

## NuPrime DAC-9X SILVER

# NuPrime DAC-9X (SILVER) User Manual

High-Performance Digital-to-Analog Converter and Preamplifier

## 1. INTRODUCTION

Thank you for purchasing the NuPrime DAC-9X (SILVER). This high-performance Digital-to-Analog Converter (DAC) and preamplifier is designed to be the heart of your audio system, offering extensive input and format support, advanced decoding capabilities, and superior sound quality. This manual provides essential information for setting up, operating, and maintaining your DAC-9X.



Figure 1: Front view of the NuPrime DAC-9X (SILVER).

## 2. IMPORTANT SAFETY INFORMATION

Please read all safety and operating instructions carefully before using your DAC-9X. Keep these instructions for future reference.

- **Power Source:** Connect the unit only to a power supply of the type described in the operating instructions or as marked on the appliance.
- **Ventilation:** Ensure proper ventilation. Do not block any ventilation openings. Do not install near heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- **Water and Moisture:** Do not use this apparatus near water. Do not expose to dripping or splashing.
- **Cleaning:** Clean only with a dry cloth. Unplug the unit from the wall outlet before cleaning.
- **Servicing:** Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- **Cables:** Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

### 3. KEY FEATURES

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The NuPrime DAC-9X is engineered with advanced technologies to deliver exceptional audio performance:

- **The Heart of Your System:** Features dual ESS Technology 32-bit audio DAC ESS9028Q2M chips, independently decoding left and right channels to enhance channel separation and reduce overall noise. Utilizes Vishay professional film MELF resistors for superior sound quality.
- **Advanced Power Circuitry:** Employs a low-noise power supply with anti-vibration processing to minimize AC hum. All onboard power circuits are designed for minimal noise interference.
- **Native MQA Decoding:** Equipped with MQA technology, allowing for the reproduction of the original master recording sound from MQA audio files and streams. Front panel LEDs indicate MQA stream detection:
  - **Green:** Indicates playback of an MQA Authentic file.
  - **Blue:** Indicates playback of an MQA Studio file.
  - **Magenta:** Indicates playback of an MQA ORFS (Original Sample Rate) file, approved by the artist/producer in the studio or verified by the copyright holder.
- **Ultra-Low Jitter and Distortion:** Incorporates the "NuPrime SRC" DSP chip, co-developed with an IC vendor, which upsamples the input signal to MHz before downconverting to the target sample rate, achieving ultra-low jitter and distortion.
- **Flexible Connectivity:** Includes an expansion port for optional Bluetooth receivers or WiFi audio streamers.
- **Precise Control:** Features full microprocessor control with memory retention for settings.
- **Native DSD Playback:** Supports native DSD playback via ASIO2.1 and DoP methods.
- **Minimal Noise Floor:** Utilizes ultra-low noise JFETs in the input stage to achieve the lowest possible noise floor.
- **Individual Volume Adjustment:** Allows for individual volume adjustment for each input, enabling precise matching of source levels.
- **Asynchronous Transfer:** Employs an asynchronous transfer method for optimal data integrity.
- **Energy Efficient:** Significantly reduced standby power consumption.
- **Wireless Receiver Support:** A USB Type-A port provides S/PDIF data and 5V power, allowing connection to external wireless audio receivers (e.g., NuPrime Omnia WR-1, BTR-HD, Stream Mini, Stream Mini DAC) using a single standard USB cable.

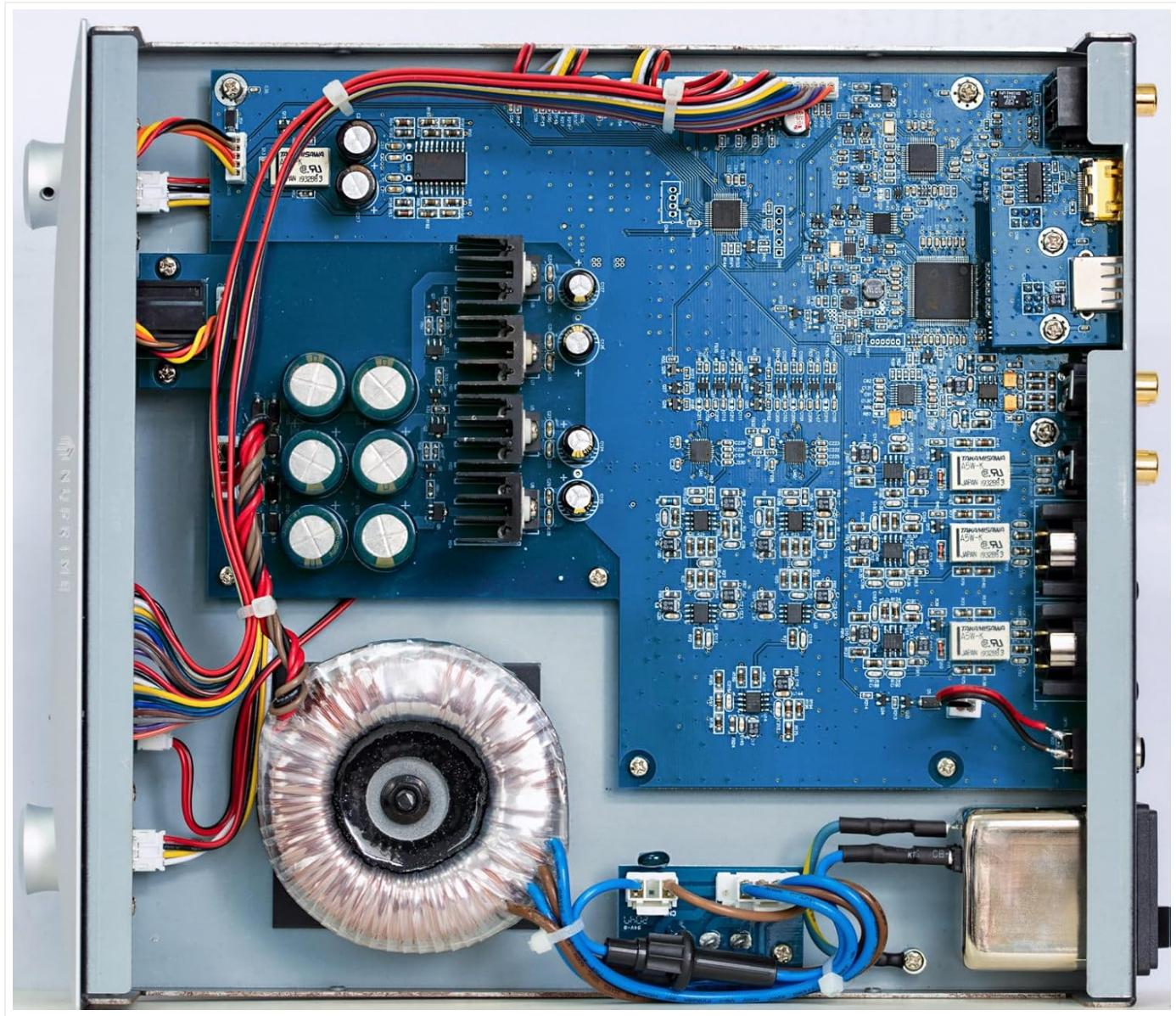


Figure 2: Internal view of the NuPrime DAC-9X, highlighting the advanced circuitry and power supply.

## 4. SETUP

### 4.1 Unpacking and Placement

1. Carefully remove the DAC-9X from its packaging. Retain the packaging for future transport or storage.
2. Place the unit on a stable, level surface away from direct sunlight, heat sources, and excessive moisture.
3. Ensure adequate ventilation around the unit. Do not place it in an enclosed cabinet without proper airflow.

### 4.2 Power Connection

- Before connecting the power cord, ensure the power switch on the rear panel is in the OFF position.
- Connect the supplied AC power cord to the AC inlet on the rear panel of the DAC-9X.
- Plug the other end of the power cord into a suitable wall outlet.

## 5. CONNECTIONS

The DAC-9X offers a variety of input and output options to integrate seamlessly into your audio system.



Figure 3: Rear panel of the NuPrime DAC-9X, illustrating available connections.

## 5.1 Input Connections

- **USB Type B 2.0 Hi-Speed:** Connect your computer (Windows, Mac, Linux) to this port for high-resolution audio playback.
  - Windows OS: Supports up to 384KHz/24Bit and Native DSD 256.
  - Mac / Linux OS: Supports up to 384KHz/24Bit and DOP DSD 128.
- **IIS/DSD:** For direct digital input, supporting PCM 44.1KHz ~ 384KHz/32Bit and DSD.
- **Coaxial:** Standard S/PDIF coaxial digital input.
- **Optical:** Standard S/PDIF optical digital input.
- **Extension Port (USB Type-A):** This port provides S/PDIF data and 5V power for connecting compatible external wireless audio receivers (e.g., NuPrime Omnia WR-1, BTR-HD, Stream Mini, Stream Mini DAC).

## 5.2 Output Connections

- **Analog Output (RCA):** Connect to your power amplifier or active speakers using RCA cables.
- **Balanced Output (XLR):** For professional-grade connections to power amplifiers or active speakers with XLR inputs, providing improved noise rejection.
- **Trigger Out:** For connecting to other compatible audio components that support 12V trigger control.

## 6. OPERATING INSTRUCTIONS

### 6.1 Power On/Off

- To power on the unit, flip the main power switch on the rear panel to the ON position.
- Press the power button on the front panel (usually integrated with the Input knob) to bring the unit out of standby mode.
- To put the unit into standby, press the power button on the front panel again.
- For complete power off, flip the main power switch on the rear panel to the OFF position.

### 6.2 Input Selection

- Rotate the "INPUT" knob on the front panel to cycle through the available input sources (USB, IIS/DSD, Coaxial, Optical, Extension Port).
- The selected input will be displayed on the front panel screen.

### 6.3 Volume Control

- Rotate the "VOLUME" knob on the front panel to adjust the output volume.
- The volume level will be displayed on the front panel screen.
- The DAC-9X features individual volume adjustment for each input, allowing you to precisely match the output levels of different sources.

### 6.4 MQA Indicator

- When an MQA stream is detected, the MQA LED on the front panel will illuminate.
- The color of the LED indicates the type of MQA file being played:
  - **Green:** MQA Authentic
  - **Blue:** MQA Studio
  - **Magenta:** MQA ORFS (Original Sample Rate)

## 7. SPECIFICATIONS

Feature	Description
Brand	NuPrime
Model	DAC-9X SILVER
DAC Chipset	Dual ESS Technology 32-bit Audio DAC ESS9028Q2M
MQA Support	Native MQA Decoding (Authentic, Studio, ORFS)
USB Input (Windows)	Up to 384KHz/24Bit, Native DSD 256
USB Input (Mac/Linux)	Up to 384KHz/24Bit, DOP DSD 128
IIS/DSD Input	PCM 44.1KHz ~ 384KHz/32Bit, DSD
Other Digital Inputs	Coaxial, Optical, Extension Port (USB Type-A for wireless receivers)
Analog Outputs	RCA, XLR Balanced
Additional Features	NuPrime SRC DSP chip, Ultra-low noise JFETs, Microprocessor control with memory, Asynchronous transfer, Low standby power consumption

## 8. TROUBLESHOOTING

If you experience issues with your DAC-9X, please refer to the following common problems and solutions:

Problem	Possible Cause / Solution
No power	<ul style="list-style-type: none"> <li>• Check if the power cord is securely connected to the unit and the wall outlet.</li> <li>• Ensure the main power switch on the rear panel is ON.</li> <li>• Press the front panel power button to exit standby mode.</li> <li>• Verify the wall outlet is functioning (test with another device).</li> </ul>

Problem	Possible Cause / Solution
No sound output	<ul style="list-style-type: none"><li>Ensure the correct input source is selected on the DAC-9X.</li><li>Check all audio cables (RCA, XLR) are securely connected between the DAC-9X and your amplifier/speakers.</li><li>Verify the volume level on the DAC-9X and your amplifier is not set to minimum or muted.</li><li>If using USB, ensure the correct audio output device is selected in your computer's sound settings and necessary drivers are installed (for Windows).</li><li>Check if the source device is playing audio.</li></ul>
Distorted or poor sound quality	<ul style="list-style-type: none"><li>Check cable connections for looseness or damage.</li><li>Ensure the sample rate and bit depth of the audio source are compatible with the DAC-9X.</li><li>Try a different audio source or file to rule out source issues.</li><li>Ensure proper ventilation to prevent overheating.</li></ul>
MQA LED not illuminating for MQA files	<ul style="list-style-type: none"><li>Ensure the audio file or stream is indeed an MQA encoded file.</li><li>Verify your playback software is configured to pass MQA data to the DAC-9X without processing (e.g., "passthrough" or "exclusive mode").</li><li>Check the connection type; MQA decoding typically works best over USB.</li></ul>

## 9. MAINTENANCE

To ensure the longevity and optimal performance of your NuPrime DAC-9X, follow these maintenance guidelines:

- Cleaning:** Use a soft, dry, lint-free cloth to clean the exterior surfaces of the unit. Do not use abrasive cleaners, waxes, or solvents as they may damage the finish.
- Ventilation:** Periodically check that the ventilation openings are clear of dust and debris. Use a soft brush or compressed air to gently remove any blockages.
- Storage:** If storing the unit for an extended period, disconnect it from the power supply and store it in a cool, dry place, preferably in its original packaging.
- Avoid Liquids:** Never allow liquids to enter the unit. If liquid accidentally spills into the unit, immediately disconnect power and contact qualified service personnel.

## 10. WARRANTY AND SUPPORT

The NuPrime DAC-9X is covered by a manufacturer's warranty. Please refer to the warranty card included with your product for specific terms and conditions, including warranty period and coverage details.

For technical support, service, or warranty claims, please contact your authorized NuPrime dealer or distributor. You may also visit the official NuPrime website for additional resources and contact information.

