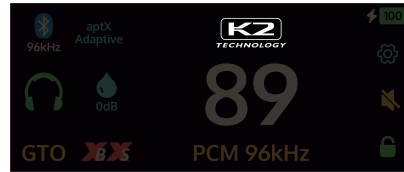
K2 HD Technology settings (short press)

The iDSD GR 2 incorporates JVCKENWOOD's K2HD Technology, designed to enhance sound quality by restoring altered or degraded digital audio. This processing brings the sound closer to the quality of the original master recording.

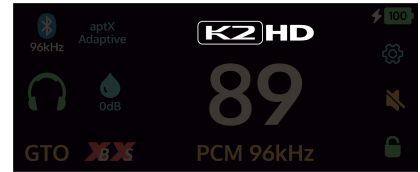
Short press the icon to select between the following options:



OFF



K2 Mode



K2 HD Mode

K2 Mode



Features

Collective term for JVCKENWOOD's K2 Technology, used here to denote K2 technology processing without up-sampling.

The audio file format supported by 'K2' mode is PCM, sampling frequency 44.1-96kHz. When the PCM audio sample rate exceeds 96kHz, 'K2' mode is not applicable, and it will be switched to 'K2HD' mode automatically.

The audio file format supported by 'K2HD' mode is PCM with sampling frequency 44.1-192kHz, and it can upsample audio files \leq PCM 176.4kHz to 176.4/192kHz.



'K2' and 'K2HD' modes are not compatible with native DSD audio file formats - 'K2' and 'K2HD' modes cannot be enabled when the audio file format played is in DSD format.

'K2HD' mode = K2+GTO upsampling

Tip: When K2 mode is enabled, it will automatically switch to K2HD mode when the audio sample rate played is >96kHz; when the audio sample rate played is \leq 96kHz, it will automatically resume 'K2' mode.

Tip: K2HD mode supports the GTO digital filter only. When K2HD mode and the GTO filter are enabled at the same time, the sampling frequency of the GTO filter is 176.4/192kHz, and when the playback audio sampling rate exceeds 176.4/192kHz, the digital filter will automatically switch to Bit-Perfect and K2HD mode automatically be disabled. When K2HD mode is not enabled, the sampling frequency of the GTO filter is 352.8/384kHz.

When K2 mode and the GTO filter are enabled at the same time, K2 mode will be automatically switched to K2HD mode, and the audio will be upsampled to 176.4/192kHz. When the playback audio sample rate exceeds 176.4/192kHz, K2HD mode is automatically turned off; when the playback audio sample rate is $\leq 176.4k/192Hz$, K2HD mode is automatically restored.

**"K2 TECHNOLOGY" and "K2HD" are trademarks or registered trademarks of JVCKENWOOD Corporation."*

10. Battery Status LED

LED	Status
Green	>49%
Yellow	$\leq 49\%$
Red (flashing)	$\leq 20\%$

**The battery status LED will flash during charging, and the LED will go out when fully charged.*

11. USB-C (5V) Charging Input

For charging only. Due to the very high-power nature of iDSD GR 2, it will take ~7-8 hours and ~3-4 hours for a standard and high-powered charger, respectively, to fully recharge.

Tip: When the iDSD GR 2 is off and a 5V USB power supply is detected, the LED will change colour to show the various states of charge (see next section).

Tip: We recommend charging the iDSD GR 2 while the device is off, otherwise the following two situations will occur:

- You can listen to music while charging, but it may take longer to charge, depending on the volume level and the headphones used.*
- The iDSD GR 2 may be slightly warm to the touch when it is simultaneously in use and being charged. This is normal, and there is no cause for concern.*

12. USB-C Data Input

Connect your source device to the iDSD GR 2 with a USB-C cable.

This is the USB-C input mainly used for data input. There are two states which can be set via the 'Dual Port Charging' option in the menu: Please see item 7 - Menu settings, (II).

Mode	Status
OFF	This port supports data input only.
ON	This port supports both charging and data input through a single USB connection.

Note: When the 'Dual Port Charging' function is enabled via the menu, the USB-C Data Input will also charge the device, but the charging current will be limited. For faster charging, it is recommended to use the dedicated USB-C (5V) Charging Input (11).

Note: Drivers may be required when connecting to a Windows PC or laptop, to ensure bit-perfect playback.

Tip: For the required driver and all the latest firmware updates please refer to our website: www.ifl-audio.com/download-hub/

13. S/PDIF 3.5mm Coaxial/Optical Input

When USB is not used, connect to a coaxial cable (3.5mm TS), or an optical cable through a Toslink to 3.5mm Mini-Plug.

Tip: A 3.5mm optical mini-plug to Toslink adaptor is included for connecting a Toslink optical cable.

Tip: The S/PDIF standard supports PCM only up to 192kHz.

14. Balanced 4.4mm Line In/Out

a) Output - when input mode is S/PDIF, USB or Bluetooth.

b) Input - when there is no S/PDIF, USB or Bluetooth input, the 4.4mm line input is available.

Tip: Analogue output via 4.4mm > XLR or other balanced interconnects may be used when in fixed line output mode. You can use this to connect to active speakers or amplifiers that have a volume control.

Warning: The volume level is fixed from this 4.4mm connector in line out mode. The volume control and headphone amp settings have no influence on it. Do not insert 4.4mm headphones to this source as the full volume is likely to damage your headphones or your hearing.

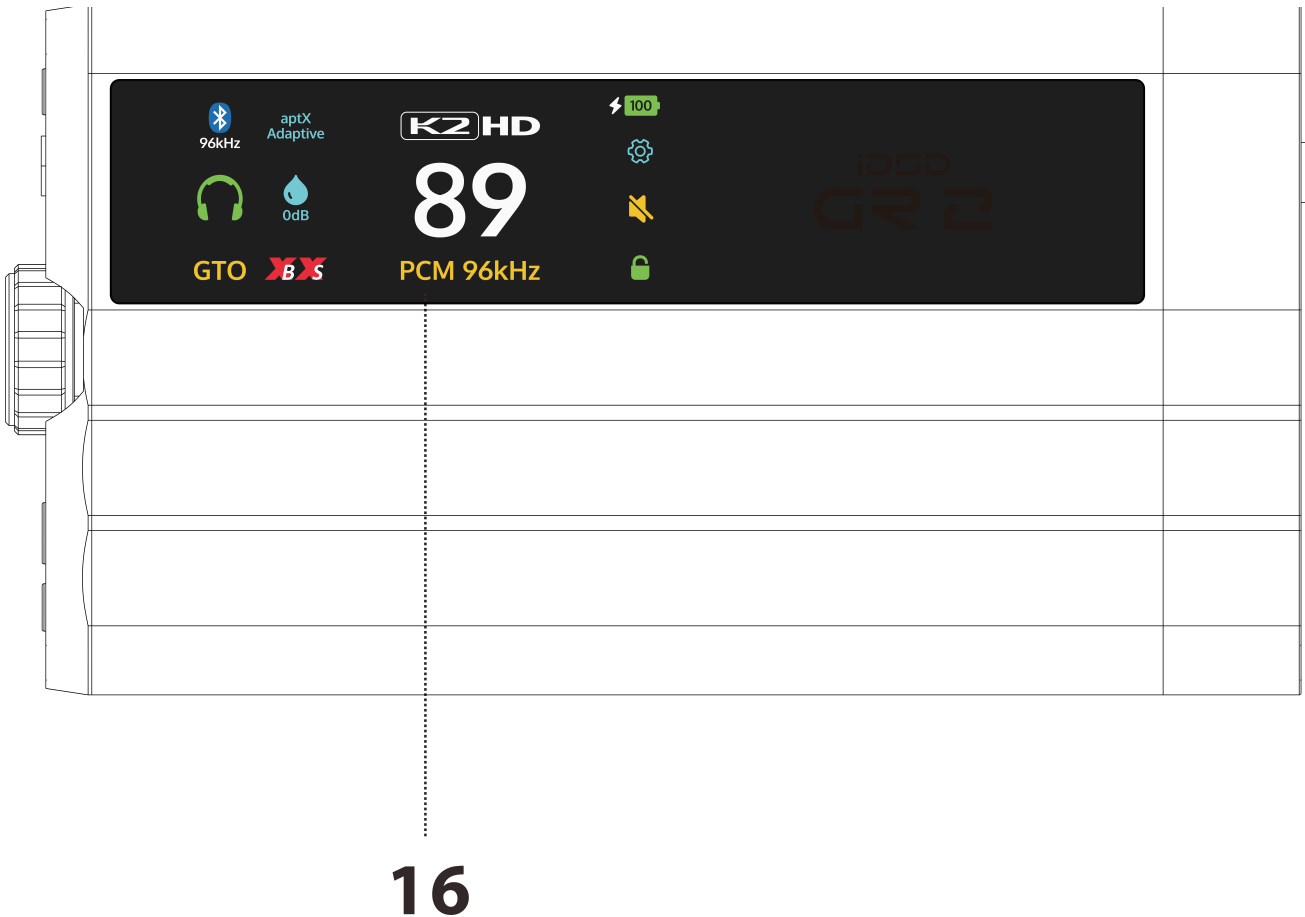
15. Single-Ended 3.5mm Line In/Out

a) Output - when input mode is S/PDIF, USB or Bluetooth.

b) Input - when there is no S/PDIF, USB or Bluetooth input, the Single-Ended 3.5mm line input is available.

Tip: Analogue output via 3.5mm > XLR or other interconnects may be used when in fixed line output mode. You can use this to connect to active speakers or amplifiers that have a volume control.

Warning: The volume level is fixed from this 3.5mm connector in line out mode. The volume control and headphone amp settings have no influence on it. Do not insert 3.5mm headphones to this source as the full volume is likely to damage your headphones or your hearing.



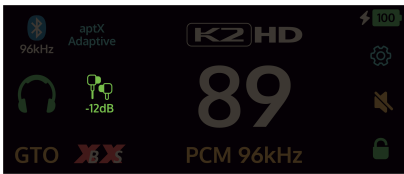
16. OLED Display

The OLED display shows the audio format, sampling rate, power mode, digital filter, K2/K2HD setting, volume, input mode, XSpace/XBass+, and battery level.

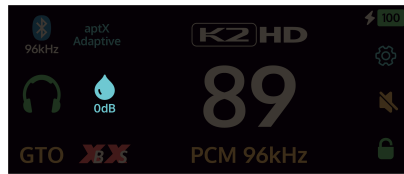
You can tap the relevant icons directly on the screen to switch between modes and settings.

17. Power Mode

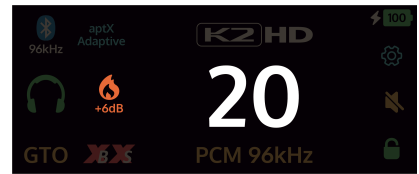
Short press the display icon to cycle between the following Power Mode options:



iEMatch -12dB



Normal 0dB



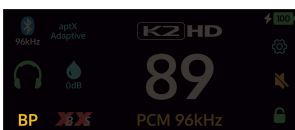
Turbo +6dB

iEMatch transparently reduces the output level by -12dB, so that even the most sensitive In-Ear-Monitors (IEMs) can be used with the iDSD GR 2.

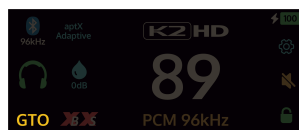
iEMatch can effectively increase the dynamic range of sensitive IEMs by reducing background amplifier hiss.

18. Digital Filters Mode

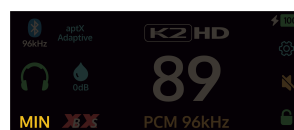
Short press the display icon to cycle between the following digital filter options:



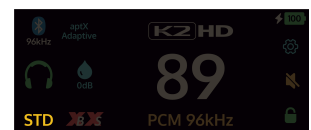
Bit-Perfect



Gibbs Transient Optimised



Minimum Phase



Standard

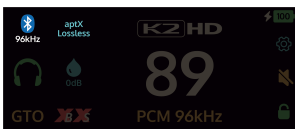
'BP' (Bit-Perfect)

Bit-Perfect, no digital filtering

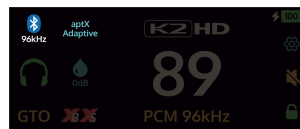
'GTO' (Gibbs Transient Optimised)	Upsampled to 352/384kHz, minimum filtering, no pre-ringing, minimum post ringing
'MIN' (Minimum Phase)	Minimum phase, slow roll-off, minimum pre and post-ringing
'STD' (Standard)	Modest filtering, modest pre and post ringing

19. Bluetooth Codec

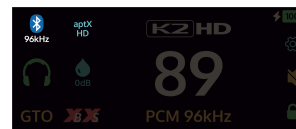
The iDSD GR 2 receives Bluetooth signals via aptX Lossless, aptX Adaptive, aptX HD, aptX, LDAC, LHDC/HWA, AAC and SBC.



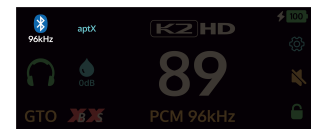
aptX Lossless



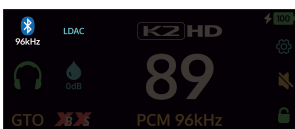
aptX Adaptive



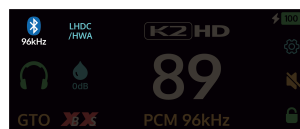
aptX HD



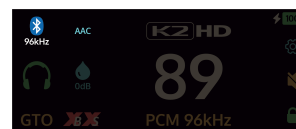
aptX



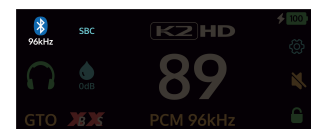
LDAC



LHDC/HWA



AAC

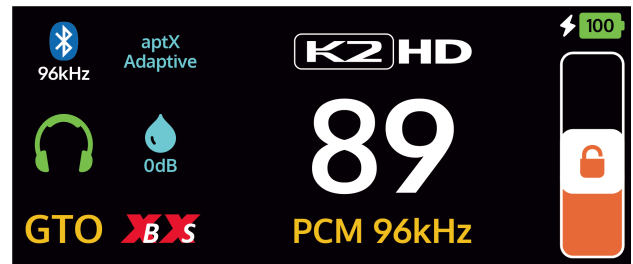
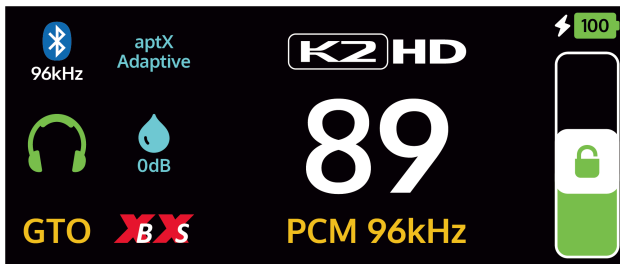
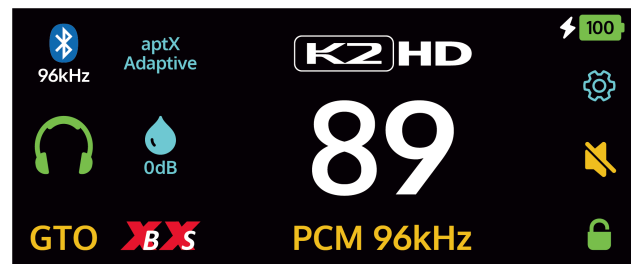
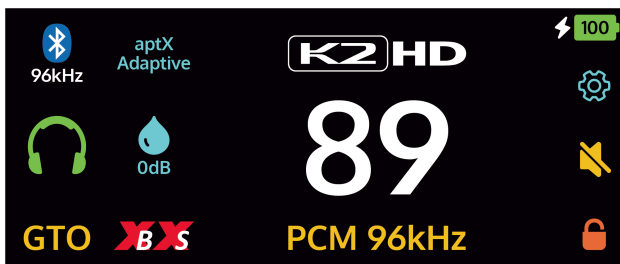


SBC

20. Device Lock

Hold lock icon and swipe up to lock/unlock (When device in lock or unlock mode)

This prevents accidental turning of the volume knob and accidental pressing of the function buttons while travelling or commuting, which can result in sudden volume or setting changes. The display (9) shows the device lock interface.



Unlock

(When device in lock mode)

Lock

(When device in unlock mode)

Tip: When Device Lock is activated, all operations are locked out and cannot be operated. If you need to operate the iDSD GR 2, please switch off the device lock first.

Set up your iDSD GR 2 using our iFi Nexis App



"iFi Nexis"



Download the Nexis app for added features and future updates

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

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

**OTA (Over-the-Air) technology enables automatic firmware updates via 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 iDSD GR 2 more easily, conveniently and freely. The iFi Nexis app connects to it via Wi-Fi or Bluetooth (selectable in the app).*

Cautions

1. Avoid extreme heat, cold and humidity.
2. Avoid dropping or crushing the iDSD GR 2.
3. If you experience discomfort or pain, try lowering the volume or temporarily discontinuing use.
4. To prevent possible hearing damage, do not listen at high volume levels for long periods.

5. 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 Definition for Human Interface Devices). If in doubt, before playing any music, turn off Volume Sync on the iDSD GR 2 and bring the volume down to the lowest setting.

Prolonged Heat Exposure

Your iDSD GR 2 may become very warm during normal use. It is important to keep it on a hard, stable, and well-ventilated work surface when in use.

SPECIFICATIONS

Digital Inputs:	USB-C; S/PDIF (optical/coaxial); Bluetooth 5.4™
Analogue Inputs/Outputs:	Balanced 4.4mm; Single-Ended 3.5mm
Headphone Outputs	Balanced 4.4mm; S-Balanced* 3.5mm
Analogue Outputs:	Balanced 4.4mm; Single-Ended 3.5mm
Power/Charging:	USB-C
Hi-Res Support:	PCM 768kHz; Native DSD512 (22.6MHz)
Bluetooth Formats:	aptX Lossless, aptX Adaptive, aptX HD, aptX, LDAC, LHDC/HWA, AAC, SBC
DAC:	Bit-Perfect DSD & DXD DAC by Burr Brown
Line Output Section	
Line Outputs:	
Balanced	4.4mm

Single-Ended 3.5mm

Power Output:

Balanced 4.37V max. (FIX)

Single-Ended 2.20V max. (FIX)

Output Impedance:

Balanced $\leq 205\Omega$

Single-Ended $\leq 105\Omega$

SNR:

Balanced $\geq 115\text{dB(A)}$ @ 0dBFS

Single-Ended $\geq 115\text{dB(A)}$ @ 0dBFS

DNR:

Balanced $\geq 115\text{dB(A)}$ @ 0dBFS

Single-Ended $\geq 115\text{dB(A)}$ @ 0dBFS

THD + N:

Balanced 0.0005% @ 0dBFS (20-20kHz)

Single-Ended 0.0005% @ 0dBFS (20-20kHz)

Headphone Outputs:

Balanced 4.4mm

S-Balanced^ 3.5mm

Power Output:

Balanced (RMS) $\geq 6.94\text{V}/1,513\text{mW}$ @ 32Ω ; $\geq 8.60\text{V}/119\text{mW}$ @ 600Ω

S-Balanced^ (RMS) $\geq 4.26\text{V}/567\text{mW}$ @ 32Ω ; $\geq 4.27\text{V}/30\text{mW}$ @ 600Ω

Output Impedance:

Balanced $\leq 0.4\Omega$ ($\leq 4.5\Omega$ with iEMatch)

S-Balanced^ $\leq 0.2\Omega$ ($\leq 4.4\Omega$ with iEMatch)

SNR:

Balanced $\geq 115\text{dB(A)}$ @ 0dBFS

S-Balanced^ $\geq 115\text{dB(A)}$ @ 0dBFS

DNR:

Balanced $\geq 115\text{dB(A)} @ 0\text{dBFS}$

S-Balanced[^] $\geq 115\text{dB(A)} @ 0\text{dBFS}$

THD + N:

Balanced $< 0.006\%$ (2.40V @ 16 Ω) (20-20kHz)

S-Balanced[^] $< 0.006\%$ (1.27V @ 16 Ω) (20-20kHz)

Frequency Response: 20Hz - 45kHz (-3dB)

Power Consumption: Turbo 2.89W; Normal 2.37W; iEmatch 2.37W

Battery: Lithium-polymer 4,900mAh; ~7h Battery Life

Power System: 5V/ $\geq 1.8\text{A}$, Charging via USB-C; ~3.5h Charging Time

Dimensions: 141 x 75 x 19 mm (5.55" x 2.95" x 0.75")

Net weight: 268 g (0.59 lbs)

Limited Warranty: 12 months**

[^]Single-Ended Compatible Balanced.

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

Specifications are subject to change without notice.

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