

## Aune S9c Pro

# Aune S9c Pro DAC with Headphone Amplifier User Manual

MODEL: S9c PRO

## 1. Product Overview

The Aune S9c Pro is a high-fidelity Digital-to-Analog Converter (DAC) with an integrated headphone amplifier, designed to deliver exceptional audio performance for PC, speaker, and home audio systems. It incorporates advanced technologies such as a 10MHz clock input, dual DAC chips operating in clock sync mode, and a fully-discrete amplifier with Twin JFETs, ensuring pure, detailed, and powerful sound reproduction.



Figure 1: Aune S9c Pro DAC with Headphone Amplifier and remote control.

Key features include:

- **2nd Generation PLL Core & 10MHz Clock Input:** Ensures ultra-low jitter and natural, vivid sound.
- **Onboard-IIS Differential Isolation Transmission Technology:** Provides clean and interference-free signal transmission.
- **Dual ES9068 DAC Chips:** Work in clock synchronization mode for optimized performance.
- **Fully-Discrete Amplifier with Twin JFET:** Delivers powerful and rich-sounding output with fast transient response.
- **Multiple Headphone Outputs:** Includes 6.35mm, balanced 4.4mm, and XLR jacks for broad compatibility.
- **Two Tuning Modes:** Offers Standard Mode (fast locking, low latency, neutral sound) and Pure Mode (precise clock signals, higher sound density, better soundstage).
- **Robust Power Supply:** Features a 50W toroidal low-ripple analog linear transformer and 23900μF capacitor array.

## 2. Setup Guide

### 2.1 Unpacking and Inspection

Carefully remove the Aune S9c Pro from its packaging. Inspect the unit for any signs of damage. Ensure all accessories

listed in the product packaging are present.

## 2.2 Power Connection

Connect the provided AC power cable to the "MAIN POWER INPUT" port on the rear of the S9c Pro and then to a standard 110V AC power outlet. **Important:** This product is designed for 110V voltage. Using excessive voltage will damage the product.

## 2.3 Audio Input Connections

The S9c Pro supports various digital audio inputs:

- **USB Input:** Connect your computer or digital audio source using a USB Type-B cable to the "USB" port.
- **Coaxial Input:** Use a coaxial cable to connect to the "COAX" port from your digital audio source.
- **Optical Input:** Use an optical fiber cable to connect to the "OPT" port from your digital audio source.
- **AES Input:** Use an AES/EBU cable to connect to the "AES" port from your digital audio source.
- **External Clock Input (10MHz):** For enhanced precision, connect an external 10MHz clock source (e.g., Aune S1c, SC1, XC1) to the dedicated "10M IN" port.

## 2.4 Audio Output Connections

The S9c Pro offers multiple output options:

- **Headphone Outputs:**
  - **6.35mm Headphone Jack:** For single-ended headphones.
  - **Balanced 4.4mm Headphone Jack:** For balanced headphones.
  - **Balanced 4-pin XLR Headphone Socket:** For balanced headphones.
- **Line Outputs:**
  - **RCA Variable Line Out:** For connecting to an amplifier or powered speakers via RCA cables.
  - **XLR Variable Line Out (L/R):** For connecting to an amplifier or powered speakers via balanced XLR cables.

# Clock Sync Tech for the 16-Core USB Framework

## Master-Tape-Grade USB Decoding

Usually, USB XMOS uses two oscillators to generate clock signals. The S9c Pro, however, innovatively adopts the ultra-low-jitter PLL to output clock signals, and thus allows the USB XMOS and the DAC chip to share the same clock source, which leads to the genuinely high fidelity.



Figure 2: Rear panel connections of the Aune S9c Pro.

### 3. Operating Instructions

#### 3.1 Front Panel Controls

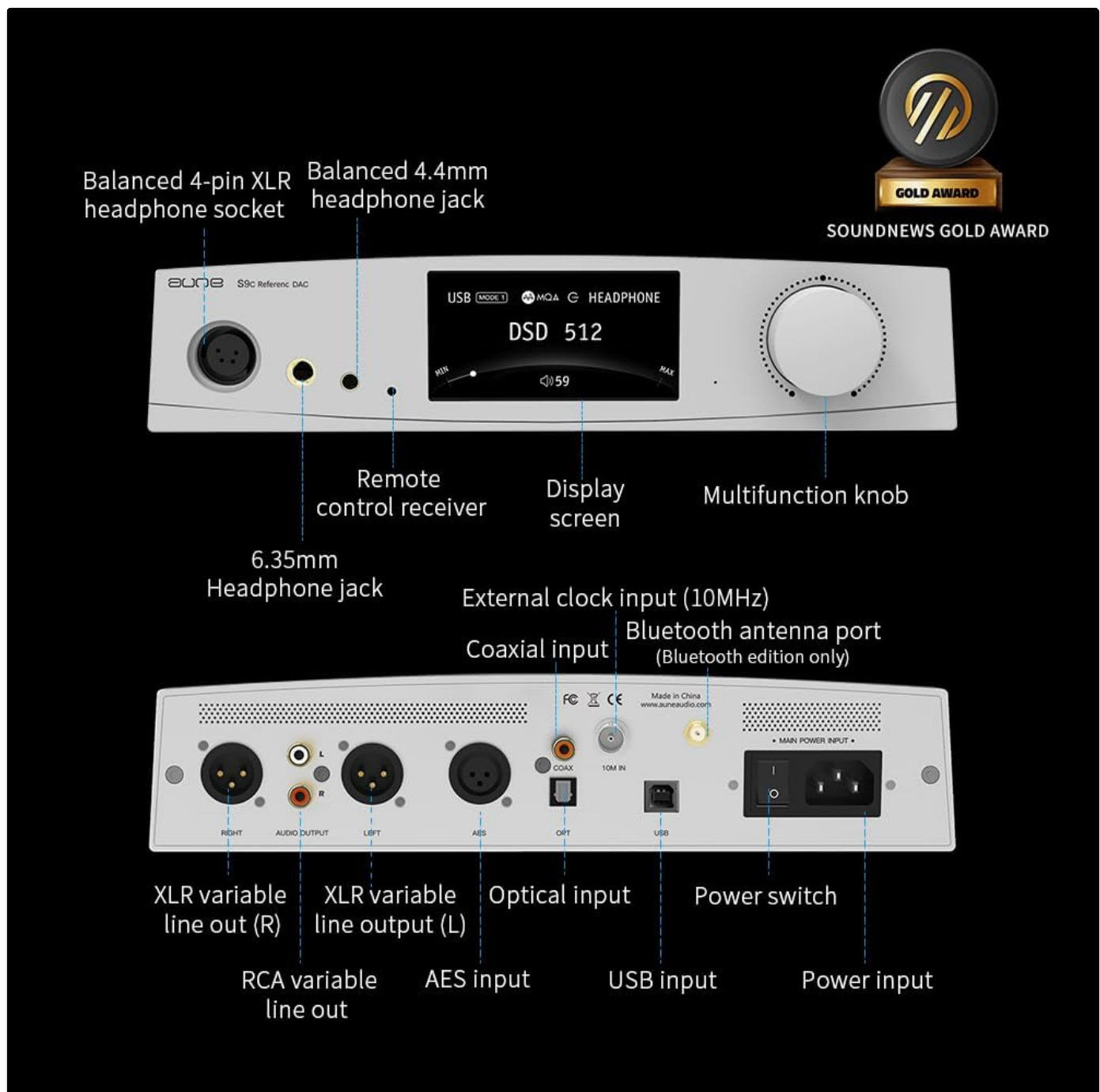


Figure 3: Front panel controls and display.

- **Multifunction Knob:** This single knob controls multiple functions.
  - **Input Selection:** A single press of the multifunction knob cycles through available digital inputs (USB, Coaxial, Optical, AES).
  - **Output Selection:** A double press of the multifunction knob switches between Line Out (variable) and Headphone Out.
  - **Volume Control:** Rotate the multifunction knob clockwise to increase volume and counter-clockwise to decrease volume.
  - **Tuning Mode Selection:** A long press of the multifunction knob switches between MODE 1 (Standard Mode) and MODE 2 (Pure Mode).
- **Display Screen:** Shows current input, output mode, sample rate, volume level, and MQA status.

### 3.2 Remote Control

The included all-aluminum remote control provides convenient access to key functions:

- **Input Selection:** Dedicated buttons for input switching.
- **Volume Control:** Volume up and down buttons.
- **Mute:** Mute/unmute audio output.
- **Mode Selection:** Switch between MODE 1 and MODE 2.

## 3 Headphone Outputs Compatible with All Kinds of Headphones

The S9c Pro has headphone outputs of single-ended 6.35mm, balanced XLR and 4.4mm, compatible with all kinds of headphones.

Impedance	32Ω	100Ω	300Ω	600Ω
Single-ended	1460mW	500mW	168mW	84mW
Balanced	5500mW	2000mW	672mW	336mW



Figure 4: Aune S9c Pro with its multi-function knob and all-aluminum remote.

### 3.3 Operational Demonstration Video

Your browser does not support the video tag.

Video 1: A brief demonstration of the Aune S9c Pro DAC with Headphone Amp, showcasing input selection, output switching, volume control, and tuning mode changes.

## 4. Advanced Features

### 4.1 Clock Synchronization Technology

The S9c Pro features a 2nd generation PLL core, a technological breakthrough that took four years to develop. This



complex algorithm enables the output of frequencies corresponding to different resolutions with ultra-low jitter. The clock source is fed to both the USB XMOS and the DAC part simultaneously, resulting in natural and vivid sound. The 10MHz external clock input provides further possibilities for sound exploration.

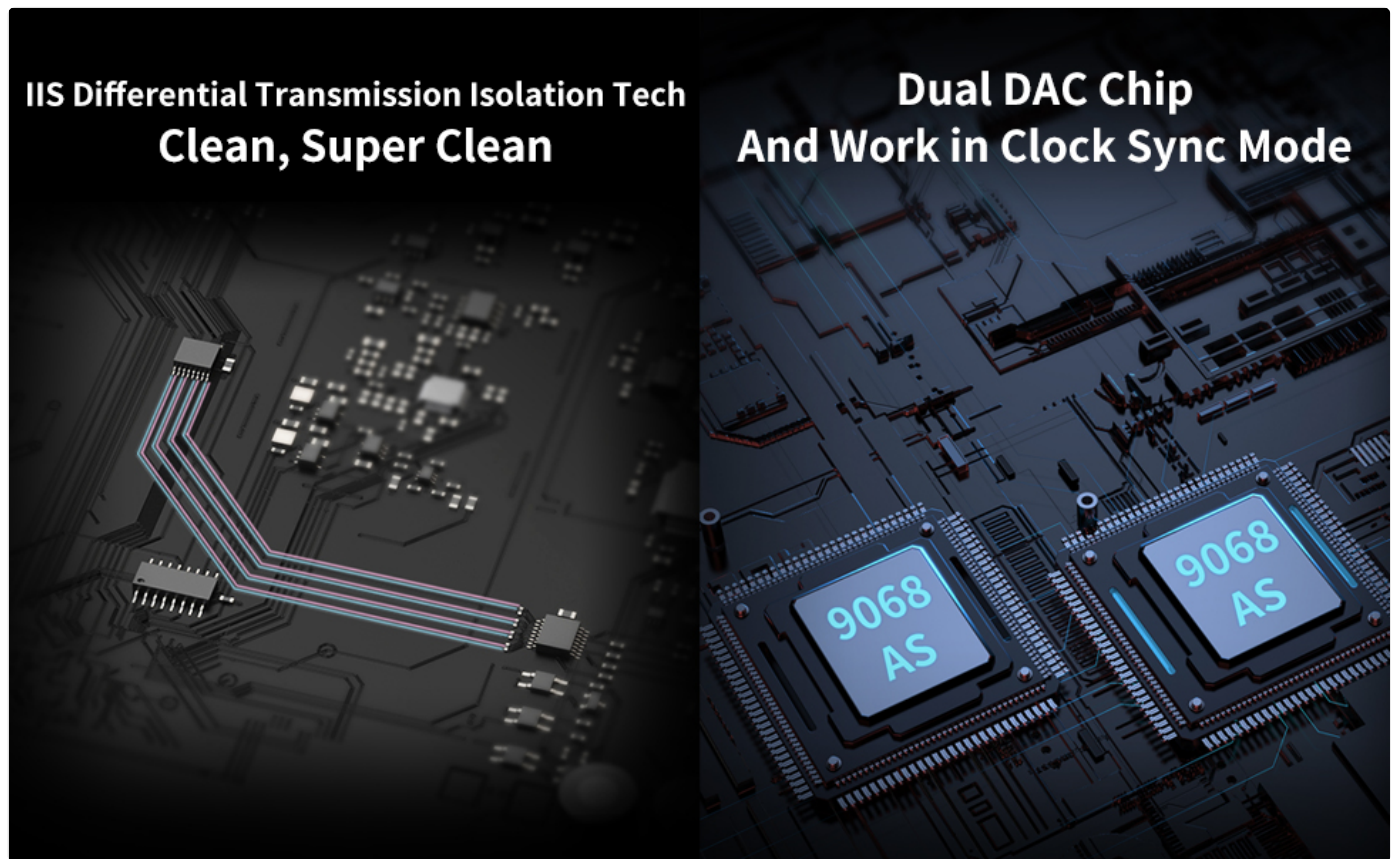
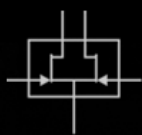


Figure 5: The 2nd Gen PLL Core, central to the S9c Pro's precise clocking.

#### 4.2 IIS Differential Transmission Isolation Technology & Dual DAC Chips

The S9c Pro utilizes a special onboard-IIS differential isolation transmission technology. IIS signals from USB and those converted from coaxial/AES/optical inputs are reshaped by the PLL core and transmitted via symmetrical circuit chips, minimizing interference. Furthermore, the S9c Pro employs two ES9068 DAC chips that work in clock synchronization mode, optimizing their potential for superior audio conversion.

The Fully-Discrete Amp with Twin JFET per Channel  
**Powerful and Rich-Sounding**



**Two Tuning Modes**  
**Two Different Tastes**



Figure 6: IIS Differential Transmission and Dual DAC Chip implementation.

#### 4.3 Fully-Discrete Amplifier with Twin JFET

The S9c Pro features a fully-discrete amplifier circuit with fast transient response. It incorporates twin JFETs (junction field effect transistors) at the input stage, known for their high impedance and mellow sound. Coupled with a +15V linear power supply, the amplifier delivers up to 5W of output power, capable of driving a wide range of headphones and IEMs effectively. The customized amp output voltage curve ensures optimal performance for both headphones and in-ear monitors.

# Clock Sync Tech for Digital Framework

## High Fidelity for the Pairing with Digital Transport/Player

The digital part also adopts clock synchronization technology - converts the coaxial/AES/optical signals to IIS signals, and together with the ultra-low-jitter PLL clock signals gets reshaped, making the pairing with digital transport/player so genuinely high-fidelity as well.



Figure 7: Headphone output power specifications for various impedances.



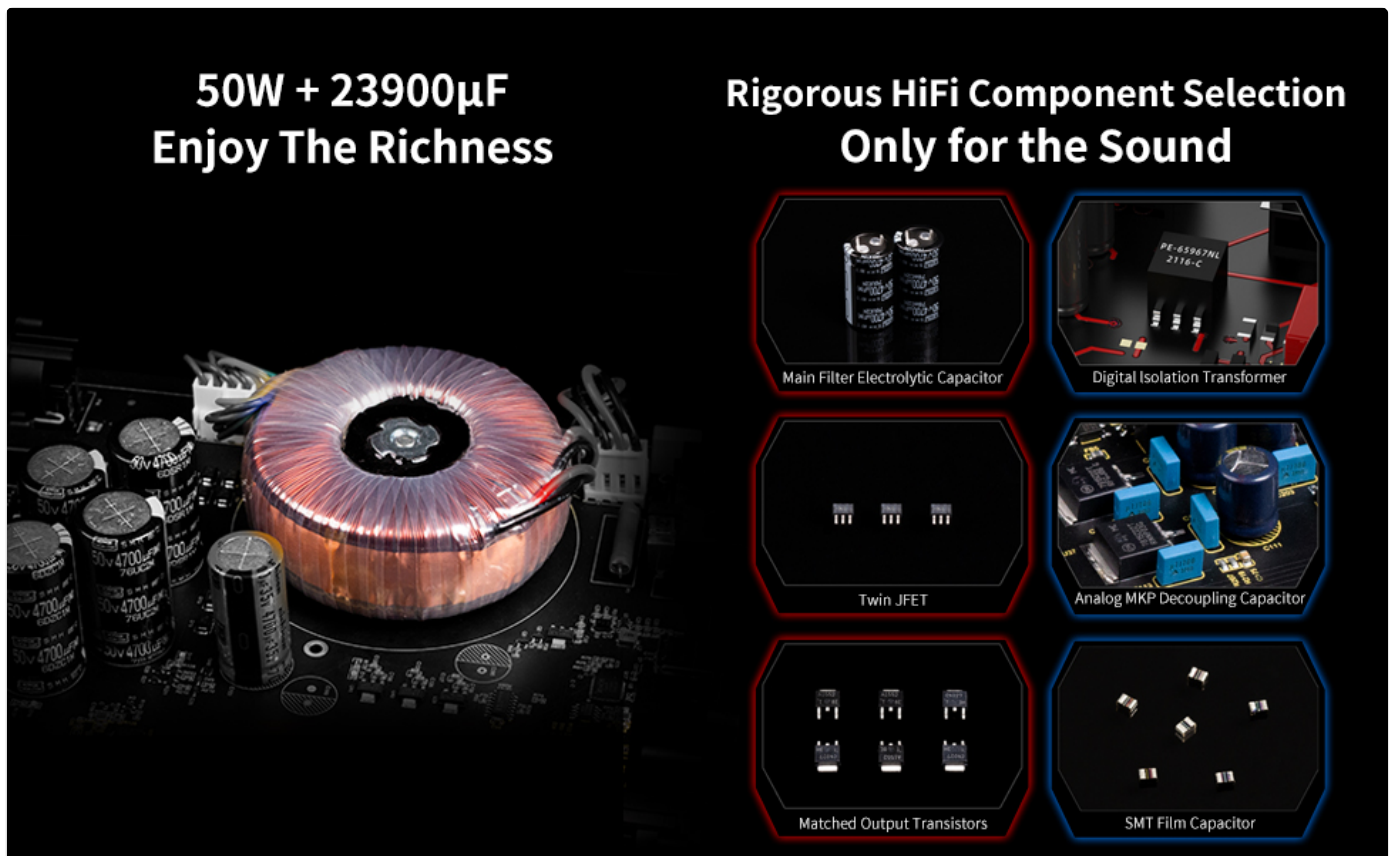


Figure 8: Fully-Discrete Amp architecture and available tuning modes.

## 5. Maintenance

To ensure the longevity and optimal performance of your Aune S9c Pro, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to wipe the exterior of the unit. Avoid using liquid cleaners, aerosols, or abrasive materials, as they may damage the finish or internal components.
- **Ventilation:** Ensure the unit has adequate ventilation. Do not block the ventilation openings.
- **Environment:** Operate the S9c Pro in a clean, dry environment, away from direct sunlight, heat sources, and excessive dust or moisture.
- **Power Off:** Always power off the unit and disconnect it from the power outlet before cleaning or if it will be unused for an extended period.

## 6. Troubleshooting

If you encounter issues with your Aune S9c Pro, please refer to the following common troubleshooting steps:

- **No Power:**
  - Ensure the power cable is securely connected to both the unit and the 110V power outlet.
  - Check if the power switch on the rear panel is in the ON position.
  - Verify the power outlet is functional by plugging in another device.
- **No Sound Output:**
  - Confirm the correct input source is selected on the S9c Pro's display.
  - Ensure the output mode is set to "Headphone" for headphones or "Line Out" for external amplifiers/speakers.
  - Check all audio cables for secure connections.
  - Increase the volume level on the S9c Pro and your connected audio equipment.

- Verify that your headphones or speakers are functioning correctly.

- **Distorted or Poor Sound Quality:**

- Check the quality of your audio source and cables.
- Ensure the sample rate displayed on the S9c Pro matches your audio source.
- Try switching between MODE 1 and MODE 2 tuning modes to see if it improves sound.
- Ensure the product is used at 110V voltage. Excessive voltage will damage the product and affect performance.

- **Remote Control Not Responding:**

- Ensure there are no obstructions between the remote and the unit's remote control receiver.
- Check and replace the remote control batteries if necessary.

## 7. Specifications

Feature	Specification
Product Dimensions	11.3 x 2.4 x 8.3 inches
Item Weight	9.55 pounds
Item Model Number	S9c Pro
Brand	Aune
Interface Type	USB, Coaxial, Optical, AES
Number of Channels	3
Manufacturer	aune
Country of Origin	China
Line Output Noise Floor	2.04 $\mu$ V
Line Output THD+N	0.00022%
Headphone Output Noise Floor	7.71 $\mu$ V
Headphone Output THD+N	0.00058% (1.78 Vrms /1 KHz 0 dB)

## 8. Warranty and Support

Aune is committed to providing excellent customer service and support for its products.

- **Warranty:** All Aune products come with a 2-year after-sales service.
- **Product Condition:** All products are brand new and delicately packaged. If you find any traces of use upon receipt, it may be due to logistics and warehousing; please contact customer service to resolve the issue.
- **After-Sales Service:** Aune has a comprehensive after-sales system. For any issues during product use, please contact us directly for prompt assistance and a satisfactory resolution.

For further assistance or inquiries, please visit the official Aune store or contact their customer support channels.

Documents - Aune – S9c Pro

Aune S9c Pro Referenz DAC mit Kopfhörerverstärker

Montag, 05. Juni 2023 19:32

Aune S9c Pro



Mit dem leistungsstarken Aune S9c Pro stellt Aune den Nachfolger des S6 Pro vor. Der Aune S9c Pro verfügt über 2 parallele und Clock synchronisierte DAC Chips, PLL Clock Synchronisation in der 2. Generation, einen synchronisierten LDAC AptX HD Bluetooth Eingang und viele weitere technische Feinheiten. An dem PLL der 2. Generation haben die Aune Techniker vierjahre lang gearbeitet und präsentieren diesen nun erstmals im neuen S9c Pro der nun von einem sehr natürlichen und lebendigen Klang profitiert.

Der Aune S9c Pro DAC spielt Hi Res bis zu 768 kHz 32 Bit DSD 512 MQA 15k und das mit einem extrem niedrigen Jitter. Digitale Eingangsgrate von Coax, Bluetooth und USB werden auf IIS gewandelt und mit der speziellen Onboard IIS-Differentialdaten-Übertragungstechnologie weiter digital verarbeitet was zu einer nahezu Interferenz freien Übertragung führt und sich in einem äußerst sauberen Audiosignal zeigt.



Der 50W Ringkerntransformator mit geringer Restwelligkeit + 23900µF Kondensator mit geringer Restwelligkeit sorgt für ausreichend Leistungsreserven und einen besonders saften Klang. Der Aune S9c Pro DA-Wandler Kopfhörerverstärker bietet drei Kopfhörerausgänge, unsymmetrisch 3,5 mm, symmetrisch XLR und 4,4 mm Anschlüsse. Mit 16 Transistoren einer voll diskreten Verstärkerschaltung, einem +-15 V Netzteil und 2 JFETs pro Kanal leistet der Kopfhörerverstärker bis zu saften 5

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Aune

This guide includes:

Driver download & installation

Professional audio players

ASIO output

Play DSD files with a professional player (settings)

This guide is for aune USB DACs including

S9c Pro, X8, X1s, S6, S8, BU2, BU1, Flamingo, etc.

Here we'll take Flamingo as an example.

For USB connection, please use the USB cable in the box to connect the Flamingo to a computer. (For a smartphone or a portable music player, the corresponding cable/adaptor like the OTG cable/adaptor is needed.)

Driver download & installation

\* Apple's macOS doesn't need any driver.

\* Smartphones and portable music players don't need any driver.

For Windows users:

Please go to

www.auneaudio.com -- English -- Service & Support -- Downloads -- Flamingo

Email: info@auneaudio.com Web: www.auneaudio.com

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USB Driver Installation Manual cdn02 plentymarkets

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This guide includes: Driver download installation Professional audio players ASIO output Play DSD files with a professional player settings -----

----- This guide is for aune USB DACs including **S9c Pro**, X8, X1s, ...

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