

Questyle
Audio Engineering

M18i

Mobile Headphone Amplifier with DAC

www.questyle.com



M18i

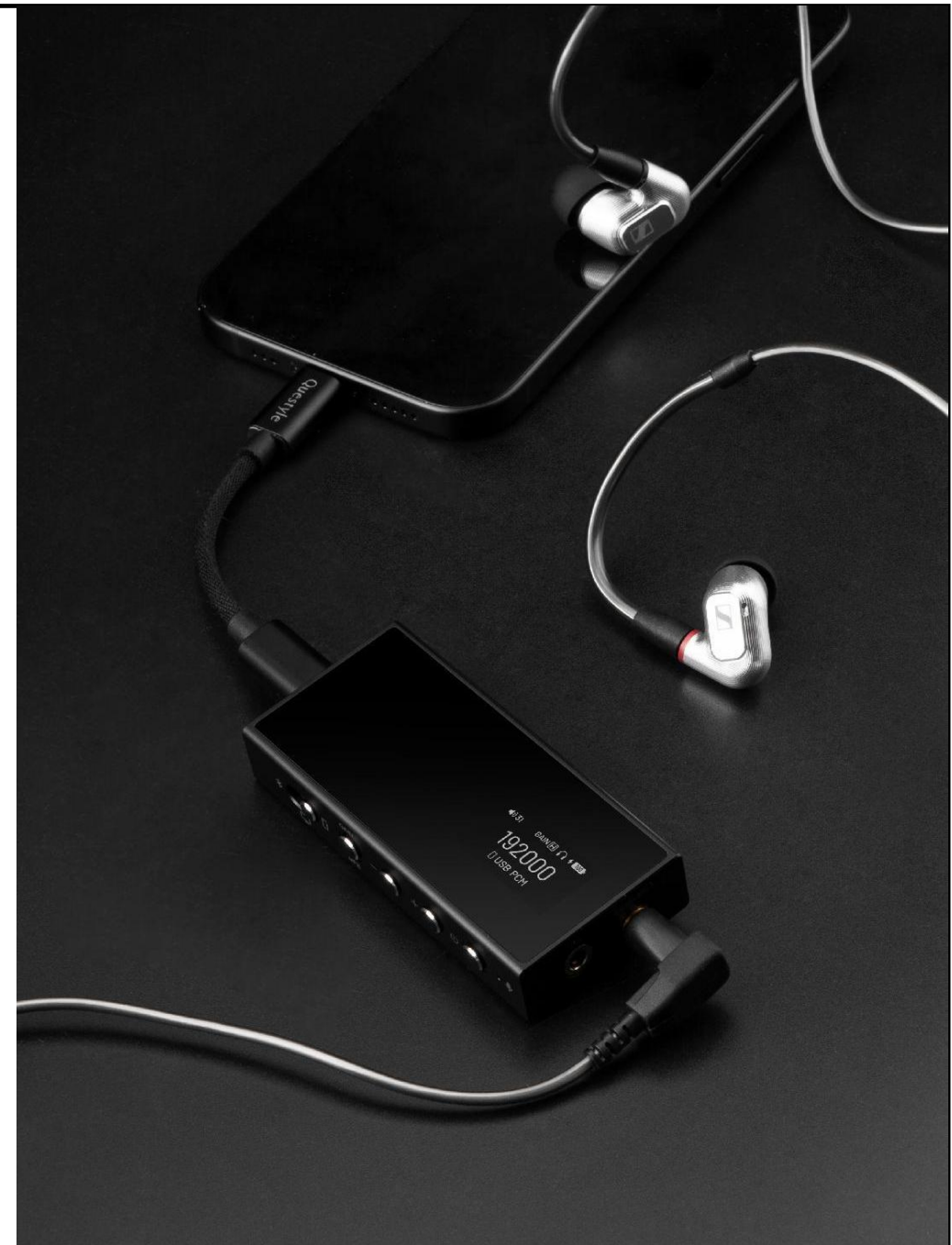
Mobile Headphone Amplifier with DAC

The M18i is designed for the audiophile and music lover searching for perfect sound. As a compact portable headphone amplifier with DAC, it delivers amazingly accurate sound that transforms the smartphone-listening experience.

It contains four sets of SiP modules that use Questyle's patented Current Mode Amplification, providing both powerful drive and delicate timbre. The M18i also features ESS's flagship ES9219Q Combo DAC, a dual-DAC mono design, and a TTA (Three-Tier Architecture) DAC framework. Together, these provide performance equivalent to large desktop devices, while raising the bar for portable sound quality.

The M18i provides both wired USB and wireless dual-mode lossless Bluetooth connections. It operates on a 16-core XMOS316 USB platform, ensuring full compatibility with smartphones, PCs, and gaming consoles. Moreover, the M18i has earned Apple's MFi certification that demands strict standards for power efficiency and external-device compatibility.

The M18i is Questyle's first product equipped with the latest Qualcomm Snapdragon Sound technology. It is also the first M-series product to integrate intelligent battery management, a high-definition OLED screen, and an integrated microphone for super-clear voice calling. Whether through lossless Bluetooth or USB, the M18i offers you an unparalleled Hi-Fi listening experience.



Bauhaus design style
Fully laminated OLED screen



ESS Flagship ES9219Q Combo DAC Dual DAC Mono Design TTA (Three-Tier Architecture) DAC Framework

To surpass users' expectations for DAC performance, the M18i comes with the latest ESS flagship ES9219Q DAC chip. Questyle and ESS engineers worked together to develop the TTA DAC framework, to take the performance of M18i to the limit of what's physically possible.

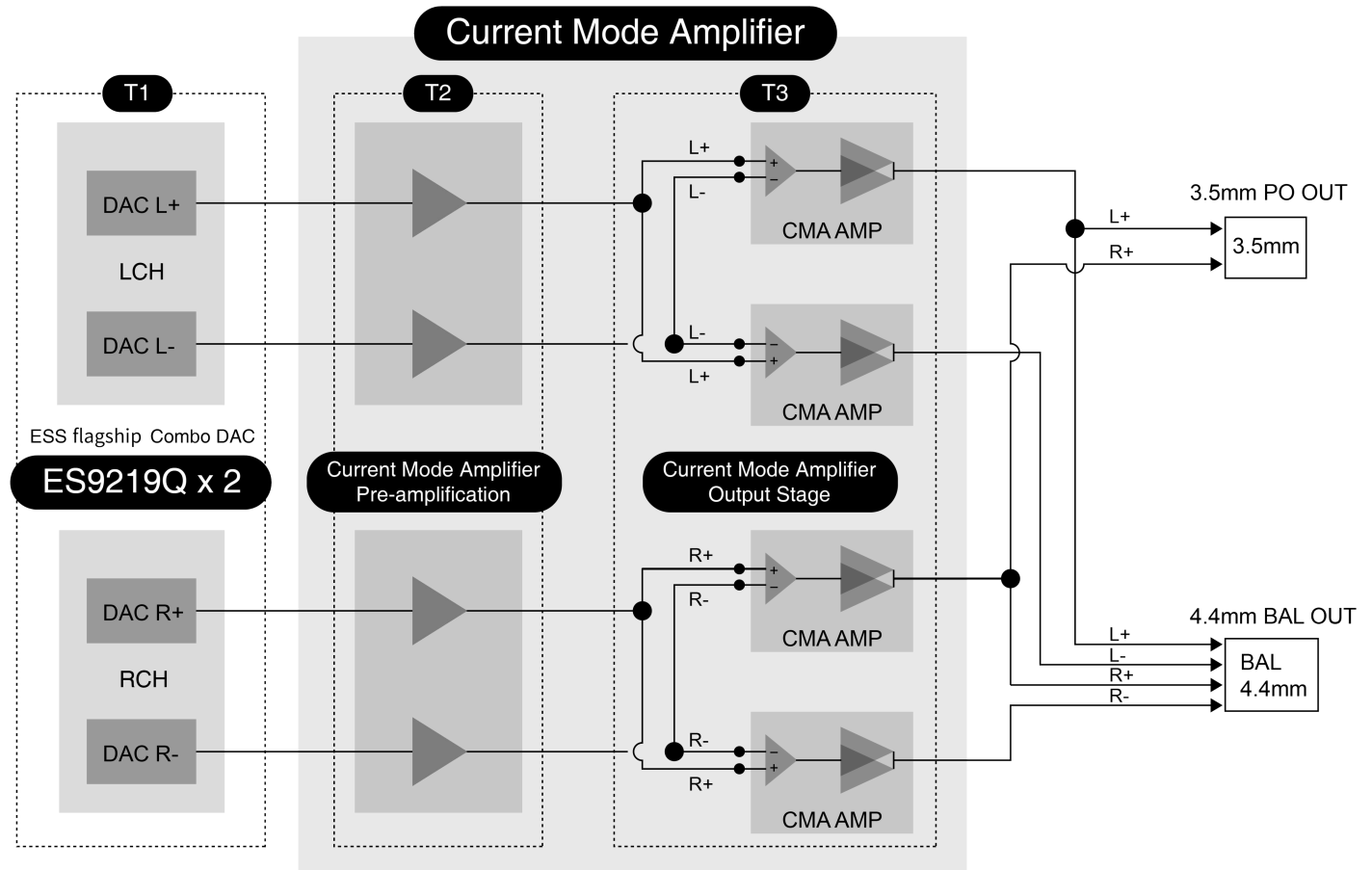


Max Decoding Capacity

PCM384 | DSD256

ESS Flagship Combo DAC Chip Dual DAC Mono Design

ES9219Q x 2



Patented Current Mode Amplification Technology

Unlocking the Full Potential of Your Headphones

Resolving the trade-offs between size, power consumption, and audio performance is a top priority for battery-powered compact portable devices. The M18i comes with two patented quad-core *Current Mode Amplifier* SiP modules, designed by Questyle Technology. The amplifier provides powerful drive with delicate timbre, while once again establishing a new ultra-low distortion record at 0.0002%.

Current Mode Amplification (CMA) technology is combined with TOREX's high-efficiency power management system to give the M18i low power consumption despite its high performance. With the M18i, the Questyle M series surpasses itself yet again.

Under load of 300Ω,
the distortion is low to

0.0002%

Current Mode Amplifier SiP Module

4Group

Peak output current

1.5A



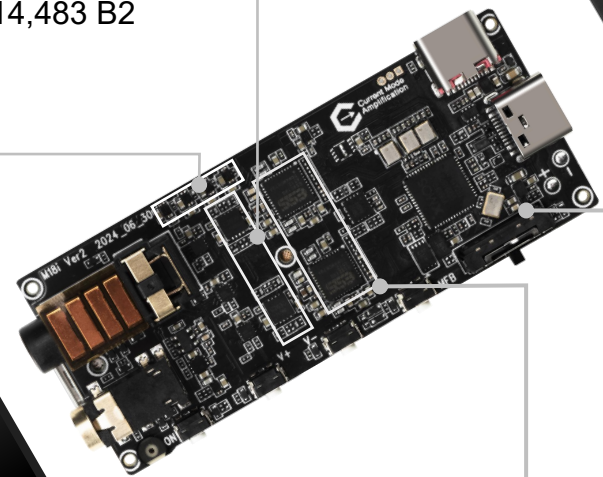
Current Mode Amplification

Patented CMA (Current Mode Amplification) SiP Modules

Global PCT patent NO: US 9,614,483 B2

TOIREX

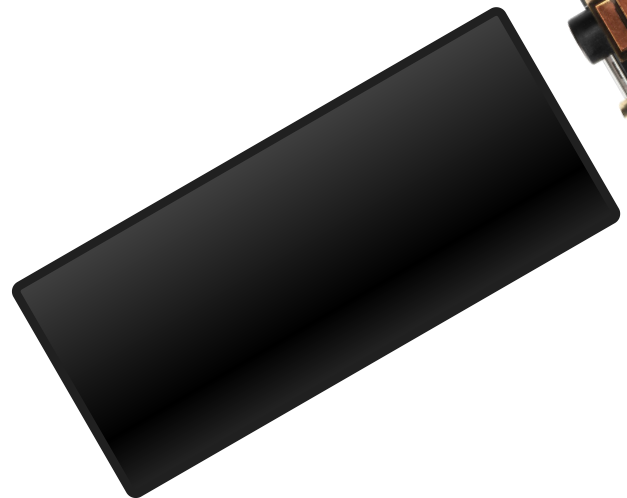
TOREX's high efficiency power management system



Infineon flagship microphone, offering clear calls with noise reduction.



ESS flagship USB DAC decoding chip ES9219Q x 2



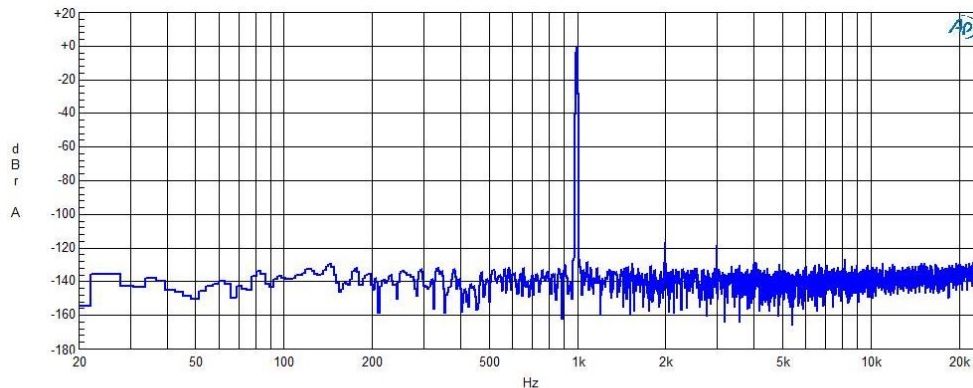
Challenging the Limits of Portable Sound Quality, Once Again

Just as a pure black background can highlight the richness of colors, only a low noise floor can expose details in sound to create true High Fidelity. The high resolution of the M18i produces an ultra-low noise floor of -130dB, as shown in the Questyle Lab's testing environment.

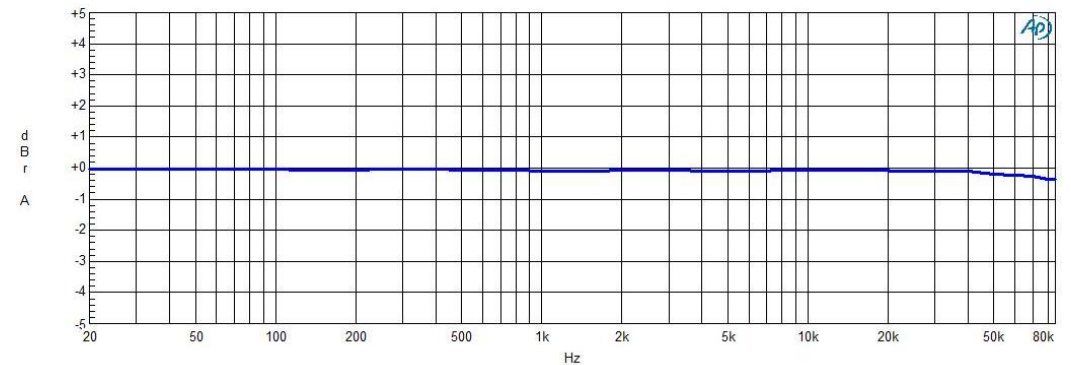
FFT @1kHz @48kHz (SR) 24bit, @4.4mm Po=23.21mW, RL=300Ω,
based on Questyle Lab Audio Precision AP2722 test data.

192kHz 24bit (Sine) 4.4mm@RL=300Ω,
based on Questyle Lab Audio Precision AP2722 test data.

The M18i's background noise is lower than -130dB.

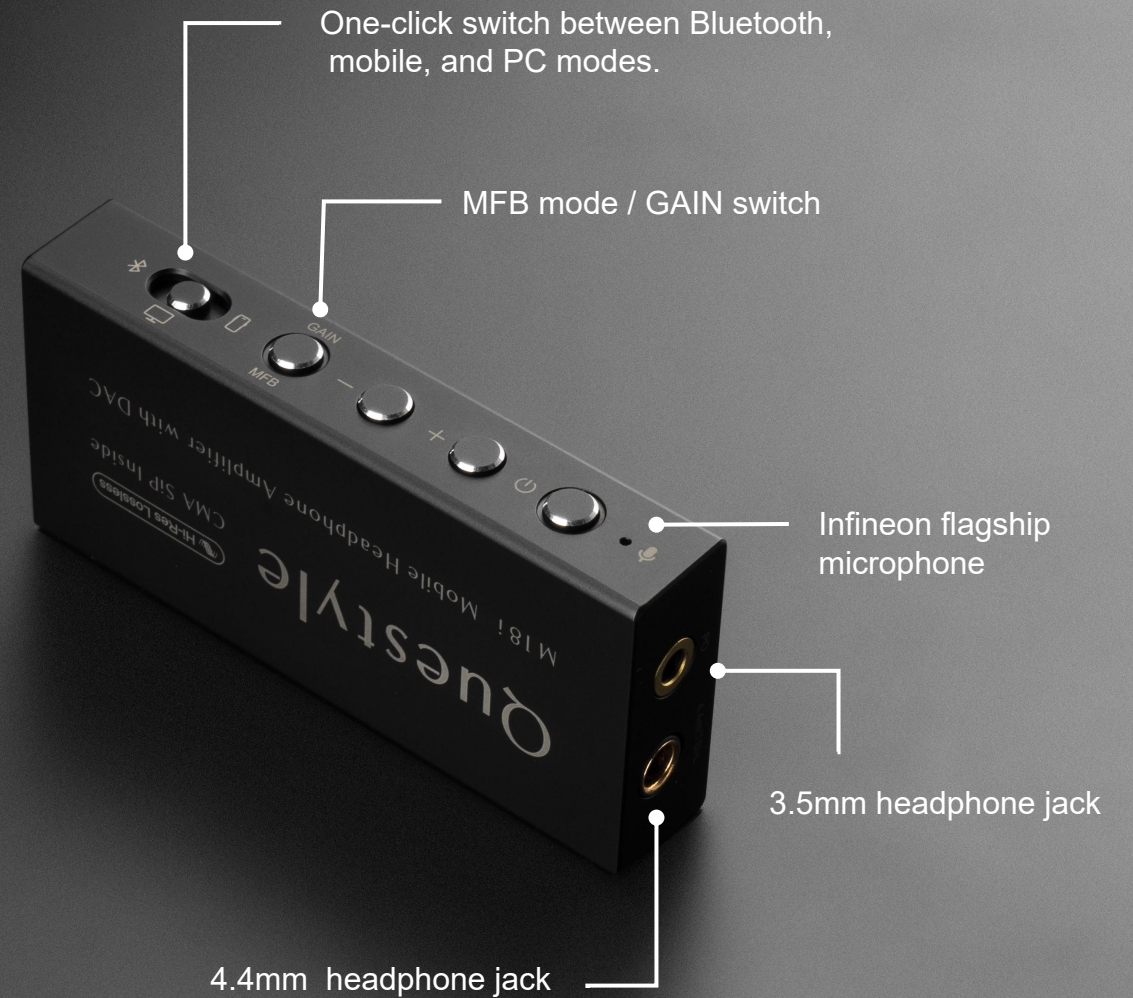


Sweep	Trace	Color	Line Style	Thick	Data	Axis	Comment
1	2	Blue	Solid	2	Fft.Ch.2 Ampl	Left	R:1kHz@48kHz(SR)24bit,Po=28mW,RL=300Ω FFT



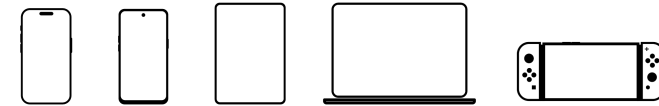
3.5mm & 4.4mm outputs and manual gain adjustment: compatible with headphones, desktop speakers, and car audio

The M18i provides both 3.5mm unbalanced and 4.4mm balanced outputs. Its manual gain control allows adjustment according to personal preferences and headphone/audio-system characteristics, making it suitable for a wide range of apps and devices. An MFB button is provided for pairing and music playback in Bluetooth mode. Volume buttons provide 60 levels of loudness.



16-core XMOS XU316 USB Platform Fully Compatible with Smartphones, PCs, and Gaming Consoles

During the development of the M18i, Questyle Labs performed many tests to optimize compatibility with mainstream smartphones and tablets. With phones, the M18i is fully compatible with iOS, HarmonyOS, and Android. With computers, it supports Windows 10/11 and macOS, as well as PSP gaming consoles.



Apple iOS HarmonyOS android macOS Windows





Apple MFi Certification Ensures High Performance and Compatibility

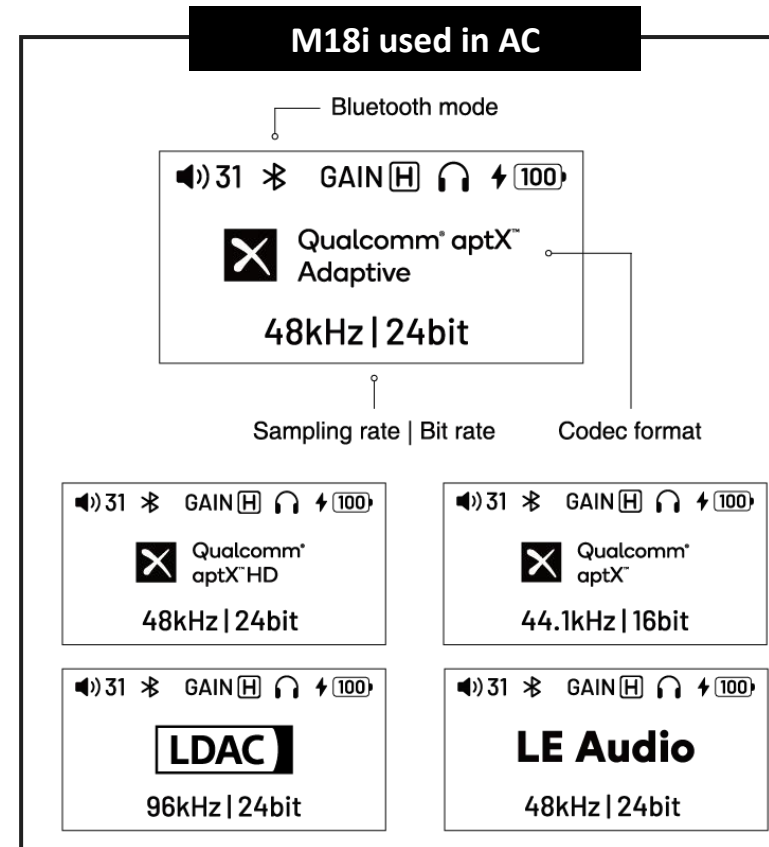
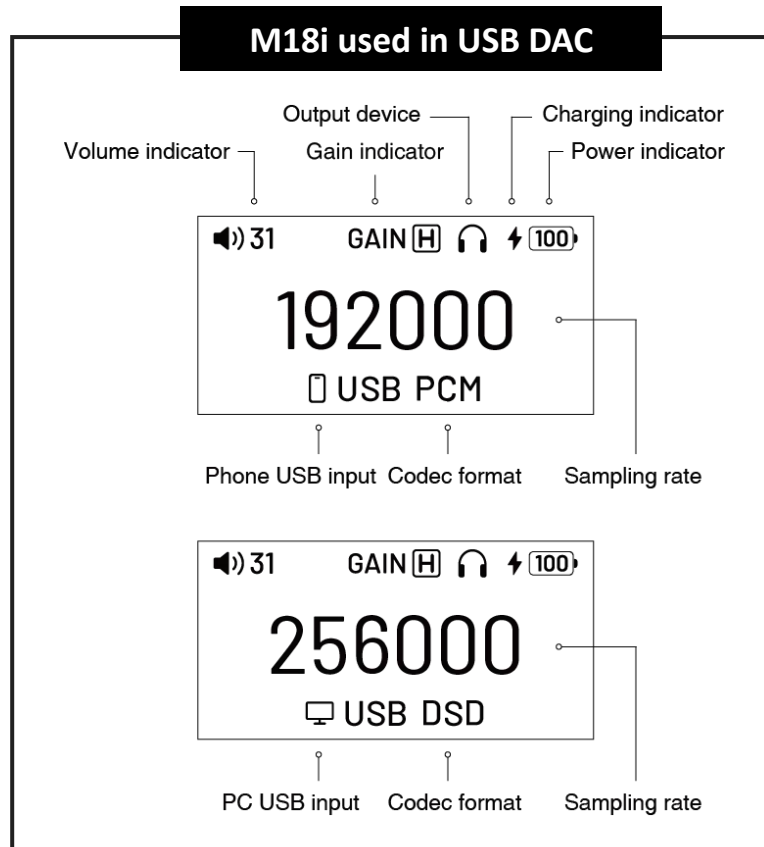
The "i" in M18i indicates that it has been certified by Apple's MFi program, which ensures perfect compatibility with iPhone/iPad and the Apple ecosystem. The M18i meets Apple's strict requirements for power consumption and compatibility, avoiding the risk of damage to phones and other devices caused by arbitrary incompatible USB connections.



Lossless Bluetooth & USB DAC dual-mode design: Easy switching for lossless music enjoyment

The M18i supports seamless switching between lossless Bluetooth and USB DAC modes. It features Qualcomm's latest Snapdragon Sound™ technology with Bluetooth 5.4, supporting AAC, SBC, aptX, aptX HD, aptX™ Adaptive, LE AUDIO, and 24bit/96kHz LDAC.

Enjoy wireless, lossless Bluetooth audio with all devices that support these codecs.



Certified by Qualcomm Snapdragon Sound and Sony LDAC for wireless audio quality



The M18i is equipped with Qualcomm's next-generation Snapdragon Sound™ technology, fully certified by Qualcomm and Sony LDAC. This enables the new Qualcomm aptX Adaptive and aptX HD audio codecs, delivering wireless lossless Bluetooth audio at CD-quality 16-bit 44.1kHz, and high-resolution audio at 24-bit 48kHz and 96kHz, on wireless earbuds and headphones.

Bluetooth5.4



LE Audio





Dual USB Ports + Intelligent Power Management System

Mobile & Bluetooth modes

- The audio USB port only transfers data and does not draw power from the phone. Instead, the M18i is powered by its own battery.
- The power consumption with Bluetooth is the same: battery power is used to avoid drawing power from the phone.

PC mode

- The audio USB port not only transmits data but also provides power to the M18i and charges its battery.
- When the USB host device provides less current, power management automatically sends less charging current to the battery, and prioritizes the proper functioning of the M18i.
- When a phone is connected, the M18i will draw from the phone's power.

Power management system

- If the USB data and charging ports are both connected in PC mode, the M18i will draw power from the charging port.
- If a power adapter is connected to the USB charging port, the M18i will charge the battery regardless of the mode, and supports listening while charging.



Support HD Calls with Advanced Noise Reduction Technology

The M18i ensures crystal-clear voice quality and call stability with Qualcomm's cVc Generation 8.0 call solution with ClearVoice Capture technology. Environmental noise is suppressed while providing clear sound to the user.

The M18i also includes Infineon's flagship microphone, which can be used with wired headphones for voice calls. The microphone has a range of two meters.

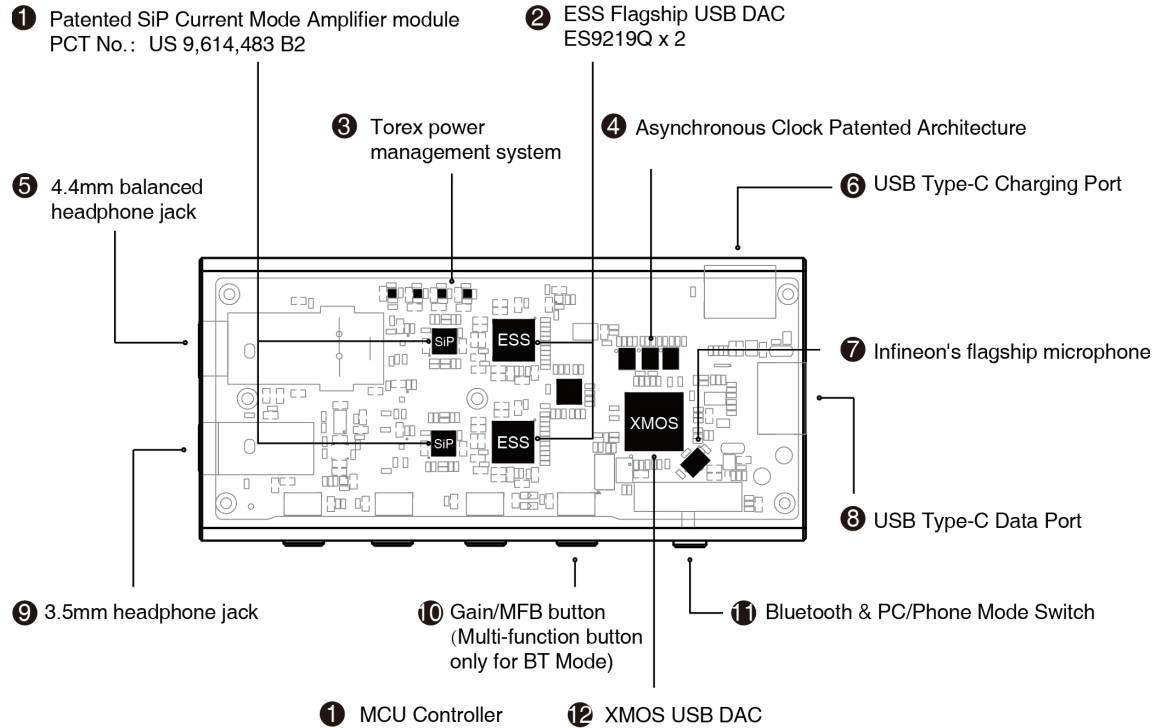
A magic monitoring tool for music professionals

The M18i can be connected to Hi-Fi devices, active speakers, and studio equipment via phone, PC, or desktop, making it a top-quality universal monitoring tool. When needed, music professionals can use 3.5mm-to-RCA or 4.4mm-to-XLR adapters for connection to pro-audio equipment.

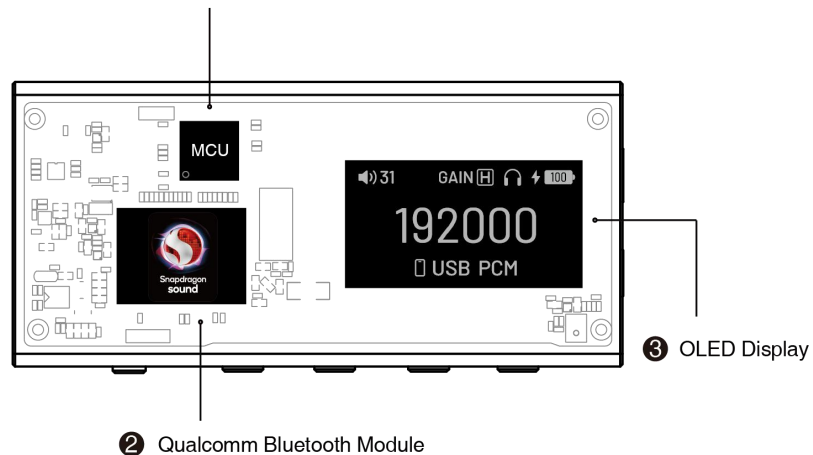


Specifications

PCB board rear view



PCB board front view



• Compatible Operating Systems:

Android Phones and Tablets: supports devices with Android 5.0 or later

PCs: supports devices with Windows 10/11

iPhones: supports iOS

Mac Computers: supports macOS

(Note: For connecting to Lightning-interface devices, please purchase an optional Lightning to Type-C adapter. The Questyle LTC02 adapter is officially certified by Apple MFi for this purpose.)

• Bluetooth 5.4:

supports AAC, SBC, aptX, aptX HD, aptX Adaptive, LDAC, LE Audio

• **Call Function:** supports voice calls with the Infineon flagship microphone

• **Battery Capacity:** 500mAh

• **Decoding Capability:**

PCM 44.1kHz-384kHz (16/24/32bit)

DSD 64, DSD 128, DSD 256

• **Output Ports:**

- 3.5mm unbalanced headphone jack

- 4.4mm balanced headphone jack

• **Output Power:** 28mW @300Ω (4.4mm balanced output)

• **Frequency Response:** ±0.1dB (20Hz-20kHz); ±2dB (20Hz-80kHz)

- THD+N: 0.0002%

- DAC: ESS flagship USB DAC chip ES9219Q x 2

• **Material:** CNC anodized aluminum alloy

• **Color:** Black

• **Dimensions:** 75[L] x 35[W] x 14.5[D] mm

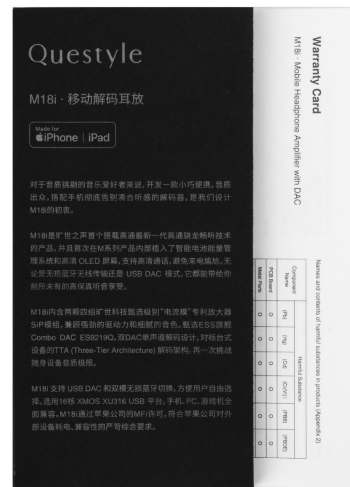
Packaging & Accessories



M18i Mobile
Headphone Amplifier
with DAC



Type-C to type-C USB cable
Type-C to type-A USB cable



Warranty card & user manual

Optional accessories

To connect to Lightning-interface devices, please purchase an optional Lightning to Type-C adapter, such as the **Questyle LTC02** officially certified by Apple MFi!

