



Qudelix-T71 DAC/AMP

User's Guide



MAY 2026

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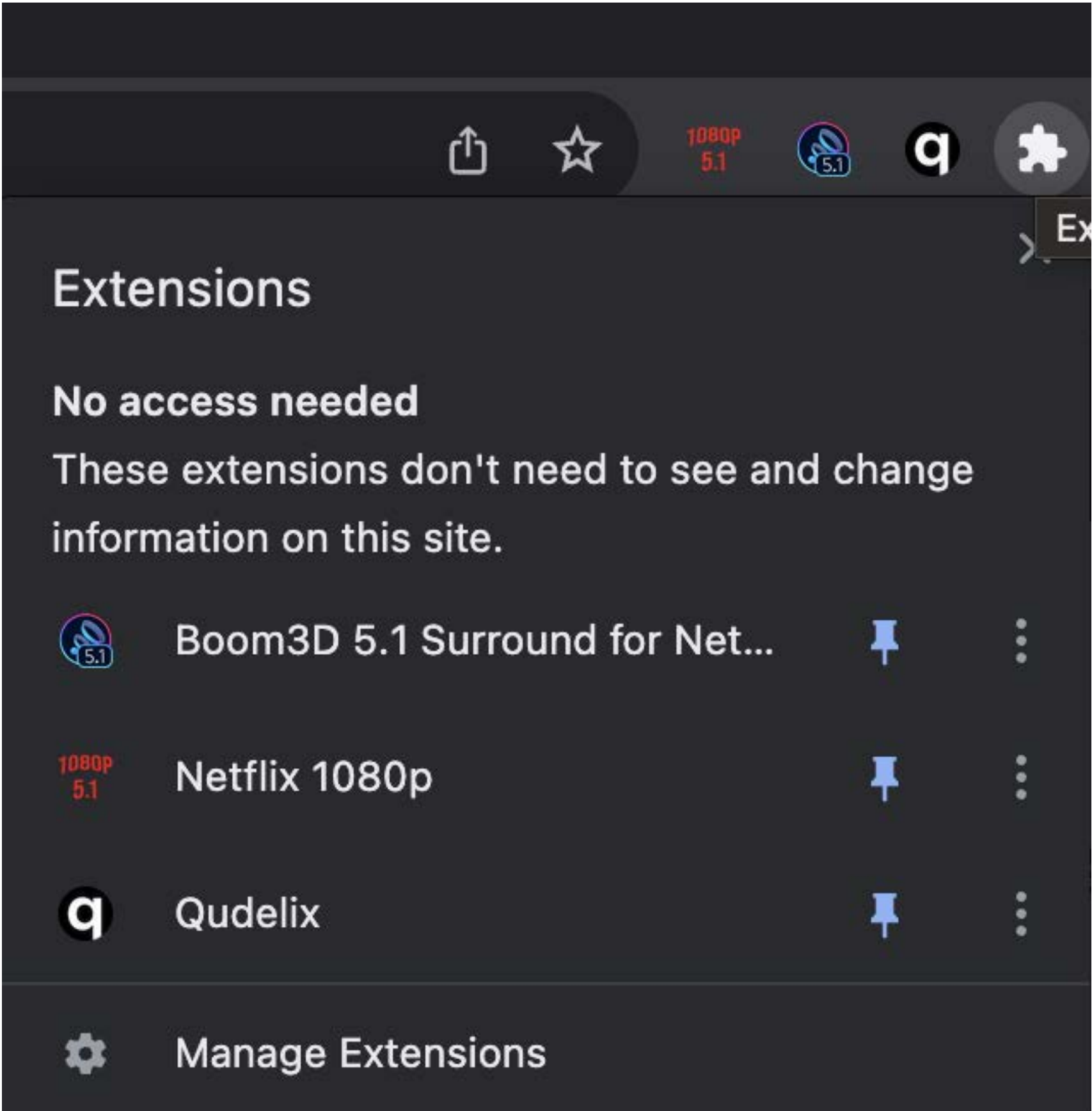
Key Specifications

- NXP iMXRT600 (ARM + DSP)
- Four ES9219 SABRE HiFi® DAC
- Two Texas Instruments INA1620 High-Fidelity Audio Operational Amplifier
- 3.5 mm UNBAL Max. 4 V RMS
- 2.5 mm & 4.4 mm BAL Max. 8 V RMS
- High-Precision MEMS Audio Clock
- High-Resolution USB DAC
 - 32-bit Resolution
 - 384 kHz x 2-Ch (Stereo Mode)
 - 96 kHz x 8-Ch (True 7.1 Mode)
 - Optional USB Audio Class 1.0
- 20-Band EQ
 - 10-band independent PEQ per channel
 - 10-band User EQ
- 1000 mAh Battery
- Color LCD Display 240 x 135
- High-Sensitivity Dual MEMS Microphone
- Four Multifunction Buttons & Four LEDs
- Chrome app for PC/macOS
- Android mobile app
- Material
 - Aluminum Body (Dark Gray)
 - Plastic Bottom (Black)
- Size 84(H) x 40(W) x 16(D) mm
- Weight 75 g



Qudelix PC Chrome App

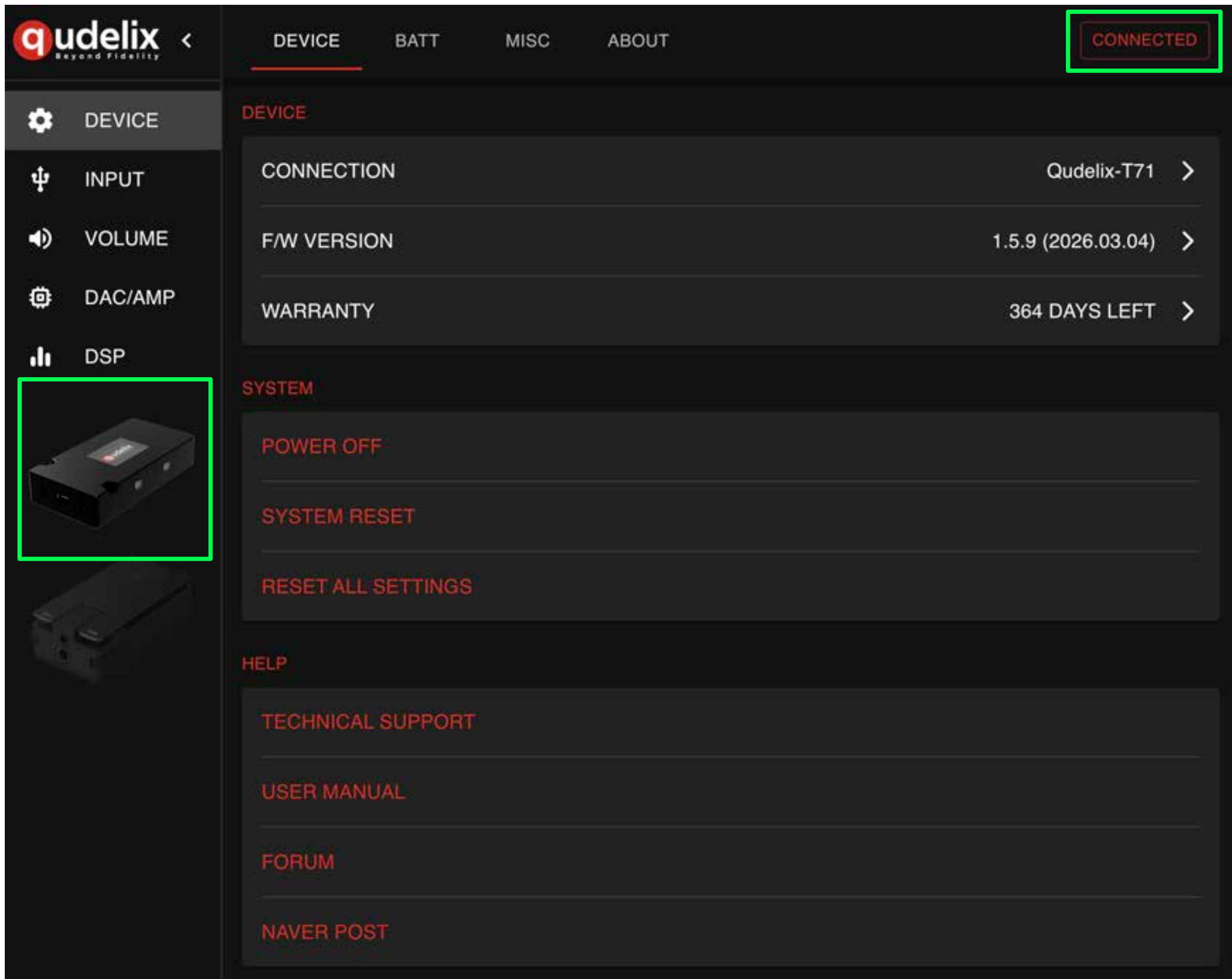
- The Qudelix app supports Windows, macOS, and Linux.
 - The app is a browser extension and requires the latest version of Chrome or Edge.
 - <https://chromewebstore.google.com/detail/qudelix/phaodiidhofhdmfkjiacigibgikhfafn?pli=1>
 - Install the Qudelix extension from the Chrome Web Store.
- Launching the app
 - Click the Extensions icon in the upper-right corner of the browser. Select Qudelix from the extension list to open the app in a new tab.



- Click the Pin icon next to Qudelix to keep its shortcut visible on the toolbar.

Qudelix PC Chrome App

- Device Connection
 - When the app connects to the T71, the upper-right button displays ‘CONNECTED,’ and the T71 image in the left sidebar is highlighted.

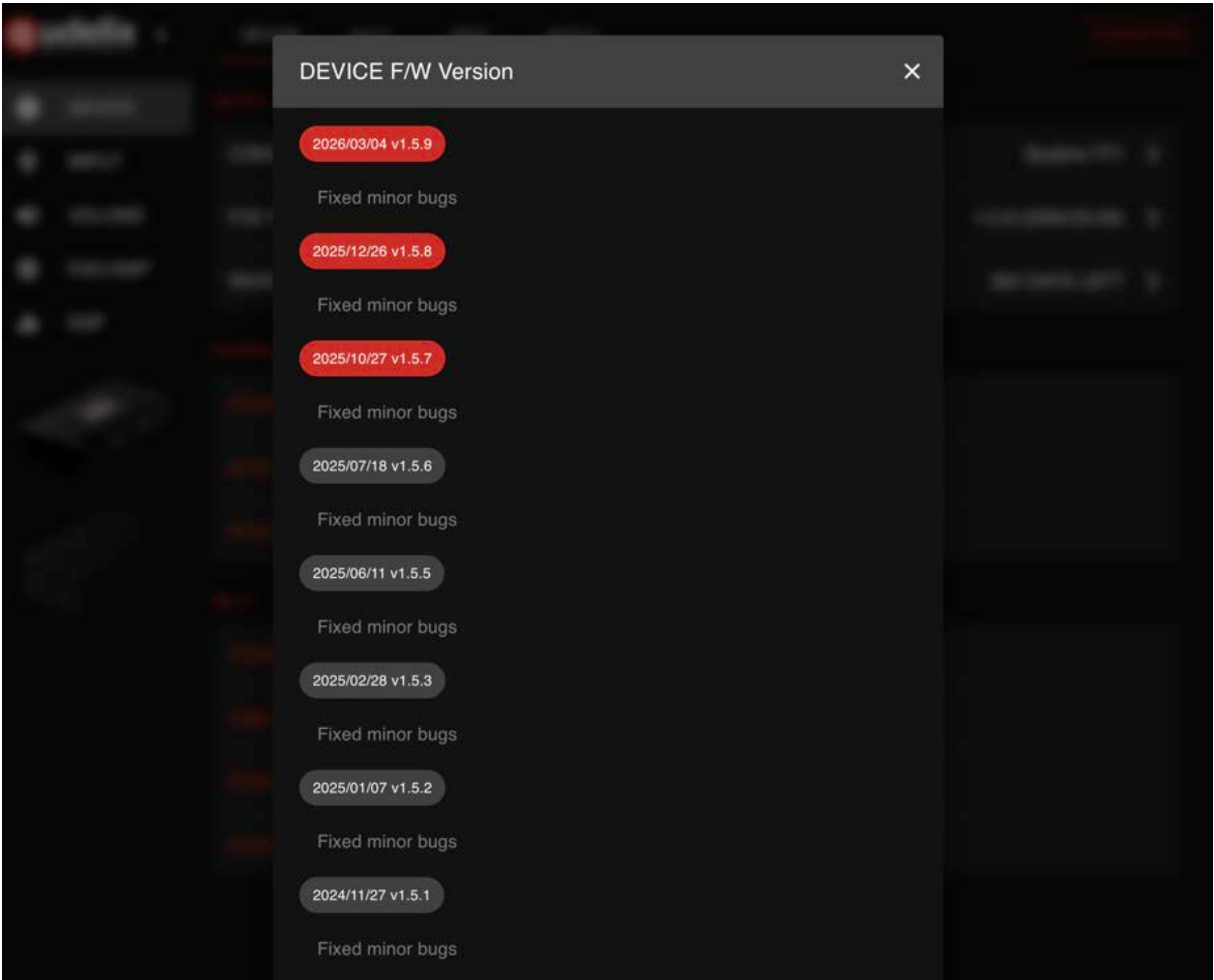
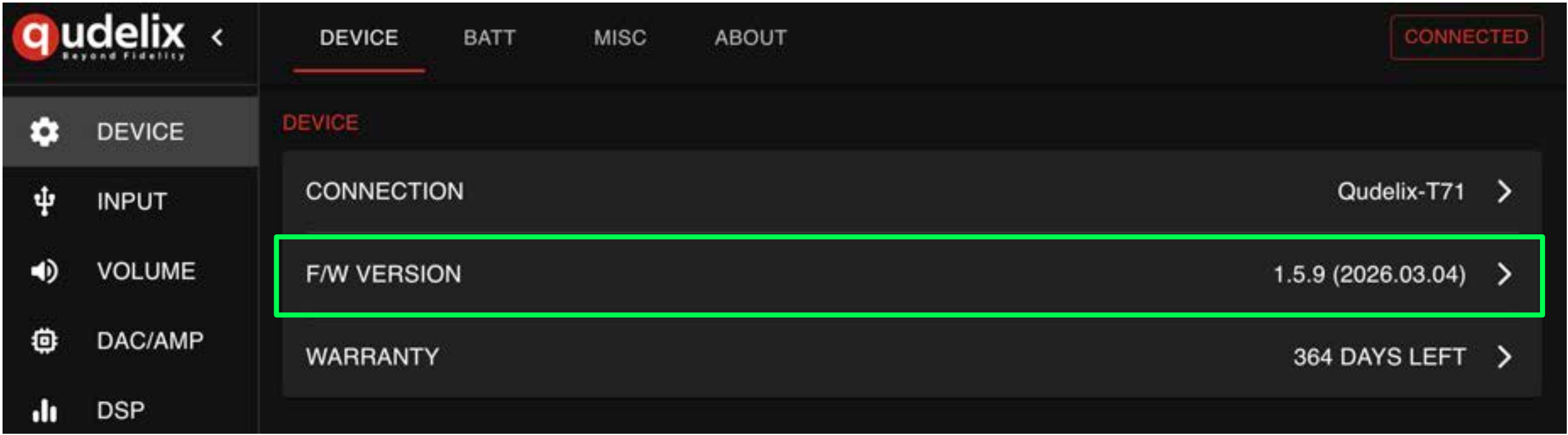


Firmware Update

After installing the latest Qudelix PC app, connect the T71. If newer firmware is available, the update starts automatically.

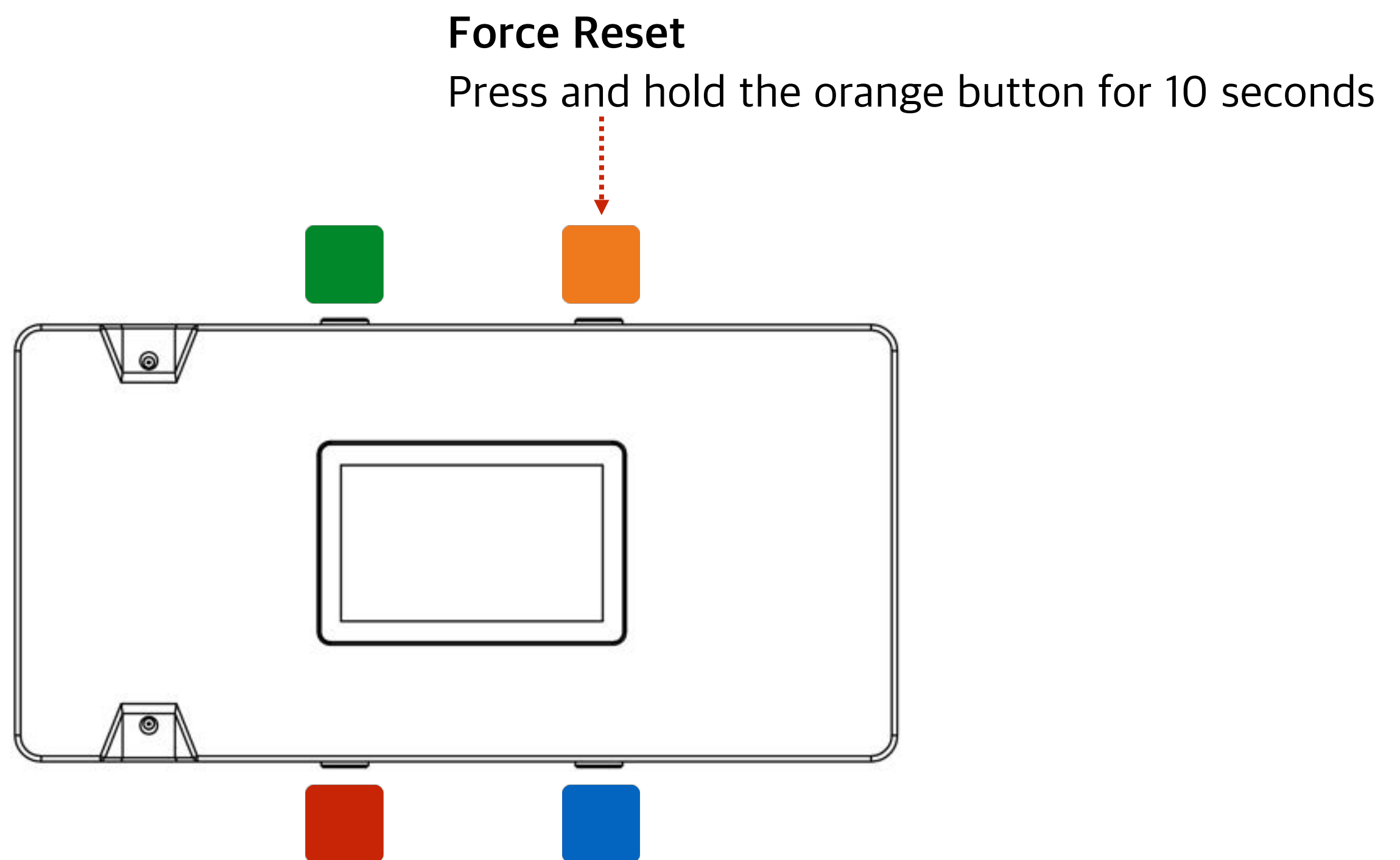
- Alternatively, on the Device screen, tap F/W VERSION to open the Version History pop-up shown below.

Select a firmware version highlighted in red to update or roll back the T71 to that version.



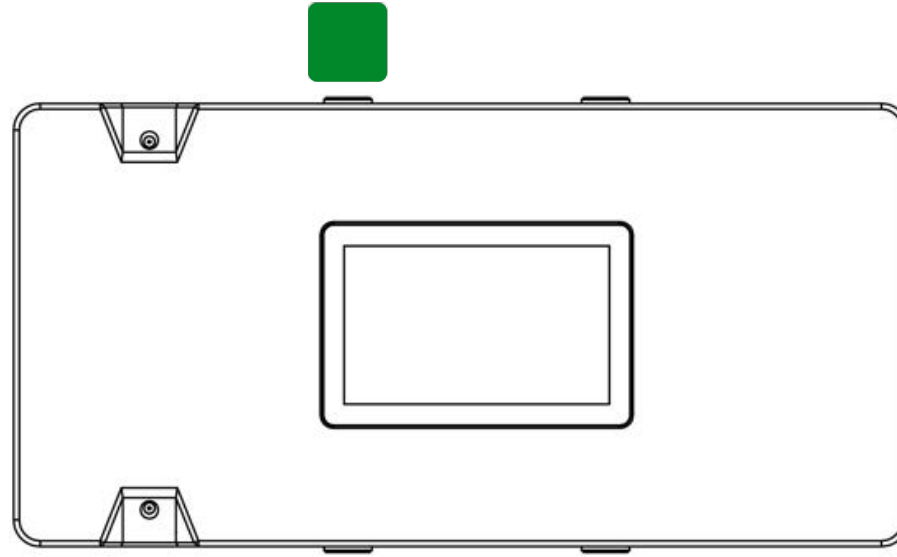
Force Reset

- If the T71 stops responding or freezes during use, perform a force reset by pressing and holding the orange button, as shown below.
- An unresponsive T71 may have entered 'Factory ROM Booting Mode.' Avoid holding the green button while connecting USB unless recovery mode is required.



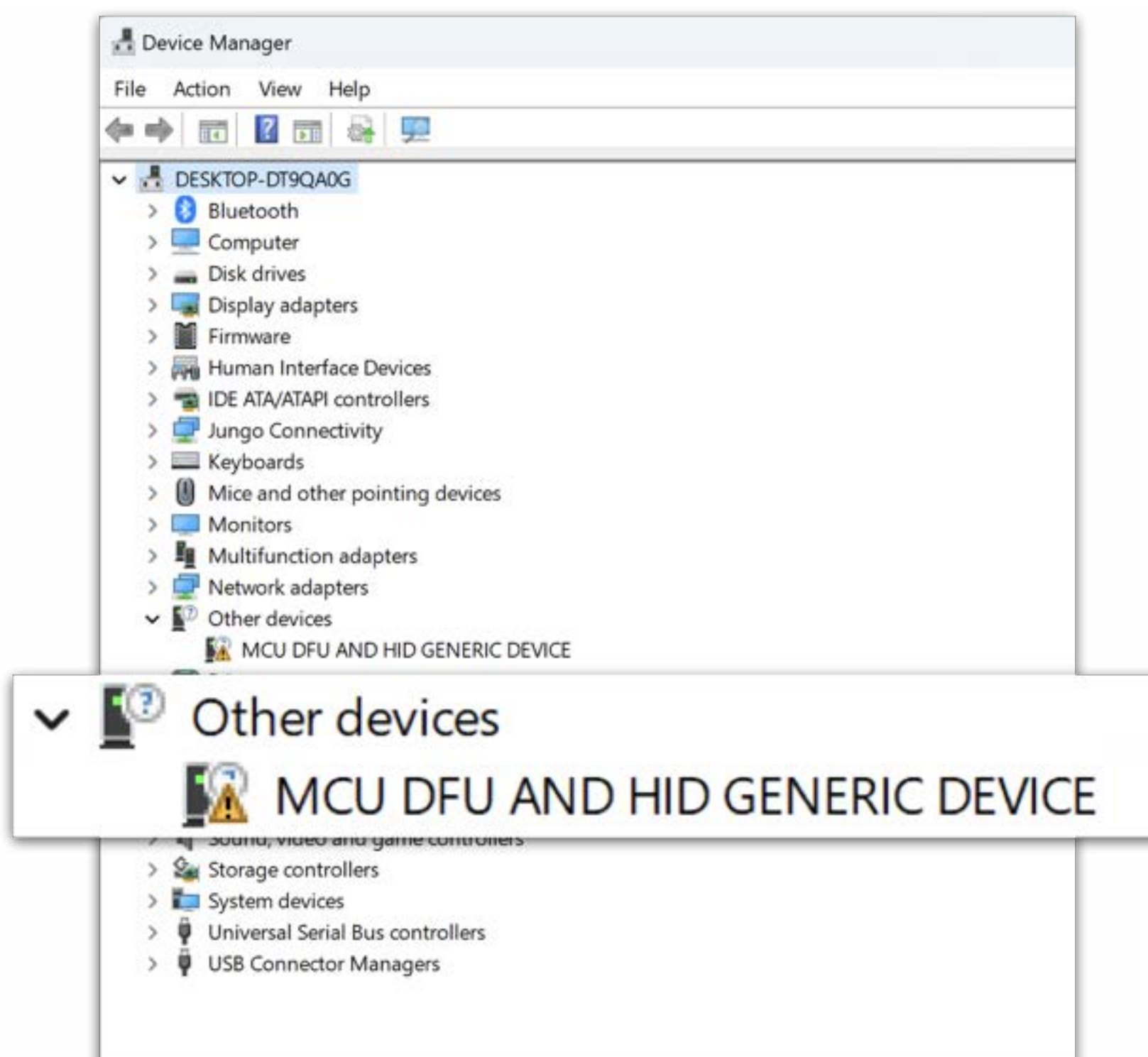
Factory ROM Booting (Recovery Mode)

To enter 'Factory ROM Booting' mode, press and hold the green button while connecting USB.



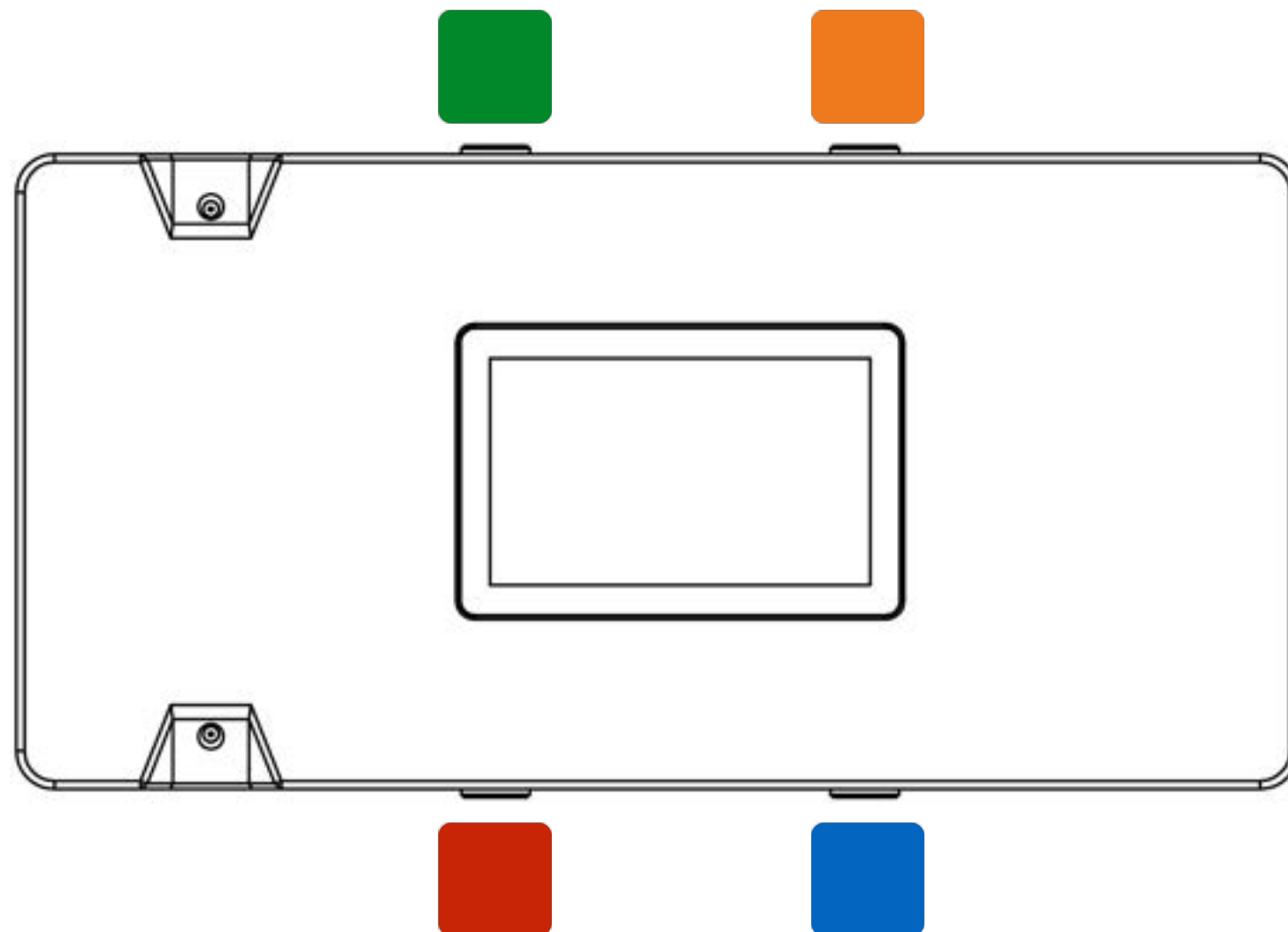
Hold Green Button + Connect USB

- 'Factory ROM Booting' is a recovery mode for restoring corrupted application firmware. In this mode, the LCD, LEDs, and buttons do not operate.
 - During normal use, avoid entering this mode accidentally.
 - If the device enters this mode unintentionally, perform a force reset.
-
- Recovery Mode
 - In Recovery Mode, you can directly update the flash memory that stores the recovery firmware.
 - In Recovery Mode, the device will be recognized as an MCU DFU device in Windows Device Manager.



LED Buttons

- The T71 supports four LED buttons, which can be used to make simple adjustments.
- **Green** and **Orange** Buttons
 - Short-press: Used to switch LCD screens.
 - Long-press: Executes the predefined function shown on the current LCD screen.
- **Blue** and **Red** Buttons
 - Perform the functions shown on the current LCD screen.



Battery View

← Screen Navigation

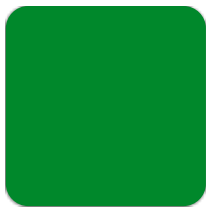
Short Press

Screen Navigation →

USB PWR ↔ HYBRID

Long Press

Built-in Charger ON ↔ OFF



VBUS

100%

4184 mV

FULL

0 mA

29.3/31.8 °C



Volume Up (+0.5 dB)

Short Press

Volume Down (-0.5 dB)

Volume Up (Fast)

Long Press

Volume Down (Fast)

Battery View

Power Mode

- VBUS (powered only by external VBUS / for PCs and laptops)
- HYBRID (powered by external VBUS and the T71 battery / for smartphones)

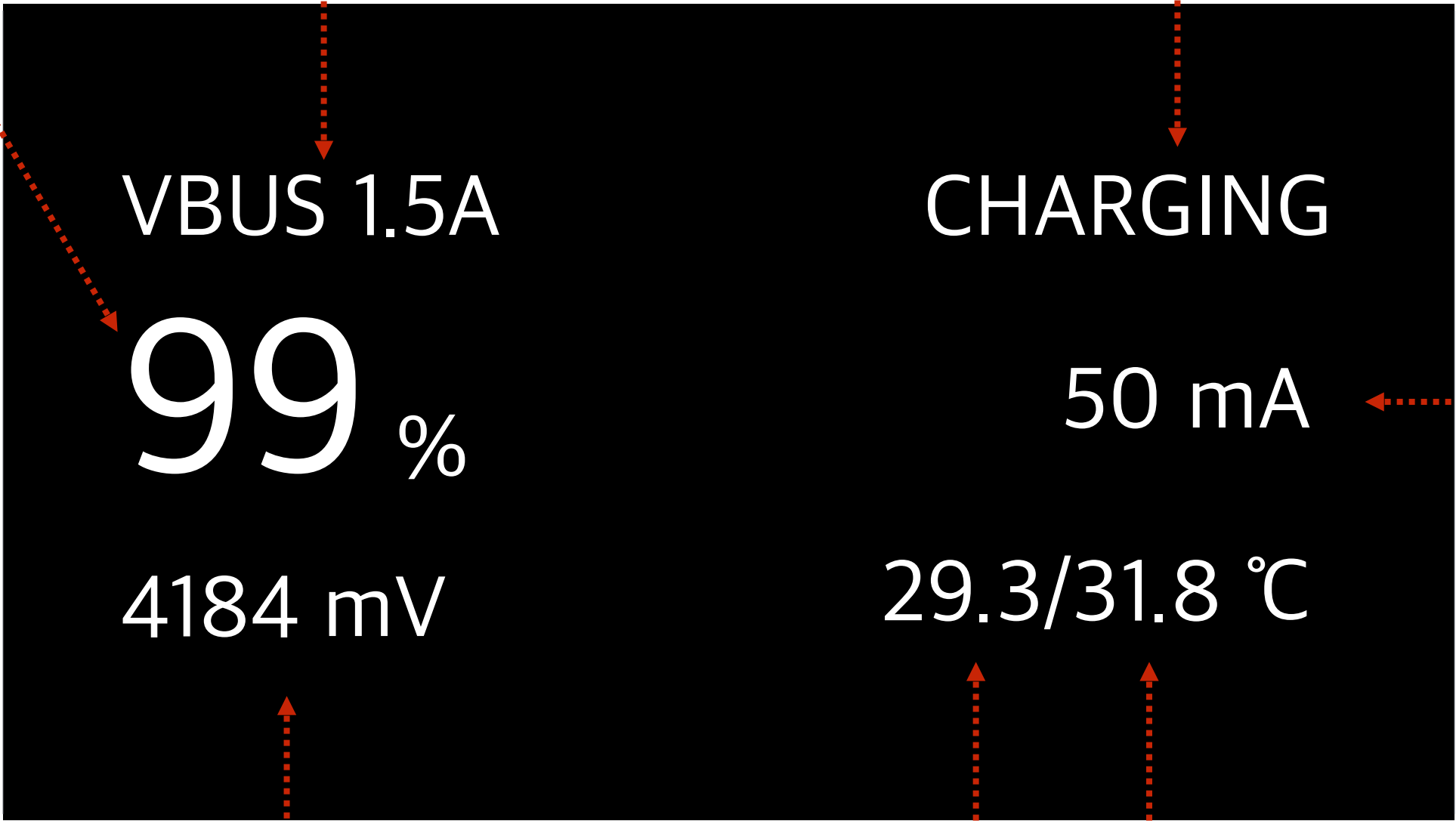
* VBUS Indication

- VBUS (500 or 900 mA)
- VBUS 1.5A
- VBUS 3.0A

Built-in Charger Status

- CHARGING
- CHG OFF (Manually turned off)
- FULL (Fully charged)

Battery Percentage



Battery Voltage

Battery
Temperature

Die
Temperature

Battery Charging/Discharging Current

- Plus (+) indicates that the battery is charging;
- Minus (-) indicates that the battery is discharging.

Home View

← Screen Navigation

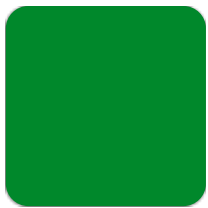
Short Press

Screen Navigation →

N/A

Long Press

USB 2.0 ↔ USB 7.1



↑

0.212V

4.4mm 2.0

BL SL FL C B FR SR BR

99%

-11.5 -8.0

2.0CH

U S P H

384 KHz



Volume Up

Short Press

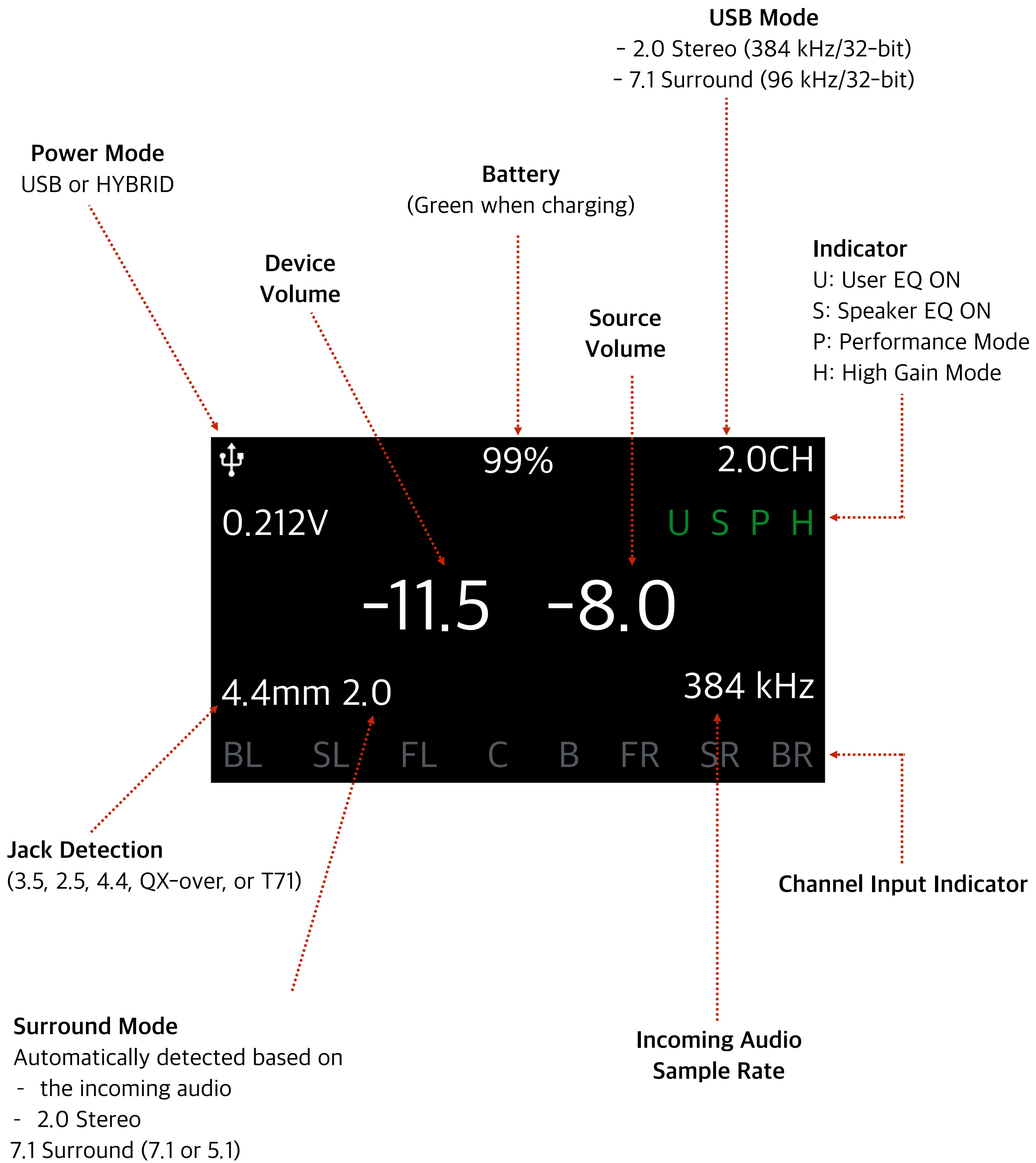
Volume Down

Volume Up

Long Press

Volume Down

Home View



Equalizer View

← Screen Navigation

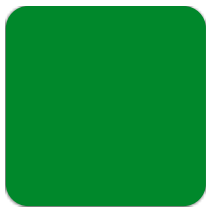
Short Press

Screen Navigation →

User EQ ON ↔ OFF

Long Press

Speaker EQ ON ↔ OFF



EQUALIZER

USR

▼

Treble
Booster

^

SPK

OFF

^

SATURATION



EQ preset selection

Short Press

EQ preset selection

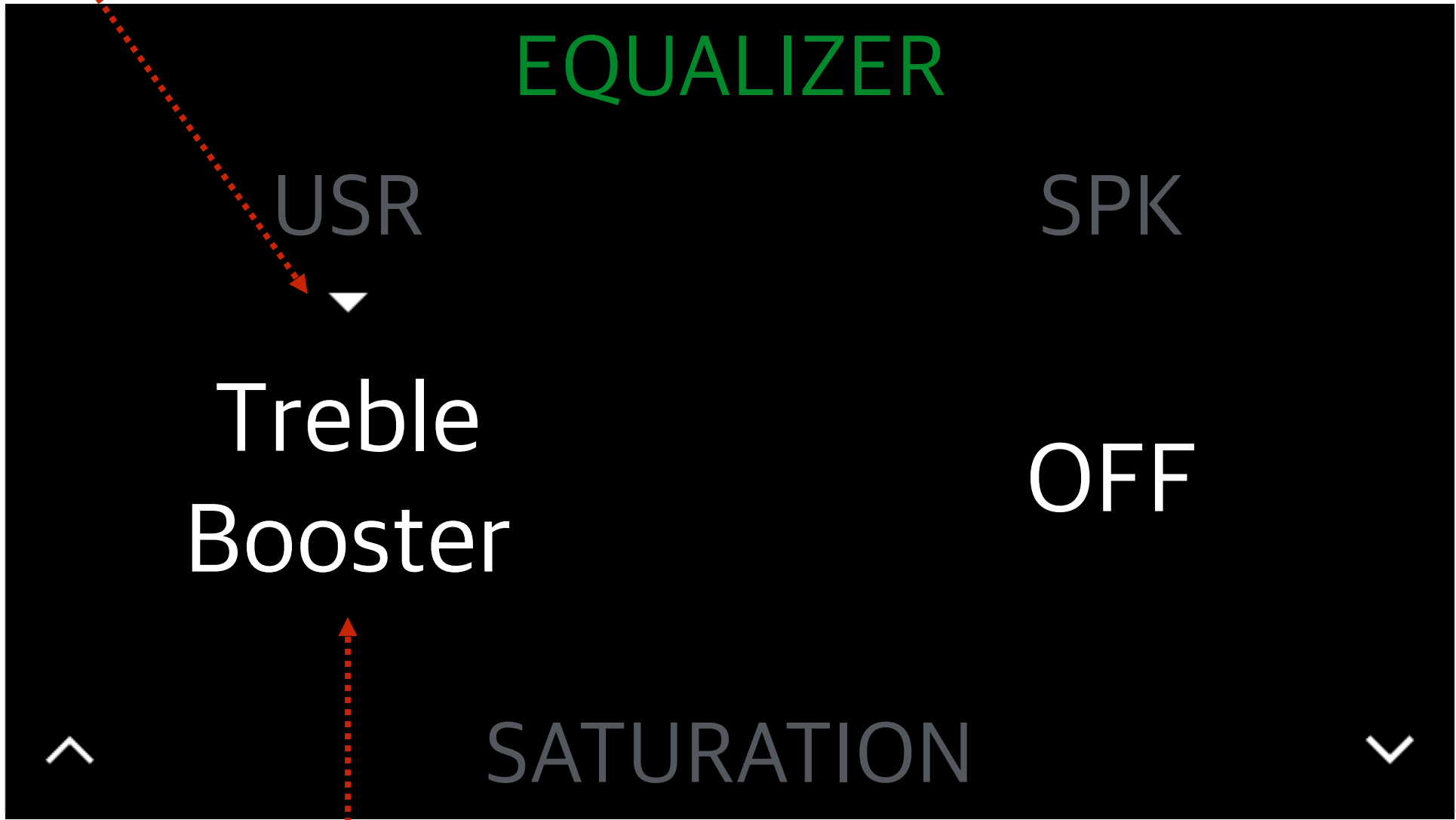
EQ preset selection

Long Press

EQ preset selection

Equalizer View

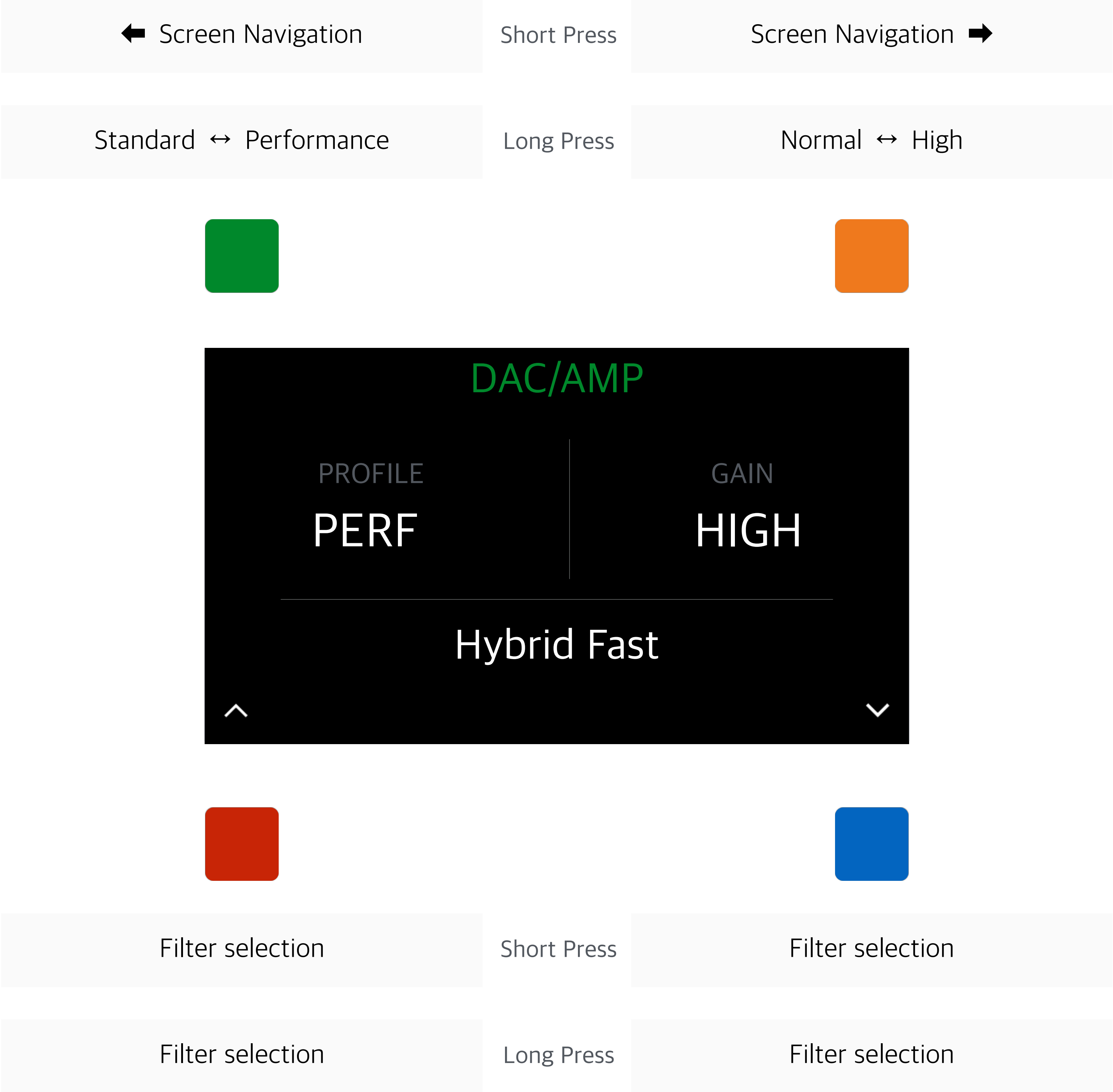
USR or SPK EQ selection indicator
Use the navigation buttons to select the USR or SPK EQ



**Selected
EQ Preset**

EQ Saturation Indicator
(Blinks when saturated/clipped)
* Adjust Pre-Gain or Headroom if it blinks.

DAC/AMP View



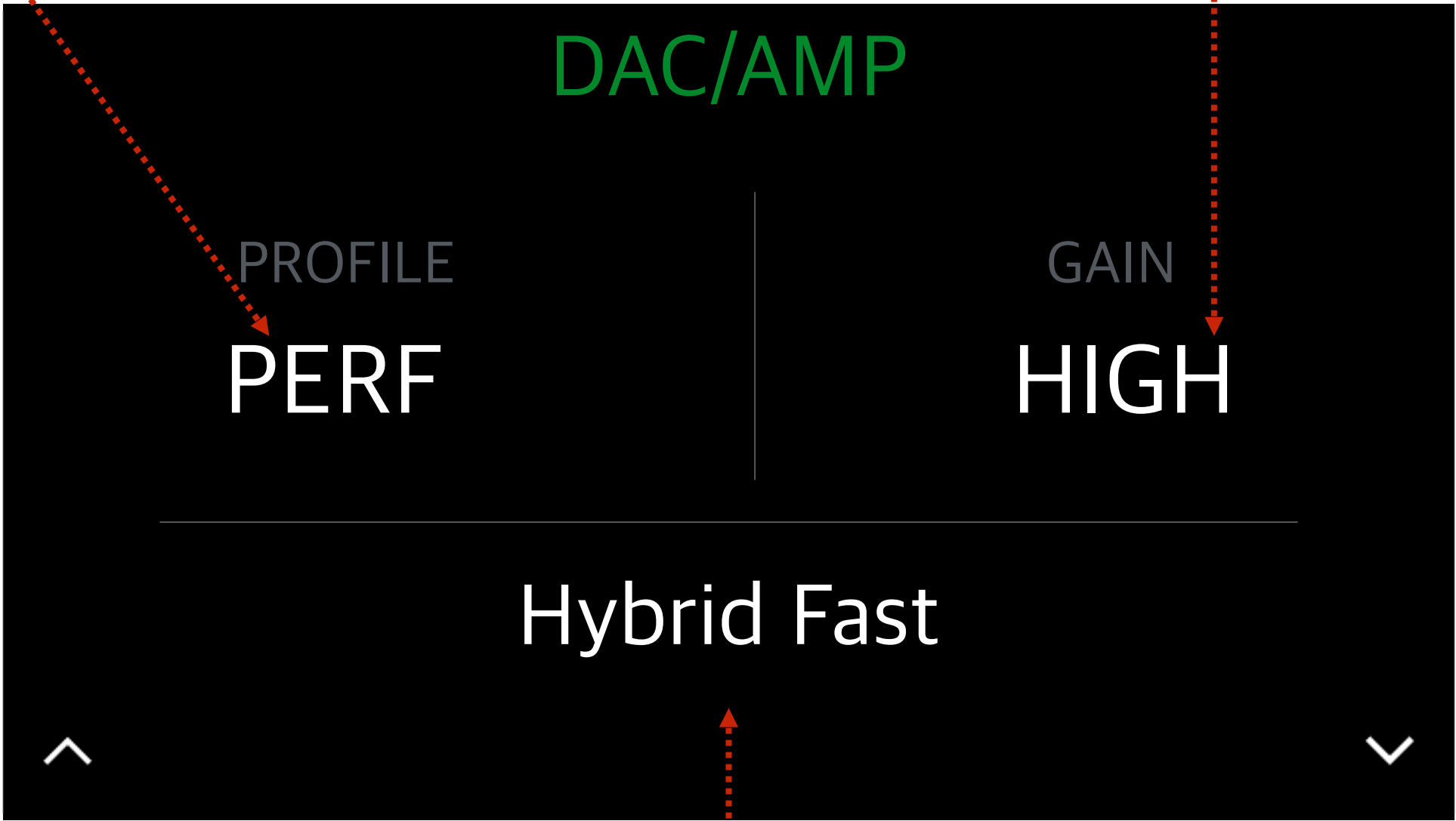
DAC/AMP View

Operating Power Mode Profile

STD: Standard
PERF: Performance

Gain Mode

Normal: Low Gain
HIGH: High Gain



DAC Filter Selection

VBUS vs. HYBRID Power Mode

- The connected source (host) device powers the T71 USB DAC and the source devices fall into two categories:
 - Desktop environments, such as PCs and laptops, where constant power is supplied.
 - Devices like smartphones that are powered by a limited battery.
- The T71 is equipped with a 1000 mAh battery and offers two power modes, as described below, for use with smartphones.
- VBUS Mode
 - The T71 operates on external USB power from the source (host) device.
 - The connected VBUS power source supplies all the power required for the T71's operation, and the battery is not used at all.
 - For desktop use with PCs, VBUS mode is recommended.
- HYBRID Mode
 - The T71 operates on both external USB and the T71's battery power.
 - This mode automatically turns off the built-in charger and will not charge the battery.
 - When used with a smartphone, this mode helps prevent excessive battery consumption by the T71 from the smartphone.
 - For iPhones with a Lightning port, the current supplied to the connected accessory is limited to a maximum of 150 mA. If the USB DAC connected consumes more than 150 mA of current, the iPhone automatically disconnects the USB connection. For use with iPhones, HYBRID mode is recommended.

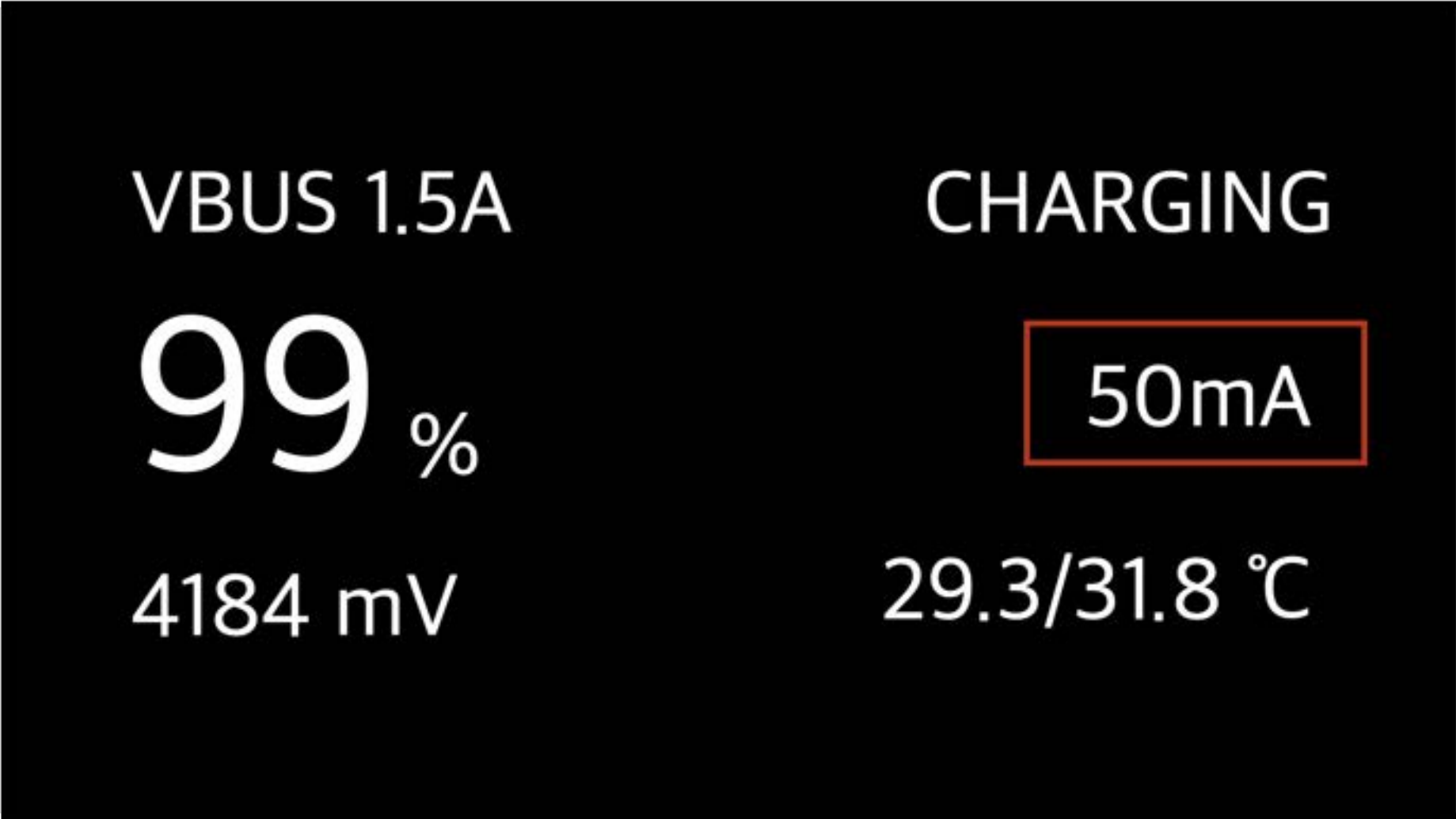
Battery Current Display

(+) Plus Current

- A positive value indicates that an external source is powering the device and charging the battery.
- Charging current is limited to 200-400 mA for safety.
- As the battery approaches full charge, the charging current gradually decreases.

(-) Minus Current

- A negative value indicates that the battery is discharging and supplementing external USB power.
- This is normal in HYBRID mode.
- When used with a smartphone, this mode helps prevent excessive battery consumption by the T71 from the smartphone.
- For iPhones with a Lightning port, the current supplied to the connected accessory is limited to a maximum of 150mA. If the USB DAC connected consumes more than 150mA of current, the iPhone automatically disconnects the USB connection. For use with iPhones, HYBRID mode is recommended.

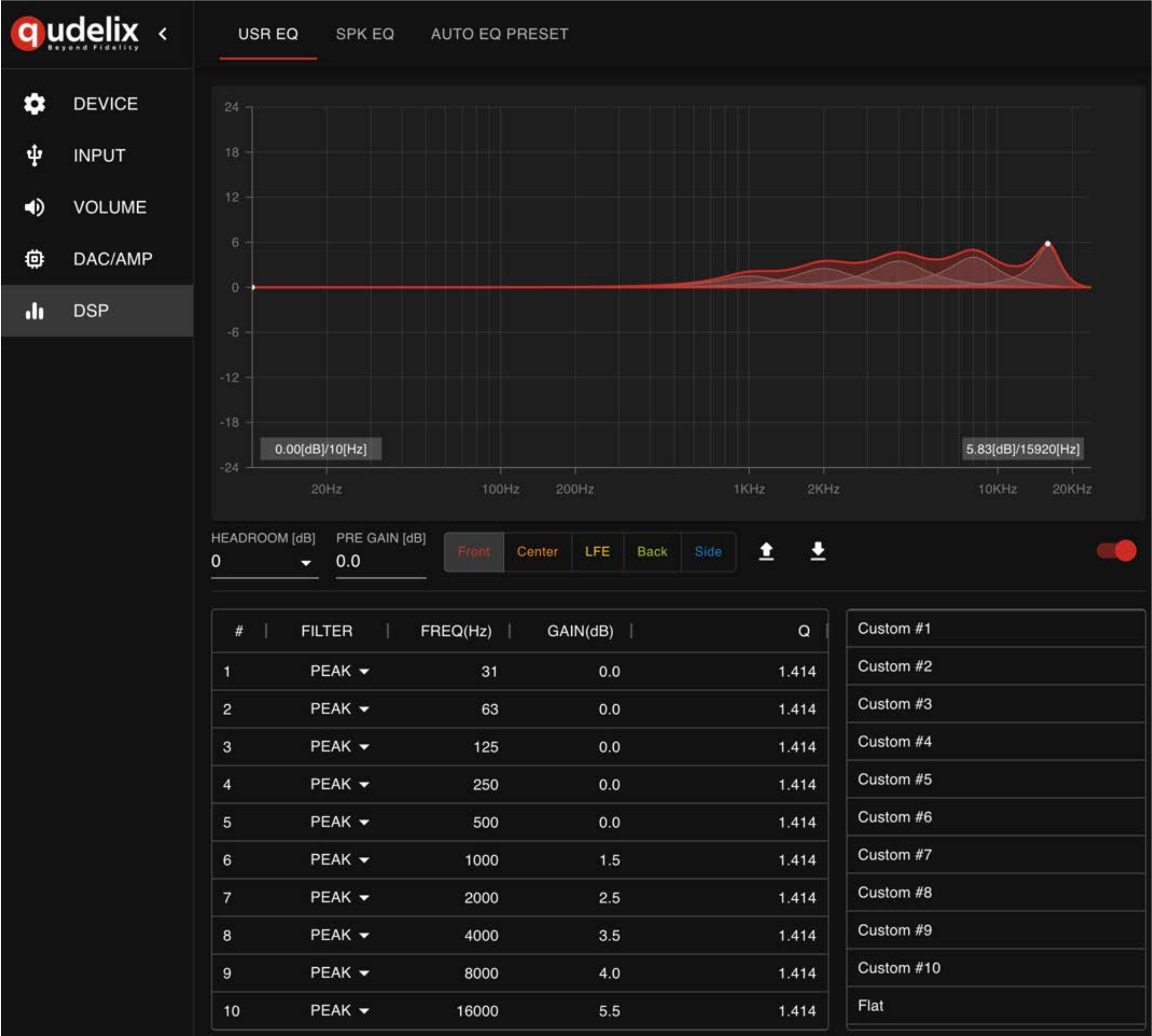


Equalizer

- The built-in professional-grade equalizer is a key feature of the T71 DAC/AMP. It processes all audio streamed over USB from sources such as YouTube, Apple Music, Spotify, iOS, Android, and PC.
- The T71 DAC/AMP supports parametric EQ.
- The embedded DSP cores perform double-precision 64-bit EQ processing, providing precise frequency response, including at low frequencies.
- The T71 manages and stores the EQ presets in its internal flash memory. It automatically reloads the settings at boot-up and resumes the same EQ setting as configured before. After configuring EQ in the app, the settings remain active without reopening the app.
- USR EQ and SPK EQ provide two independent logical 10-band EQs:
 - USR EQ (User EQ)
 - SPK EQ (Speaker/Headphone EQ)
 - These two EQs are cascaded and processed sequentially.
 - Although they are physically implemented using the same DSP EQ engine, they are logically separated according to their intended purposes.
- SPK EQ is recommended for compensating or tuning headphones, earphones, or speakers.
 - Supports independent L/R channel EQ adjustment
 - AutoEQ presets are applied to the SPK EQ section
- USR EQ is recommended for adjusting tonal preference according to:
 - Music genre
 - Audio source characteristics
 - Personal listening preference
- This layered EQ structure allows independent device correction and user sound customization simultaneously.

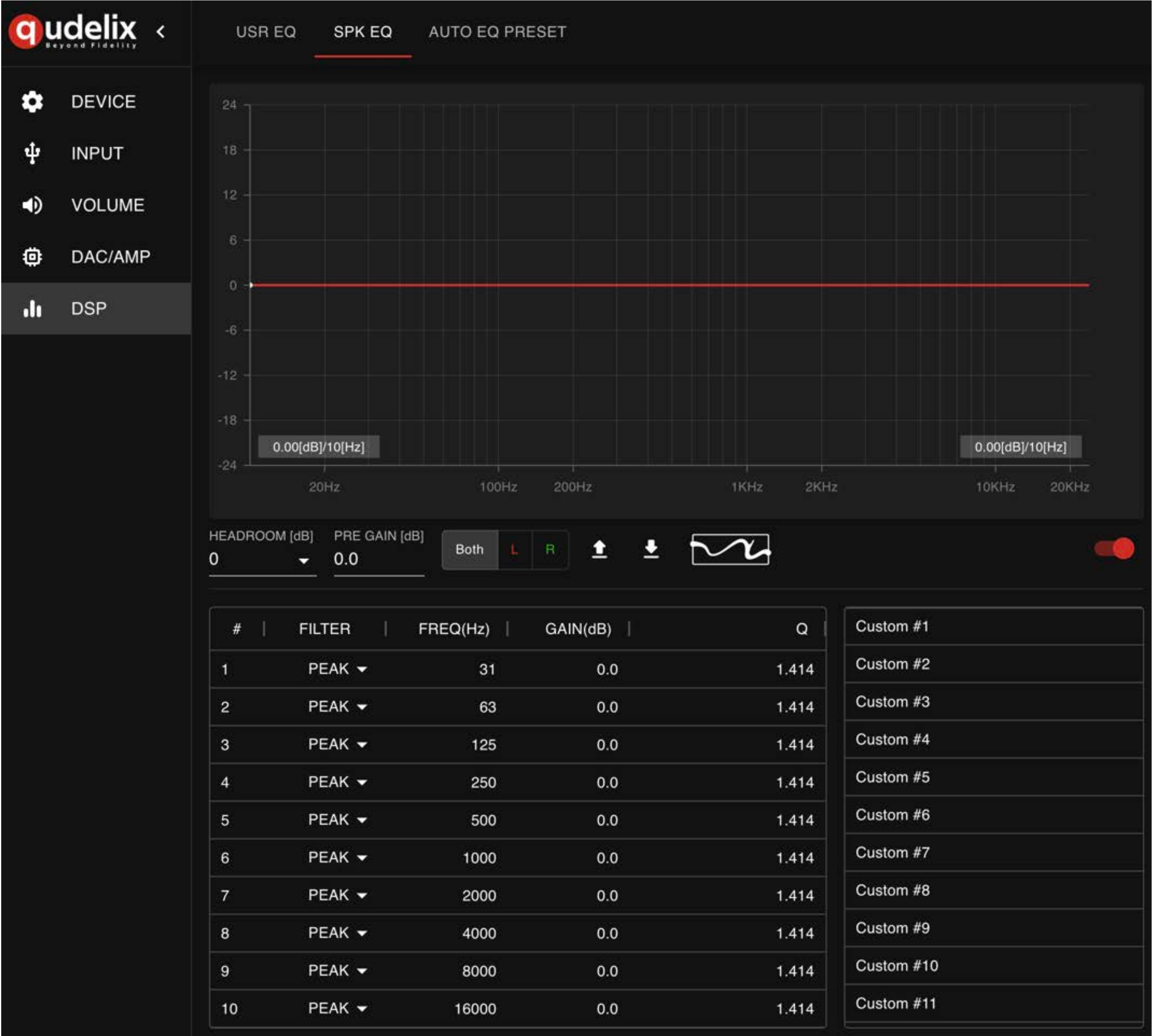
User EQ

Independent per logical input channel (Front, Center, LFE, Back, Side)



Speaker EQ

- Independent for each physical speaker channel
- AutoEQ presets are applied to the speaker EQ.



Battery - Safety Warning

Heat is the primary cause of LiPo battery degradation. Higher temperatures shorten battery life.

- Do not expose the device to high temperatures or leave it in a parked vehicle, including when using a car AUX input. Vehicle interiors can reach 120-160 °F (49-71 °C), which can damage the battery and create a serious fire hazard.
- Improper use of rechargeable lithium-ion polymer batteries can cause fire, serious injury, or property damage.



DAC/AMP - Amplifier Gain

- User-selectable amp gain mode
 - Normal 2 V RMS UNBAL / 4 V RMS BAL
 - High 4 V RMS UNBAL / 8 V RMS BAL
 - Both Normal and High Gain modes provide the same sound performance.
- Normal Gain
 - Recommended for most IEMs
 - Longer battery life and a lower noise floor
- High Gain
 - 6 dB higher maximum output level
 - Recommended for headphones
 - Use Normal Gain whenever it provides sufficient volume.
- Auto Volume Correction
 - The firmware adjusts volume to preserve the output level when switching gain modes.
 - Perceived loudness remains unchanged, while High Gain extends the maximum volume by 6 dB.
- Gain-mode switching requires a few seconds for audio to stabilize. You may experience some audio artifacts during the transition period.



Warranty

- One-year warranty
 - Begins on the date of the first Qudelix app connection
 - Activates automatically at the first connection to the companion app
 - Products with manufacturing defects will be repaired or replaced
 - The warranty is transferable and is not limited to the original purchaser
- Warranty service uses the serial number embedded in flash memory
 - Proof of purchase is not required
 - No receipt or invoice is required for warranty service
- For damage caused by accident or misuse
 - A refurbished replacement may be offered at the customer's expense, including shipping
- For purchases from local distributors
 - The respective distributor provides warranty service directly