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PiNAS

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PiNAS is a compact, modular, 3D-printable Network Attached Storage system designed around the Raspberry Pi platform.

It blends functional engineering with an angular, industrial design inspired by modern embedded hardware. The goal is simple: build a powerful, customizable NAS that looks as intentional as it performs.

This project focuses on:

- Clean mechanical design
- Proper airflow for 3.5" HDD cooling
- Modular storage configurations
- Full documentation for replication and customization

PiNAS is not just a Raspberry Pi in a box. It is a purpose-built storage appliance.

Features

- **3D Printable:** Fully printable enclosure designed for standard FDM printers. Optimized for strength, airflow, and ease of assembly.
- **Various Combinations:** Supports multiple drive configurations (2x, 4x 3.5" HDD, future 2.5" variants). Modular internal layout allows flexible hardware arrangements.
- **Raspberry Pi Foundation:** Designed for Raspberry Pi 5 compatibility, with proper mounting, cooling clearance, and I/O access.
- **Radxa Penta SATA HAT:** Native support for the Radxa Penta SATA HAT for multi-drive setups with proper cable routing and backplane alignment.
- **Airflow Engineered:** Dedicated intake and exhaust paths to maintain safe operating temperatures for both HDDs and the Raspberry Pi.
- **Tool-Friendly Assembly:** Uses standard screws, threaded inserts (optional), and minimal hardware complexity.

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Gallery

Wait, where is the documentation?

Complete build instructions, hardware lists, configuration guides, and performance tuning documentation can be found here: [PiNAS Documentation](#)

Tags [pipi5nasnetworkstorageradxapentatasatahat](#)

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