ASUS NUC14RVHU7

ASUS NUC 14 Pro AI Mini PC User Manual

Model: NUC14RVHU7

1. Product Overview

The ASUS NUC 14 Pro AI Mini PC is a compact and powerful desktop computer designed for various applications, from daily tasks to demanding business workloads and AI-driven processes. It features advanced Intel Core Ultra processors, high-speed memory and storage, and comprehensive connectivity options.



Figure 1: ASUS NUC 14 Pro AI Mini PC, front view.

Key Features:

- **Processor:** Powered by the Intel Core Ultra 7 155H processor, featuring a 3D hybrid architecture, 16 cores, 22 threads, 24MB cache, and a 4.8GHz main frequency. The integrated Intel Arc Graphics provides enhanced performance for gaming and video editing.
- **AI Capabilities:** The Mini PC supports AI Ready, AI Boost, and AI GC features within Windows 11 Pro. Its AI-specific NPU enables low-power AI acceleration for tasks like graphics enhancement and video conferencing, reducing power consumption by up to 40%. The combined power of CPU, GPU, and NPU allows for local processing of large language models with up to 20 billion parameters.
- **Memory:** Includes dual-channel 32GB DDR5-5600MT/s RAM, expandable up to 96GB.
- **Storage:** Features a 1TB M.2 2280 PCIe Gen4 x 4 SSD. It also supports an additional M.2 2240 PCIe Gen4 SSD and a 2.5-inch PCIe Gen4 SSD or SATA HDD (not included).
- **Cooling:** Incorporates ASUS's thermal modules and heat technology, featuring an upgraded cooling fan area, aluminum fin heat dissipation architecture, and dual copper tube direct contact technology. Large-area mesh air inlets and a large turbo fan ensure efficient heat removal, enabling 24/7 quiet operation.

- **Connectivity:** Offers extensive connectivity with 1x USB 3.2 Gen2x2 Type C, 3x USB 3.2 Gen2 Type A, 1x USB 2.0 Gen2 Type A, 2x HDMI 2.1, 2x Thunderbolt 4 ports, a DC input, and a 2500MB Gigabit Ethernet port. It also includes WiFi 6E and Bluetooth 5.3.
- **Display Support:** Supports one 8K display or four 4K displays simultaneously, providing HDR for immersive visual effects. A VESA mounting bracket is included for space-saving installation.

2. Setup Guide

Follow these steps to set up your ASUS NUC 14 Pro AI Mini PC.

2.1 Unpacking and Initial Inspection

- Carefully remove all components from the packaging.
- Verify that all items listed in the "What's in the Box" section are present.
- Inspect the Mini PC for any signs of physical damage.

2.2 Connecting Peripherals

Connect your monitor, keyboard, mouse, and other peripherals to the appropriate ports on the Mini PC.



Figure 2: Overview of the rich interface ports on the ASUS NUC 14 Pro AI Mini PC, including USB, HDMI, Thunderbolt, and Ethernet ports.

- **Display:** Connect your monitor(s) to the HDMI 2.1 or Thunderbolt 4 ports. The device supports one 8K display or up to four 4K displays.
- **Keyboard and Mouse:** Connect your USB keyboard and mouse to the available USB Type-A ports. Alternatively, use Bluetooth peripherals for a dongle-free experience.
- **Network:** Connect an Ethernet cable to the 2500MB Gigabit Ethernet port for a wired network connection, or use the integrated WiFi 6E for wireless connectivity.
- **Power:** Connect the AC adapter to the DC input port on the Mini PC, then plug the power cord into a power outlet.

2.3 Powering On and Initial Configuration

- Press the power button on the front of the Mini PC.
- Follow the on-screen instructions to complete the Windows 11 Pro setup. This typically involves selecting language, region, network settings, and creating a user account.

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Video 1: This video demonstrates the NUC 14 Pro's interface and installation methods, including toolless integration for component access.

3. Operating Instructions

Your ASUS NUC 14 Pro AI Mini PC comes pre-installed with Windows 11 Pro, offering a user-friendly interface and access to a wide range of applications.

3.1 Basic Operation

- **Power On/Off:** Press the power button to turn the system on. To shut down, go to Start > Power > Shut down in Windows.
- **Restart:** To restart the system, go to Start > Power > Restart.
- **Sleep Mode:** To put the system into sleep mode, go to Start > Power > Sleep.

3.2 Utilizing AI Features

The Intel Core Ultra 7 155H processor integrates an AI-specific NPU (Neural Processing Unit) to accelerate AI tasks efficiently.



Figure 3: Details of the Intel Core Ultra 7 155H processor, highlighting its 16 cores, 22 threads, 24MB cache, and Intel Arc GPU.

- **AI Ready Applications:** Leverage applications optimized for AI acceleration, such as graphics enhancement and video conferencing, which can benefit from reduced power consumption.
- **Local AI Processing:** The CPU, GPU, and NPU work together to enable local processing of large language models (up to 20 billion parameters) without requiring an internet connection.

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Video 2: This video provides a detailed description of the NUC 14 Pro's features and capabilities.

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Video 3: This video illustrates the ubiquitous AI capabilities and incredible possibilities offered by the NUC 14 Pro.

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Video 4: This video showcases various applicable scenarios for the NUC Series, including smart healthcare, manufacturing, city, and retail.

4. Maintenance

Proper maintenance ensures the longevity and optimal performance of your Mini PC.

4.1 Keeping the System Cool

The ASUS NUC 14 Pro features an advanced cooling system. To maintain its efficiency:



Figure 4: Illustration of the powerful heat dissipation system, showing air intake and exhaust for optimal cooling.

- Ensure adequate airflow around the Mini PC. Do not block the ventilation openings.
- Regularly clean dust from the air vents using compressed air.
- Operate the device in a well-ventilated area.

4.2 Component Upgrades and Access

The ASUS NUC 14 Pro is designed for toolless integration, allowing for easy access to internal components for upgrades or maintenance.

- Refer to the specific instructions for opening the chassis and upgrading components like RAM or SSDs.
- Always power off and unplug the device before performing any internal maintenance.

5. Troubleshooting

This section provides solutions to common issues you might encounter.

5.1 No Power

- Ensure the power adapter is securely connected to both the Mini PC and a working power outlet.
- Check if the power outlet is functional by plugging in another device.

5.2 No Display Output

- Verify that the display cable (HDMI or Thunderbolt) is securely connected to both the Mini PC and the monitor.
- Ensure the monitor is powered on and set to the correct input source.
- Try a different display cable or monitor if available.

5.3 Network Connectivity Issues

- For wired connections, check the Ethernet cable and router status.
- For wireless connections, ensure WiFi is enabled in Windows settings and you are connected to the correct network. Restart your router if necessary.

5.4 System Performance Issues

- Close unnecessary applications running in the background.
- Ensure your operating system and drivers are up to date.
- Check for malware or viruses using reputable antivirus software.
- Monitor system temperatures to ensure proper cooling.

6. Specifications

Detailed technical specifications for the ASUS NUC 14 Pro AI Mini PC (Model NUC14RVHU7).

Feature	Specification
Processor	Intel Core Ultra 7 155H (4.8 GHz)
RAM	32 GB DDR5 (5600 MHz), expandable up to 96 GB
Storage	1 TB SSD (PCIe x 4), supports M.2 2240 PCIe Gen4 SSD and 2.5-inch PCIe Gen4 SSD or SATA HDD
Graphics Coprocessor	Intel Arc Graphics (Dedicated)
Operating System	Windows 11 Pro
Max Screen Resolution	7680 x 4320 Pixels (8K)
USB 2.0 Ports	1

Feature	Specification
USB 3.0 Ports	4 (3x USB 3.2 Gen2 Type A, 1x USB 3.2 Gen2x2 Type C)
Thunderbolt Ports	2x Thunderbolt 4
HDMI Ports	2x HDMI 2.1
Ethernet	2500MB Gigabit Ethernet
Wireless Type	2.4 GHz Radio Frequency, 5 GHz Radio Frequency, 5.8 GHz Radio Frequency (WiFi 6E)
Bluetooth	Bluetooth 5.3
Item Weight	3.74 pounds
Product Dimensions	4 x 3.5 x 2 inches

7. Warranty and Support

The ASUS NUC 14 Pro AI Mini PC is backed by comprehensive warranty and support services provided by the waitloan store.

- **Product Support:** 3 years of product support.
- **Returns and Exchanges:** 2 years of unconditional return and exchange for any reason.
- **User Support:** Lifetime worry-free user support.
- **Contact:** For any product concerns, please contact the waitloan support team. They aim to reply and resolve issues within 1 hour.