

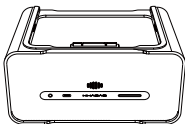
KHADAS

Mind Graphics

User Guide | 使用说明书

Get to Know Your Graphics

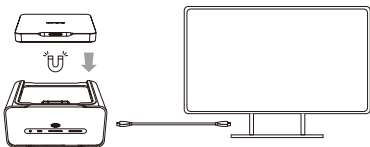
Welcome to your Mind Graphics eGPU Module, hereafter referred to as "Graphics".



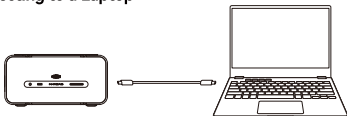
Graphics is powered by the NVIDIA GeForce® RTX™ 4060 Ti desktop graphics card. With the innovative Mind Link interface, Graphics can be magnetically coupled to the Khadas Mind Portable Workstation (hereafter referred to as "Mind") in a snap. This connection can dramatically boost your Mind's overall performance, delivering stunning visuals and higher processing speed.

Featuring a USB-C interface, Graphics can also be connected to laptops or desktops that support Thunderbolt 4 or 3, supercharging your computer's performance.

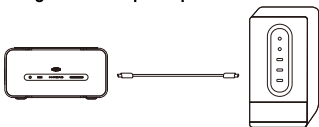
• Connecting to Mind



• Connecting to a Laptop



• Connecting to a Desktop Computer

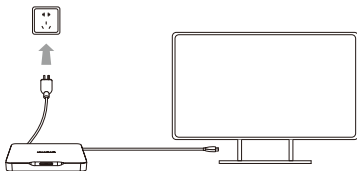


Set Up Your Graphics

01 Update Mind's Software

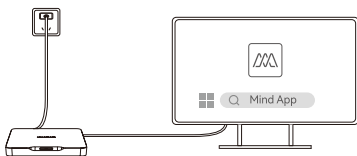
Before using Mind Graphics, update the software on your Mind to the latest versions. This includes the Mind App, BIOS, and EC.

1. Prepare a HDMI cable and a monitor. Connect your Mind to a power source, connect the monitor to Mind, and then power on Mind.

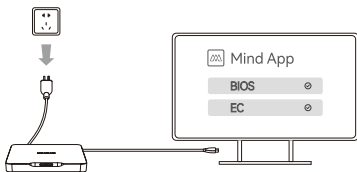


2. To run the Mind App, type "Mind" in the search box in Windows. Update the app to its latest version.

Alternatively, you can visit the Khadas official website to download the latest version of the Mind App.



3. Using the Mind App, update the BIOS and EC. After the update is completed, unplug the power supply and HDMI cable from Mind.

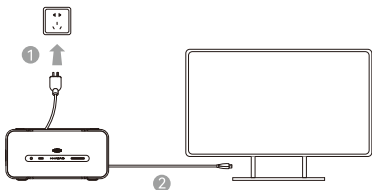


To make the most out of your Graphics, always keep the Mind App running when using it.

* To learn more about the Khadas products supported by Graphics and to get up-to-date Mind App software, please go to the Khadas official website at www.khadas.com/mind/support.

02 Connect Graphics to Mind

1. Connect Graphics to a power source ranging between 100V–240V with the provided AC power cord. It will automatically power on, and its white indicator light will begin to breathe slowly.
2. Connect your monitor to the HDMI or DisplayPort port on Graphics.



3. Place your Mind into Graphics, and make sure the Mind Link interface is aligned.



4. Press the power button on Mind to power it on. The indicator light on Graphics will be white and always on, indicating that the connection is established.

You've now completed the initial setup of your Graphics. It's time to sit back and enjoy the superior graphics performance brought to you by the RTX 4060 Ti graphics card.

Notes on the Indicator Light

Color	State	
White - always on	Powered on and successfully connected to Mind.	○○○○○
White - breathing	Powered on but not connected to Mind.	○○○○○
White - flashing	Powered and has just been disconnected from Mind.	○○○○○
Off	Unplugged.	-



Graphics' indicator light is an RGB LED. When it is on, the default color is white. You can easily personalize this color to your preference using the Mind App.

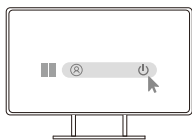
* If there isn't any visual output on your monitor, this may indicate that the graphics card driver hasn't been installed. For detailed instructions on solving this issue, please go to the Khadas official website at www.khadas.com/mind/support.

Disconnect Mind from Graphics

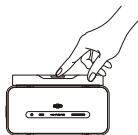
When Mind is connected to Graphics, the Mind Lock Mechanism will automatically lock into place to prevent any accidental disconnection, saving your workflow from being interrupted. To disconnect, you have two options:

Option 1 - Turn Off Mind

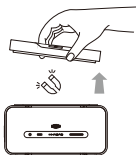
On the Windows taskbar, click Start  and then select  > **Shut down**. Alternatively, you can press and hold the power button on Mind for 8 seconds to force it into shutting down. Once done, the indicator light on your Graphics will start to flash for 5 seconds, and then breathe (white color). This means that Mind has been disconnected from Graphics and you can remove Mind safely.



or

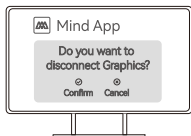
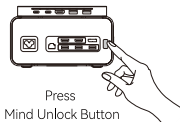


Press and hold the power button for 8 seconds



Option 2 - Press the Mind Unlock Button

Press the Mind Unlock Button located at the back of Graphics. You'll see a pop-up notification on the Mind App: "Do you want to disconnect Graphics?". Click **Confirm** to proceed. The indicator light on Graphics will start to flash for 5 seconds, and then breathe (white color), indicating you can remove Mind safely.

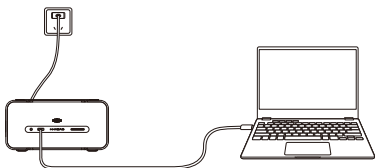


Forcing a Disconnection

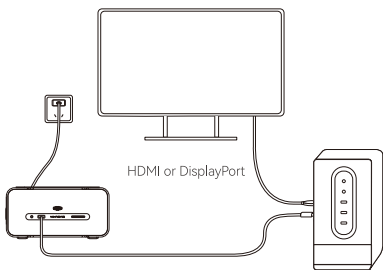
If you can't disconnect Mind from Graphics using either of the methods above, press and hold the Mind Unlock Button for 10 seconds. This will force the Mind Lock Mechanism to disengage, allowing you to safely remove Mind from Graphics.

Connecting to a Laptop via USB-C

Laptops and desktop computers that come with Thunderbolt 4 or 3 can be connected to Mind Graphics via the USB-C port. Once connected, visit the NVIDIA official website to download and install the specific graphic card drivers required to enable the full graphics acceleration offered by your Graphics.



USB-C (Thunderbolt 4/3)



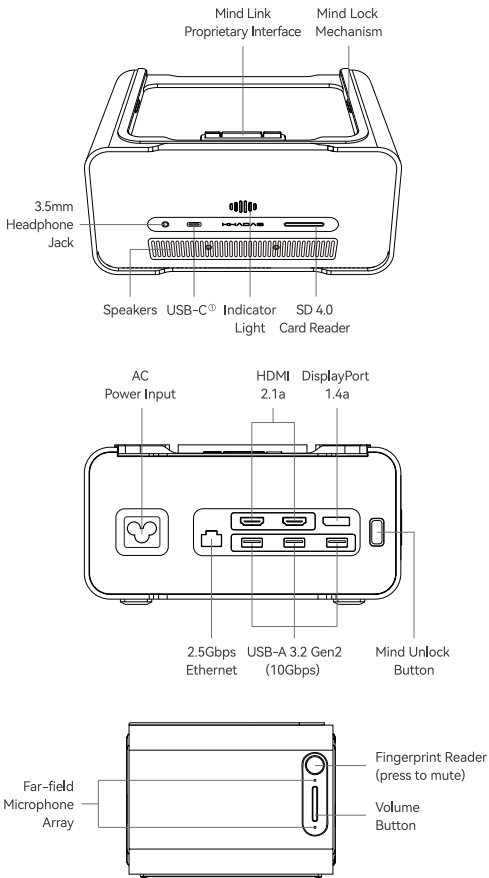
USB-C (Thunderbolt 4/3)

Priority: Mind Link vs. USB-C

Mind Graphics prioritizes the Mind Link connection over USB-C by default.

- If you wish to connect Graphics to another device via the USB-C port while it's connected to Mind, you must first disconnect Mind from Graphics.
- Should Graphics be connected to another device through the USB-C port and you wish to switch to the Mind Link connection with Mind, ensure to save any data on the USB-C-connected device first. Establishing a connection between Mind and Graphics will forcibly terminate the USB-C connection to the other device.

Diagram



① USB-C supports Thunderbolt 4, Thunderbolt 3 and USB4.

Tech Specs

Size	199 mm × 133 mm × 100 mm
Weight	2.7 kg
Graphics Card	NVIDIA GeForce® RTX™ 4060 Ti (desktop class)
Video Memory	8GB/16GB GDDR6
Power	Input voltage: 100V–240V Input frequency: 50Hz/60Hz Output voltage: 20V Output current: 7A Power supply: 300W
Work Environment	Temperature: 10°C–35°C Relative Humidity: 5%–90% (non-condensing)
Storage Environment	Temperature: -10°C–45°C Relative Humidity: 5%–90% (non-condensing)

Safety Guidelines

To have the best experience when using the product and to avoid dangers including potential personal injury, please thoroughly read and follow the safety guidelines below.

- This product operates at a high voltage. When using the product, ensure that it is properly connected to a grounded power source with a voltage range of 100V–240V. Failure to do so may result in product malfunction or even fire hazards.
- Only use the provided power cord that comes with this product. Using unauthorized or incompatible cords can lead to fire hazards, explosions, or other potential dangers.
- Operate this product within the temperature range of 10°C–35°C and store it within -10°C–45°C. Extreme temperatures may cause operational issues or damage the product.
- When minors use this product, they must be supervised by adults to prevent accidents like electric shock or mishandling that could damage the product.
- Keep the product in a dry environment and avoid placing it near water sources like pools, bathtubs, or bathrooms. If the product is accidentally exposed to water, immediately disconnect the power. Do NOT unplug the power cord with wet hands.
- Do NOT attempt to repair or replace any product parts yourself. For service inquiries, please contact us via the official Khadas email (support@khadas.com).

List of Hazardous Substances

Hazardous Substances	Component Name	
	Device	PCBA
Pb	×	×
Hg	○	○
Cd	○	○
Cr6+	○	○
PBB	○	○
PBDE	○	○
DIBP	○	○
DEHP	○	○
BBP	○	○
DBP	○	○

This table has been prepared in accordance with SJ/T 11364.

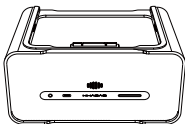
- : Indicates that the content of the hazardous substance in all homogeneous materials of the component is below the limit specified in EN62321.
- × : Indicates that the hazardous substance is present in at least one homogeneous material of the component at a level exceeding the limit specified in EN62321 because there is no proven alternative in the industry, that meets the environmental requirements of the EU RoHS directive. Depending on the model, the product may not include all the above accessories except the main machine, please refer to the actual product sales collocation.



This logo indicates that the product has a 10 year environmentally-friendly use period (EPUP) under normal conditions. For accessories, the environmentally-friendly use period (EPUP) on the label prevails.

功能介绍

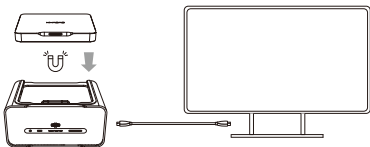
欢迎使用 Mind Graphics 外置显卡坞，以下简称 Graphics。



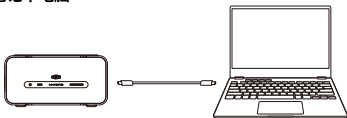
Graphics 配备性能强劲的 NVIDIA GeForce® RTX™ 4060 Ti 桌面级显卡。通过 Mind Link 接口，磁吸贴合，Graphics 可轻松连接至 Khadas Mind 跨场景工作站（以下简称 Mind），大幅增强 Mind 的性能表现，带来更惊艳的画面以及更快的运行速度。

通过 USB-C 接口，Graphics 还可以连接配备 Thunderbolt 4 或 Thunderbolt 3 接口的笔记本电脑或者主机，显著提高其性能表现。

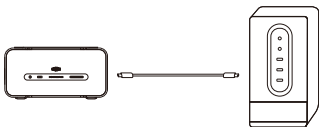
• 连接 Mind



• 连接笔记本电脑



• 连接主机

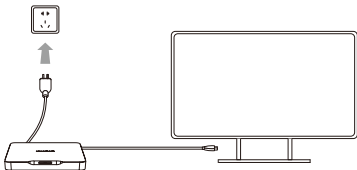


使用指引

01 升级 Mind 软件

在使用 Mind Graphics 之前，需要将 Mind 的软件升级至最新版本，包括 Mind App、BIOS、EC。

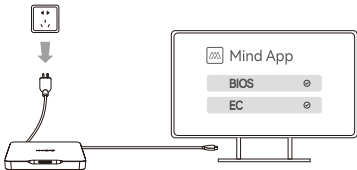
1. 自行准备 HDMI 连接线以及显示器。将 Mind 接入电源、连接至显示器并开机 Mind。



2. 在 Windows 搜索栏中输入“Mind”以启动 Mind App，并将其升级至最新版本。您也可以前往 Khadas 官网下载最新版本的 Mind App。



3. 通过 Mind App 升级 BIOS 和 EC。升级完毕后，断开 Mind 的电源适配器，并拔下 HDMI 线。

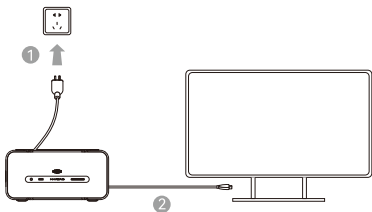


为确保您的使用体验，后续使用 Graphics 时，请勿退出 Mind App，确保 App 始终处于运行状态。

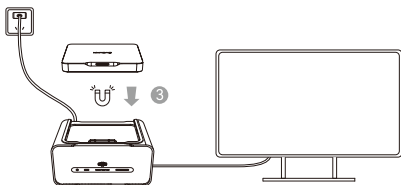
* 查询 Graphics 支持的产品型号以及获取 Mind App，请访问 Khadas 官网 (www.khadas.cn/mind/support)。

02 将 Graphics 连接至 Mind

1. 使用配套的 AC 电源线，将 Graphics 连接至 100V-240V 电源插座。Graphics 将自动开机，此时指示灯白色呼吸闪烁。
2. 将显示器连接至 Graphics 机身上的 HDMI 或 DisplayPort 接口。



3. 将 Mind 放置于 Graphics 上，确保 Mind Link 接口已正确磁吸对位。



4. 按下 Mind 的电源键以开机。此时 Graphics 的指示灯为白色常亮，表明连接成功。至此，Graphics 的初次使用设置已顺利完成，您可以尽情享受 RTX 4060 Ti 显卡带来的性能提升。

Graphics 指示灯

颜色	状态	
白色常亮	已开机，并成功连接至 Mind	○○○○○
白色呼吸闪烁	已开机，未连接至 Mind	○○○○○
白色快速闪烁	已开机，刚刚断开与 Mind 的连接	○○○○○
熄灭	未连接至电源	-



Graphics 的指示灯为 RGB 灯，亮起颜色默认为白色，支持自定义。您可以前往 Mind App 设置自己喜欢的颜色。

* 若显示器无法正常显示画面，说明尚未安装显卡驱动，请前往 Khadas 官网 (www.khadas.cn/mind/support) 查看更详细的指引。

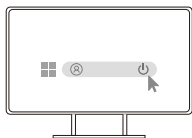
如何断开与 Mind 的连接

当 Mind 连接至 Graphics 时，Mind Lock 锁止机构将自动锁定，以避免意外断联，打断您的工作流。您可以通过以下两种方法断开连接：

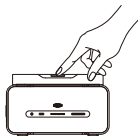
方式 1 - 将 Mind 关机

在 Windows 系统任务栏中，单击开始  图标，然后选择  > 关机。您也可以长按 Mind 电源键 8 秒，使 Mind 强制关机。

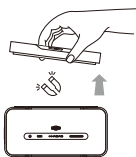
此时，Graphics 的白色指示灯将快速闪烁 5 秒，随后开始呼吸闪烁，表示 Mind 和 Graphics 已经断开连接，可以取下 Mind。



或



长按电源键 8 秒



方式 2 - 按下 Mind 解锁按键

按下 Graphics 机身背部的 Mind 解锁按键，此时 Mind App 会弹出“确认要断开与 Graphics 的连接吗？”的提示窗口，点击**确认**。此时 Graphics 的白色指示灯将快速闪烁 5 秒，随后开始呼吸闪烁，表明可以取下 Mind。



按下
Mind 解锁按键

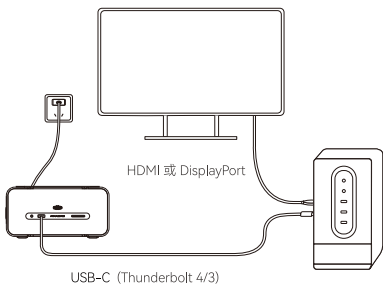
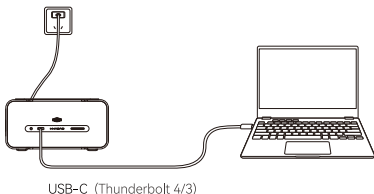


强制断开

当 Mind 和 Graphics 无法通过以上两种方法正常脱离时，请长按 Mind 解锁按键 10 秒，以强制解除 Mind Lock 锁止机构锁定，从而取下 Mind。

通过 USB-C 连接笔记本电脑

配备 Thunderbolt 4 或 Thunderbolt 3 接口的笔记本电脑和主机，可以通过 USB-C 接口连接至 Mind Graphics。连接成功后，前往 NVIDIA 官网安装对应的显卡驱动，即可享受 Graphics 强大的显卡加速功能。

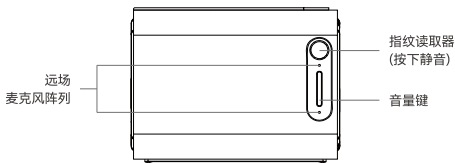
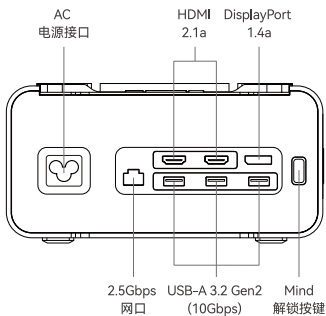
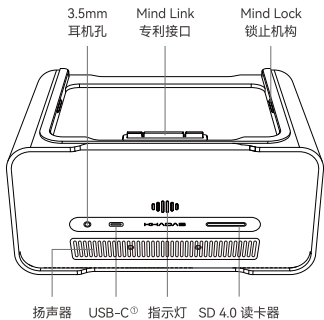


连接优先级: Mind Link vs. USB-C

Mind Graphics 总是默认优先通过 Mind Link 连接 Mind。

- 当 Graphics 已连接至 Mind 时，如需通过 USB-C 接口连接其他设备，需要先断开 Mind 和 Graphics 的连接。
- 当 Graphics 已通过 USB-C 接口连接其他设备时，如需切换至连接 Mind，请先保存 USB-C 连接设备的数据。Mind 与 Graphics 建立连接时，USB-C 连接会被强制断开。

按键和接口



① USB-C 支持 Thunderbolt 4、Thunderbolt 3 及 USB4。

规格参数

尺寸	199 mm × 133 mm × 100 mm
重量	2.7 kg
显卡	NVIDIA GeForce® RTX™ 4060 Ti 桌面级显卡
显存	8GB/16GB GDDR6
电源	输入电压: 100V-240V 输入频率: 50Hz/60Hz 输出电压: 20V 输出电流: 7A 电源功率: 300W
工作环境	温度: 10°C 至 35°C 相对湿度: 5%-90% (非凝结)
储存环境	温度: -10°C 至 45°C 相对湿度: 5%-90% (非凝结)

安全须知

为了保障产品最佳使用体验，并规避潜在的人身伤害等危险，请仔细阅读并遵循以下安全指引。

- 本产品为高压电子产品。请将本产品正确连接至电压范围在 100V-240V 之间的接地电源，电压过高或者过低可能会导致产品故障，甚至引发火灾。
- 请使用产品标配的电源线进行供电。使用未经认可或不兼容的电源线可能引发火灾、爆炸或其他危险。
- 本产品的使用环境温度为 10°C 至 35°C，存储环境温度为 -10°C 至 45°C。环境温度过高或者过低时，可能会导致产品工作异常或损坏产品。
- 操作本产品时，未成年人必须由成年人监管与协助，以防止意外触电或操作不当损坏产品。
- 请在干燥的环境下使用本产品，切勿将产品放置于潮湿的环境下或水源附近，如水池、浴缸、盥洗室等。若产品意外进水，请立刻断开电源；切勿用湿手拔插电源线。
- 请勿尝试自行更换产品零部件或维修产品。如有相关服务需求，请通过 Khadas 官方邮箱 (support@khadas.com) 联系我们。

有害物质名称及含量

有害物质	部件名称	
	主机	主板
Pb 铅	×	×
Hg 汞	○	○
Cd 镉	○	○
Cr6+ 六价铬	○	○
PBB 多溴联苯	○	○
PBDE 多溴联苯醚	○	○
DIBP 邻苯二甲酸二异丁酯	○	○
DEHP 邻苯二甲酸二(2-乙基己基)酯	○	○
BBP 邻苯二甲酸甲基丁酯	○	○
DBP 邻苯二甲酸苯基丁基酯	○	○

本表格依据 SJ/T 11364 的规定编制。

- ：表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。
- ×：表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求，且目前业界没有成熟的替代方案，符合欧盟 RoHS 指令环保要求。因型号不同，产品可能不包括除主机外的以上所有部件，请以产品实际销售配置为准。



本标识内数字表示产品在正常使用状态下的环保使用期限为 10 年。某些部件也可能有环保使用期限标识，其环保使用期限以标识内的数字为准。

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