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> [Musician Pegasus II 24 Bits R2R + 6 Bits DSD Architecture DAC User Manual](#)

AOSHIDA Pegasus II

Musician Pegasus II DAC User Manual

Model: Pegasus II | Brand: AOSHIDA

1. INTRODUCTION

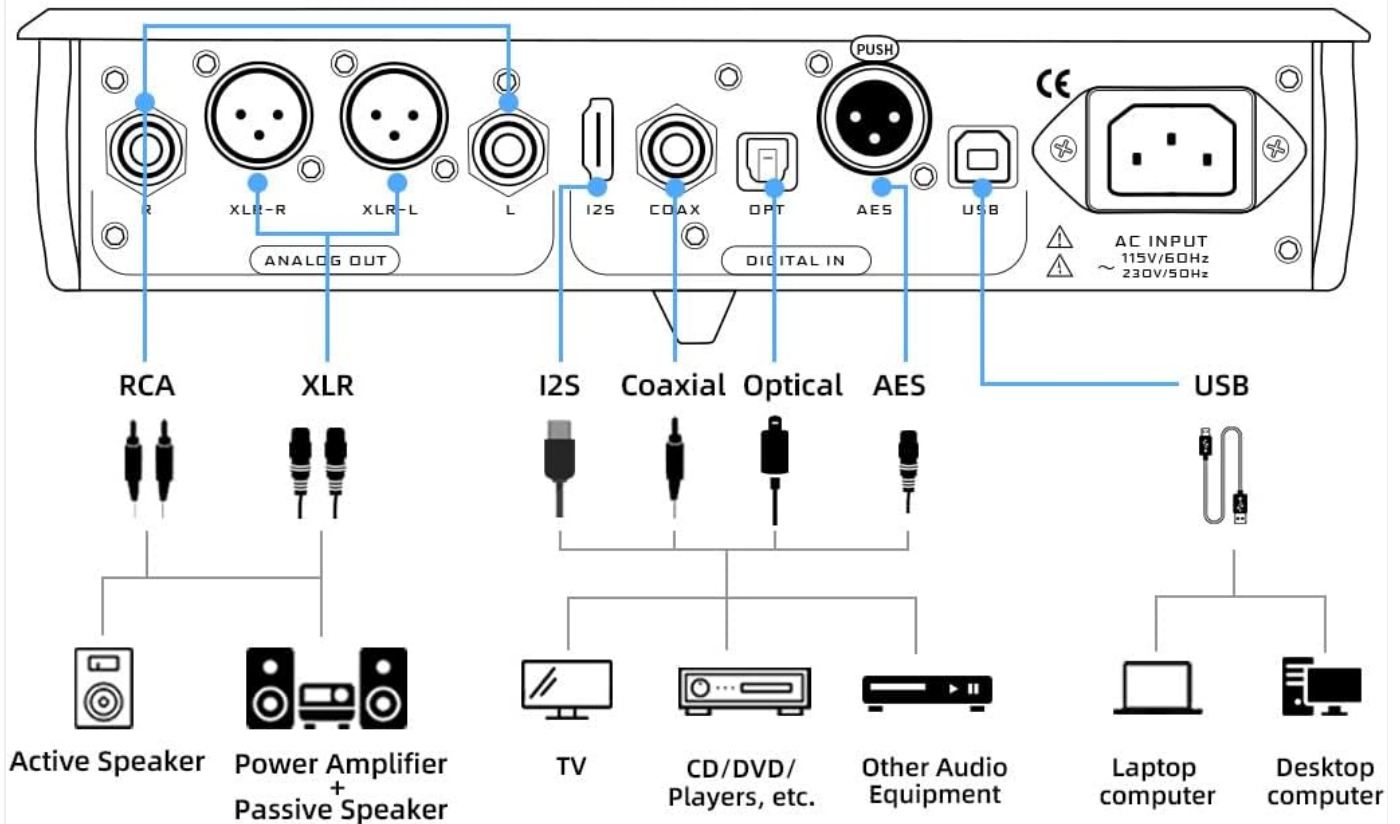
The Musician Pegasus II is a high-performance Digital-to-Analog Converter designed for discerning audio enthusiasts. It incorporates advanced R2R and DSD decoding architectures to deliver exceptional sound fidelity. This manual provides essential information for setting up, operating, and maintaining your Pegasus II DAC.



Figure 1.1: Front view of the Musician Pegasus II DAC, showcasing its sleek design and front panel controls.

Multiple Digital Input Options

PEGASUS II features coaxial, optical, AES, USB, I2S inputs. RCA single-ended, XLR balanced outputs, true balanced outputs.



DSD | All inputs support DSD64 DoP. USB and I2S inputs support DSD1024

PCM | All inputs support 24 bits/44.1K, 48K, 88.2K, 96K, 176.4K, 192KHz. USB&I2S input supports 1536kHz

Figure 1.2: Angled view of the Pegasus II DAC, highlighting the input selection and sampling rate indicators.

2. KEY FEATURES

2.1 Proprietary R2R + DSD Architecture

The Pegasus II utilizes a true balanced 24-bit R2R and 6-bit DSD architecture with a 32-step FIR filter. This discrete resistor network decoder, controlled by high-speed FPGAs, converts digital signals to analog signals, offering a flexible approach to audio processing that surpasses the limitations of chip-based decoders.



Figure 2.1: Overview of the proprietary R2R + DSD architecture, emphasizing its discrete design and 32-step FIR filter.

The device incorporates an STM32F446 dedicated USB audio solution, an upscaling function supporting up to 16x, and features 0.005% accuracy resistors for precise signal handling. It achieves an impressive Signal-to-Noise Ratio (SNR) of 123dB (A weighting) with a Total Harmonic Distortion plus Noise (THD+N) of 0.002%.



Figure 2.2: Technical diagram illustrating the STM32F446 USB audio solution, 16x upscaling capability, and the use of high-accuracy resistors.



Figure 2.3: Performance metrics showing a 123dB SNR and support for high-resolution audio formats up to DSD 1024 and PCM 1536kHz via USB/I2S inputs.

2.2 Advanced Componentry

The Pegasus II incorporates an ALTERA high-efficiency chip for distortion-free audio signal transmission, meeting HiFi standards. Each channel features independent high-speed FPGAs controlling 4 sets of R-2R networks, ensuring low distortion and minimal background noise. The power delivery is optimized with a customized power tailstock using multiple single crystal copper wire wraps and a high-quality toroidal core transformer for stable power and reduced noise. An encapsulated linear power supply further enhances performance.



Figure 2.4: Close-up view of the ALTERA Cyclone V high-efficiency chip, responsible for robust audio signal processing.



Figure 2.5: Internal view of the Pegasus II DAC, showing the R2R arrays, toroidal core transformer, and encapsulated linear power supply, all contributing to superior sound quality.

3. SETUP

3.1 Connections and Inputs

The Pegasus II offers a comprehensive array of digital input options and analog outputs to integrate seamlessly into your audio system. Connect your source devices to the appropriate digital inputs and your amplifier or active speakers to the analog outputs.

- **Digital Inputs:** Coaxial, Optical, AES, USB, I2S
- **Analog Outputs:** RCA single-ended, XLR balanced



Customized Power Tailstock

Tailstock to PCB alignment using multiple single crystal copper wire wraps. Optimize PCB alignment for many times.

Customized RCA Ports

Customized RCA ports to ensure the most efficient audio signal transmission.



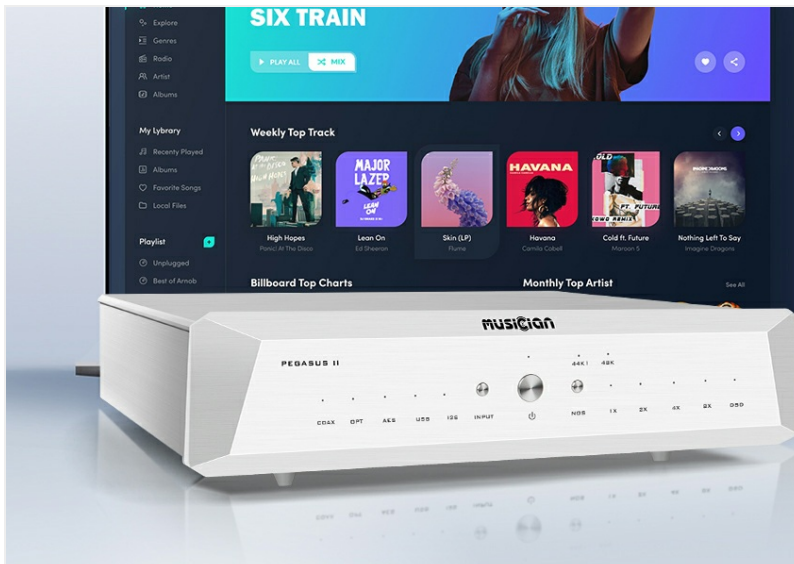
Figure 3.1: Rear panel of the Pegasus II DAC, illustrating the layout of all digital input and analog output ports.



Figure 3.2: Connection diagram detailing how to connect various audio sources and output devices to the Pegasus II DAC.

3.2 Driver Installation

For Mac OS and Linux operating systems, the Pegasus II is plug-and-play, requiring no additional driver installation. For Windows users, a licensed Thesycon USB driver is required for optimal performance. Please refer to the official AOSHIDA website for driver downloads and installation instructions.



No drivers required for Mac and Linux

MAC and Linux connections are ready to use, no driver installation required. For Windows Licensed Thesycon USB driver for the platform.



4. OPERATING

4.1 Input Selection

Use the 'INPUT' button on the front panel to cycle through the available digital inputs (Coaxial, Optical, AES, USB, I2S). The selected input will be indicated by an LED on the front panel.

4.2 Supported Audio Formats

The Pegasus II supports a wide range of high-resolution audio formats:

- **USB and I2S Inputs:** Support up to DSD 1024 and PCM 1536kHz. The audio source must be compatible with the native interface.
- **Coaxial, Optical, AES Inputs:** Support DSD64 (DoP) and PCM up to 24 bits/192kHz.

4.3 I2S Pin Configuration

The Pegasus II features 8 adjustable I2S modes to ensure compatibility with a wide range of devices. The DAC automatically adjusts allocation based on different devices and does not require manual pin configuration. If you experience no sound or a hissing noise, it indicates an incorrect I2S mode. Continue to adjust to the next mode until clear audio is achieved. Always ensure the selected mode is compatible with your source device.



Figure 4.1: I2S Pin Configuration table, showing the 8 available modes and their corresponding pin diagrams for compatibility adjustment.

5. MAINTENANCE

To ensure the longevity and optimal performance of your Musician Pegasus II DAC, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the unit. Avoid using liquid cleaners or abrasive materials, as they may damage the finish.
- **Ventilation:** Ensure the unit is placed in a well-ventilated area to prevent overheating. Do not block the ventilation openings.
- **Environment:** Keep the DAC away from direct sunlight, heat sources, excessive dust, and moisture.
- **Power:** Always disconnect the power cable from the wall outlet before cleaning or if the unit will be unused for an extended period.

6. TROUBLESHOOTING

If you encounter issues with your Pegasus II DAC, please refer to the following common troubleshooting steps:

- **No Power:** Ensure the power cable is securely connected to both the DAC and a working power outlet. Check the power switch on the rear panel.
- **No Sound:**

- Verify that the correct input source is selected on the DAC.
- Check all audio cables (digital input and analog output) for secure connections.
- Ensure your amplifier or active speakers are powered on and set to the correct input.
- If using I2S, try cycling through the different I2S modes as described in Section 4.3.

- **Distorted Sound/Noise:**

- Check for loose cable connections.
- Ensure the source device's volume is not excessively high, causing clipping.
- If using USB on Windows, ensure the correct Thesycon driver is installed.
- Try a different digital input cable or source device to isolate the issue.

- **Computer Not Recognizing DAC (USB):**

- Restart your computer and the DAC.
- Try a different USB port or USB cable.
- For Windows, ensure the Thesycon USB driver is correctly installed and updated.

If the problem persists after attempting these steps, please contact AOSHIDA customer support for further assistance.

7. SPECIFICATIONS

Feature	Specification
Brand	AOSHIDA
Model	Pegasus II
Architecture	24 Bits R2R + 6 Bits DSD
Filter	32-Step FIR Filter
USB Audio Solution	STM32F446
PCM Support (USB/I2S)	Up to 1536kHz
DSD Support (USB/I2S)	Up to DSD1024
Digital Inputs	Coaxial, Optical, AES, USB, I2S
Analog Outputs	RCA Single-ended, XLR Balanced
Material	Aluminum
Product Dimensions	28 x 25 x 5 cm
Item Weight	3.9 kg
Power Supply	115V/60Hz or 230V/50Hz (AC)

8. WARRANTY AND SUPPORT

The Musician Pegasus II DAC comes with a manufacturer's warranty. For specific details regarding warranty coverage, duration, and terms, please refer to the warranty card included with your product or visit the official AOSHIDA website. For technical support, troubleshooting assistance beyond this manual, or warranty claims, please contact AOSHIDA customer service through their official channels.