

HUD100

Hi-Fi USB DAC

USER MANUAL

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1. Key Features

Compact yet High-Performance

- Only 43% volume size (45 x 32 x 8mm) compared to ES100MK2
- From YouTube to High-Resolution (Up to PCM 32bit/384kHz and DSD128)
- The first portable DAC adopting ARM Cortex processor to implement Radsone proprietary algorithms
- Elaborate circuit & layout design for best audio performance in small size

Jitter-Resilient Clock Scheme

- MEMS oscillator adopted as a master audio clock for the first time in audio DAC
- MEMS oscillator provides more clear clocks for all audio circuitry, while conventional crystal oscillator tends to have much more jitter in most situations

2 Power x 3 Sound Processing Modes

- 0.914 Vrms(1.29 Vp) normal power output for normal impedance earbuds or headphones
- 2.26 Vrms(3.20 Vp) high power output for high impedance oversized headphones (250 Ohm and more)
- Bypass processing mode for pure sound enthusiasts
- DCT processing mode for users searching for well-dithered analog-like sound
- Radsone-tuned Dynamic processing mode for more powerful sound with balance

Optimal Volume Control

- By combining digital volume and analog volume, HUD100 features a wide range of volume from -48dB to 0dB.

* HUD100's default volume starts from -3.5dB. It can be too loud for some people so please be careful not to damage your ear when turning the music on.

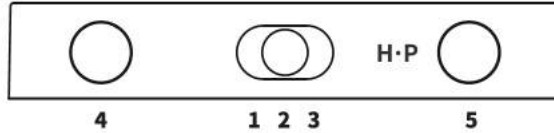
2. Included



- HUD100
- C to A USB Cable (1M)
- C to A USB Cable (10cm)
- Leatherette Travel Pouch

3. Buttons and Controls

FRONT



Sound Processing Modes

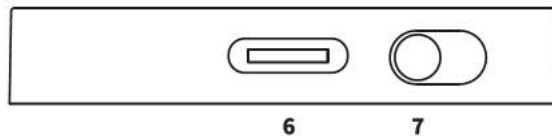
- 1 Bypass No algorithm
- 2 DCT Radsone proprietary advanced dithering
- 3 Dynamic DCT with Radsone-tuned sound

Power Modes

- 4 Standard Normal power 3.5mm output
- 5 H·P High power 3.5mm output for high impedance headphones

* DCT and Dynamic modes currently work on only PCM 44.1kHz.

BACK



Audio Streaming

- 6 USB Type C Connector

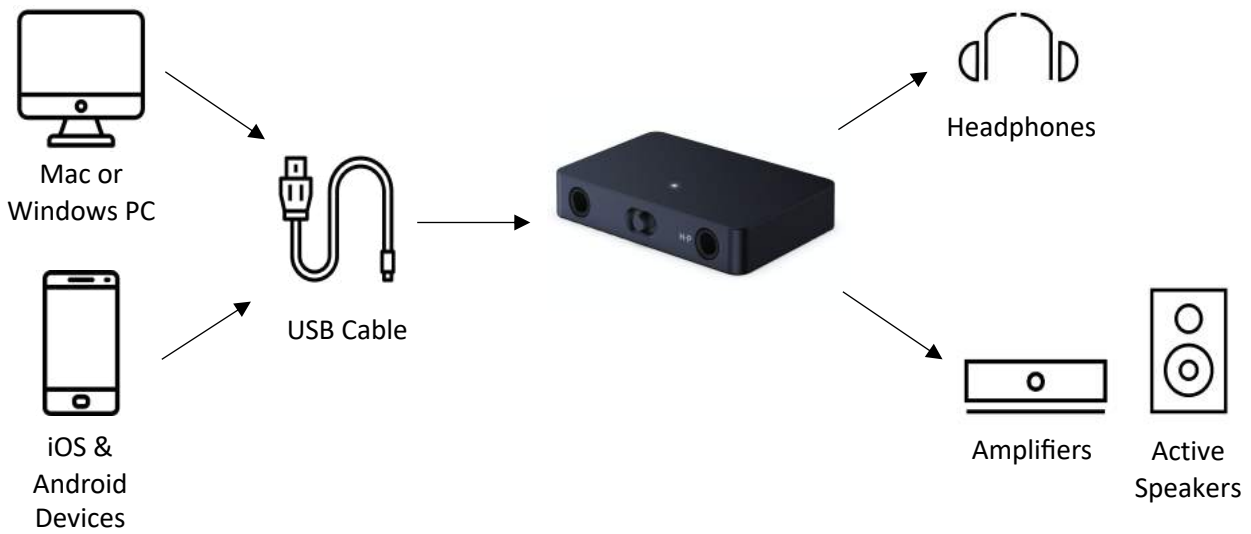
Device Firmware Update

- 7 DFU Button

Download, install, and run HUD100 firmware update program from www.radsone.com/hud100.

Hold the button to the right and plug it into your PC's USB port to enter into DFU mode.

4. How to Connect – PC & Power Amp



1) PC

- **USB A output:** Connect HUD100 with included A to C cable
- **USB C output:** Connect HUD100 with included A to C cable with an OTG adaptor.
 - *USB hub might not recognize HUD100. Please connect it directly to your PC.
 - *LED light should be on when properly connected.
 - *USB C to C cable also requires an OTG adaptor.

2) Power Amp

- Connect HUD100's 3.5mm output to RCA input of a power amplifier. It requires 3.5mm to RCA cable.
- Please use HUD100's standard output (not High Power output) for this connection because the standard output shows better performance when it is used as a pre amplifier.

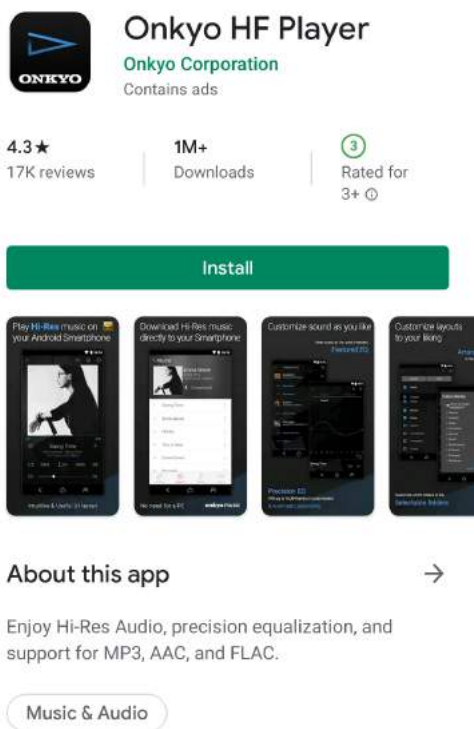
4. How to Connect – iOS & Android Devices

3) iOS Devices

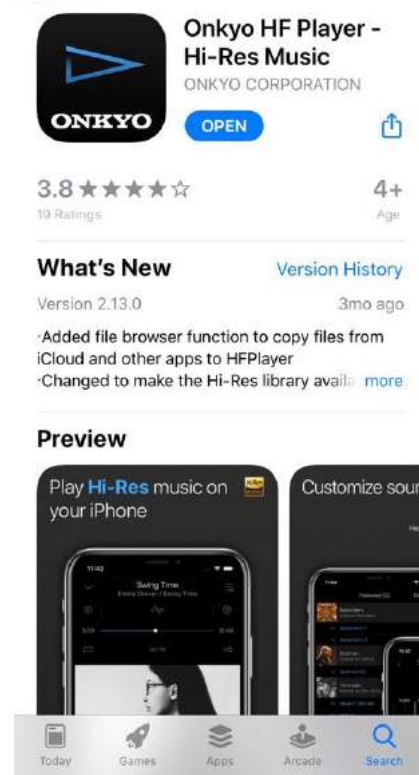
- **Lightning output:** Connect Apple lightning USB Camera adaptor to phone and connect it with the included A to C Cable.
*iPhone may restrict High Power output and it can be automatically disconnected. We recommend using the standard output.
- **USB C output (latest Macbook or iPad Pro):** Connect HUD100 with included A to C cable with an OTG adaptor.

4) Android Devices

- Connect HUD100 with included A to C cable with an OTG adaptor.
- * When using streaming services from Android devices, there are cases that the sampling rate of the reproduction is fixed to a device default value.
(e.g. Galaxy S9/Note9 - 192KHz, S10/Note10 - 48KHz, LG G5 - 384KHz)
In these cases, HUD100 may not show its best performance. We recommend using music players for USB DACs such as ‘HF player’.



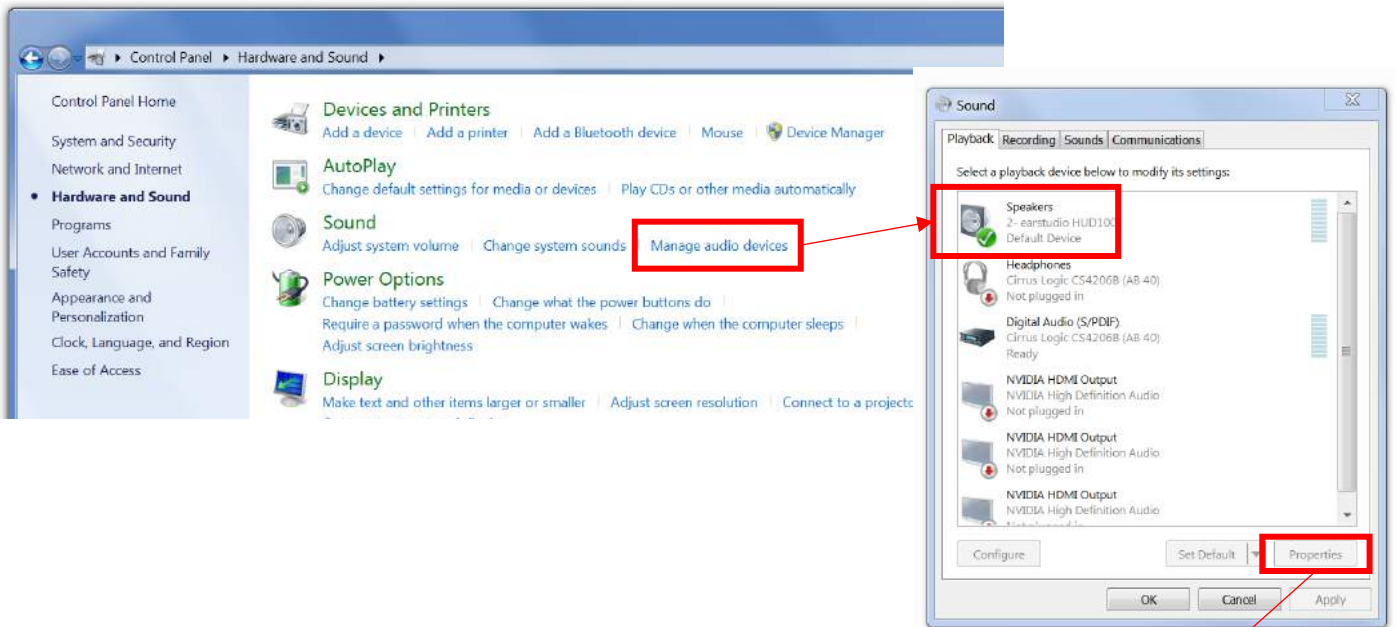
HF Player ([Google Play](#))



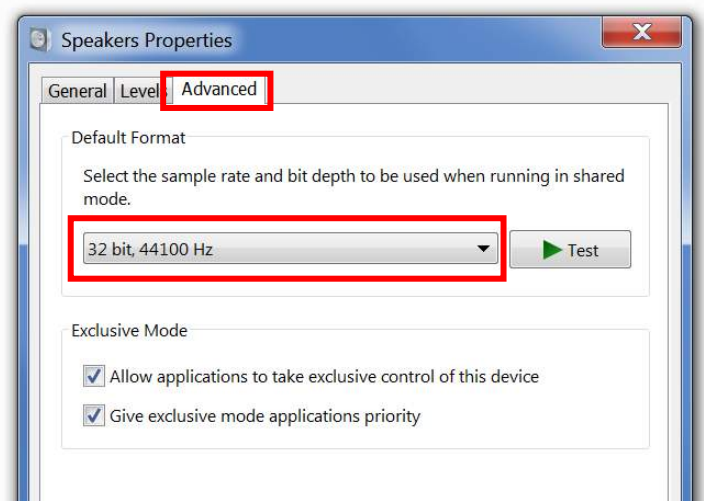
HF Player ([App Store](#))

5. Output and Sample Rate Setting - Windows

- Go to Control Panel
 - Hardware and Sound
 - Sound ➔ Click 'Manage audio devices'
 - Click HUD100 as the 'Default Device'

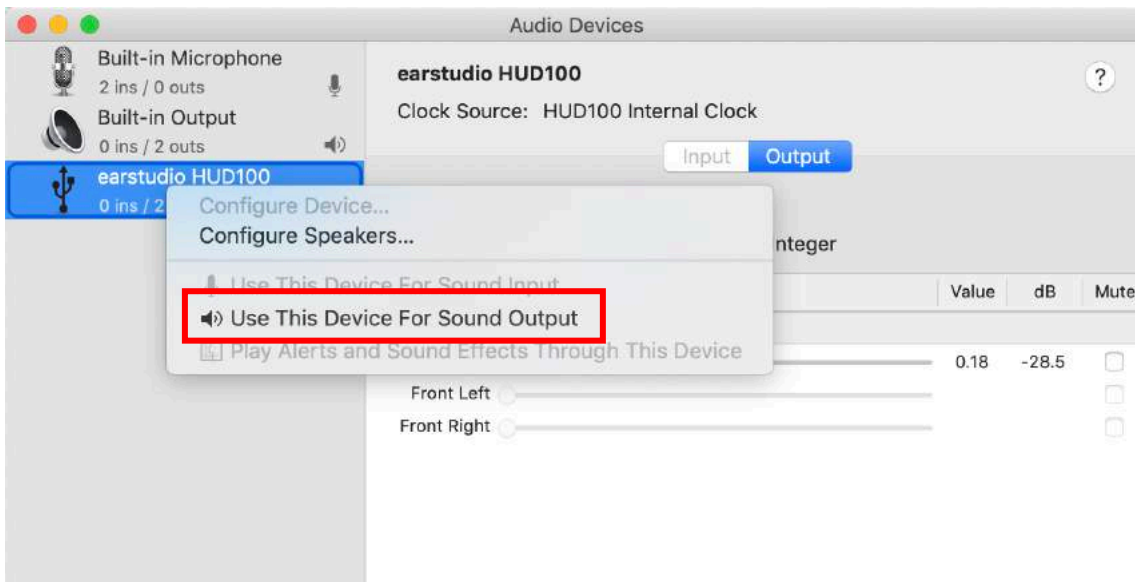


- Go to Sound ➔ Properties ➔ Advanced ➔ Change Sample Rate

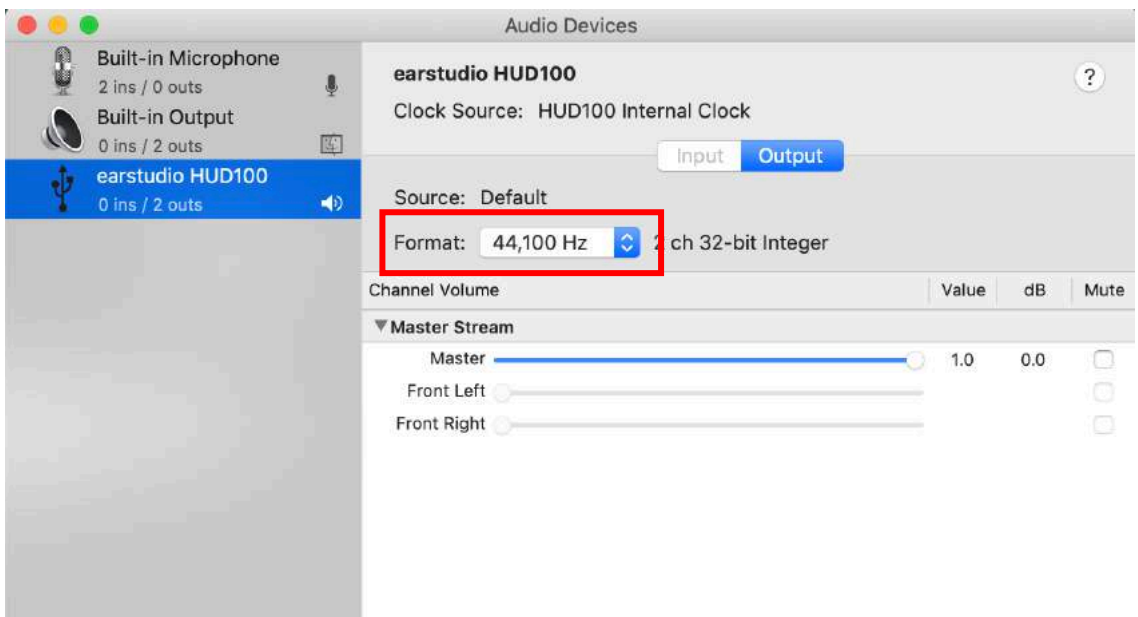


5. Output and Sample Rate Setting - Mac

- Go to Launchpad
 - Audio MIDI
 - Right Click 'earstudio HUD100'
 - Choose 'Use This Device for Sound Output'



- Change Sample Rate from 'Format' section



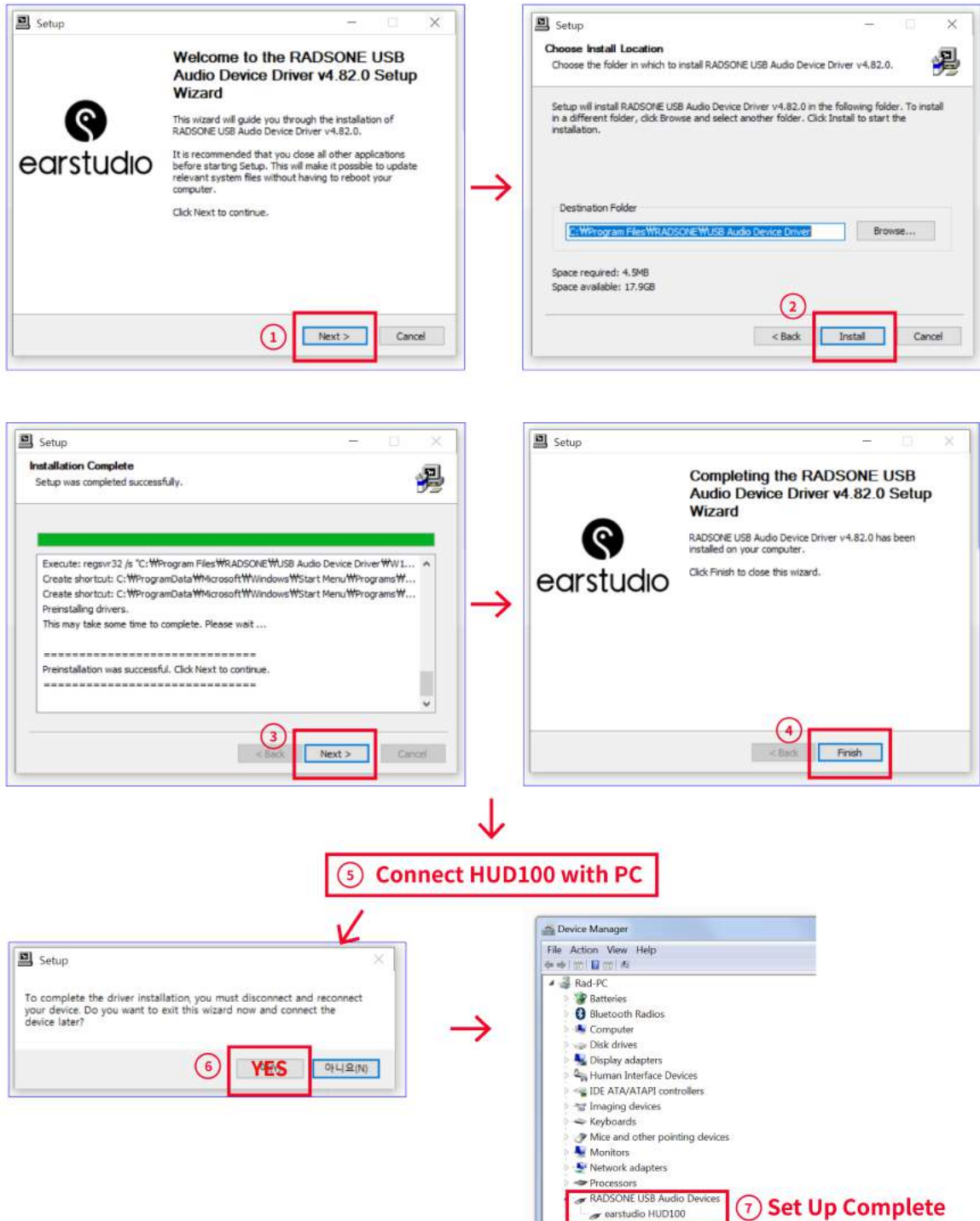
6. USB Driver for Windows

*The driver plays the original DSD and High-Resolution audio without resampling. Please install the driver to play up to PCM 32bit 384kHz, DSD64/128 audio on Windows.

***Windows 7** users must download the driver. Windows 10 users don't need to download unless you want to play PCM 32bit 284kHz or DSD audio files.

[Download here](#)

- How to Set Up

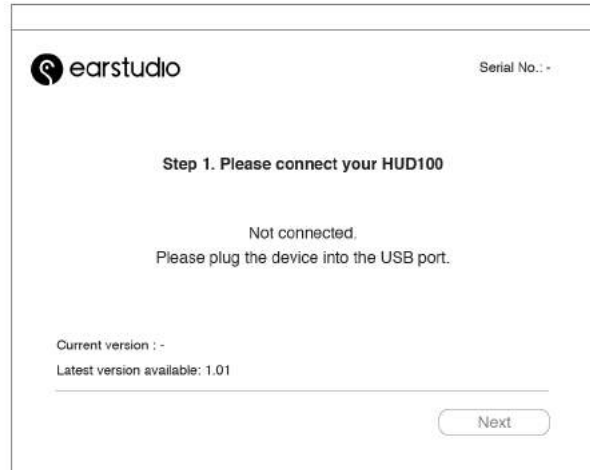


7. Device Firmware Update

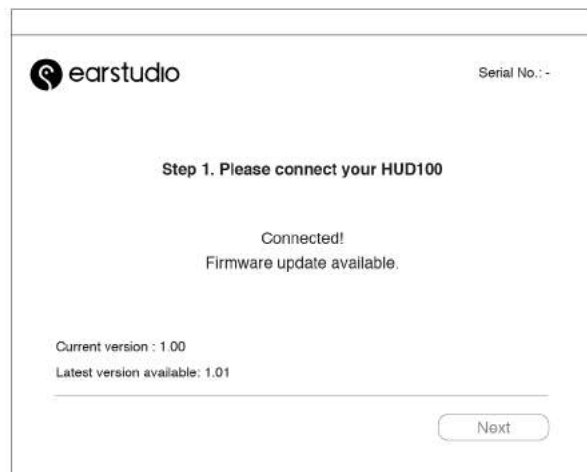
[Download here](#)

- How to Set Up

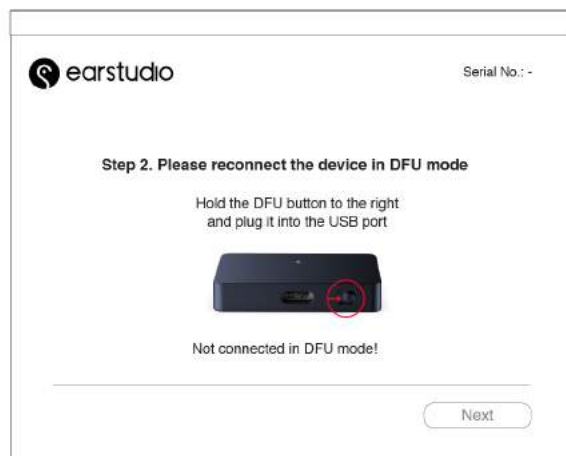
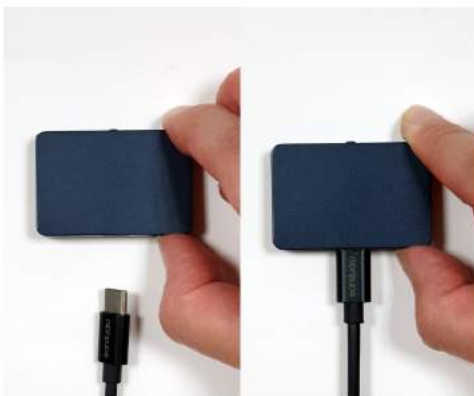
1. Download and install the DFU program



2. Connect your HUD100 with PC



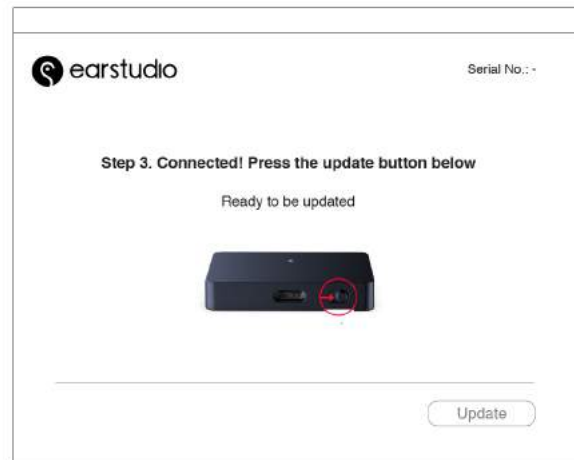
3. Disconnect and then reconnect the HUD100 by holding the DFU button to the right



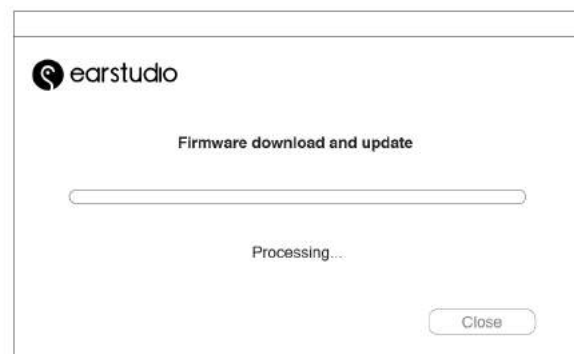
7. Device Firmware Update

4. It's now ready to be updated.

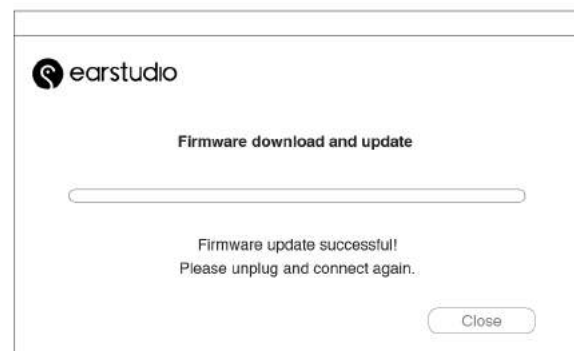
*LED light doesn't show up



5. Updating...



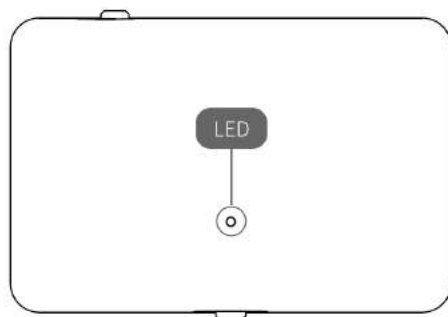
6. Update successful! Disconnect and connect the HUD100 again to play.



8. Specifications

Inputs	USB Type C
Outputs(3.5mm)	Standard 0.914 Vrms(1.29 Vp) / High Power 2.26 Vrms(3.20 Vp)
THD+N	Standard -105dB(0.00056%) / High Power -102 dB(0.00079%)
Dynamic Range	Standard 118dB / High Power 118 dB
Sample Rates	Up to PCM 32bit 384kHz, DSD128 (DoP)
DAC Chip	AK4377
Desktop Compatibility	Mac OS 10.10 or later / Windows 7(32/64bit) or later
Mobile Compatibility	iOS 10.3.3/iPhone 6 or later / Android 6.0 or later
Dimensions	45 x 32 x 8mm
Weight	21.5g

- Sample Rates/LED Color



- 44.1kHz
- 48kHz
- 88.2kHz/96kHz
- 176.4kHz/192kHz
- 352.8kHz/384kHz
- DSD64/DSD128

For more information,
please visit www.radsone.com