MENU/VOLUME

POWER

Source Timbre Line/Pre

32BIT/384kHz PCM & DSD AUDIO DAC

HIFI AUDIO D/A CONVERTER iDAC-6

iDAC-6 | 高保真声频解码器
HIFI AUDIO D/A CONVERTER

User Manual

We want to thank you sincerely for choosing iDAC-6 HiFi Audio D/A Converter. We have prepared this user manual to help you understand the features and get familiar with the operation of the DAC. We suggest all customers read through this manual before they start to use the device.

Attention
- Please make sure the serial number on the package, chassis and warranty card are intact and identical. In case of damage, missing or tempered on warranty card or serial number, Cayin reserves the right to refuse warranty service for the machine.
- All rights reserved. Reproduction, translation or adoption of N5 documentations and/or system firmware is prohibited without written approval from Cayin.
- The user manual is a documentation of the product based on the specification at the time of print. Cayin reserves the right to change product specification without prior notice.

Package Content

Please examine the product package before you open it, the package should be free from any physical damage or water stain. You should find the following items when you open the package:
1. IDAC-6 HiFi Audio D/A Converter (1 unit)
2. User Manual (1 copy)
3. Replacement Fuss (2 units)
4. USB Cable (1 piece)
5. Warranty Card (1 copy)
6. Power Cord (1 piece)

Attention: the product package should include only the items in the list.

Please fill in the warranty card and mail to your local agent or Cayin's Sales Department, we shall provide comprehensive after sales service in the future. We recommend you to keep the package and protection material, this will be most convenient if you need to re-package the product in the future.

Design Features

- Independent power supply to digital circuit and analogue circuit, left/right channel of digital circuit, DAC circuit and analogue circuit are powered by independent power supply system, reduce power interference among different circuit, and make sure all components will have clean power all the time.
- Employ state-of-the-art high resolution USB Audio technology, will accept and decode Hi-res digital audio bitstream through USB interface, a centerpiece of a high-end CAS playback system.
- Supports DoP (DSD over PCM) on Coaxial digital input, decode DSD at 1 bit (require front end digital equipment supports DoP output on Coaxial)
- Versatile to fit different needs, user can select RCA (single-ended) or XLR (balanced) output for their needs, and the RCA output provides choice of transistor or vacuum tube output for different sound signature.
- Output can be configured as Line out or Pre-out (with volume control), can fit into different systems easily.
- Deploy OLED display screen for first class visual effect.
- Fashionable design, compact and minimal, can easily blend into SOHO or household environment.

Technical Highlight

- Incorporated two pieces of AK4490 DAC chipset from AKM, and each chipset will work for a single channel.   This is a genuine balanced DAC circuit with 4 channel active LPF that will fully explore the potential of the two DAC chipset.
- Built-in 5 digital filter at your choice
- Deploy dedicated, high quality Op-Amp for Low Pass Filter circuit
- Deploy 4 pieces of 6N1B vacuum tube at buffer stage, appealing and good for day-long listening.
- Built-in Phase selection to ensure perfect playback
- Extensive Mute protection and noise control, minimize pulse noise when Power on/off, and noise generated at changing of operational stages such as UNLOCK.
- Solid chassis with aluminum alloy and sand blast finishing, can eliminate exterior interference effectively.
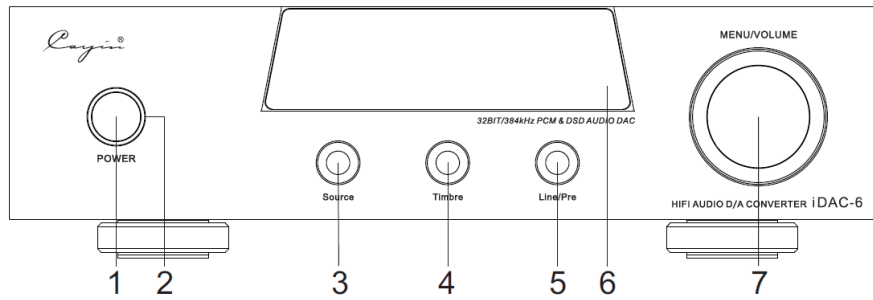

Diagram 1：iDAC-6 Front Panel illustration

Front Panel Functional Description

1. POWER On/Off

   Turn on and off.　Press down the button to turn on the DAC, Press again the button will resume to original position and the DAC will power off.

2. Power indicator, indicate the working status of the DAC

   a. Indicator flashing: in the process of initialization

   b. Indicator always on: machine in regular operation

   c. Indicator flashing rapidly: machine malfunction

3. Source

   Select input source, click repeatedly to cycle through the following options: USB AUDIO, OPTICAL, COAXIAL, and AES/EBU；

4. Timbre

   Select output timbre, click repeatedly to cycle through TRANSISTOR or VACUUM TUBE

5. Line/Pre

   Select output status, click repeated to cycle through Line or Pre. When Line is selected, the screen will display LINE as output status, the output of the DAC will be at fixed level, and the volume control will not be functional.　When Pre is selected, the screen will display PRE as output status, and the output of the DAC will be affected by the volume control.

6. OLED display : Display the current working status of the DAC

7. MENU/Volume

   ◆ FILTER: Click once to enter digital filter selection screen, rotate the control to cycle through the following options: Sharp, Slow, Short Delay Sharp, Short Delay Slow, and Super Slow.

   ◆ PHASE: Click twice to enter phase selection screen, rotate the control to cycle through Normal and Inverted.

   ◆ VOLUME: control the volume when output status is set to PRE, turn clockwise to increase volume, turn anti-clockwise to decrease volume.
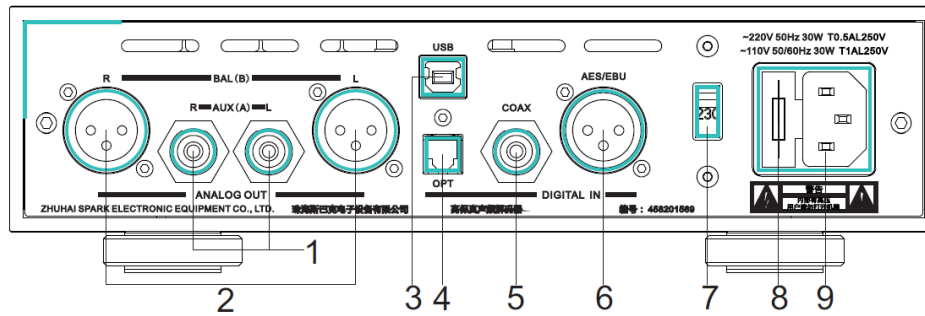
Diagram 2：iDAC-6 Rear Panel illustration

Rear Panel Functional Description

1. Single-ended connector (RCA)
   Connect the single-ended output of the DAC to the single-ended input of an amplifier with a pair of RCA audio signal cable, please make sure the left and right channel is connected correctly.
2. Balanced connector (XLR)
   Connect the balanced output of the DAC to the balanced input of an amplifier with a pair of XLR audio signal cable, please make sure the left and right channel is connected correctly.
3. USB
   Connect the USB port of the DAC to the USB port of a computer with a USB cable (provided in the product package)
4. OPT (Optical)
   Connect the optical input digital audio signal of the DAC to the Optical output digital audio signal of a player with a Toslink (Optical) cable.
5. COAX (Coaxial)
   Connect the coaxial input digital audio signal of the DAC to the Coaxial output digital audio signal of a player with a standard 75ohm coaxial cable.
6. AES/EBU
   Connect the AES/EBU input digital audio signal of the DAC to the AES/EBU output digital audio signal of a player with a standard 110ohm AES/EBU (XLR) cable.
7. AC voltage selector
   "230": recommended for 220V-240V power supply voltage
   "115": recommended for 110V-120V power supply voltage
   Default setting is 230V
8. FUSE
   If in case you need to change the fuse, please resort to replacement fuse with

same specification with the original.
9. Power input connector
   Connect to AC Power supply

Note: Please make sure the AC Voltage Selector is setup correctly for your local power supply voltage.   Incorrect input voltage setting will cause damage to the machine or might even lead to serious household accident, Cayin reserves the right to refuse service or responsibility on related instances.

Preparation

1. Connect Power source
   Verify that the AC Voltage Selector has been set correctly for your local power supply voltage, then plug in a power cord and connect to a AC power outlet. When selector is set at "230" (as displayed on the selector), the DAC is set to work with 220V-240V power supply voltage.   When selector is set at "115" (as displayed on the selector), the DAC is set to work with 110V-120V power supply voltage.
   Attention: Please make sure the power cord has been disconnected before you adjust the setting of the AC Voltage Selector.
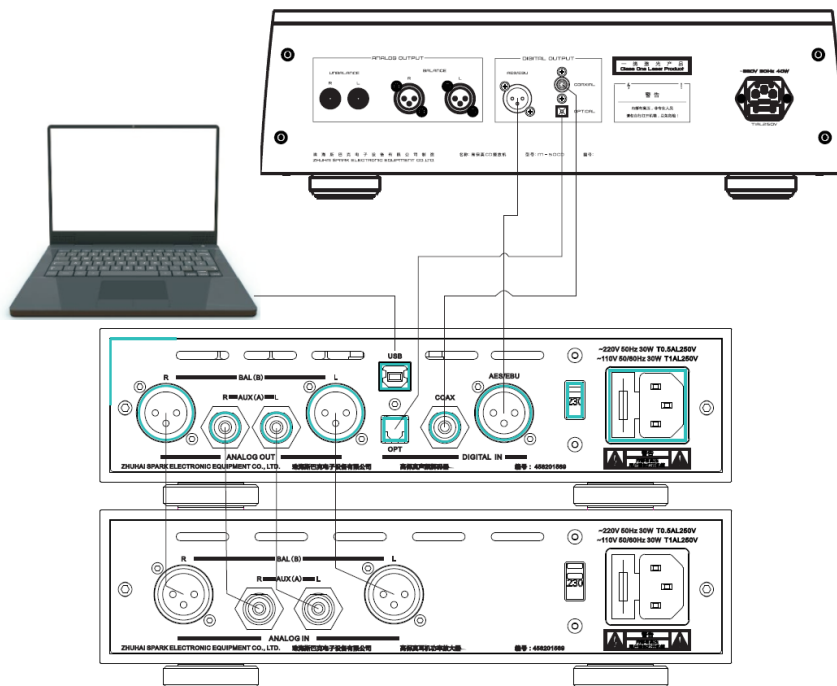
2. Connect to Audio Source

The connection diagram illustrates how to connect the DAD to a CD player, a computer and the iHA-6 audiophile headphone amp as a complete system.

    a. Connect to CD player: Connect the coaxial input digital audio signal of the DAC to the Coaxial output digital audio signal of a player with a standard 75ohm coaxial cable; or connect the optical input digital audio signal of the DAC to the Optical output digital audio signal of a player with a Toslink (Optical) cable, or connect the AES/EBU input digital audio signal of the DAC to the AES/EBU output digital audio signal of a player with a standard 110ohm AES/EBU (XLR) cable.

    b. Connect to a computer: connect the USB port of the DAC to the USB port of a computer with a USB cable (provided in the product package)

    c. Connect to headphone amplifier:　Use XLR audio cable to connect the balanced audio output of the DAC to the balanced audio input of the iHA-6, or use RCA audio cable to connect the single-ended audio output of the DAC to the single-ended audio input of the iHA-6, please make sure the left and right channel is connected correctly.

Attention:

◆ Please make sure that the AC Voltage Selector has been set correctly for your local power supply voltage

◆ Please turn off al equipment when you connect the audio signal cables, this will avoided pulse or high magnitude noise from headphone amplifier and causing damage to associated equipment.

◆ The vacuum tubes takes 15 seconds to warm up to desirable working condition, the DAC will be muted during this period of time and there will not be any audio signal output from the DAC

3. Install Driver

If you plan to use iDAC-6 with a window-based computer, you need to install a USB Audio Driver in your computer before you can use the DAC as an outboard USB sound card for your system.　You can install the driver from the following url: http://en.cayin.cn/html/down/qdxz

The steps to install the drivers are as follows:

(1) Connect the DAC to the computer with a USB cable

(2) Turn on the DAC by press the Power ON/OFF button on the front panel

(3) Double click the " setup " icon to activate the driver installation process, skip all warning until the installation process is completed.

(4) If the driver has installed successfully, you should be able to see the name "Cayin iDAC-6) at the Device Manager interface of your computer, or sometimes the device name will be displayed as "XMOS XS1"

(5) Select "Cayin iDAC-6" or "XMOS XS1" as audio output device in your computer playback software

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Basic Operation

1. Please make sure the AC Voltage Selector is setup correctly for your local power supply voltage.   When selector is set at "230" (as displayed on the selector), the DAC is set to work with 220V-240V power supply voltage.   When selector is set at "115" (as displayed on the selector), the DAC is set to work with 110V-120V power supply voltage.
   ◆ Turn on the DAC by press down the Power ON/OFF button on the front panel, the Power Indicator will start to flash and the display screen will light up
   ◆ The initialization process will take around 15 second, the Power indicator will stop flashing and become always on, and the DAC is ready for playback.
   Note: Please do not remove any audio cable when the DAC is in normal operation, this might cause damage to the amplifier or other associated equipment.
2. Source Selection
   ◆ Select input source, click the SOURCE button repeatedly to cycle through the following options: USB AUDIO, OPTICAL, COAXIAL, and AES/EBU；
   ◆ The DAC will remember the previous setting even when the device is power off, and will resume to the previous selected source when power up again.
3. Using AES/EBU, coaxial and Optical input
   ◆ After the digital cables are connected, you can select AES/EBU, COAXIAL and OPTICAL by click the SOURCE button repeatedly to select your desirable connection.
   ◆ Once the DAC can lock into a digital connection, the screen will display the bit rate and sampling frequency for your reference.
4. Using USB decoding
   ◆ Before you proceed with USB decoding, please confirm again that appropriate drive has been installed in your computer (if needed), otherwise USB decoding will not be functional.
   ◆ Connect the USB port of the DAC to the USB port of a computer with a USB cable (provided in the product package), Click the SOURCE button repeatedly until USB AUDIO is selected.
   ◆ Once the DAC can lock into the USB connection, the screen will display the

bit rate and sampling frequency for your reference.

◆ Please setup your playback software such as Foobar2000 in your computer correctly otherwise the system will not be able to output the original unaltered bitstream to the DAC for decoding, you might need to install plugin such as ASIO or WASAPI to achieve that.

Safety Precautions

1. Please make sure the AC Voltage Selector is setup correctly for your local power supply voltage.
2. Unplug the power cord if you are not going to use the DAC for an extended period of time, and keep the machine in proper condition
3. Please handle with care, avoid tempering to the machine
4. The DAC will not functional appropriately if moistures has developed inside the DAC, please avoid operate the machine until internal moistures has cleared. Moistures can be caused by:
   ◆ Placing the DAC at a location when heater or steamer has just turned on
   ◆ Moving the machine from a cold environment to a warm location
   ◆ Moving the machine from a chilled (e.g., air conditioned room) to a hot and humidity environment.
5. Do not attempt to service this product yourself. Opening the cover may expose you to electric shock or other hazards.
6. The DAC must be keep away from water dripping or water splitting, do not place any objects filled with liquids such as vases or some others on the top or around.
7. Do not attempt to disassembly the machine, all service and maintenance must be conducted by authorized service technician.
8. Please disconnect power cable before you attempt to clean the machine. Please use soft clean cloth to wipe clean the chassis, do not use volatile solution or corrosive cleaning product.
9. Place the DAC at a flat surface, make sure all four supporting tips are evenly loaded.
10. Do not place any flammable material on the DAC
11. Do not operate the DAC under direct sunlight or high temperature, will cause serious deviation or even damage to the electronic components.
12. The machine will become hot during operation, Please keep the DAC at a well-ventilated environment and do not cover the DAC with anything.
13. Please Contact your Cayin agent or retail shop, or our after-sales service if the

machine is not working properly.

This product is designed to work at 2000m altitude or below and non-tropical climate. Please make sure there are amper space around so that the power cord can be disconnected when needed.

Trouble Shooting

To ensure the DAC will function at premium condition, please follow the basic operation and safety precaution as advice.   Improper operation might lead to malfunction, if you run into trouble as stated below, please check before you panic. Sometime the problem are related to associated equipment or cables, please also check and make sure everything is in proper condition. Please contact your Cayin agent or retail shop, or our after-sales service if the problem cannot be rectified.

Problem		Cause	Remedy
No sound from headphone after power on	Power Indicator is OFF	Power is not connected	Make sure power cable is properly connected to a power outlet and there is proper power supply from the outlet.
		Main fuse is out	Replace fuse with same specification with the original.
	Power Indicator is ON	No signal input	Make sure you have selected the correct source from the front panel, Check if the source equipment is functioned properly.
		Audio cable has not connected properly	Connect audio cable properly
Computer cannot recognise the device		USB cable does not conform to standard	Replace a proper USB2.0 cable
		USB driver has not been installed correctly	Install USB driver
		USB driver error	Restart computer
Abnormal audio output when USB Audio is used		USB Interface error	Use another USB interface
		Computer is busy	Optimise computer for audio playback, reduce the number of concurrent process in the computer
		Processing Power and/or peripherals cannot catch-up with audio playback requirements	Upgrade computer facilities to meet processing requirements

Specification

Output Level	Line Out	RCA：2.2V RMS BAL:4.4V RMS
	Pre Out	RCA：2.2V RMS (Max.) BAL:4.4V RMS (Max.)
Frequency Respond	20Hz~30kHz (±0.5dB，Fs=192kHz)	
THD+N	Tube: ≤0.8% (Fs=192kHz) Transistor: ≤0.004% (Fs=192kHz)	
S/N	Tube: ≥105dB (A-weighted) Transistor: ≥110dB (A-weighted)	
USB capability	DSD: support DSD64 及 DSD128 PCM: support upto 32Bit/384kHz	
AES/EBU, Coaxial, Optical capability	PCM: support upto 24Bit/192kHz	
Max. Power Consumption	30W	
Dimension	240mm x 252mm x 69mm (WxDxH)	
Weight	Approx. 3.8kg	