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› MINISFORUM MS-A2 Mini PC Instruction Manual

MINISFORUM MS-A2-7945-Barebone

MINISFORUM MS-A2 Mini PC Instruction Manual

MODEL: MS-A2-7945-BAREBONE

Brand: MINISFORUM

1. Introduction

The MINISFORUM MS-A2 is a high-performance barebone mini PC designed for demanding tasks such as 3D modeling, video rendering, graphic design, and home lab server applications. It features an AMD Ryzen 9 7945HX processor, extensive storage and memory expansion options, and advanced networking capabilities. This manual provides essential information for setting up, operating, maintaining, and troubleshooting your MS-A2 Mini PC.



Figure 1: MINISFORUM MS-A2 Mini PC, front-side view showing the compact design and front ports.

2. Setup

As a barebone system, the MS-A2 requires the installation of RAM, storage, and an operating system before use. Follow these steps for initial setup:

2.1 Unboxing and Component Identification

Carefully remove all components from the packaging. Verify that all listed accessories are present. The package typically includes the MS-A2 unit, power adapter, and necessary mounting hardware for internal components.

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Video 1: Official unboxing video for the MS-A2 Mini PC, demonstrating the contents of the package and initial handling.

2.2 Installing RAM and SSD

The MS-A2 supports DDR5 SODIMM memory (up to 96GB) and multiple M.2 NVMe SSDs. It also supports U.2 NVMe/M.2 22110 enterprise SSDs. To install, gently slide out the internal tray. Insert the SODIMM modules into the two available slots until they click into place. For M.2 SSDs, align the notch on the SSD with the key in the M.2 slot and insert at an angle, then secure with the provided screw. For U.2 drives, utilize the dedicated adapter and slot.

Flexible Expansion

Drawer-type body,multiple SSD slots



3×M.2 NVME SSD slots
Supports consumer-grade SSDs
with capacities up to 12TB

7000MB/s
up to

12TB
up to

Two slots default to PCIe 3.0×4; configurable to
PCIe 4.0×4 via BIOS

Supports U.2 NVME/M.2 22110
enterprise storage
Single up to 15TB, total
capacity up to 23 TB.



U.2
Enterprise SSD

15TB
Max single disk

23TB
Max support

Figure 2: Internal view of the MS-A2, highlighting the multiple M.2 NVMe SSD slots and the U.2 drive bay for flexible storage expansion.

Rich I/O Interfaces

Meet various needs

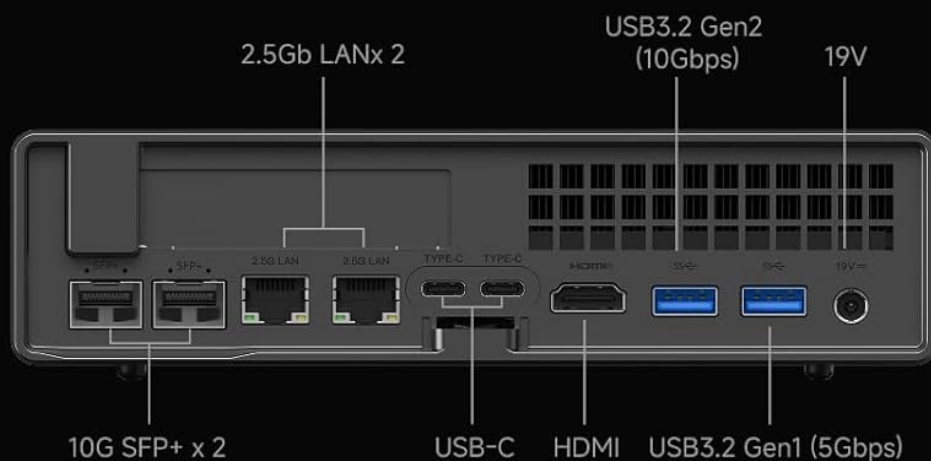


Figure 3: Detailed internal view of the MS-A2, showing the DDR5 SODIMM memory slots and the built-in PCIe x16 slot for further expansion.

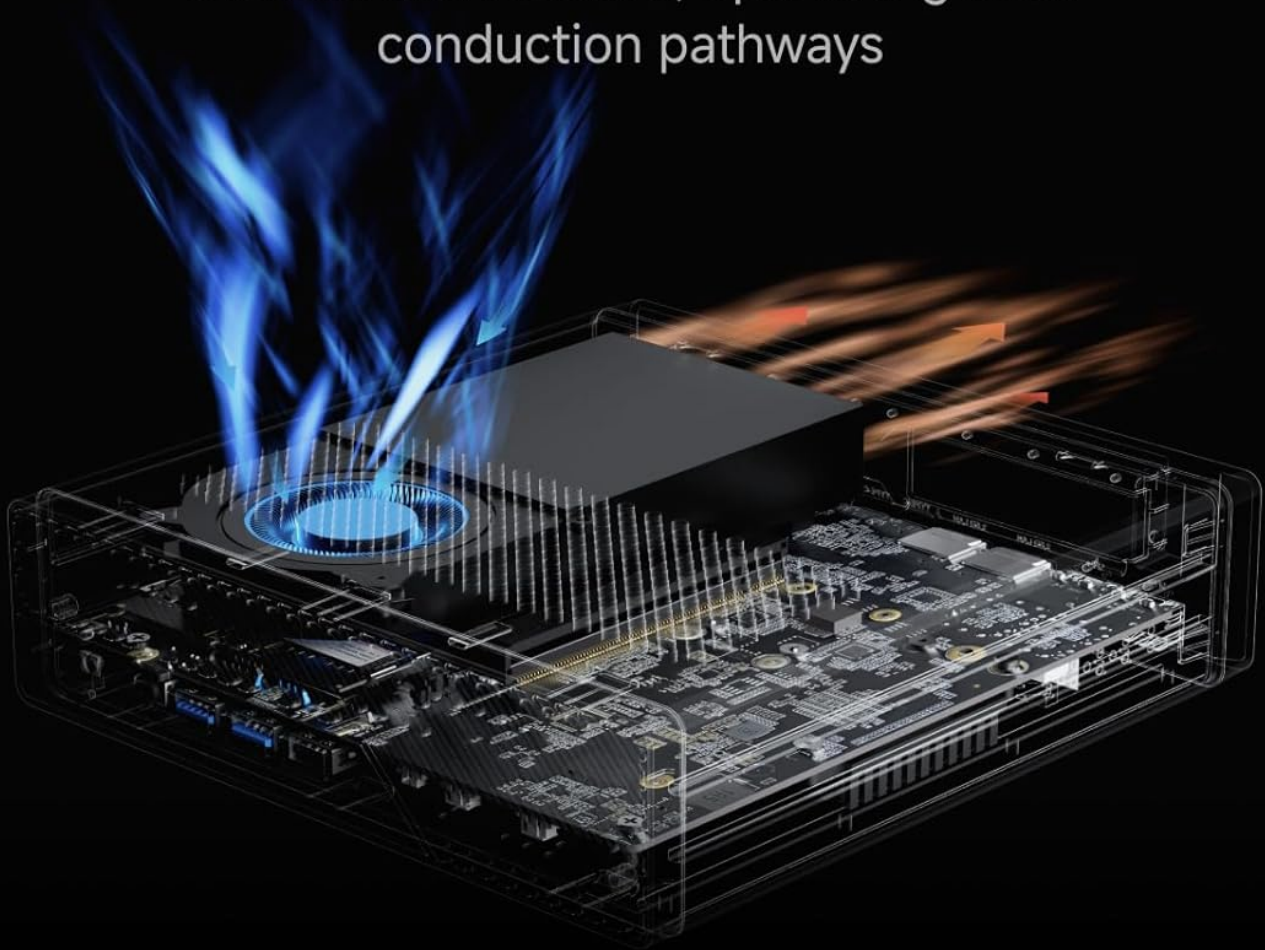
2.3 Connecting Peripherals

Connect your monitor(s) using the HDMI or USB-C ports. Connect a keyboard and mouse to the available USB ports. For

network connectivity, use the 2.5Gb LAN ports, 10G SFP+ ports, or connect via Wi-Fi 6E.

Efficient **Cooling** System

Features a triple-heatpipe pure copper thermal architecture, optimizing heat conduction pathways



New Upgrade
Three pure copper heat pipes



PCM Cooling Material
Temperature control, easy maintenance



Quiet Turbo Fan
30% increase in airflow



Jet-type Air Outlet
Efficiently heat dissipation

Figure 4: Overview of the rich I/O interfaces on the MS-A2, including front USB ports and rear networking, display, and USB-C ports.

2.4 Powering On and OS Installation

Connect the power adapter to the DC-in port and then to a power outlet. Press the power button on the front of the unit.

Follow the on-screen prompts to install your preferred operating system (e.g., Windows, Linux).

3. Operating

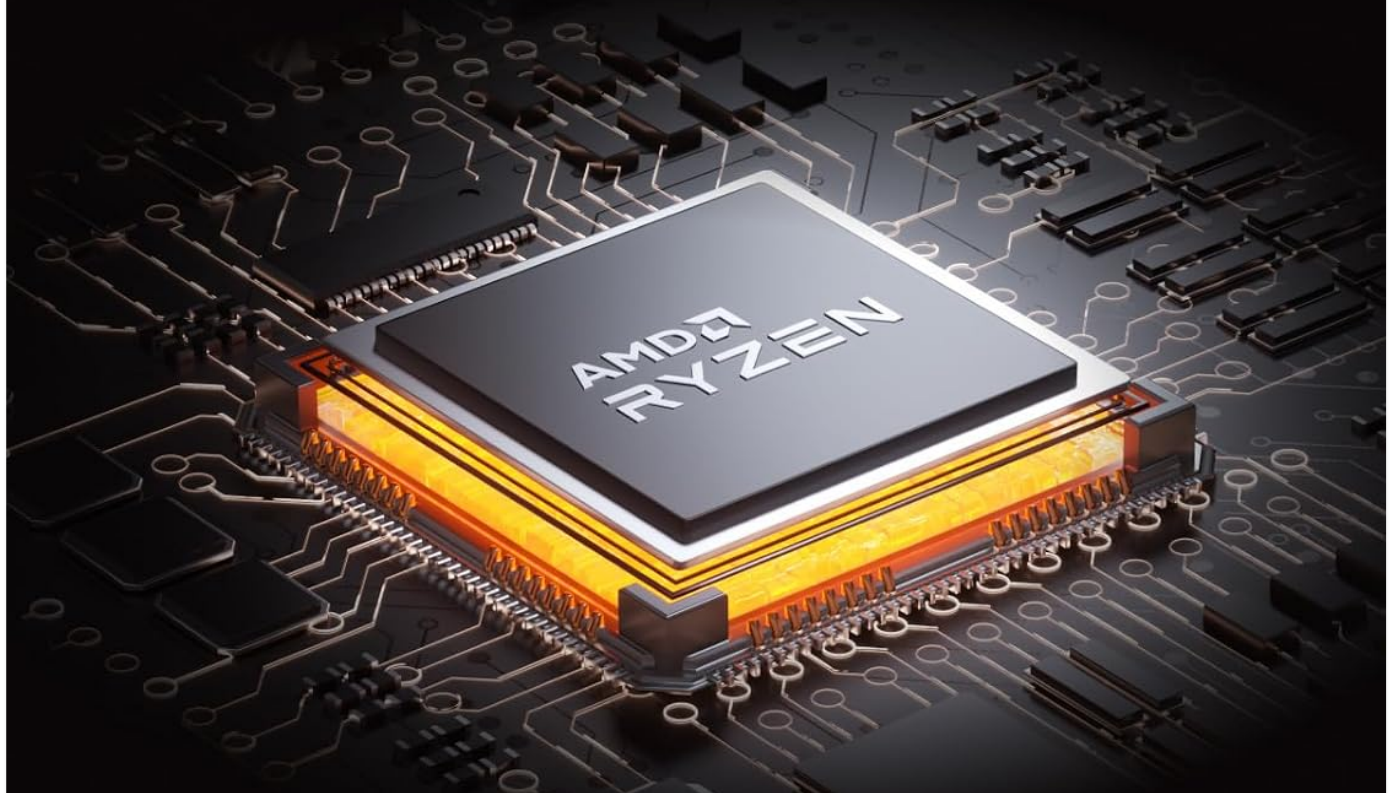
The MS-A2 is designed for high performance and versatility. Here are key operational aspects:

3.1 Performance Capabilities

Equipped with an AMD Ryzen 9 7945HX processor, the MS-A2 delivers exceptional multi-threaded computing power, suitable for intensive applications. The integrated AMD Radeon 610M graphics coprocessor handles high-definition graphics processing smoothly.

Excellent Performance

Equipped with AMD **Ryzen 9 9955HX** processor



Zen5

Architecture

16/32

Cores/Threads

64MB

Cache

5.4GHz

Max Frequency

100W

TDP

Cinebench R23 Multi-core

Low Latency

AMD Ryzen™ 9 9955HX 35000



AMD Ryzen™ 9 7945HX 31000



Cinebench R23 Single-core

High Speed

AMD Ryzen™ 9 9955HX 2144



AMD Ryzen™ 9 7945HX 1927



Figure 5: Illustration of the MS-A2's excellent performance, highlighting the AMD Ryzen 9 7945HX processor and its benchmark scores.

3.2 Multi-Display Support

The MS-A2 supports up to three independent displays via its HDMI and dual USB-C ports, with resolutions up to 8K@60Hz or 4K@144Hz. This is ideal for multitasking, content creation, and immersive experiences.

Triple Screens Display


HDMI 2.1


USB-C


USB-C



Figure 6: The MS-A2 Mini PC connected to three external displays, demonstrating its triple screen display capability for enhanced productivity.

3.3 Networking and Connectivity

Benefit from ultra-fast networking with two 2.5Gb LAN ports and two 10G Ethernet SFP+ ports. Wireless connectivity is

provided by Wi-Fi 6E and Bluetooth 5.2, ensuring high data transfer rates and reliable connections.

Flexible Expansion

Drawer-type body, multiple SSD slots

2x DDR5 memory slots
(Max transfer speed 5600MB/s)

U.2 NVME/M.2 22110

Built-in PCIe16 slot
(Physical PCIe16, bandwidth PCIe4.0 x 8)

3x M.2 NVME SSD
(Max support 12TB)

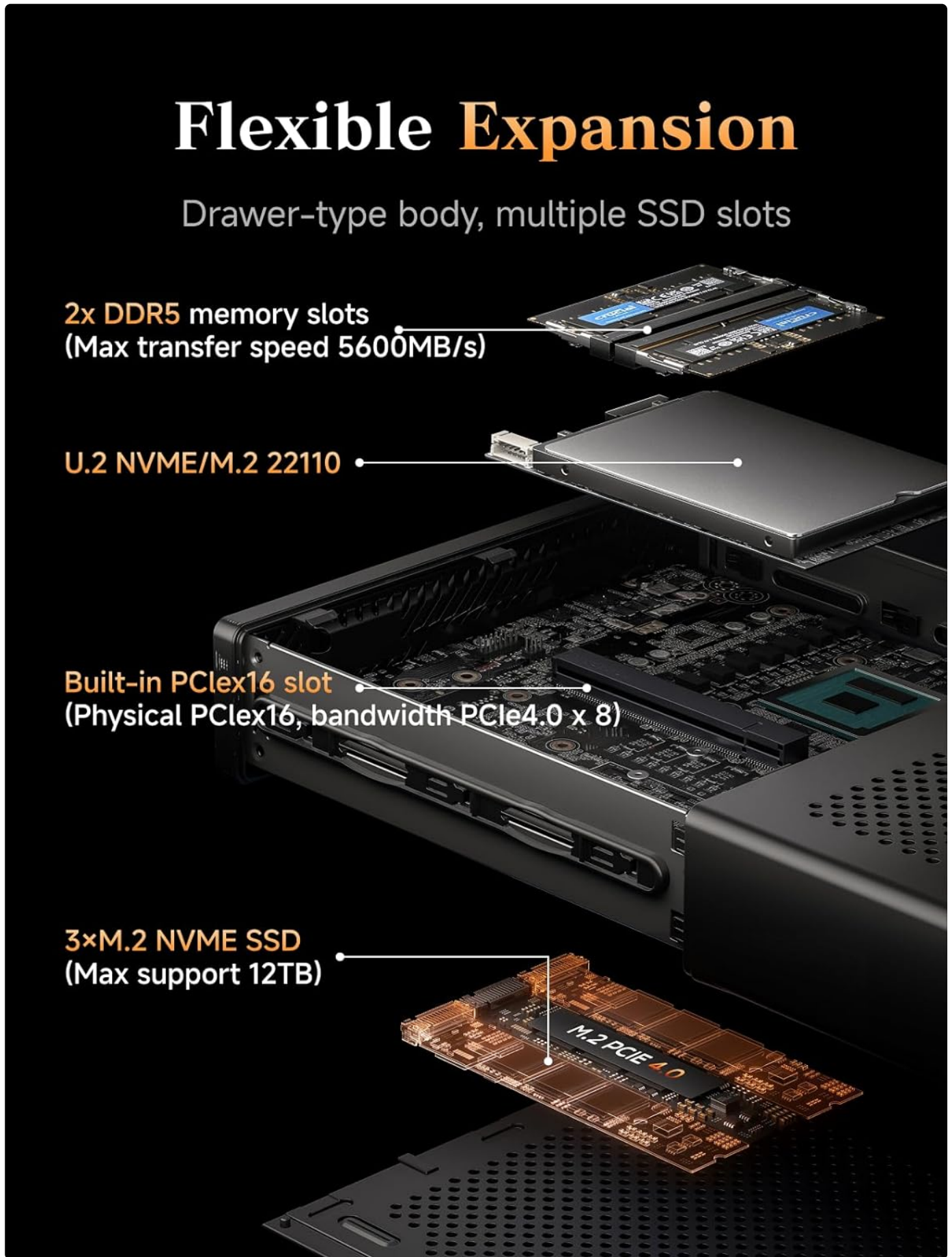


Figure 7: Close-up view of the MS-A2's high-speed network interfaces, including 2.5G LAN and 10G SFP+ ports, alongside Wi-Fi 6E capabilities.

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Video 2: Promotional video showcasing the features and capabilities of the MS-A2 Mini PC, including its performance, connectivity, and compact design.

4. Maintenance

Regular maintenance ensures optimal performance and longevity of your MS-A2 Mini PC.

4.1 Cleaning

Periodically clean the exterior of the unit with a soft, dry cloth. For internal components, especially the fan and heatsinks, use compressed air to remove dust buildup. Ensure the device is powered off and unplugged before cleaning.

High-speed Network

Improved high-speed transmission productivity



Built-in PCIe x16 slot

Physical PCIe x16 slot (PCIe 4.0×8 bandwidth), splittable into 2×PCIe 4.0 x4, supports expandability for GPUs, NICs, and other devices

Figure 8: Diagram illustrating the MS-A2's efficient cooling system, featuring triple pure copper heat pipes and a turbocharged turbine fan for optimal heat dissipation.

4.2 Component Upgrades

The MS-A2 is designed for easy upgrades. You can upgrade RAM modules, add or replace M.2 NVMe SSDs, or install a

half-height professional graphics card or dual 10G network cards in the PCIe x16 slot. Always power off and unplug the device before performing any internal upgrades.

4.3 BIOS Updates

Check the MINISFORUM official website for the latest BIOS updates. Follow the provided instructions carefully. Incorrect BIOS updates can lead to system instability or failure. It is recommended to back up your system before performing a BIOS update.

5. Troubleshooting

If you encounter issues with your MS-A2 Mini PC, refer to the following common problems and solutions:

- **No Power/System Not Booting:**
 - Ensure the power adapter is securely connected to both the PC and a working power outlet.
 - Verify the power button is fully pressed.
 - If recently installed components, ensure RAM and SSDs are correctly seated.
 - Check the BIOS reset button (often a small pinhole) if BIOS settings were recently changed and causing issues.
- **Display Issues (No Signal/Incorrect Resolution):**
 - Confirm display cables (HDMI/USB-C) are securely connected to both the PC and the monitor.
 - Test with a different monitor or cable if possible.
 - Ensure the monitor is set to the correct input source.
- **Network Connectivity Problems:**
 - For wired connections, check Ethernet cables and router/switch status.
 - For Wi-Fi, ensure Wi-Fi 6E drivers are installed and the network is selected correctly.
 - Restart your router/modem.
- **Overheating:**
 - Ensure the PC is placed in a well-ventilated area and not obstructed.
 - Clean dust from the vents and internal fan regularly (refer to Maintenance section).
- **Component Recognition Issues (RAM/SSD):**
 - Reseat the installed RAM modules and SSDs.
 - Verify compatibility of components with the MS-A2 specifications.
 - Check BIOS settings to ensure storage devices are detected.

If problems persist, contact MINISFORUM customer support for further assistance.

6. Specifications

Feature	Specification
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Feature	Specification
Processor	AMD Ryzen 9 7945HX (16 Cores/32 Threads, up to 5.4 GHz)
Graphics Coprocessor	AMD Radeon 610M
Memory	DDR5 SODIMM, 5200 MT/s, Max 96 GB (Barebone - No RAM included)
Storage	3 x M.2 NVMe SSD slots (2280/22110/U.2), PCIe 4.0, RAID 0/1 support (Barebone - No SSD included)
Operating System	Not included (Barebone)
Video Output	HDMI, 2x USB-C (supports up to 8K@60Hz / 4K@144Hz)
Networking	2x 2.5Gb LAN, 2x 10G SFP+ Ethernet, Wi-Fi 6E, Bluetooth 5.2
Expansion Slot	PCIe x16 (supports 2*PClex4 division)
Dimensions	Approx. 9.13 x 9.09 x 4.8 inches
Weight	Approx. 6.64 pounds

7. Warranty and Support

MINISFORUM provides support for its products. For specific warranty terms and conditions, please refer to the documentation included with your purchase or visit the official MINISFORUM website.

7.1 Protection Plans

Extended protection plans may be available for your MS-A2 Mini PC. These plans offer additional coverage beyond the standard manufacturer's warranty. Options may include:

- 2-Year Protection Plan
- 3-Year Protection Plan
- Complete Protect (monthly plan covering multiple eligible purchases)

Please check with your retailer or the MINISFORUM website for details on purchasing and activating these plans.

7.2 Contacting Support

For technical assistance, troubleshooting not covered in this manual, or warranty claims, please contact MINISFORUM customer support through their official website or the contact information provided in your product packaging.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

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