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> GMKtec K12 Gaming Mini PC User Manual

GMKtec K12

GMKtec K12 Gaming Mini PC User Manual

Model: K12

1. PRODUCT OVERVIEW

The GMKtec K12 is a high-performance gaming mini PC designed for demanding tasks such as gaming, video editing, and multitasking. It features an AMD Ryzen 7 H 255 processor, Radeon 780M integrated graphics, and extensive connectivity options, including an Oculink port for external GPU expansion.



Image: The GMKtec K12 Mini PC, a compact black and silver device with RGB lighting accents.

2. PACKAGE CONTENTS

Before proceeding with the setup, please ensure all items are present in the package:

- GMKtec NucBox K12 Mini PC
- Power Adapter
- VESA Mount (including screws)
- HDMI Cable
- User Manual

Pionero en tecnología inalámbrica de próxima generación: Equipado con Wi-Fi 6E y Bluetooth 5.2

WIFI 6E

2*2.5GLAN

Bluetooth 5.2



Image: All items included in the GMKtec K12 Mini PC package: the Mini PC, power adapter, VESA mount, HDMI cable, and user manual.

3. INITIAL SETUP

1. **Connect Peripherals:** Connect your monitor(s) to the HDMI, DisplayPort, or USB-C video outputs. Connect your keyboard and mouse to the available USB ports.

2. **Connect Power:** Plug the power adapter into the DC IN port on the Mini PC, then connect it to a power outlet.
3. **Power On:** Press the power button located on the front of the Mini PC. The system will boot up, and the pre-installed Windows 11 Pro operating system will load.

4. HARDWARE FEATURES

4.1 Processor and Graphics

The K12 Mini PC is powered by an AMD Ryzen 7 H 255 processor, an enhanced version of the Ryzen 7 8745H. It features 8 cores (16 threads) with clock speeds up to 4.9 GHz. Integrated graphics are handled by the powerful AMD Radeon 780M (12 CUs / 768 shaders, up to 2600 MHz), capable of supporting multiple 8K displays and running modern games with FSR.

Contenido del envío



1. Mini PC NucBox K12
2. Fuente de alimentación
3. Soporte VESA (incl. tornillos)

4. Cable HDMI
5. Manual de usuario

Image: Diagram illustrating the AMD Ryzen 7 H 255 processor and Radeon 780M integrated graphics, highlighting its core count, threads, and clock speed.

4.2 Memory and Storage

The Mini PC comes equipped with 32GB of DDR5 5600MHz SO-DIMM RAM (two 16GB modules) and a 512GB PCIe 4.0 SSD. It offers significant storage expansion with three M.2 2280 slots, each supporting up to 8TB, for a maximum total of 24TB.

Interfaces completas

Para negocio, oficina, gaming, hogar

SSD M.2 2280

2*M.2 2280 PCIe4.0x2 SSD
1*M.2 2280 PCIe4.0x4 SSD
Capacidad máxima: 24 TB

Máximo 8 TB por ranura

DDR5 5600MHz

Dual-Channel SO-DIMM x 2
Capacidad máxima: 128 GB

Máximo 64 GB por ranura



Image: An internal view of the Mini PC, detailing the DDR5 RAM modules and three M.2 2280 SSD expansion slots.

4.3 Ports and Connectivity

The K12 offers a comprehensive array of ports for versatile connectivity:

- **Video Outputs:** 1x HDMI 2.1 (8K@60Hz), 1x DisplayPort 1.4 (4K@60Hz), 1x USB Type-C (supports PD3.0/DP1.4/Data) for up to 4 simultaneous displays.
- **USB Ports:** Multiple USB 3.2 Gen 2, USB 2.0, and USB4 ports.
- **Networking:** Dual 2.5GbE LAN ports, Wi-Fi 6E, and Bluetooth 5.2.
- **Audio:** 3.5mm audio jack.
- **Oculink Port:** A dedicated Oculink port for external GPU (eGPU) configurations, offering PCIe x4 speeds for enhanced bandwidth and lower latency compared to Thunderbolt.

¡El primer dispositivo con AMD Ryzen 7 H 255! (Rendimiento supera a Ryzen 7 8745HS)

4.9GHz Frecuencia de reloj máxima **8** Núcleos **16** Hilos **16MB** de caché **70 W** TDP **4nm** Tech

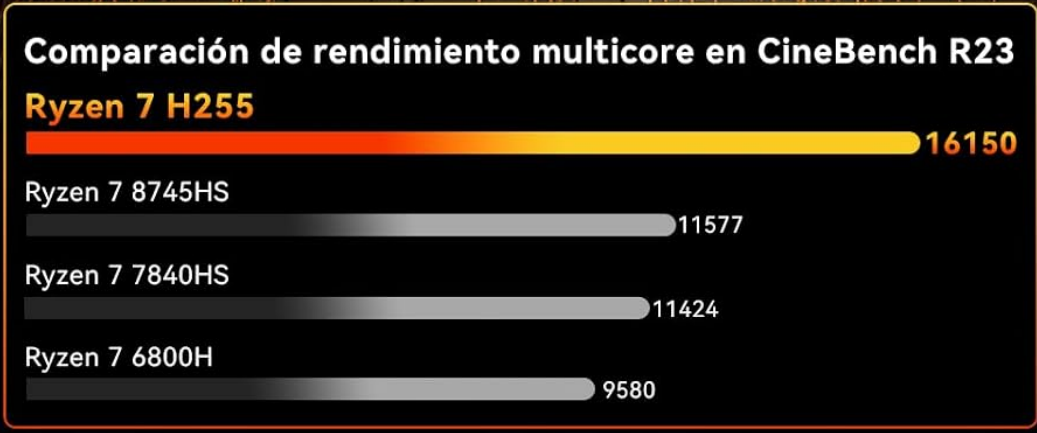
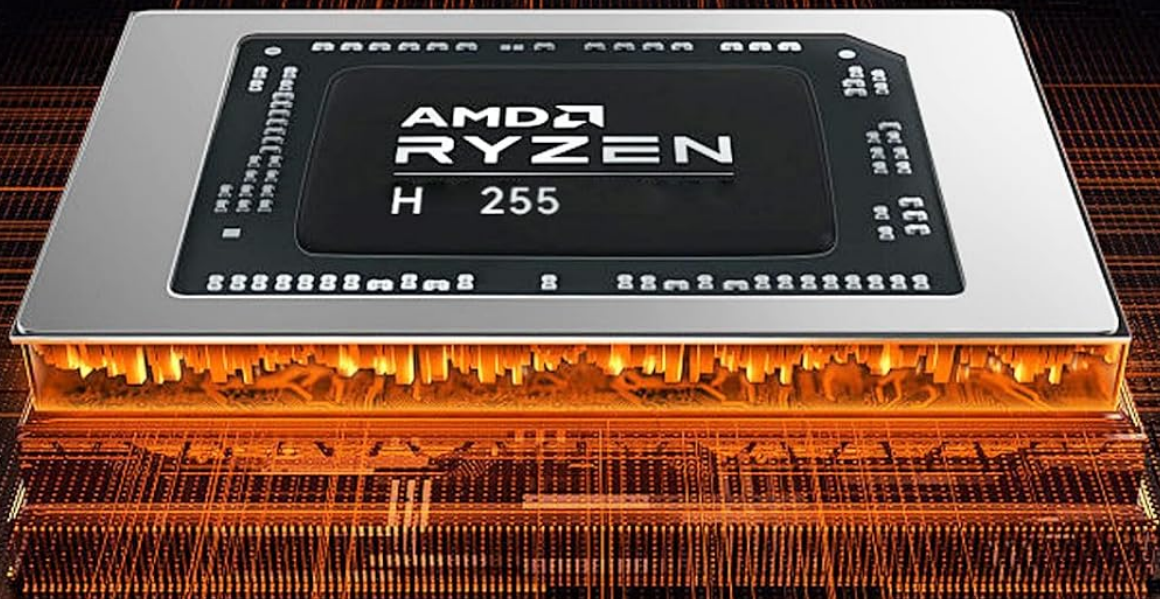


Image: Rear view of the GMKtec K12 Mini PC, showing the various ports including HDMI, DisplayPort, USB, Ethernet, and Oculink.

¡Equipado con puertos USB4 × Dual 2,5G Ethernet! Mini PC de próxima generación de alta velocidad y estabilidad

Con USB4 de 40 Gbps para transferencia de datos ultrarrápida y puertos de red duales 2,5G para una experiencia de red fluida.



Image: The Oculink port on the GMKtec K12 connected to an external GPU enclosure, demonstrating its eGPU capability. **Note:** This port does not support hot-plugging. Always power off the PC before connecting or disconnecting.

5. OPERATING THE MINI PC

5.1 Power Management

To power on the Mini PC, press the power button on the front panel. To shut down, use the standard Windows shutdown

procedure. A short press of the power button can put the system to sleep.

5.2 Performance Modes

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

- **Silent Mode (35W):** Optimized for quiet operation and low power consumption, suitable for light tasks.
- **Balanced Mode (54W):** A good balance between performance and noise, ideal for everyday use.
- **Performance Mode (70W):** Maximizes CPU and GPU performance for demanding applications and gaming.

Sistema de refrigeración: Solo 1/50 del tamaño de productos convencionales, pero con un 200 % más de capacidad de refrigeración

Equipado con ventiladores duales basados en cobre para un funcionamiento estable a 70 W TDP durante más de 72 horas.

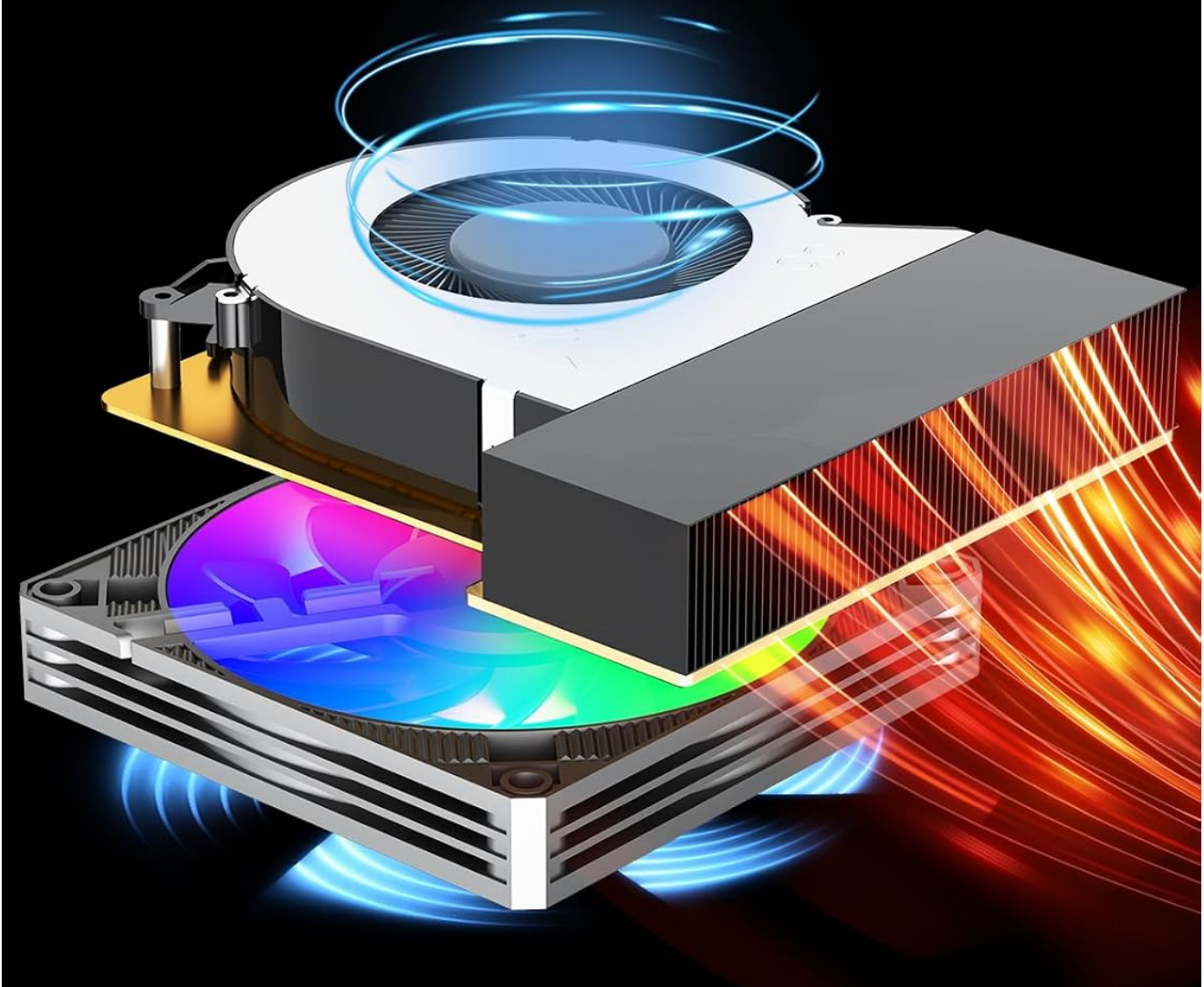


Image: A visual representation of the three performance modes (Silent, Balanced, Performance) with their respective power consumption and typical noise levels.

5.3 Multi-Monitor Setup

The Mini PC supports up to four simultaneous displays with resolutions up to 8K, utilizing its HDMI 2.1, DisplayPort 1.4, and USB-C outputs. This is ideal for productivity, content creation, and immersive gaming experiences.

Interfaces completas

Para negocio, oficina, gaming, hogar

SSD M.2 2280

2*M.2 2280 PCIE4.0×2 SSD
1*M.2 2280 PCIE4.0×4 SSD
Capacidad máxima: 24 TB

Máximo 8 TB por ranura

DDR5 5600MHz

Dual-Channel SO-DIMM × 2
Capacidad máxima: 128 GB

Máximo 64 GB por ranura



Image: A desk setup featuring the GMKtec K12 Mini PC connected to multiple monitors, demonstrating its multi-display capabilities.

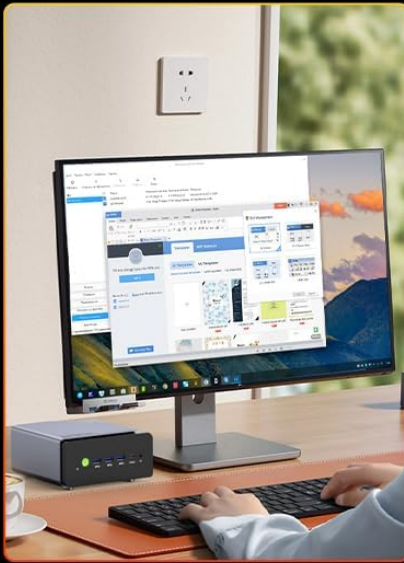
6. MAINTENANCE

6.1 Cooling System

The K12 features a dual-fan cooling system with advanced heatpipes and 360° airflow to maintain optimal temperatures even under heavy loads. To ensure efficient cooling, keep the ventilation grilles clear of obstructions and regularly clean any

dust accumulation.

3 modos de rendimiento para elegir



Modo silencioso
35W



Modo equilibrado
54W



Modo rendimiento
70W



Power	CPU (Celcius)	Noise (dB)
Modo silencioso 35 ~ 40 W	50	32-35
Modo equilibrado 54 ~ 60 W	65	36-37
Modo rendimiento 65 ~ 70 W	75	39-40

Image: An exploded view diagram of the GMKtec K12's cooling system, showing the dual fans and heatpipes designed for efficient heat dissipation.

6.2 Storage Expansion

The Mini PC allows for easy storage expansion via its three M.2 2280 slots. To install or upgrade an M.2 SSD, carefully open the chassis, locate the M.2 slots, and secure the new drive. Refer to the detailed instructions in the full user manual for specific steps.

7. TROUBLESHOOTING

If you encounter issues with your GMKtec K12 Mini PC, please refer to the following common troubleshooting steps:

- **No Power:** Ensure the power adapter is securely connected to both the Mini PC and a working power outlet. Try a different outlet if necessary.
- **No Display:** Verify that the monitor 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 video cable or port.
- **Peripherals Not Working:** Check USB connections for keyboards, mice, and other devices. Try connecting them to different USB ports.
- **Storage Not Recognized:** If you've installed additional M.2 SSDs and they are not detected, ensure they are properly seated in their slots. Check Disk Management in Windows to see if the drive needs to be initialized or formatted.
- **Performance Issues:** Ensure the Mini PC is operating in the appropriate performance mode for your tasks. Check for background applications consuming resources. Ensure the cooling vents are clear.

For more complex issues, please consult the official GMKtec support website or contact customer service.

8. SPECIFICATIONS

Feature	Specification
Processor	AMD Ryzen 7 H 255 (8 Cores, 16 Threads, up to 4.9 GHz)
Graphics	AMD Radeon 780M (up to 2600 MHz)
RAM	32GB DDR5 5600MHz (2x16GB SO-DIMM)
Storage	512GB PCIe 4.0 SSD
Storage Expansion	3x M.2 2280 slots (Max 24TB total)
Video Outputs	1x HDMI 2.1 (8K@60Hz), 1x DisplayPort 1.4 (4K@60Hz), 1x USB-C (PD3.0/DP1.4/Data)
USB Ports	USB4, USB 3.2 Gen 2, USB 2.0
Networking	Dual 2.5GbE LAN, Wi-Fi 6E, Bluetooth 5.2
Special Ports	Oculink (PCIe x4 for eGPU)
Operating System	Windows 11 Pro (pre-installed)
Dimensions	12 x 5 x 13 cm
Weight	2.18 kg

9. WARRANTY AND SUPPORT

GMKtec offers a 1-year limited warranty for the K12 Mini PC from the date of purchase, covering defects due to design and manufacturing. For any inquiries or technical assistance, please contact GMKtec customer support.

- **Amazon Support:** For purchase-related issues, log in to your Amazon account, go to 'Your Orders', and select 'Ask Product Question'.
- **After-Sales Support:** Contact the GMKtec After-Sales Team via email at eu-cs@gmktec.com for 24/7 customer support.

Soporta hasta 4 pantallas simultáneamente · Compatible con resolución 8K

Permite una experiencia visual impresionante.

- USB4.0 x 1
- TYPE-C
- DP1.4 x 1
- HDMI2.1 x 1



Image: Information regarding GMKtec's warranty and support channels, including Amazon support and direct email contact.