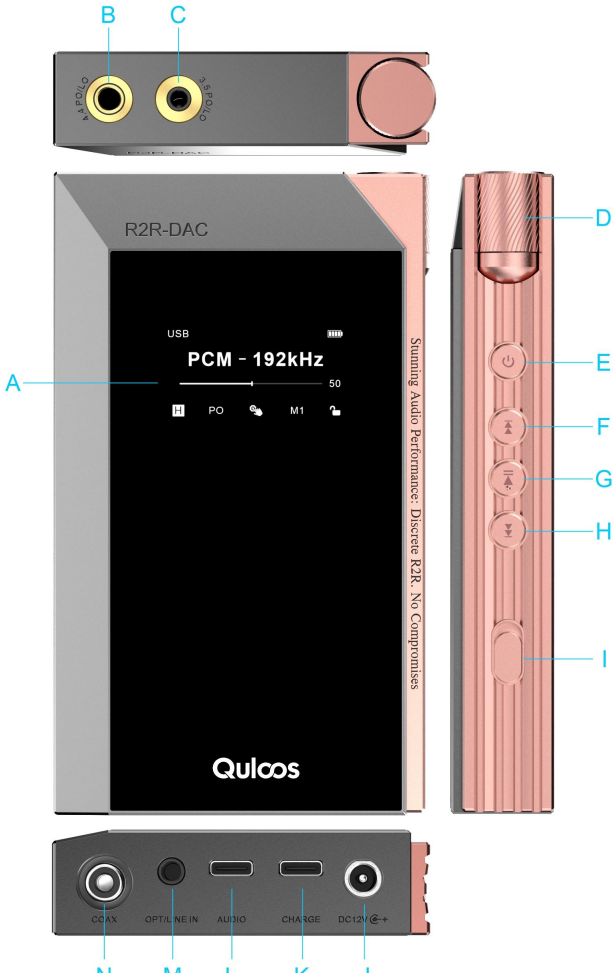
Catalogue


B
C
R2R-DAC
USB
PCM - 192kHz
50
PO
M1
A
Stunning Audio Performance: Discrete R2R. No Compromises
Qulcos
D
E
F
G
H
I
COAX
OPT/LINE IN
AUDIO
CHARGE
DC12V
N
M
L
K
J

Interface Introduction

A	Display Area: Shows the current status and settings.
B	4.4mm Balanced Headphone Jack; also serves as Line Out (Pre-amp) / AUX Output.
C	3.5mm Single-ended Headphone Jack; also serves as Line Out (Pre-amp) / AUX Output.
D	Volume Knob: Adjusts the volume level.
E	Power Button: Press and hold to power on/off; tap to turn the display off/on.
F	Previous Track (⏮): Switches to the previous track.
G	Play/Pause: Plays or pauses the currently selected track.
H	Next Track (⏭): Switches to the next track.
I	Lock Switch: Locks the button and touch operations; can also be set to lock the volume knob operation.
J	DC 12V External Power Input (also for fast charging), Plug specification: 5.5×2.1mm, center positive.
K	Type-C Charging Port: Charging port for the internal battery, supports both fast and standard charging.
L	Type-C USB Audio Input Port.
M	Optical Input Port (Round Optical) & Analog Input Port (3.5mm Line In).
N	RCA Coaxial Input Port.

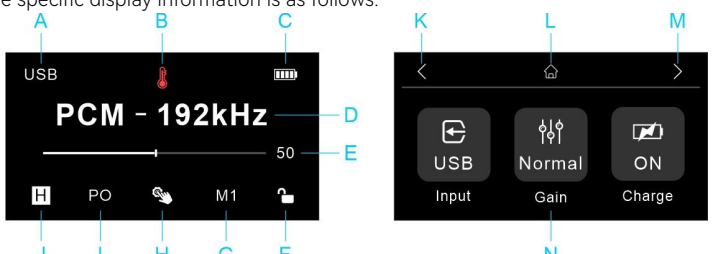
Meaning of the Battery Icons

	When charging, green indicates a full charge.
	A single lightning bolt icon indicates standard charging.
	A double lightning bolt icon indicates fast charging.
	Low battery level.
	Full battery.
	Half battery, around 50%.

Display Information

The display area provides various interactive information in a simple format, making it easy to confirm the current working status and configure various functions.

The specific display information is as follows:



A	Input method. Display content can be: USB, BT... / BT, LINE, COAX, OPT.
B	High-temperature warning (not displayed under normal temperature).
C	Power indicator, battery level, charging status, etc.
D	Current input signal format and sample rate.
E	Current volume (max volume is 120).
F	Locked or unlocked status.
G	Sound Mode: M1 or M2.

H	Touch entry for the settings menu.
I	Headphone jack output function: PO or LO.
J	Headphone Amplifier Gain: L (Low), N (Normal), H (High).
K	Switch to the previous settings page.
L	Return to the main interface.
M	Switch to the next settings page.
N	Setting item.

Helpful Tips

1. Please use the device in a well-ventilated environment. Excessive temperatures will trigger thermal protection, limiting the normal use of certain functions. High-temperature environments can also cause irreversible damage to battery life.
2. When the device is operating or charging, it is normal for the casing temperature to be between 40℃–50℃. This is within the safe range of the design standard, so please use it with confidence.
3. If the device will not be used for an extended period, please ensure the battery level is at 2–3 bars and charge it once every 3 months to prevent damage from over-discharge due to self-discharge. If the device needs to be transported, please discharge the battery to 1–2 bars (to reduce safety risks).
4. For a better experience with Bluetooth connection, please keep the distance between the MUB5 and the transmitting source as short as possible.
5. The Bluetooth antenna is located in the top 1/5 area of the device's back panel. If using a third-party custom case, ensure this area is not covered by metal materials. In daily use, also avoid placing the antenna area against or on metal surfaces to prevent signal shielding.
6. When using USB or Bluetooth input, please turn the volume of the source device (e.g., a smartphone) to maximum (to avoid sound quality degradation from digital loss), and then adjust the volume using the MUB5.

Function Settings

【Setting Method】

● This device uses on-screen touch operation: Tap the icon in the main display window or swipe left/right to enter the settings menu. In the settings menu, swipe left or right to switch pages, and tap on a specific item's icon to adjust its parameters.

● The device automatically saves settings periodically. After making changes, please continue to use it normally for a few tens of seconds before powering off to ensure the settings are saved.

● Exit Settings: Tap the icon in the top navigation bar to return to the main interface, or it will exit automatically after 20 seconds of inactivity.

Input

- USB: USB input.
- BT: Bluetooth input.
- LINE: Analog input (LINE/AUX IN).
- COAX: Coaxial input.
- OPT: Round optical input.

Gain

1. Please select the appropriate gain based on your headphones' sensitivity and your listening preference to achieve the ideal sound experience.
2. High gain is only suitable for low-sensitivity IEMs/headphones. High-sensitivity IEMs may exhibit audible background noise at high gain.
3. Before increasing the gain, it is recommended to lower the volume first to avoid discomfort from a sudden increase in sound.

- (L) Low: Low gain.
- (N) Normal: Normal gain (default).
- (H) High: High gain.

DC-CHG

Sets whether the DC port input power only supplies power or also charges the battery when the device is on.

- OFF: Supplies power only, does not charge.
- ON: Charges and supplies power simultaneously.

Note: 1. This setting is invalid when the BYP-BAT is enabled.
2. Type-C port charging is not controlled by this setting.

Output

- PO: Headphone port is for headphone amp output.
- LO: Headphone port is for line out/pre-amp output.

Note: Before switching to LO output, be sure to unplug your headphones first to avoid damage from the high output level.

Lock

- ALL: Buttons, touch controls, and the volume knob are all locked.
- NO VOL: The lock scope does not include the volume knob.

Mode

1. The sound mode primarily changes the sound signature by adjusting the upsampling multiplier of the digital signal before the NOS stage.
2. The purpose of using upsampling before the NOS R2R is not only to expand the replay frequency range but, more importantly, to reduce distortion, noise, and group delay phenomena at both ends of the frequency response.

- M1: A listening experience close to no upsampling.
- M2 (Default): Upsamples to DXD x 2.

LCD-B/L

- High (Default): High display brightness.
- Low: Low display brightness.

LCD Close

- OFF (Default): Always on, but can be manually turned off or awakened with the power button.

- 30S: Automatically turns off after 30 seconds of no touch operation.

Auto off

- OFF (Default): No auto power-off.
- AUTO: Automatically powers off when specific conditions are met.
- 60M, 90M, 120M: Automatically powers off after 60M, 90M, 120M minutes.

FINE

1. Purpose: To correct channel imbalance issues caused by headphone channel deviation or differences in hearing sensitivity between the user's left and right ears.
2. Fine-tuning is only applied to PO output, with a range of 0 to +3, and both channels can be adjusted independently. The default is 0.

BYP-BAT

Sets whether to completely bypass the internal battery when powered by an external DC power source.

- ON: Enables this function.

The device automatically powers on when the DC port is connected to a power source and powers off when disconnected (e.g., automatically powers on/off with the vehicle's ignition when powered by a car cigarette lighter). In this mode, the DC port does not charge the battery (regardless of power status or DC-CHG setting).

- OFF (Default): Disables this function.

Note: When this mode is enabled, if there is no DC input, the device can still be powered on with the power button, and the battery will provide temporary power (to avoid misjudging a device fault). If there is a DC input, the power button can be used to manually power on/off (overriding the auto on/off logic).

About

- View firmware version.
- View internal device temperature.
- Restore Factory Settings.
- Device Runtime.

BT

1. When the top-left corner of the main interface displays “BT” (connected) instead of “BT...” (not connected), it means Bluetooth is already connected to a device. New devices will not be able to find the MUB5 at this time.
2. Tap this setting item, then press and hold the “Delete” button in the pop-up dialog until a red "OK" prompt appears to force a disconnection from the current connection.

VOL

1. This setting item can be used to adjust the volume instead of the volume knob.
2. After tapping, adjust the volume in the pop-up dialog by tapping the “+” or “−” buttons or by dragging the volume slider.

Line out

- SE 2V (BAL 4V).
- SE 1.4V (BAL 2.8V).
- SE 1V (BAL 2V).
- Output ADJ: Level adjustable (can be used as a pre-amp).

HPA-PSV

- ±6V (Default).
- ±8V.
- ±12V (Only selectable when a 12V power source is connected to the DC port).

Note: A higher headphone amp power supply voltage will reduce battery life and increase device heat.

Display

- 0° (Default).
- 180°.

VOL-Knob

- CW+: Clockwise rotation increases volume, counter-clockwise decreases volume.
- CCW+ (Default): Clockwise rotation decreases volume, counter-clockwise increases volume.

Other Common Operations

【Power On/Off】

- Press and hold the power button for 2–3 seconds to power on or off.
- In BYP-BAT mode, the device automatically powers on when a 12V power source is connected to the DC port and powers off when it is disconnected. However, pressing and holding the power button to power on/off still has priority.

【Power Source Selection】

- The MUB5 has two power supply methods: internal battery power and external DC 12V power.
- The two power supply methods switch intelligently. When a 12V power source is connected to the DC port, it automatically switches to external power. When the external DC power is disconnected, it automatically switches back to internal battery power.

【Auto Power-off】

After enabling the "Auto off" function in the settings menu, the system will automatically power off if any of the following conditions are met.

- In Auto mode, the output is disconnected for more than 10 consecutive minutes.
- In Auto mode, when using USB or Bluetooth input, there is no signal input for more than 10 minutes.
- In 60M, 90M, or 120M mode, continuous operation reaches the time set.

Note: In Auto mode, if any button or touch operation occurs during the timing period, the timer will restart.

【Volume Adjustment】

- For better sound quality, it is recommended to first turn the volume of the source device (e.g., a smartphone) to maximum, and then use the MUB5 to adjust the volume.
- Rotate the volume knob to adjust the volume. The knob's direction can be set via

the“VOL-Knob”setting.

● In the“VOL”setting, you can adjust the volume via touch by tapping the“+”or“−”buttons or by dragging the volume slider.

【Playback Control】

For most smartphones that support in-line remote controls, you can use the MUB5's buttons for playback control.

● Play/Pause: Tap the play button.

● Switch to previous track: Tap the previous track button.

● Switch to next track: Tap the next track button.

Note: The MUB5 uses the line control function of the smartphones to control playback.Because some smartphones default line control function is for adjusting volume, you need to switch it to track control in the phone's settings. For example, on a Xiaomi phone: open“Settings,”search for“Line control”and select the“Control previous/next track”function.

【USB Input】

● Select USB via the“INPUT”setting.

● The MUB5 has a Type-C USB“AUDIO”port. Use a USB OTG cable to connect to a smartphone, tablet, or player.

● Or use a USB-A to Type-C audio cable to connect to a native USB port on a computer's motherboard (connecting to an expansion port is not recommended).

【Bluetooth Input】

● Select BT via the“INPUT”setting.

● For first-time use, pairing is required. Search for Bluetooth devices on the source device (e.g., a smartphone) and select“Quloos MUB5 V1.0”to connect.

● The device will automatically reconnect to the last paired device upon subsequent power-on.

● Top-left of the display:“BT...”indicates not connected/pairing, while“BT”

indicates connected.

● When it displays “BT”, new devices cannot find the MUB5 unless the existing connection is forcibly disconnected.

● When using Bluetooth input, the bit rate is usually fixed, and the Bluetooth output bit rate may vary between different source devices.

【Analog Signal Input】

● Select LINE via the “INPUT” setting.

● The MUB5 has a 3.5mm analog “LINE IN” port. Use a line-in/analog cable with a 3.5mm plug to connect to the source device.

● When using LINE input, the sample rate is fixed.

【Coaxial Input】

● Select COAX via the “INPUT” setting.

● The MUB5 has an RCA coaxial “COAX” port. Use a 75-ohm coaxial cable with RCA plugs to connect to the source device.

【Optical Input】

● Select OPT via the “INPUT” setting.

● The MUB5 has a round optical “OPT” port. Use an optical cable with a round plug to connect to the source device.

【UAC1.0】

In USB input mode, connect to a front-end device via a USB cable, then press and hold the [Play/Pause] button while powering on to switch the MUB5’s USB to the lower-speed UAC1.0 mode, for compatibility with older devices that do not support UAC2.0.

【Line Out (Pre-amp) / AUX Output】

● The 3.5mm Single-ended Headphone Jack and 4.4mm Balanced Headphone Jack

can be switched to LO output, in addition to being headphone amp outputs, making it convenient to connect the MUB5 to other amplifiers.

● First, set the "Output" to "LO" (**Note**: please unplug your headphones first), then select the appropriate output level via the "Line out" setting.

● When the LO port's output level is set to adjustable (ADJ), it can be used as a pre-amp output to connect to active speakers or a separate amplifier.

Battery Charging

● The battery can be charged via both the Type-C "CHARGE"and "DC 12V".

● The Type-C charging port supports the QC fast charging protocol (12V/1.0A) and standard charging (5V/2A). Type-C charging is not restricted by any settings; you can charge it by plugging in the cable in any state.

● External DC 12V charging requires: BYP-BAT is OFF, and DC-CHG is ON when the device is either off or on.

● The device's temperature will rise significantly during charging. Please ensure good heat dissipation.

● Charging time depends on the remaining battery level and charging current: fast charging takes about 3 hours, while standard charging takes about 4.5 hours. The device will automatically stop charging once it is complete.

● Charging status indication: a single red lightning bolt-standard charging, double red lightning bolts-fast charging, green-fully charged.

USB Driver Installation

● Most computers are driver-free and can be used directly. Some older versions of Windows, or if ASIO exclusive mode is required, a USB driver needs to be installed. The driver file can be obtained from the "Downloads" page on the official website www.qlshifi.com.

● The MUB5 uses the same driver as the MUB1. If you have already installed the driver for the MUB1, you do not need to install it again.

● Smartphones, tablets, Apple computers, and most Linux computers are driver-free,

plug-and-play.

Restore Factory Settings

- Enter the settings menu, find and tap the "About" setting, then press and hold the [Recovery] button in the pop-up dialog until a red "OK" appears, indicating a successful restore to factory settings.
- When restoring factory settings, the device runtime displayed on the About page will also be reset to zero.

Reset Operation

- If the device encounters an unrecoverable fault (e.g., freezing, unresponsiveness), a reset operation can quickly resolve it.
- Reset Method:

1. Locate the buttons: Find the two physical buttons marked with "⏮" (Previous Track) and "⏭" (Next Track) on the side of the MUB5.
2. Perform the reset: Press and hold both buttons simultaneously for about 2–3 seconds until the device's screen turns off (indicating a successful reset).
3. Restart the device: After the reset is complete, press and hold the power button to restart the device.

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