YMOO DS400+

YMOO DS400+ Portable Headphone Amp DAC User Manual

Model: DS400+ (RT5038)

1. Introduction

Thank you for choosing the YMOO DS400+ Portable Headphone Amp DAC. This device is designed to enhance your audio experience by providing high-fidelity sound output for a wide range of headphones and audio systems. It features advanced DAC and USB chips, supporting high-resolution audio formats up to DSD512 and 768kHz/32Bit.

What's Included:

- YMOO DS400+ USB DAC Headphone Amplifier
- 2 x Type-C to USB Cables
- 1 x User Guide

2. Product Overview

The YMOO DS400+ features a compact design with multiple input and output options for versatile connectivity.



Figure 2.1: YMOO DS400+ Portable Headphone Amp DAC, showing its compact size and various ports.

Controls and Ports:



Figure 2.2: Detailed diagram of the DS400+ front and rear panels, indicating all controls and ports.

- **Front Panel:**
  - **4.4mm Balanced Output (BAL):** For balanced headphones.
  - **3.5mm Output:** For standard headphones.
  - **Bass Key (OFF/BASS>ON):** Toggles bass boost function.
  - **Gain Key (L<GAIN>H):** Switches between low and high gain modes for different headphone impedances.
  - **Adjustable Volume Knob:** Controls the output volume. The indicator light shows audio status:
    - Green: Audio input (PCM music)
    - Red: No audio input
    - White: DSD audio input
- **Rear Panel:**
  - **DC 5V (Type-C Power In):** Connects to an external 5V power source (e.g., USB charger) for stable power, especially when using with iOS devices or for optimal performance.

- **Coaxial Output (COAX OUT):** Digital audio output for connecting to external DACs or amplifiers.
- **Optical Output (OPT OUT):** Digital audio output for connecting to external DACs or amplifiers.
- **USB IN (Type-C Audio In):** Connects to your audio source (PC, phone, tablet) for digital audio input and primary power.

3. Setup and Connection

Follow these steps to connect your YMOO DS400+ to various devices.

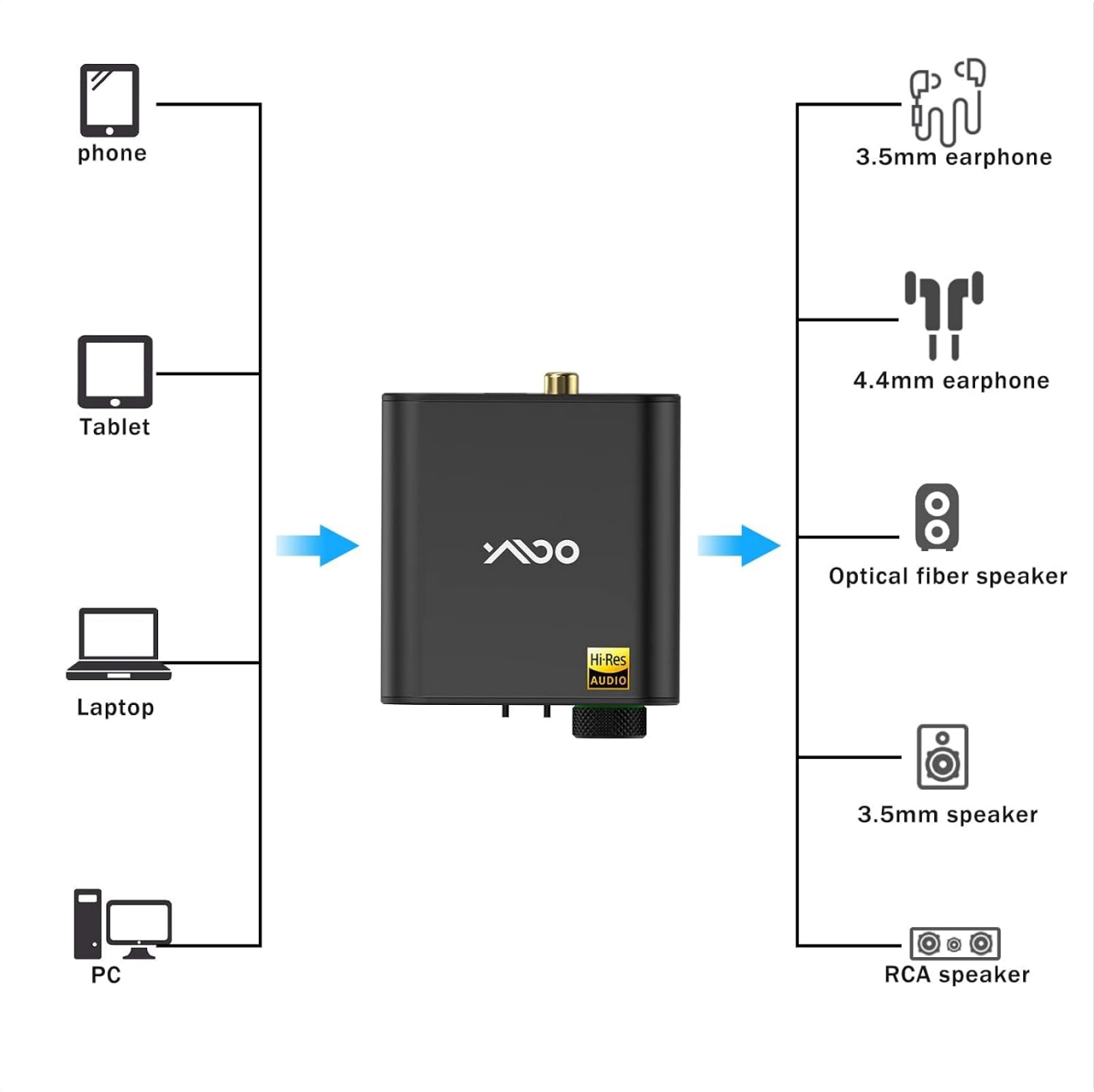


Figure 3.1: Diagram illustrating various input sources (phone, tablet, laptop, PC) and output destinations (3.5mm/4.4mm earphones, optical/3.5mm/RCA speakers).

General Connection Steps:

1. Connect your audio source (PC, phone, tablet) to the **USB IN (Type-C Audio In)** port on the DS400+ using the provided Type-C to USB cable.
2. Connect your headphones to either the **3.5mm Output** or **4.4mm Balanced Output** on the front panel. Alternatively, connect your speakers to the **Coaxial Output** or **Optical Output** on the rear panel, or use an

appropriate adapter for 3.5mm/RCA speakers.

3. If using an iOS device or experiencing power instability, connect an external 5V power source to the **DC 5V (Type-C Power In)** port.
4. Ensure all connections are secure before powering on your audio source and playing audio.

Specific Device Compatibility and Notes:

- **Windows 7/10:** Requires driver installation for full functionality. Refer to the manufacturer's website for the latest drivers.
- **Android Phones/Tablets:** Supports OTG function. Ensure your device supports USB OTG. Some Android phones may require specific software settings.
- **iPhone/iPad:** Requires an external 5V power source connected to the DC 5V port.
- **Coaxial/Optical Output:** When using these outputs, the volume cannot be adjusted via the DS400+ volume knob. Volume control must be managed by the connected amplifier or receiver.

4. Operation

Operating the YMOO DS400+ is straightforward. Familiarize yourself with the controls for optimal audio playback.

Volume Control:

Rotate the **Adjustable Volume Knob** on the front panel to increase or decrease the headphone output volume. Observe the indicator light around the knob:

- **Green:** Indicates PCM audio is being processed.
- **Red:** Indicates no audio signal is detected.
- **White:** Indicates DSD audio is being processed.

Bass Boost:

Use the **Bass Key** switch to toggle the bass boost function. Set it to 'ON' for enhanced low-frequency response or 'OFF' for a neutral sound profile.

Gain Setting:

The **Gain Key** switch allows you to select between low (L) and high (H) gain modes. Use low gain for sensitive headphones or earphones and high gain for high-impedance or less sensitive headphones to achieve adequate volume levels.

5. Technical Specifications

The YMOO DS400+ is engineered with high-quality components to deliver superior audio performance.



Figure 5.1: Internal components including the XMOS XU208 USB chip, ES9038Q2M DAC chip, and OPA1612/OPA1622 op-amps, which contribute to the device's high-resolution audio capabilities.

General Specifications:

- **Model Number:** RT5038
- **Product Dimensions:** 3.46 x 2.76 x 0.91 inches
- **Weight:** 3.47 ounces
- **Brand:** YMOO
- **Mounting Type:** Coaxial, Plug Mount, Freestanding
- **Number of Pins:** 5
- **Interface Type:** 4.4mm/3.5mm, Coaxial, OPT OUT, USB
- **Number of Channels:** 2



Figure 5.2: Visual representation of the DS400+ dimensions and weight for size reference.

Audio Performance Specifications:



Figure 5.3: Table detailing the 3.5mm and 4.4mm headphone output specifications, including power, THD+N, S/N, dynamic range, noise, and output amplitude.

3.5mm Headphone Output

Parameter	Value
Power Output	16Ω/190mW; 32Ω/140mW
THD+N	0.0008%/B
S/N	114dB/B
Dynamic Range	112dB
Noise	Less than 2uV
Output Amplitude	2.3Vrms

4.4mm Headphone Output

Parameter	Value
Power Output	32Ω/300mW; 150Ω/143mW; 300Ω/71.6mW
THD+N	High gain 0.02%/B weighting; Bottom gain 0.00006%/B weighting
S/N	120dB/B weighting for high gain; 114dB/B weighting for bottom gain
Dynamic Range	120dB
Noise	Less than 3uV
Output Amplitude	Bottom gain 2.3Vrms; High gain 4.6Vrms

Compatibility:



Figure 5.4: Table outlining the wide compatibility of the DS400+ with various operating systems and audio formats.

Supported Operating Systems and Audio Formats

Device/Interface	Supported Formats
iPhone/Mac/iPad	PCM44.1-192kHz, DSD64/128
Android Phone/Tablet	PCM44.1-384kHz; 16bit/24bit/32bit, DSD64/128/256
Windows	PCM44.1-768kHz; 16bit/24bit/32bit, DSD64/128/256/512
Coaxial Fiber	PCM44.1-192kHz (Volume not adjustable with knob)

- Supports Android phones with OTG function.
- Supports the Lightning interface of iPhone (requires external 5V power via the DC 5V port).
- Supports computer USB 2.0 interface.

6. Troubleshooting

If you encounter issues with your YMOO DS400+, refer to the following common problems and solutions.

- **No Sound Output:**
  - Ensure the DS400+ is properly connected to both the audio source and your headphones/speakers.
  - Check the volume knob on the DS400+ and your audio source; ensure they are not at minimum or muted.
  - Verify the indicator light around the volume knob is green or white, indicating an active audio signal. If red, check the audio source playback.
  - For Windows, ensure the correct audio driver is installed and the DS400+ is selected as the default playback device.
  - If using iOS, confirm external 5V power is connected to the DC 5V port.
- **Distorted or Poor Sound Quality:**
  - Check the audio cables for damage or loose connections.
  - Ensure the gain setting (L/H) is appropriate for your headphones. High gain with sensitive headphones can cause distortion.
  - Test with different audio files or sources to rule out source-specific issues.
  - If using Coaxial or Optical output, ensure the connected amplifier/DAC is correctly configured.
- **Device Not Recognized by Computer/Phone:**
  - Try a different USB port on your computer or a different Type-C to USB cable.
  - For Windows, install the necessary drivers from the YMOO website.
  - For Android, ensure OTG functionality is enabled in your device settings.
  - Restart your computer or mobile device.
- **Intermittent Connection:**
  - Ensure all cables are firmly seated.
  - Avoid placing the DS400+ near strong electromagnetic interference sources.
  - If using with a phone, ensure the USB OTG cable is stable and not easily dislodged.

7. Care and Maintenance

To ensure the longevity and optimal performance of your YMOO DS400+, please follow these care guidelines:

- Keep the device in a dry environment, away from moisture, water, and extreme temperatures.
- Avoid dropping or subjecting the device to strong impacts.
- Clean the exterior with a soft, dry cloth. Do not use liquid cleaners or solvents.
- Do not attempt to disassemble or modify the device, as this will void the warranty and may cause damage.
- Disconnect the device from power when not in use for extended periods.

8. Warranty and Support

YMOO products are designed for reliability and performance. For specific warranty details, please refer to the warranty card included with your product or visit the official YMOO website.

Customer Support:

If you have any questions, require technical assistance, or experience issues not covered in this manual, please contact YMOO customer support through the following channels:

- Refer to the contact information provided in your product packaging.
- Visit the official YMOO website for support resources and contact options.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question