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## GEEKOM IT12

# GEEKOM Mini PC IT12 User Manual

Model: IT12 (i5-12450H, 16GB+512GB)

## INTRODUCTION

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The GEEKOM Mini PC IT12 is a compact yet powerful computing solution designed for various applications, from business and office tasks to home entertainment and light gaming. Featuring a 12th Gen Intel Core i5-12450H processor, ample memory, and high-speed storage, this mini PC offers robust performance in a small form factor. This manual provides essential information for setting up, operating, maintaining, and troubleshooting your device to ensure optimal performance and longevity.

## WHAT'S IN THE BOX

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- 1x GEEKOM Mini PC IT12
- 1x HDMI Cable
- 1x VESA Mount
- 1x Power Adapter
- 1x User Guide

## SETUP

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### Initial Setup

Before powering on your GEEKOM Mini PC IT12, ensure all necessary peripherals are connected. This includes your monitor(s), keyboard, and mouse. Connect the power adapter to the DC-in port on the back of the mini PC and then plug it into a power outlet. The device is designed for easy setup and immediate use.



Figure 1: GEEKOM Mini PC IT12 with connected peripherals and power adapter.

## Operating System Setup (Windows 11 Pro)

Your GEEKOM Mini PC IT12 comes with Windows 11 Professional Edition preinstalled. Upon first boot, you will be guided through the initial Windows setup process. Follow the on-screen prompts to configure your language, region, network connection, and user account settings. Ensure you have an active internet connection for updates and full functionality.

Video: Setting up the GEEKOM Mini Windows PC. This video demonstrates the initial setup process for the Windows operating system.

## OPERATING

### Connectivity

The GEEKOM Mini PC IT12 offers a wide range of connectivity options:

- **USB Ports:** 2x USB4 ports (supporting DP1.4, 8K@30Hz, up to 40Gbps), 3x USB 3.2 Gen 2 ports, 1x USB 2.0 port.
- **Video Output:** 2x HDMI 2.0 ports (4K@60Hz) in addition to the USB4 display capabilities.
- **Network:** 1x 2.5Gbps LAN port for ultra-fast wired connectivity.
- **Wireless:** Integrated Wi-Fi 6E and Bluetooth 5.2 for seamless wireless connections to networks and peripherals.
- **Audio:** 1x 3.5mm headset jack.
- **Card Reader:** 1x SD card slot for easy data transfer from memory cards.

# Rich interfaces And Superior Connectivity



It also equipped with an upgraded SD slot that supports up to 2TB of capacity for easy data storage and fast transfers.



## Video output

2 x USB4 ports, 2 x HDMI 2.0 ports



## Data transfer

3 x USB 3.2 ports, 1 x USB 2.0 port



## External devices

1 x DC jack, 1 x Power Button



## Power delivery

1 x DC jack , 1 x Power Button



## Network interface

1 x 2.5GbE LAN port

Figure 2: Overview of the rich interfaces and superior connectivity options.

## Multi-Display Setup

The GEEKOM Mini PC IT12 supports quad-screen output, allowing you to connect up to four displays simultaneously. This setup is ideal for multitasking, video editing, data monitoring, and other professional applications. You can connect two 8K monitors via the USB4 ports and two 4K monitors via the HDMI 2.0 ports.

# 8K Quad Display Support

2 x USB 4.0 (8K @30Hz)

2 x HDMI 2.0 (4K @60Hz)



Figure 3: Quad-screen display setup for enhanced productivity.

## Performance Overview

Equipped with the 12th Gen Intel Core i5-12450H processor, the IT12 delivers excellent performance for demanding applications. The 16GB DDR4 RAM (3200MHz) ensures smooth multitasking, while the 512GB PCIe Gen 4 SSD provides rapid boot times and fast data access. The integrated Intel UHD Graphics supports 8K video output and handles various visual tasks efficiently.

# The best Intel NUC12 alternative

Intel Core 12th Gen Alder Lake i5-12450H

**8**  
Cores

**12**  
Threads

**4.40GHz**  
Boost

**12MB**  
L3 Cache



Figure 4: The powerful Intel Core i5-12450H processor at the heart of the IT12.

## MAINTENANCE & UPGRADES

### Storage Expansion

The GEEKOM Mini PC IT12 offers flexible storage expansion options:

- **NVMe SSD:** The preinstalled 512GB NVMe PCIe Gen 4 SSD can be upgraded to up to 2TB.
- **Additional M.2 Slot:** An M.2 2242 SATA SSD slot is available for an additional SSD, expandable up to 1TB.
- **2.5" SATA HDD Slot:** A 7mm 2.5" SATA HDD slot allows for the addition of a traditional hard disk drive, expandable up to 2TB.

# Expandable Storage for Your Needs



Figure 5: Expandable storage options for your needs.

Video: [How to install an HDD in your GEEKOM Mini PC IT12.](#)

## RAM Expansion

The 16GB DDR4 RAM can be expanded up to 64GB (32GB+32GB) across its dual-channel SODIMM slots. This allows for significant performance improvements for memory-intensive applications.

Video: [How to expand RAM in your GEEKOM Mini PC IT12.](#)

## Cooling System

The IT12 Mini PC features an upgraded IceBlast Cooling System. This system integrates a full copper cooling module, a silent fan, and a dual copper tube design, along with independent CPU power module cooling. This design enhances heat dissipation efficiency by 52% and reduces noise by up to 40%, ensuring stable performance even under high loads and in varying temperature environments (-20°C to 55°C).

# Detail presentation

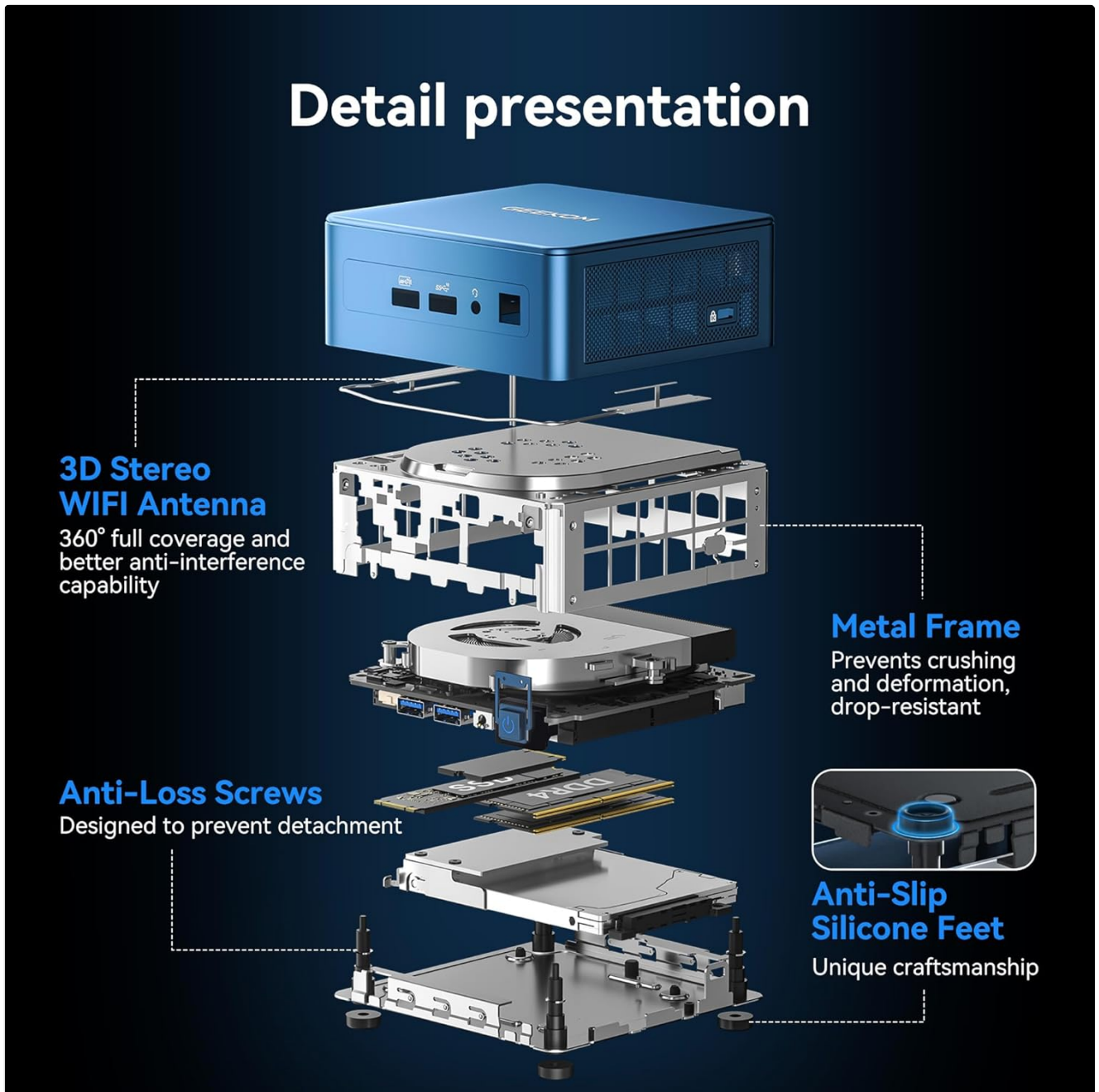


Figure 6: Internal view highlighting the IceBlast Cooling System.

## TROUBLESHOOTING

Problem	Possible Cause	Solution
PC does not power on	No power supply; loose connections	Check power adapter connection to PC and outlet. Ensure outlet is functional.
No display on monitor	Incorrect cable connection; monitor input not selected	Verify HDMI/USB4 cable connections. Select correct input source on monitor.
Slow performance	Too many background apps; insufficient RAM/storage	Close unnecessary applications. Consider upgrading RAM or SSD.
No Wi-Fi/Bluetooth connection	Driver issue; hardware problem	Check device manager for driver status. Reinstall drivers if necessary. Ensure antennas are properly connected internally.

Problem	Possible Cause	Solution
Overheating/Loud fan	Dust accumulation; heavy workload	Clean fan and vents. Ensure proper airflow. Reduce heavy workload or enable high-performance fan mode in BIOS.

## SPECIFICATIONS

Component	Detail
Processor	12th Gen Intel Core i5-12450H (8 Cores, 12 Threads, up to 4.40 GHz)
RAM	16GB DDR4 3200MHz (Dual-channel, expandable up to 64GB)
Storage	512GB NVMe PCIe Gen 4 SSD (expandable up to 2TB)
Graphics	Intel UHD Graphics
Operating System	Windows 11 Professional Edition
Connectivity	2x USB4, 3x USB 3.2 Gen 2, 1x USB 2.0, 2x HDMI 2.0, 1x 2.5Gbps LAN, Wi-Fi 6E, Bluetooth 5.2, 3.5mm Headset Jack, SD Card Slot
Dimensions	4.6 x 4.4 x 1.9 inches
Weight	3.84 pounds

## WARRANTY AND SUPPORT

The GEEKOM Mini PC IT12 comes with a 3-year limited warranty, covering system installation to hardware maintenance. For any inquiries or support needs, please contact GEEKOM's customer service team. You can typically find support options through your Amazon buyer's account under 'Order History' or by contacting the after-sales team directly via email.

Video: GEEKOM Mini IT12 Product Overview, highlighting features and support.