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› Argon Forty Nanosound ONE Case for Raspberry Pi 4 - Instruction Manual

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Model: Argon Nanosound ONE

1. INTRODUCTION

The Argon Forty Nanosound ONE Case is designed to transform your Raspberry Pi 4 into a high-resolution audio player with an elegant and functional enclosure. This premium aluminum case integrates a Hi-Fi DAC and offers efficient cooling, making it ideal for music streaming, home theater setups, and audiophile projects.



Image 1: Argon Nanosound ONE Case for Raspberry Pi 4, showcasing its sleek design and port layout.

2. PRODUCT FEATURES

- **Premium Aluminum Audio Case:** Combines elegant aluminum housing with excellent heat dissipation for silent, fanless cooling.
- **Audiophile-Grade Sound:** Built-in Hi-Fi DAC with 192kHz/24-bit resolution for superior audio quality.
- **Easy Access & Expansion:** Full access to Raspberry Pi ports (HDMI, USB, Ethernet, Audio) with an integrated design that neatly encloses your Raspberry Pi 4 and NanoSound DAC modules.
- **Versatile Streaming Support:** Compatible with Volumio OS, Spotify Connect, and Roon Bridge.
- **Comprehensive Format Compatibility:** Supports MP3, FLAC, ALAC, WAV, AAC, DSD, and more.
- **User-Friendly Control:** Includes infrared receiver for convenient media navigation (remote sold separately).

3. PACKAGE CONTENTS

Verify that all items are present in your package:

- Argon Nanosound ONE Case (Top and Bottom parts)
- M.2 SATA SSD to USB 3.0 Board (integrated into the bottom case)
- Video / Audio PCB Extender
- GPIO - Fan PCB HAT
- Silicon Thermal Pads
- Screws and Rubber Footings
- Instruction Manual (this document)

4. SETUP & ASSEMBLY

Follow these steps to assemble your Argon Nanosound ONE Case with your Raspberry Pi 4:

1. **Prepare the Case:** Carefully remove the screws from the bottom of the Argon Nanosound ONE case to separate the top and bottom sections.
2. **Install Thermal Pads:** Apply the provided silicon thermal pads to the designated areas on your Raspberry Pi 4's CPU and other heat-generating components. Ensure good contact for optimal heat transfer.
3. **Connect Extender Board:** Gently connect the Video/Audio PCB Extender to the corresponding ports on your Raspberry Pi 4. This board routes the HDMI and audio signals to the case's external ports.
4. **Mount Raspberry Pi 4:** Carefully align your Raspberry Pi 4 with the case's internal connectors and mounting points. Ensure the GPIO pins connect correctly to the GPIO - Fan PCB HAT. Secure the Raspberry Pi 4 using the provided screws.
5. **Install M.2 SATA SSD (Optional):** If using an M.2 SATA SSD, insert it into the M.2 SATA SSD slot on the

integrated USB 3.0 board in the bottom section of the case. Secure it with the provided screw. **Note:** This board is compatible with M.2 SATA SSDs (B-Key or B+M Key) only, not NVMe SSDs.

- 6. **Close the Case:** Carefully re-attach the top section of the case, ensuring all ports align correctly. Secure the case with the screws removed in Step 1.
- 7. **Apply Rubber Footings:** Attach the rubber footings to the bottom of the case for stability and to prevent scratching surfaces.

Video 1: Detailed assembly guide for the Argon ONE M.2 Case for Raspberry Pi 4, including SATA SSD installation. This video demonstrates the physical installation process of the Raspberry Pi 4 and an M.2 SATA SSD into the Argon ONE case, highlighting key steps like thermal pad application and board connections.

5. OPERATING INSTRUCTIONS

5.1. Software Installation (Operating System)

To get started, you will need to install an operating system on your Raspberry Pi 4. You can install it on a microSD card or directly onto the M.2 SATA SSD if you have installed one. Popular choices include Volumio OS for audio, or Raspberry Pi OS for general use.

For M.2 SSD booting, ensure your Raspberry Pi 4's bootloader is updated to support USB boot. You can then use tools like Raspberry Pi Imager to flash your chosen OS directly to the M.2 SSD (via an external M.2 enclosure connected to your computer, or by booting from microSD first and then flashing to the M.2 SSD).

5.2. Power Button and Fan Control

The Argon Nanosound ONE case features a programmable power button and a 30mm fan for active cooling. To enable advanced power management and fan control features, you need to install the Argon Forty script. This script allows for:

- Safe shutdown and reboot via the power button.
- Software-controllable fan speed based on CPU temperature.
- Configuration of the built-in infrared receiver.

Refer to the official Argon Forty website or the included manual for the latest script installation instructions. Typically, this involves running a command in the terminal of your Raspberry Pi OS.

5.3. Audio Playback and Streaming

With the integrated Hi-Fi DAC, your Raspberry Pi 4 is ready for high-quality audio. Install a compatible audio-focused OS like Volumio, Moode Audio, or RuneAudio. These operating systems provide user-friendly interfaces for managing your music library, streaming from services like Spotify Connect, or integrating with Roon Bridge.

6. SPECIFICATIONS

Feature	Detail
Brand	Argon Forty

Feature	Detail
Model Name	Argon Nanosound ONE
Compatibility	Raspberry Pi 4
Material	Premium Aluminum Alloy
Audio Output	Integrated Hi-Fi DAC (192kHz/24-bit resolution)
Cooling	Passive (aluminum case) & Active (software-programmable fan)
Storage Support	M.2 SATA SSD (B-Key or B+M Key) via USB 3.0 bridge
Video Output	2x Full-size HDMI ports
Connectivity	USB 3.0, USB 2.0, Gigabit Ethernet, IR Receiver
Power Input	USB-C
Dimensions	4.33 x 4.02 x 1.61 inches
Item Weight	7.8 ounces

7. MAINTENANCE

To ensure the longevity and optimal performance of your Argon Nanosound ONE Case and Raspberry Pi 4, consider the following maintenance tips:

- **Dust Removal:** Periodically clean the case and fan (if applicable) to prevent dust buildup, which can hinder cooling efficiency. Use compressed air or a soft brush.
- **Thermal Pad Integrity:** If you ever disassemble the case, inspect the thermal pads. Replace them if they appear worn or damaged to maintain effective heat transfer.
- **Software Updates:** Regularly update your Raspberry Pi's operating system and any installed Argon Forty scripts to benefit from performance improvements, bug fixes, and new features.

8. TROUBLESHOOTING

If you encounter issues with your Argon Nanosound ONE Case, consider these common troubleshooting steps:

- **No Power/Boot:**
 - Ensure the USB-C power supply is correctly connected and provides sufficient power (5V, 3A recommended for Raspberry Pi 4).
 - Verify that the Raspberry Pi 4 is correctly seated within the case and all internal connections (extender board,

GPIO pins) are secure.

- Check the power button jumper setting (Default/Always ON) and ensure it matches your desired behavior.

- **No Audio Output:**

- Confirm that your audio software (e.g., Volumio) is configured to output audio through the correct DAC device.
- Ensure your speakers or headphones are properly connected to the audio output jack.

- **M.2 SSD Not Detected:**

- Verify the M.2 SSD is correctly inserted and secured in its slot.
- Ensure the SSD is a SATA M.2 (B-Key or B+M Key) type, as NVMe SSDs are not compatible.
- Check that your Raspberry Pi 4's bootloader is updated for USB boot if you intend to boot from the SSD.

- **Fan Not Working/Overheating:**

- Ensure the Argon Forty fan control script is installed and configured correctly.
- Check for dust buildup on the fan or heatsink.
- Verify thermal pads are making good contact with the Raspberry Pi's components.

Video 2: Overview of the Argon ONE Pi 4 Thermal Case, demonstrating its cooling capabilities. This video provides insights into the thermal performance and design of the Argon ONE case, which is relevant for understanding the cooling system of the Nanosound ONE.

9. WARRANTY & SUPPORT

For warranty information, technical support, or further assistance, please refer to the official Argon Forty website or contact their customer service directly. Keep your proof of purchase for any warranty claims.

Official Website: www.argon40.com

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question