MINISFORUM N5-PRO-P370

MINISFORUM N5 Pro 5-Bay AI NAS User Manual

Model: N5-PRO-P370 | Brand: MINISFORUM

1. Product Overview

The MINISFORUM N5 Pro is a high-performance 5-Bay Desktop AI Network Attached Storage (NAS) device, powered by the AMD Ryzen AI 9 HX PRO 370 processor. It is designed for massive data storage, high-speed networking, and advanced AI capabilities, suitable for both business and home use.

Figure 1: MINISFORUM N5 Pro Key Features Overview

2. What's in the Box

Upon unboxing your MINISFORUM N5 Pro NAS, please ensure all the following items are present:

- 1x US Power Adapter
- 1x N5 PRO P370 NAS Unit
- 1x HDMI Cable
- 1x Network Cable
- 1x M.2 to U.2 Adapter

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Video 1: Minisforum N5 PRO AI NAS Unboxing. This video demonstrates the unboxing process and initial setup of the NAS unit.

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Video 2: N5 & N5 Pro Accessories Display. This video provides a detailed look at all accessories included with the N5 and N5 Pro models.

3. Setup

3.1 Initial Hardware Setup

1. Place the NAS on a flat, stable surface.
2. Connect the included power adapter to the NAS and a power outlet.
3. Connect an Ethernet cable from the NAS to your router or network switch.
4. Connect an HDMI cable from the NAS to a monitor for initial setup and display.
5. Press the power button briefly to turn on the device. The status light and network light will illuminate.
6. Wait until the monitor displays the MINISFORUM logo and an IP address, indicating boot completion.

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Video 3: Power-on Operation. This video guides you through the initial power-on process and connecting the NAS.

3.2 Software Setup (MinisCloud OS)

After obtaining the IP address from the monitor:

1. Access the MinisCloud OS client by entering the IP address into a web browser on a computer connected to the same network. The website address can also be found in the included instruction manual.
2. Download and install the MinisCloud client software for your operating system (Windows, macOS, iOS, Android).
3. Open the client and bind the NAS. If device scanning takes too long, you can manually enter its local IP address.
4. After binding, update the client software if an update is available.
5. Select "Administrator initialization" to register an administrator account and log in.
6. The first login requires a system pool setup. This process will wipe all storage drives. Follow the on-screen prompts to select the mode (Simple or Advanced) and configure disk arrays (RAID0, RAID1, RAID5/RAIDZ1, RAID6/RAIDZ2, etc.).
7. Confirm the setup and enter your password to create the storage pool. This may take a few minutes.
8. Once the storage pool is created, you will enter the MinisCloud desktop interface.

4. Hardware Installation and Upgrades

4.1 Installing Memory (DDR5 SO-DIMM)

The N5 Pro supports up to 96GB of DDR5 SO-DIMM memory.

1. Remove the front panel of the NAS.
2. Turn the case upside down and unscrew the two screws on the bottom.
3. Turn the case upright and slide out the motherboard tray.
4. Turn the motherboard upside down. Disconnect the CPU fan power cable and unscrew the three screws securing the CPU fan. Carefully remove the CPU fan.

5. Insert two DDR5 memory modules into the available SO-DIMM slots, ensuring they are properly seated.
6. Reinstall the CPU fan, reconnect its power cable, and secure it with the three screws.

4.2 Installing PCIe x16 Expansion Card

The N5 Pro supports single-slot low-profile cards (≤200mm length, ≤75W power).

1. Unscrew the bracket screw on the rear of the motherboard tray.
2. Remove the bracket.
3. Insert the discrete GPU or other PCIe x16 expansion card into the PCIe slot.
4. Put the bracket screw back in to secure the card.

4.3 Installing M.2 SSDs

The N5 Pro supports 2230/2280/22110 M.2 SSD sizes.

1. Unscrew the M.2 SSD screw.
2. Insert the M.2 SSD into the slot.
3. Put the screw back in to secure the M.2 SSD.
4. Repeat for other M.2 slots as needed.

4.4 Installing U.2 SSDs (7mm thickness only)

The N5 Pro supports U.2 SSDs via the included M.2 to U.2 adapter.

1. Remove all M.2 SSDs from the motherboard if you plan to use the U.2 adapter in those slots.
2. Remove the U.2 port covers from the M.2 to U.2 adapter.
3. Insert the U.2 SSDs into the adapter.
4. Flip the adapter to the other side and secure the U.2 SSDs with screws.
5. Reinstall the OS SSD into the adapter's M.2 slot (if applicable).
6. Remove all screws near the adapter area on the motherboard.
7. Connect the motherboard-side adapter power cable.
8. Reinstall the SSD fan.
9. Align the three M.2 slots and insert the adapter.
10. Secure the adapter with two screws at the rear.

4.5 Installing 3.5-inch HDDs

1. Pull out the drive tray handle from an empty drive bay.
2. Pinch the top of the tray to remove it.
3. Remove the fastening panels from the sides of the tray.
4. Place the 3.5-inch HDD in the tray with screw holes facing down.
5. Align the screw holes on both sides and insert the fastening panels.
6. Reinstall the loaded drive tray into the empty drive bay.
7. Press the tray handle to lock it.
8. Repeat for other drive bays as needed.

4.6 Installing 2.5-inch HDDs

1. Pull out the drive tray handle from an empty drive bay.
2. Pinch the top of the tray to remove it.
3. Remove the fastening panel from the bottom side of the tray.

4. Place the 2.5-inch HDD in the tray.
5. Align the four screw holes at the bottom.
6. Secure with the included 2.5-inch HDD screws.
7. Reinstall the loaded drive tray into the empty drive bay.
8. Press the tray handle to lock it.
9. Repeat for other drive bays as needed.

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Video 4: DIY-Easy Expandable - Install DDR5, Expansion Card, U.2 SSD, & HDD. This video demonstrates the installation process for various components.

5. Operating Instructions (MinisCloud OS)

The MinisCloud OS provides a user-friendly interface for managing your NAS. Key features include:

- **Docker Apps:** Deploy hundreds of Docker applications for various uses, from AI training to remote downloads.
- **File Manager:** Organize and access your files stored on the NAS.
- **AI Photo Albums:** Effortlessly organize photos with AI recognition, smart search, and access control.
- **Task Center:** Manage upload, download, backup, and transcoding tasks.
- **Remote Access:** Configure internet access and P2P settings for remote management.
- **Notebook:** Create and manage notes directly on your NAS.
- **LAN Share:** Share files and folders across your local network.
- **Movie/Music:** Enjoy your personal movie and music library anytime.
- **Backup:** Utilize ZFS snapshots for effortless backups and data safety.

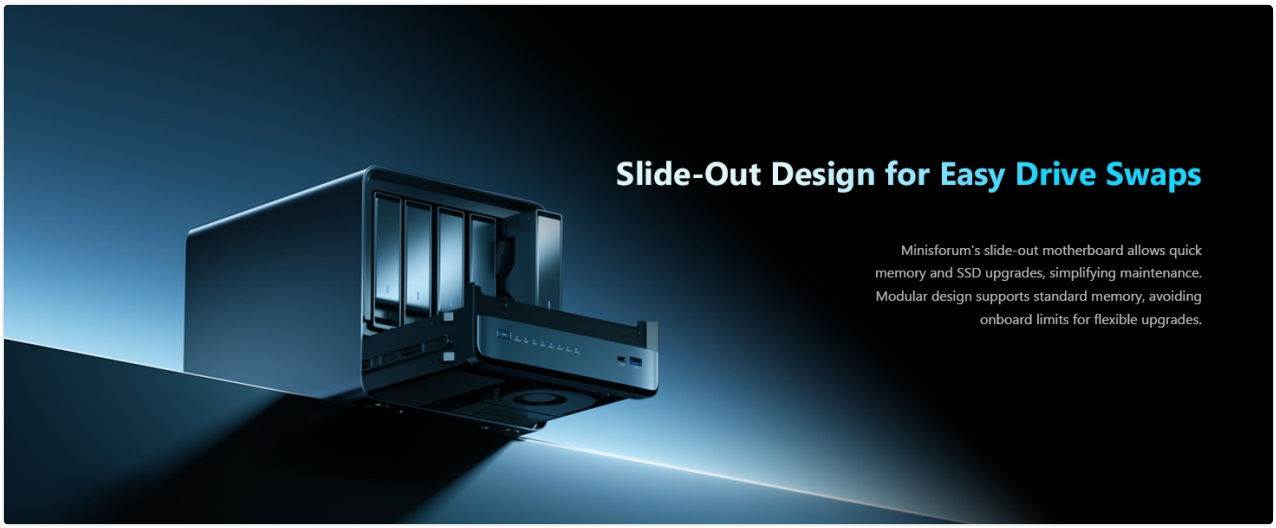

Figure 2: MinisCloud OS - Your All-in-One Smart Platform

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Video 5: Product Detail - N5 Pro 5-Bay AI NAS, 144TB Storage Capacity. This video highlights the storage capabilities and features of the N5 Pro.

6. Specifications

Feature	Description

Processor	AMD Ryzen AI 9 HX PRO 370 (12-Core/24T, up to 5.1GHz, 80 TOPS)
GPU	AMD Radeon 890M
Memory	2x DDR5 SO-DIMM slots (5600 MT/s), expandable up to 96GB ECC memory
Storage Bays	5x SATA HDD slots (supports 22TB x 5), 3x M.2 NVMe SSD slots (or 1x M.2 + 2x U.2 NVMe SSD slots)
Max Storage Capacity	Up to 144 TB
Network Ports	1x 10GbE, 1x 5GbE (supports link aggregation)
Video Outputs	1x HDMI (8K@60Hz/4K@144Hz), 2x USB4 (8K@60Hz/4K@144Hz)
Expansion Slots	PCIe x16 slot, OCuLink port (PCIe4.0 x4=64G)
USB Ports	Dual USB4 (up to 20Gbps Thunderbolt Ethernet), USB3.2
Operating System	MinisCloud OS (pre-installed on 128GB SSD)
Dimensions	7.95 x 7.83 x 9.92 inches
Weight	15 pounds

Figure 3: Rich Connectivity and Port Layout

7. Troubleshooting

- **Device Not Powering On:** Ensure the power adapter is securely connected to both the NAS and a working power outlet. Verify the power button is pressed correctly.
- **No Display Output:** Check the HDMI cable connection to both the NAS and the monitor. Ensure the monitor is powered on and set to the correct input source.
- **Network Connectivity Issues:** Verify the Ethernet cable is securely connected to the NAS and your router/switch. Check network status lights on the NAS and router. Ensure your computer is on the same network as the NAS.
- **Cannot Access MinisCloud OS:** Confirm the NAS is powered on and connected to the network. Verify the IP address is correct. If scanning fails, try entering the IP address manually in the client.
- **Storage Pool Creation Issues:** Ensure all drives are properly installed and detected. Be aware that

creating a system pool will erase all data on the selected drives. Back up important data before proceeding.

- **OCuLink Port Not Working:** The OCuLink interface does not support hot-swapping. Ensure the NAS is powered off before connecting or disconnecting any OCuLink devices.

8. Maintenance

- **Regular Backups:** Utilize the MinisCloud OS's ZFS snapshot feature and other backup options to regularly back up your critical data.
- **Firmware Updates:** Periodically check for and install firmware updates for the MinisCloud OS to ensure optimal performance, security, and access to new features.
- **Physical Cleaning:** Keep the NAS unit clean and free from dust. Use a soft, dry cloth for exterior cleaning. Ensure ventilation openings are not obstructed.
- **Drive Health Monitoring:** Regularly monitor the health status of your installed HDDs and SSDs through the MinisCloud OS interface. Replace failing drives promptly.
- **Cooling System:** The N5 Pro features dual 9025 large axial fans for HDD bay cooling. Ensure proper airflow around the unit to maintain stable and cool operation.

Figure 4: Powerful Cooling for HDD Bays

9. Warranty and Support

The MINISFORUM N5 Pro comes with a standard manufacturer's warranty. For specific warranty terms and conditions, please refer to the warranty card included in your product packaging or visit the official MINISFORUM website. For technical support, driver downloads, and additional resources, please visit the MINISFORUM support page:

MINISFORUM Official Support

You can also find helpful tutorial videos and FAQs on the support page.