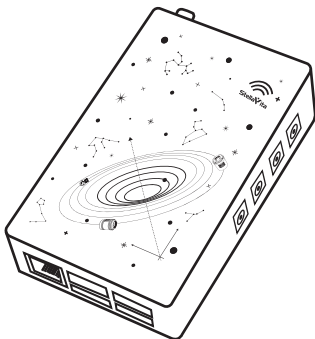


ToupTek Astro
图谱天文

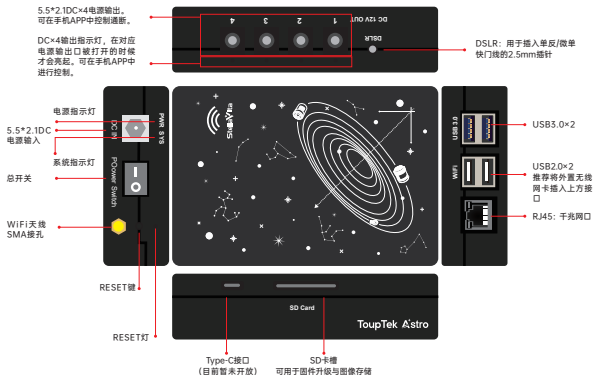
StellaVita
Quick Start Guide
天文智能控制器快速指南



尊敬的StellaVita用户，感谢您购买并使用本产品。本文介绍StellaVita相关使用说明。如果想了解更多信息，请访问图谱天文官网：<https://www.touptek-astro.com/>。若在使用过程中遇到任何问题，欢迎通过购买渠道或电子邮件联系图谱天文获得帮助。

一. 特点介绍

图谱天文自主研发的StellaVita是一款专为天文摄影打造，用于满足入门级和专业级操作需求，能够协同管理多品类、多品牌天文摄影设备的智能控制器，以小巧的外观和强大的性能，为用户提供“让成像更简单”的天文摄影体验。StellaVita使用高性能ARM架构处理器作为核心硬件，自主开发相关硬件电路与软件平台。



StellaVita目前设备兼容说明：

1.使用SDK兼容的制造商/设备：

ToupTek Astro（全设备）、ZWO（相机）、QHYCCD（部分相机）、PlayerOne（全设备）；

2.使用indi平台兼容的制造商/设备：

ZWO（滤镜轮、电调焦、赤道仪）、QHYCCD（部分滤镜轮与电调焦）、ATIK（相机）、基于Onstep设计的赤道仪设备（Meow/EasyMount/WarpAstron/晴空/巨威/黑洞等）繁星Gemini（电调焦）、墨空Astroasis（电调焦、滤镜轮）、信达Sky-Watcher（赤道仪）、艾顿iOptron（大部分设备）、星特朗Celestron（赤道仪）等；

3.暂时不支持单反相机拍摄（开发中）。

二. 包装配件



StellaVita本体



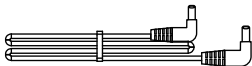
双频天线



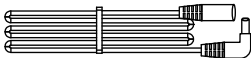
无线网卡



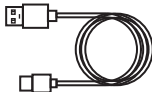
DC公对公电源线×2 (0.5m)



DC公对公电源线×2 (1.0m)



DC公转母电源线 (1.5m)



USB3.0方口数据线 (1.5m)

三. 连接说明

1. 硬件连接

目前StellaVita与各设备连接均需通过USB线缆进行有线连接。

赤道仪设备：您可参考赤道仪与PC有线连接方法（可咨询您的赤道仪生产商），将赤道仪与StellaVita连接。对于部分款式较早的设备，您可能需要通过**赤道仪-RS232赤道仪连接线-RS232转USB串口线-StellaVita**的方式进行连接，您也可以使用专用**赤道仪转USB串口连接线**将其与StellaVita连接。对于部分款式较新，内置有USB转串口芯片的赤道仪，您也可以使用**赤道仪-普通USB线-StellaVita**的方式进行连接。您无需担心串口芯片的识别问题，StellaVita已集成包括CH340, FTDI, PL2303等多种芯片在内的市面常见大部分串口驱动。

相机与其他设备：您只需将相关设备与StellaVita使用对应USB连接线连接起来即可。本机支持USB hub扩展，在部分冷冻相机与StellaVita连接后，相机尾部USB接口亦可作为数据接口使用。不推荐连接多个、多层USBhub进行数据传输，可能降低连接的稳定性与传输速度。

供电：推荐使用能提供足够功率输出（最低12V2A）的12V直流电源进行供电。本机待机状态功耗约3~4w，功耗极低，但在使用StellaVita作为电源管理设备对其余设备供电前，请先确认您的电源输入功率足够其余用电设备使用，并在StellaVita额定功率之下。

注意：若输入功率不足，StellaVita将有可能出现设备反复重连或断开等异常问题。

2. 软件连接

目前您可联系图谱天文客服或技术支持获取StellaVita手机app，后续可通过图谱天文官方网站或部分应用商城进行下载。在您给StellaVita插上电源后，拨动电源开关，稍等片刻，您将听到三段蜂鸣声。第一段“滴-滴”声表示热点已经启动，第二段“滴-滴”表示StellaVita已完全启动。听到最后一声短蜂鸣后，您可通过手机WLAN功能连接名为**“StellaVita_XXXX”**的热点，默认密码为**“12345678”**。随后，您即可打开StellaVita手机APP，开始探索天文摄影的乐趣。

注：如果您购买的StellaVita为较早的批次，软件中的相关名称可能显示为“AstroStation”而非“StellaVita”，这仅为软件显示问题。不同批次的StellaVita无硬件差异，请您放心使用。

四. 界面简介

左侧工具栏：本栏将提供拍摄中可能高频使用的工具。

顶部标题栏：本栏将展示当前中央显示区内的相机类型与拍摄模式，以及用户设置的相关拍摄参数

右侧控制栏：本栏将根据当前使用的功能自动提供相关可控制选项。

计划拍摄入口

当前赤道仪
指向坐标

赤道仪控制

主相机入口

导星相机入口

电调焦控制

导星监控

直方图

文件管理

设备与其他设置



底部状态栏：本栏左侧将展示当前连接网络以及与StellaVita (Astro Station) 的连接情况。右侧将展示用户使用部分功能时的状态信息，如分辨率以及芯片温度等。

五. 文件存储

StellaVita支持内置存储emmc与外接SD卡两种图像保存方式，因此也有两种对应的导出方式。

1、推荐使用外接SD卡存储方式。使用外接SD卡保存时，图像导出操作与日常单反相机的图像导出完全一致，使用方便快捷。SD卡支持热插拔。插入SD卡后，用户可先于APP内设置-其他一栏菜单中，选择使用SD卡存储。在拍摄图像后，可取出SD卡插入读卡器，导出至电脑。

2、若您使用内置存储来保存拍摄的图像，您也可以使用Wi-Fi连接的方式进行导出。在拍摄完成后，您可使用电脑或其他设备连接StellaVita设备Wi-Fi，随后在文件管理器地址 栏内输入【\\10.0.10.1】，回车确认后可能需要您输入访问用户与密码。在用户名一栏输入【as】，密码一栏输入【astrostation】，点击确认即可无线访问StellaVita内部存储进行图像导出。

六. 软件更新

1.App升级

I 对于安卓系统用户，可联系图谱天文客服或技术支持获取StellaVita手机app，后续可通过图谱天文官方网站或部分应用商城进行下载。更新已下载的app时，若您将App卸载并重新安装新版本，可能导致图像存储路径改变，推荐使用覆盖安装。

II IOS版本app已在内测中，敬请期待。

2.固件升级

I OTA升级

OTA可升级StellaVita的Core, Indi以及部分天文品牌的SDK版本。

①首次升级，请先使用手机或平板等设备连接到StellaVita的Wi-Fi，并打开StellaVita的APP，只要APP成功连接到StellaVita，APP即可自动获取到StellaVita的相关固件版本。

②APP获取到StellaVita相关固件版本后，连接到其他可用的互联网，重新进入StellaVita的APP，APP可自动检测有无可用的更新包，或找到设置-其他-版本，在“版本”栏的右上角点击“检查更新”，APP即可检测到是否有可用的固件升级包。成功检测到升级包后将升级包下载下来。

③下载更新包后，重新连接StellaVita的Wi-Fi并进入StellaVita APP，APP可自动检测到是否存在可安装的升级包，或找到设置-其他-版本，在“版本”栏的右上角点击“安装更新”，也可检测到是否存在可安装的升级包。检测到升级包后即可安装升级包升级相关固件。





II SD卡升级

通过SD卡升级固件的方式可升级StellaVita的Core以及部分天文相机品牌的SDK版本。

- ① 准备一张有足够余量的SD卡；
- ② 请前往图谱天文官方社群或联系图谱天文客服/技术支持获取StellaVita固件（后缀为.aspkg文件）或联系相应天文相机厂商获取SDK；
- ③ 将SD卡连接到计算机，将其格式化，文件格式选择FAR32或EXFAT，并将固件或SDK放入SD卡根目录中；
- ④ 将SD卡插入StellaVita的SD卡插槽中直到听“咔哒”一声（支持热插拔）；

⑤ 给StellaVita通电，并使用手机等设备连接到StellaVita的Wi-Fi，进入StellaVita的APP；

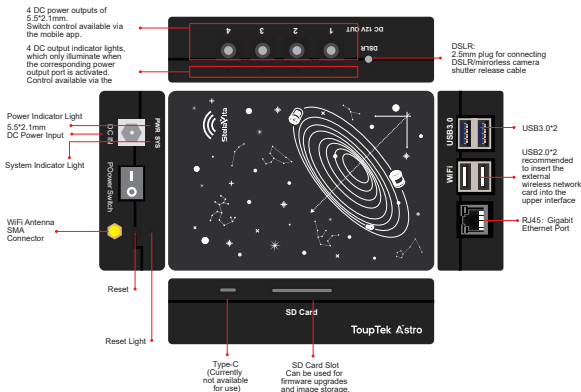
⑥ APP在检测到与StellaVita的连接并识别到SDK中可用的固件或SDK后会自动提示更新，若未提示更新，可前往设置-其他-版本，在版本栏的右上角可点击“检查更新”，检测到可用更新后，即可升级StellaVita的Core或支持厂商的SDK。

注：StellaVita的APP以及Core经过图谱天文开发人员长期优化升级，故存在较多的版本，早期版本无法通过OTA升级固件，需要先经过SD卡升级固件后才能通过OTA升级，若您在升级过程中遇到疑问或者困难，请联系图谱天文客服/技术支持获取协助。

Features Introduction

StellaVita is an intelligent controller designed specifically for astrophotography, catering to both entry-level and professional operation needs. It can effectively manage various types and brands of astronomical photography equipment. With its compact design and powerful performance, StellaVita aims to provide users with a simplified astrophotography experience, making imaging easier.

StellaVita utilizes a high-performance ARM architecture processor as its core hardware and independently develops related hardware circuits and software platforms.



StellaVita Device Compatibility, App System and Hardware Requirements

• SDK-Compatible Manufacturers/Devices:

ToupTek Astro (All devices), ZWO (Cameras), QHYCCD (Some models of cameras), PlayerOne (All devices).

• INDI Platform-Compatible Manufacturers/Devices:

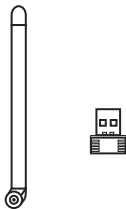
ZWO (Filter wheels, electric focusers, equatorial mounts), QHYCCD (Some models of Filter wheels & electric focusers), ATIK (Cameras), Equatorial mounts based on Onstep settings (Meow, EasyMount, WarpAstron, CLEARSKY, JUWEI, BlackHole, etc.), Gemini (Electric focusers), Astroasis (Electric focusers, filter wheels), Sky-Watcher (Equatorial mounts), iOptron (Most of devices), Celestron (Equatorial mounts).

• DSLR camera shooting is not supported (under development).

Packaging Accessories



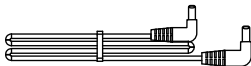
StellaVita Main Body



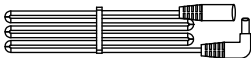
Dual-band Antenna
& Wireless Network Card



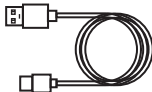
DC Male to Male
Power Cable x2 (0.5m)



DC Male to Male
Power Cable x2 (1.0m)



DC Male to Female Extension
Power Cable (1.5m)



USB 3.0 Square Port
Data Cable (1.5m)

Connection Instructions

1. Hardware Connection

StellaVita connects to all devices via a USB cable.

Equatorial Mounts: Refer to your mount manufacturer's guidelines for wired PC connections, then connect the mount to StellaVita accordingly.

- For older mounts, you may need to connect the mount to the StellaVita following the order below:

Mount ➡ RS232 cable of the mount ➡ R232-USB cable ➡ StellaVita.

You can also use a dedicated equatorial mount-to-USB serial adapter cable to connect it to StellaVita.

- For newer mounts with a built-in USB-to-serial chip, a standard USB cable is sufficient.
- No need to worry about driver compatibility. StellaVita supports common serial chip drivers, including CH340, FTDI, and PL2303.

Camera and Other Devices: Simply connect your camera and other devices to StellaVita using the appropriate USB cables. StellaVita supports USB hub expansion. Some cooled cameras have USB ports on the back that can serve as data interfaces when connected to StellaVita. However, using multiple or multi-tiered USB hubs may reduce connection stability and transfer speeds.

Power Supply: We recommend using a 12V DC power source with at least 2A output. StellaVita has a low standby power consumption of 3-4W. If using StellaVita as a power management hub for other devices, ensure your power input is sufficient for all connected equipment and stays within StellaVita's rated power.

Warning: Insufficient power may cause repeated device disconnections or malfunctions.

2. Software Connection

You can obtain the StellaVita mobile app by contacting ToupTek Astro customer support or technical support. In the future, it will also be available on ToupTek Astro's official website, Apple App Store and Google Play.

Power On: Plug in StellaVita and turn on the power switch. Wait a moment until you hear three sets of beeps:

- The first "beep-beep" indicates the hotspot has started.
- The second "beep-beep" confirms StellaVita is fully operational.
- A final short beep means you can now connect your phone to StellaVita's Wi-Fi.

Wi-Fi Connection: Connect your phone to the Wi-Fi named "StellaVita_XXXX" using the default password "12345678".

Launch the App: Open the StellaVita app and start exploring astrophotography!

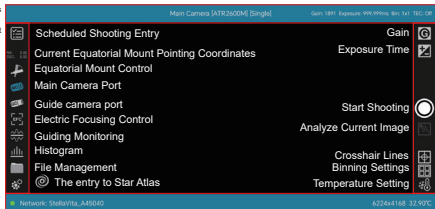
Note: If your StellaVita is from an earlier batch, the software may still display "AstroStation" instead of "StellaVita." This is only a display issue. All hardware remains identical across different batches.

Interface Introduction

Top Title Bar: This section will display the current camera type and shooting mode within the central display area, along with the relevant shooting parameters set by the user.

Left Toolbar: This section will provide tools that are frequently used during shooting.

Device & Other Settings



Right Control Panel: This section will automatically provide relevant control options based on the current functionality being used.

Bottom Status Bar: On the left side, it will display the current network connection status and the connection status with AstroStation. On the right side, it will display status information for certain functions used by the user, such as resolution and chip temperature.

File Storage

1.Firmware Upgrade

StellaVita supports two image storage options: internal eMMC storage and external SD card storage, each with its export method.

External SD Card (recommended)

- Works like a DSLR camera - quick and convenient.
- Supports hot-swapping.
- To use an SD card, go to Settings > Misc in the app and select SD Card Storage.
- After capturing images, remove the SD card and transfer files to your computer via a card reader.

2.Internal Storage & Wi-Fi Transfer

- After capturing images, connect a computer or other device to StellaVita's Wi-Fi.
- Open the File Explorer and enter \\10.0.10.1 in the address bar.
- If prompted, enter the Username: "as" and Password: "astrostation" to wirelessly access and export images.

Software Updates

1.App Updates

Android: Contact customer support or technical support for the StellaVita app. It is possible to download it from the official website or app stores in the future. For updates, uninstalling and reinstalling the new version may change the image storage path. It is recommended to install the new version over the existing one to avoid this issue.

iOS: Currently in testing. Stay tuned.

2.Firmware Updates

2.1 OTA Updates

OTA (Over-the-Air) updates can upgrade StellaVita's Core, Indi, and supported astronomy brands' SDKs.

Check Firmware Version

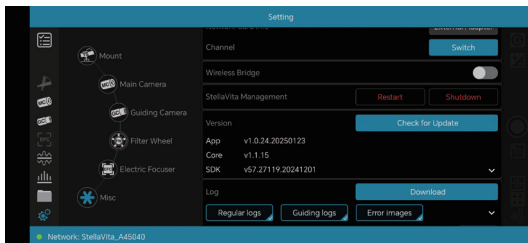
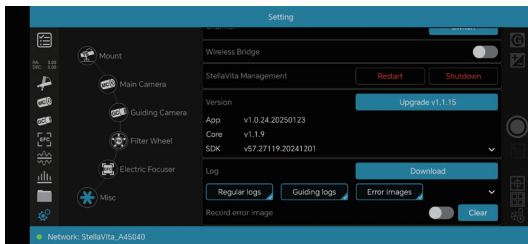
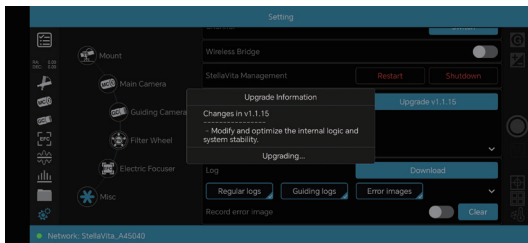
- Connect your phone/tablet to StellaVita's Wi-Fi and open the app.
- The app will automatically retrieve StellaVita's firmware version.

Download Update Package

- Connect to an internet network and open the StellaVita app again. The app will automatically check for the available update package. Or open the app and check Settings > Misc > Version. Tap "Check for Update" in the upper-right corner.
- If an update is available, download the package.

Install the Update

- After downloading the update package, reconnect to StellaVita's Wi-Fi and open the app. The app will automatically detect if an installable update package is available. Or go to Settings > Misc > Version, and tap "Install Update" to complete the firmware upgrade.



2.2 SD Card Updates

You can also update StellaVita's Core and supported camera SDKs via SD card firmware upgrades.

Prepare an SD Card

- Use an SD card with enough free space.
- Download the firmware (.aspkg file) from the official ToupTek community or contact consumer support and technical support. Or contact the manufacturer of the camera to download the SDK.
- Format the SD card to FAT32 or exFAT and place the firmware file or SDK in the root directory of the SD card.

Update Process

- Insert the SD card into StellaVita until you hear a "click" (hot-swappable).
- Power on StellaVita and connect to its Wi-Fi via a phone or tablet.
- Open the app. If the firmware is detected, you'll be prompted to update.
- If no prompt appears, go to Settings > Misc > Version and tap "Check for Update" to manually start upgrading StellaVita's Core and supported camera SDKs.

Note: There are multiple firmware versions due to ongoing optimizations of the app and Core of StellaVita. Older versions may not support OTA updates directly. If OTA fails, update via SD card first, then try OTA. If you encounter any issues, please contact customer support or technical support for assistance.

For more information, please visit ToupTek Astro's official website at

<https://www.touptek-astro.com/>.

Should you encounter any other issues during use, feel free to contact

ToupTek Astro email: **astro@touptek.com** or through the purchase channel.

This guide may be updated without prior notice.

You can find the latest version of the "User Manual" on the **ToupTek Astro** official website.

本指南如有更新，恕不另行通知。

您可在图谱天文官网查询最新版《用户手册》

If you have any questions or suggestions, please contact us via the following email:

如果有任何的疑问或建议，请通过以下电子邮箱联系我们：

astro@touptek.com

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