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> [xDuoo XD-05 Basic HiFi Audio DAC Portable Headphone Amplifier User Manual](#)

xDuoo XD-05 Basic

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1. INTRODUCTION

The xDuoo XD-05 Basic is a high-performance portable audio device combining a Digital-to-Analog Converter (DAC) and a headphone amplifier. It is designed to enhance audio quality from various sources, including computers, mobile phones, and dedicated audio players. This manual provides detailed instructions for its setup, operation, and maintenance to ensure optimal performance and user experience.



Figure 1: xDuoo XD-05 Basic Portable DAC Headphone Amplifier. This image displays the front view of the device, highlighting its compact size and primary controls.

2. KEY FEATURES

The XD-05 Basic offers a range of features designed for high-fidelity audio playback and versatile connectivity:

- **High-Resolution Audio Decoding:** Supports PCM signals up to 32-bit/384kHz, DSD256, and DXD384 for exceptional sound clarity.
- **Powerful Headphone Amplification:** Delivers 500mW output power (at 32Ω load) to drive headphones with impedances ranging from 16Ω to 600Ω.
- **Versatile Connectivity:** Features USB, optical, and coaxial inputs for compatibility with Windows, macOS, iOS, and Android devices, as well as gaming consoles like PS4, Xbox, and Nintendo Switch.


- **Customizable Sound:** Includes adjustable gain settings (+6/9/16dB), a bass boost function (0/+6dB), and DAC filter settings to tailor the audio output to personal preferences.
- **OLED Display:** A 0.91-inch OLED screen provides real-time information on sampling rate, input source, power status, and DAC filter settings.
- **User-Replaceable Op-Amps:** Allows for customization of sound characteristics by swapping operational amplifier chips.
- **Dual Power Supply:** Operates on a built-in 3.7V/4000mAh rechargeable lithium polymer battery for portable use, or external power via USB.

Born for PC


XD-05Basic Independent Digital Audio Terminal





500mW
Output Power



Personal
sound
enhancement


HiFi
Audio DAC


Easy
Operation


Unrestricted
Connections


XMOSXUF208


Extend
Bluetooth 5.0
needs XD-05BL

PCM
PCM384

DSD
DSD256

DXD
DXD384

Figure 2: Overview of xDuo XD-05 Basic features. This image highlights key capabilities such as 500mW output, HiFi Audio DAC, and support for PCM, DSD, and DXD formats.

High Audio Performance for Game and Video

The portable XD-05Basic provides high-quality and high performance for game audio and video with its compact structure. It is compatible with desktops, laptops, tablets or any smart devices, and provides enhanced audio experience for PC, PS4, XBOX and other gaming platforms.



Immersive Experience

Professional digital and analog circuits create vivid surround sound effects on headphones and active loudspeakers, giving you an upper hand to take the lead in each game.



Figure 3: XD-05 Basic enhancing game and video audio. This image illustrates the device's application in providing high-quality audio for immersive gaming and video experiences.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- xDuo XD-05 Basic Unit (1 pc)
- USB Type-C Cable (1 pc)
- USB Type-C to Type-C OTG Cable (1 pc)
- USB Type-C to Micro USB OTG Cable (1 pc)
- USB Type A to Type C Plug (1 pc)
- 6.5mm to 3.5mm Jack Plug (1 pc)
- Magic Glue (3 pcs)
- Silicone Feet (10 pcs)
- User Manual (1 pc)
- Warranty Card (1 pc)



Product Parameters

DAC Chip:AKM AK4490
Gain:+6dB/9dB/16dB

SNR:115dB

Bass boost:0/+6dB

Frequency Response:
USB/Optical/Coaxial: 20Hz~20kHz(± 0.5 dB)
AMP:10 Hz~60kHz(± 0.5 dB)

THD+N:
USB : 0.0025%@1kHz Coaxial:0.0025%@1kHz
Optical fiber: 0.0025%@1kHz AUX IN: 0.0018%@1kHz

Output Power: 500mW(32 Ω load)

Crosstalk: ≥ 75 dB
Charging Time: fast charging 1.2A ≤ 5 hours,
slow charging 500MA ≤ 11 hours
Playback Time: USB IN ≥ 9 H AUX IN ≥ 16 H
coaxial/optical fiber ≥ 12 H

USB Sampling Rate
PCM:16-32bit/44.1-384kHz
DSD: DOP/NATIVE mode, DSD64-256
DXD:24-32 bit/352.8-384kHz

Optical/coaxial Sampling Rate PCM:PCM:16-24bit/44.1-192kHz
Applicable system: Win7、Win8、Win10、Mac OS X, IOS,
Android system

Accessories

XD-05 Basic 1PC USB Type-C Cable 1PC
USB Type-C to Type-C OTG Cable 1PC
USB C to Micro USB OTG Cable 1PC
USB Type A to Type C Plug 1PC
6.5MM to 3.5MM Jack Plug 1PC Silicone Feet 10PCS
Magic Glue 1PC User Manual 1PC
Warranty Card 1PC

Figure 4: Product parameters and included accessories. This image provides a visual summary of the device's technical specifications and a list of items found in the box.

4. DEVICE LAYOUT AND CONTROLS

Familiarize yourself with the physical components and controls of the XD-05 Basic:

Front Panel:

- **PHONE Output:** 6.35mm headphone jack.
- **INPUT Button:** Selects the audio input source (USB, Optical, Coaxial, AUX).
- **BASS Switch:** Toggles bass boost on/off.
- **GAIN Switch:** Adjusts the amplification gain level.
- **VOLUME Knob:** Controls the output volume.
- **OLED Display:** Shows operational status and settings.

Rear Panel:

- **AUX IN/OUT:** 3.5mm auxiliary input/output port.
- **USB IN:** USB Type-C port for data and charging.
- **DC 5V:** Power input for charging.
- **BATT/EXTE Switch:** Selects between internal battery power and external power.
- **DIGITAL IN:** Optical and Coaxial digital audio inputs.

Easy to operate and understand

Dual power supply for mobile and desktop device

When going out, the built-in 3.7V/4000mAh rechargeable lithium-ion polymer battery provides enough power for not less than nine hours of continuous use. The users when indoors only need to switch the power switch to EXTE to use external power supply such as power bank or USB charging, significantly extending the use time.

Screen lighting, easy to notice

The 0.91 inch OLED display clearly shows the audio sampling rate, input interface, power and DAC filter status. The red volume control knob with backlight design can also indicate low battery status, giving you a good visual experience even in poor light conditions.



Figure 5: Rear panel power switch and OLED display detail. This image shows the BATT/EXTE power switch and a close-up of the OLED screen displaying operational information.

5. SETUP AND CONNECTIONS

Follow these steps to connect your XD-05 Basic to various audio sources:

5.1. Connecting to a Computer (PC/Mac)

1. Connect the XD-05 Basic to your computer using the provided USB Type-C cable.
2. Ensure the XD-05 Basic is powered on.
3. On your computer, select the XD-05 Basic as the audio output device. Drivers may be required for Windows systems (refer to xDuo's official website for downloads).

5.2. Connecting to Mobile Devices (iOS/Android)

1. Use the appropriate OTG cable (USB Type-C to Type-C or USB Type-C to Micro USB) to connect your mobile device to the XD-05 Basic's USB IN port.
2. Ensure the XD-05 Basic is powered on.
3. Your mobile device should automatically recognize the XD-05 Basic as an audio output device.

5.3. Connecting to Gaming Consoles (PS4, Xbox, Nintendo Switch)

The XD-05 Basic supports digital audio input from gaming consoles:

- **PS4/Xbox:** Connect the console's optical output to the XD-05 Basic's DIGITAL IN (Optical) port using an optical cable (not included).
- **Nintendo Switch:** Connect the Switch's line output (via its dock) to the XD-05 Basic's AUX IN, or use a USB Type-C connection if supported by the dock.

Strong connectivity for game and video

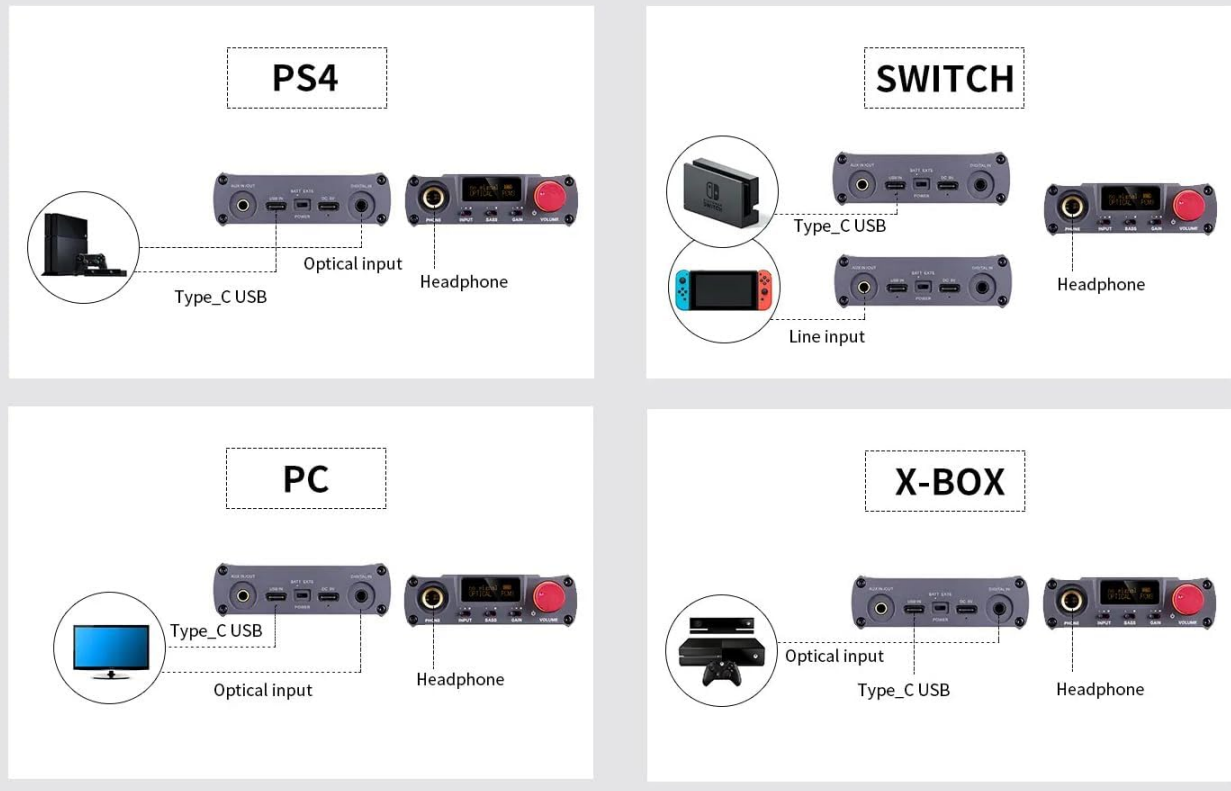


Figure 6: Connectivity options for various devices. This image provides visual diagrams for connecting the XD-05 Basic to PS4, Nintendo Switch, PC, and Xbox.

6. OPERATING INSTRUCTIONS

6.1. Power On/Off

To power on the device, slide the power switch located on the rear panel to the 'ON' position. To power off, slide it to 'OFF'.

6.2. Input Selection

Press the **INPUT** button on the front panel to cycle through available input sources: USB, Optical, Coaxial, and AUX. The selected input will be displayed on the OLED screen.

6.3. Volume Adjustment

Rotate the **VOLUME** knob clockwise to increase volume and counter-clockwise to decrease it. Adjust to a comfortable listening level before placing headphones on.

6.4. Gain Settings

The **GAIN** switch allows you to adjust the amplification level to match your headphones' impedance and sensitivity. Select the appropriate gain setting (+6dB, +9dB, or +16dB) for optimal sound quality and volume control range.

6.5. Bass Boost

Toggle the **BASS** switch to enable or disable the bass boost function (+6dB). This can enhance low-frequency response for certain music genres or personal preference.

6.6. DAC Filter Settings (External)

The XD-05 Basic allows for external adjustment of DAC chip filters to achieve different listening experiences. Refer

to the device's menu or specific instructions for accessing and changing these settings.

6.7. SRC Function (External)

The external SRC (Sample Rate Converter) function can be adjusted to improve the quality of low-bit rate audio files by upsampling them to 48kHz, 96kHz, or 192kHz. This helps restore musical details and provides a smoother sound. Refer to the device's menu or specific instructions for accessing and changing these settings.

6.8. OLED Display Information

The 0.91-inch OLED screen displays critical information:

- Current input source (e.g., USB, OPTICAL).
- Audio sampling rate (e.g., 44.1KHz, 192KHz).
- Audio format (e.g., PCM, DSD).
- Battery level indicator.
- DAC filter status.

7. MAINTENANCE

To ensure the longevity and optimal performance of your XD-05 Basic:

- **Cleaning:** Use a soft, dry cloth to clean the device. Avoid using liquid cleaners or solvents.
- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures.
- **Battery Care:** For optimal battery life, avoid fully discharging the battery frequently. If storing for extended periods, charge the battery to approximately 50% every few months.
- **Avoid Impact:** Protect the device from drops and impacts, which can damage internal components.

8. TROUBLESHOOTING

If you encounter issues with your XD-05 Basic, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No sound output	Incorrect input selected; Volume too low; Loose headphone connection; Device not recognized by source.	Verify input selection; Increase volume; Reconnect headphones; Check source device's audio settings and drivers.
Device not powering on	Battery depleted; Power switch in wrong position; Faulty charging cable.	Charge the device; Ensure power switch is 'ON'; Try a different charging cable.
Distorted or poor sound quality	Incorrect gain setting; Source audio quality is low; Damaged cable; Interference.	Adjust gain to match headphones; Use high-quality audio files; Replace cables; Move away from potential interference sources.
Device not recognized by computer	Missing drivers (Windows); Faulty USB cable; Incorrect USB port.	Install necessary drivers from xDuo website; Try a different USB cable or port; Restart computer and device.

9. SPECIFICATIONS

Detailed technical specifications for the xDuo0 XD-05 Basic:

- **Power Source:** Built-in 3.7V/4000mAh rechargeable lithium polymer battery
- **Screen:** 0.91 inch OLED screen
- **Compliant OS:** Windows 7/8/10, Mac OS X, iOS, Android system
- **Output Power:** 500mW (32 Ω load)
- **Frequency Response:**
 - AMP: 10Hz~100KHz (\pm 0.5dB)
 - USB/SPDIF: 20Hz~20KHz (\pm 0.5dB)
- **Sampling Rate Support:**
 - USB PCM: 16-32Bit/44.1K-384KHz
 - DSD: DOP/NATIVE mode, DSD64-256 (1Bit/2.8M-11.2M)
 - DXD: 24-32Bit/352.8K-384KHz
 - OPT/COA PCM: 16-24BIT/44.1K-192KHZ
- **Gain:** +6/9/16dB
- **Bass Boost:** 0/+6dB
- **THD+N:**
 - USB IN: 0.0025%@1kHz
 - COAXIAL IN: 0.0025%@1kHz
 - OPTICAL IN: 0.0025%@1kHz
 - AUX IN: 0.0018%@1kHz
- **S/N:** 115dB
- **CROSSTALK:** \geq 75dB
- **Battery Life:**
 - \geq 9H (USB IN)
 - \geq 12H (SPDIF IN)
 - \geq 16H (AUX IN)
- **Charging Time:** Quick charge 5H (with charger), slow charge 11H (with computer)
- **Dimensions:** 139 x 75.2 x 22.8mm
- **Weight:** 268g



Figure 7: Detailed product dimensions and technical specifications. This image provides a visual representation of the device's size and a comprehensive list of its performance parameters.

10. WARRANTY AND SUPPORT

The xDuo XD-05 Basic comes with a standard manufacturer's warranty. Please refer to the included Warranty Card for specific terms and conditions, including warranty period and coverage details. For technical support, driver downloads, or further assistance, please visit the official xDuo website or contact their customer service department.

Keep your purchase receipt as proof of purchase for warranty claims.