

## GMKtec K12

# GMKtec Nucbox K12 Mini PC User Manual

Model: K12

## 1. INTRODUCTION

This manual provides essential information for setting up, operating, and maintaining your GMKtec Nucbox K12 Mini PC. Please read this guide thoroughly before using the device to ensure proper functionality and to maximize your user experience. The Nucbox K12 is a compact, high-performance desktop computer designed for various applications, including gaming, video editing, and general productivity.

## 2. PACKAGE CONTENTS

Verify that all items listed below are present in your package:

### Package Contents

1. Nucbox K12 Mini PC
2. Power Adapter
3. VESA Mount with Screws
4. User Manual
5. HDMI Cable



Image: Contents of the GMKtec Nucbox K12 Mini PC package, including the mini PC, power adapter, VESA mount, user manual, and HDMI cable.

- GMKtec Nucbox K12 Mini PC Computer
- Power Adapter
- VESA Mount with Screws

- User Manual
- HDMI Cable

### 3. PRODUCT OVERVIEW

The GMKtec Nucbox K12 Mini PC features a comprehensive set of ports and indicators for versatile connectivity and ease of use.

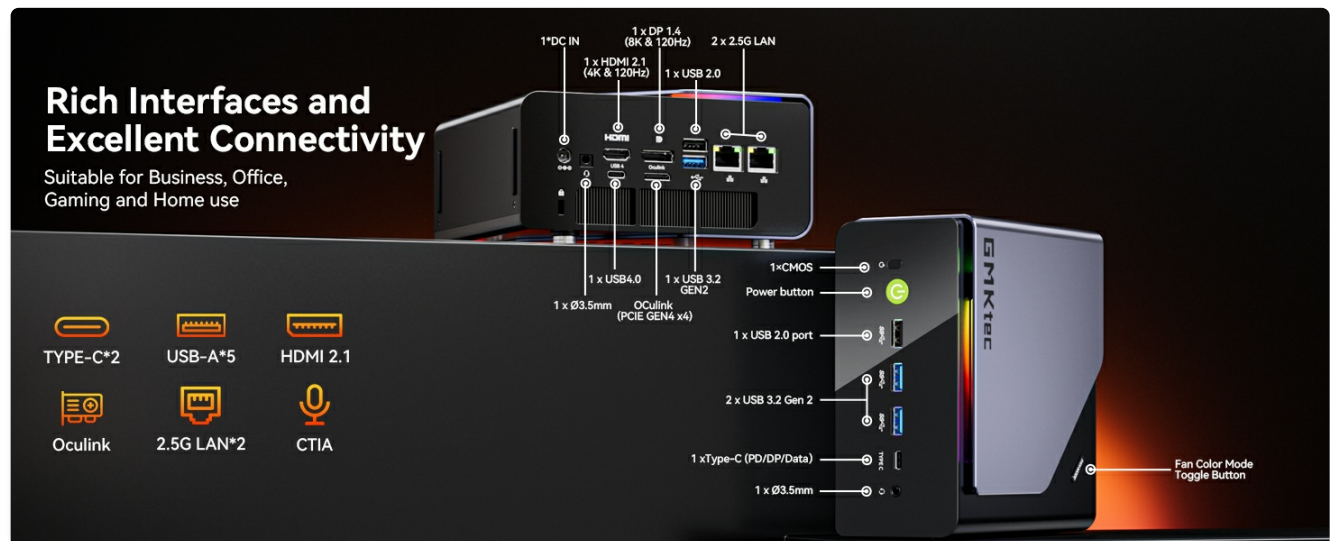


Image: Front and rear view of the Nucbox K12 Mini PC, highlighting all available ports and buttons.

#### Front Panel

- Power Button
- USB 2.0 Port (x1)
- USB 3.2 Gen2 Port (x2)
- USB Type-C Port (PD/DP/Data)
- 3.5mm Audio Jack
- Fan Color Mode Toggle Button

#### Rear Panel

- DC-In Port
- DisplayPort 1.4
- HDMI 2.1
- USB 4.0 Port (x1)
- USB 2.0 Port (x1)
- Oculink Port (PCIe Gen4 x4)
- 2.5G LAN Port (x2)
- CMOS Reset Button

### 4. SETUP GUIDE

Follow these steps to set up your GMKtec Nucbox K12 Mini PC:

1. **Connect to Display:** Use the provided HDMI cable or a DisplayPort cable to connect the Mini PC to your monitor or TV.

2. **Connect Peripherals:** Plug in your keyboard, mouse, and any other USB devices into the available USB ports.
3. **Connect to Power:** Connect the power adapter to the DC-In port on the rear of the Mini PC, then plug the adapter into a power outlet.
4. **Power On:** Press the power button on the front panel of the Mini PC. The power indicator light will illuminate.
5. **Initial Setup:** Follow the on-screen instructions to complete the Windows 11 Pro operating system setup.

## 5. OPERATING INSTRUCTIONS

### Power On/Off

- **To Power On:** Press the power button once.
- **To Shut Down:** Click the Start button in Windows, then select Power > Shut down.
- **To Force Shut Down:** Press and hold the power button for approximately 5-7 seconds until the device powers off. Use this only if the system is unresponsive.

### Performance Modes

The Nucbox K12 offers three performance modes to balance power consumption and performance:

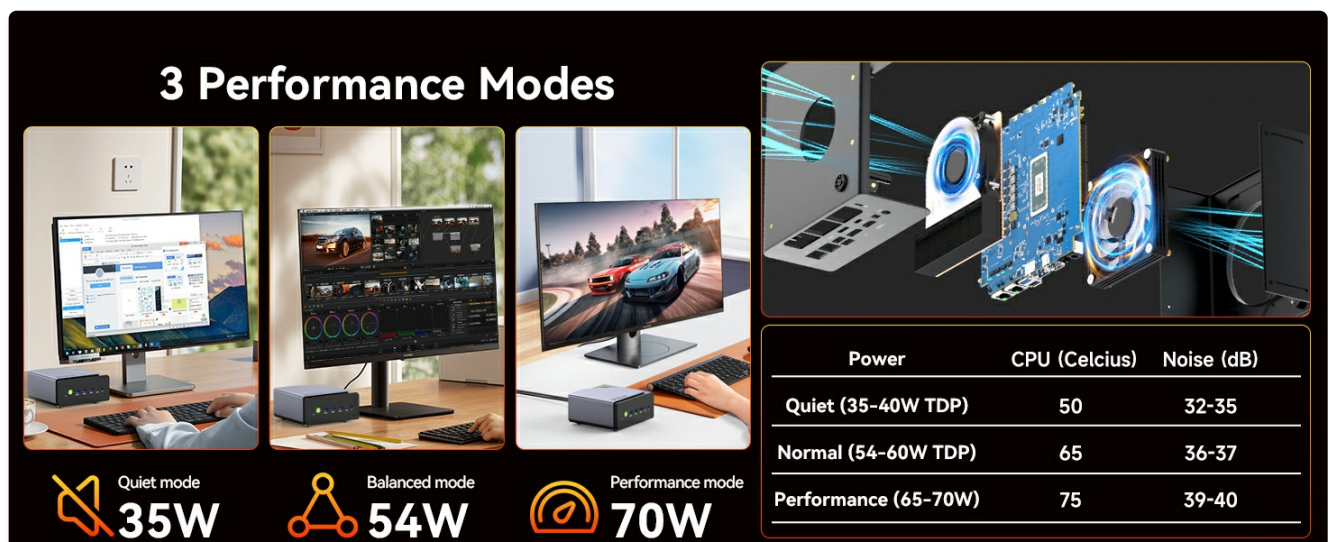


Image: Visual representation of Quiet, Balanced, and Performance modes with associated power consumption, CPU temperature, and noise levels.

- **Quiet Mode (35W TDP):** Optimized for low noise and power efficiency, suitable for light tasks.
- **Balanced Mode (54W TDP):** A balance between performance and noise, suitable for everyday computing.
- **Performance Mode (70W TDP):** Maximizes CPU performance, ideal for demanding applications and gaming.

You can typically switch between these modes via the operating system's power settings or dedicated software if provided by GMKtec.

## 6. STORAGE AND MEMORY EXPANSION

The Nucbox K12 is designed for easy upgrades of its storage and memory components.

## Easy Installation

Disassembled design, upgrade RAM and SSD easy and convenient



### SSD M.2 2280

Triple Storage Slots: M.2 2280 SSD  
Max capacity: 24TB

**Max 8TB per slot**



### DDR5 5600MHz

Dual-channel SO-DIMM x2  
Max capacity: 128GB

**Max 64GB per slot**



Image: Internal view of the Nucbox K12, illustrating the locations of the DDR5 SO-DIMM slots and M.2 2280 SSD slots for expansion.

- **RAM:** Equipped with Dual 32GB (Total 64GB) SO-DIMM DDR5 5600MHz memory sticks. Supports up to 128GB total.
- **SSD:** Features a 1TB PCIe 4.0 SSD and three M.2 2280 expansion slots. Each slot supports up to 8TB, for a maximum total of 24TB.

**Caution: Disconnecting internal components requires technical knowledge. Refer to professional guidance if unsure.**

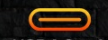
## 7. DISPLAY CONFIGURATION

The Nucbox K12 supports multiple displays with high-resolution output.



### Supports up to 4 Screens Output Simultaneously Compatible With 8K Resolution

Achieve a Stunning Visual Experience



USB4.0 x 1



TYPE-C



DP1.4 x 1



HDMI2.1 x 1

Image: A multi-monitor setup demonstrating the Nucbox K12's capability to output to up to four screens simultaneously, including a large desktop monitor, a laptop, and a tablet.

- **Quad Screen Support:** Connect up to four displays simultaneously.
- **Output Ports:** HDMI 2.1 (8K@60Hz), DisplayPort 1.4 (4K@60Hz), and USB Type-C (supporting PD3.0/DP1.4/DATA).

To configure multiple displays, access your operating system's display settings after connecting all monitors.

## 8. NETWORK CONNECTIVITY

The Nucbox K12 provides robust wired and wireless network options.



Image: Comparison of Wi-Fi 6E and Bluetooth 5.2 speeds against previous generations, highlighting the improved performance of the Nucbox K12's wireless capabilities.

- **Wi-Fi 6E:** Built-in Wi-Fi 6E for high-speed wireless internet access.
- **Bluetooth 5.2:** For connecting wireless peripherals such as keyboards, mice, and audio devices.
- **Dual 2.5GbE LAN:** Two 2.5 Gigabit Ethernet ports for high-speed wired network connections, supporting applications like firewalls, network aggregation, and file servers.

## 9. OCULINK PORT

The Oculink port provides an advanced interface for external graphics solutions.

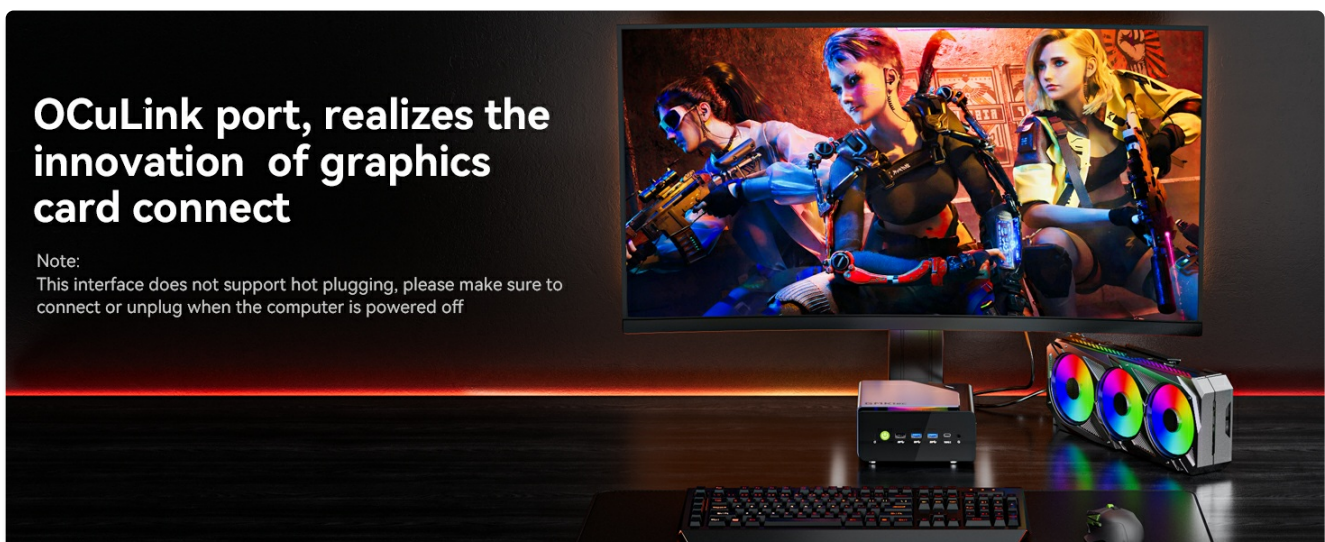


Image: The Oculink port on the Nucbox K12 connected to an external graphics card enclosure, demonstrating its use for enhanced graphics performance.

- The Oculink port on the rear interface enables higher bandwidth capabilities, improved frame rates, and lower latency for external GPU (eGPU) setups.
- It operates at PCIe x4 speeds, offering a high-performance connection for demanding graphics applications.

**Note: This interface does not support hot-plugging. Ensure the computer is powered off before connecting**

or unplugging any device from the Oculink port.

## 10. COOLING SYSTEM

The Nucbox K12 features an efficient cooling system to maintain optimal operating temperatures.



Image: An exploded view diagram of the Nucbox K12's cooling system, showing the dual turbo CPU fans, DDR5/SSD cooling fan, heatpipes, and airflow design.

- **Dual Turbo CPU Fans:** Two fans dedicated to cooling the CPU.
- **DDR5/SSD Cooling Fan:** A dedicated fan for memory and storage components.
- **Advanced Heatpipes:** Three heatpipes and 360-degree airflow design for efficient heat dissipation.
- **RGB Lighting:** Features 13 dazzling RGB lighting modes for customization.

The cooling system is designed for silent, ultra-efficient operation, maintaining stable temperatures even under heavy loads.

## 11. TROUBLESHOOTING

This section provides general guidance for common issues. For specific problems, refer to the GMKtec support resources.

- **No Power:** Ensure the power adapter is securely connected to both the Mini PC and a working power outlet. Test the outlet with another device.
- **No Display:** Verify that the HDMI or DisplayPort cable is correctly 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 cable or monitor if possible.
- **System Unresponsive:** If the system freezes, press and hold the power button for 5-7 seconds to force a shutdown. Wait a few moments, then power it back on.
- **Network Connectivity Issues:** For wired connections, check Ethernet cable connections. For wireless, ensure Wi-Fi is enabled in Windows settings and that you are connected to the correct network. Restart your router if necessary.
- **Peripheral Not Detected:** Try connecting the peripheral to a different USB port. Ensure drivers are installed if required.

## 12. SPECIFICATIONS

Key technical specifications for the GMKtec Nucbox K12 Mini PC:

| Feature            | Specification                                                     |
|--------------------|-------------------------------------------------------------------|
| Processor          | AMD Ryzen 7 H 255 (8 Cores, 16 Threads, up to 4.9 GHz)            |
| Graphics           | AMD Radeon 780M (Integrated)                                      |
| RAM                | 64GB DDR5 5600MHz SO-DIMM (Dual Channel, Max. 128GB)              |
| Storage            | 1TB PCIe 4.0 M.2 2280 SSD (3x M.2 2280 slots, Max. 24TB total)    |
| Operating System   | Windows 11 Pro (Compatible with Linux, Ubuntu)                    |
| Video Output       | HDMI 2.1 (8K@60Hz), DisplayPort 1.4 (4K@60Hz), USB Type-C (DP1.4) |
| USB Ports          | 2x USB 2.0, 2x USB 3.0, 1x USB4, 1x USB Type-C                    |
| Network            | Dual 2.5GbE LAN, Wi-Fi 6E, Bluetooth 5.2                          |
| Expansion          | Oculink Port (PCIe Gen4 x4)                                       |
| Dimensions (LxWxH) | 5.94 x 2.9 x 6 inches                                             |
| Weight             | 2.03 pounds                                                       |

## 13. WARRANTY AND SUPPORT

GMKtec provides comprehensive support for your Mini PC.

- **Warranty:** GMKtec offers a 1-year limited warranty for each Mini PC, starting from the date of purchase. This warranty covers defects due to design and workmanship.
- **Technical Support:** For any questions or technical assistance, please contact GMKtec customer support.

### 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**