ZWO Seestar S50

ZWO Seestar S50 Smart Digital Telescope User Manual

Model: Seestar S50 | Brand: ZWO

Introduction

The ZWO Seestar S50 is an integrated smart digital telescope designed for both beginners and experienced users. It combines a telescope, electrical focuser, astronomical camera, ASIAIR, altazimuth mount, and dew heater into a compact and portable unit weighing only 2.5kg. It features professional-grade triplet apochromatic optics for crisp, low-noise images with excellent chromatic aberration control. The Seestar S50 offers full-automatic find and track capabilities, allowing users to easily access celestial objects via a smartphone app. Advanced features like EQ Mode, Plan Mode, and Mosaic Mode provide enhanced astrophotography options. Built-in Bluetooth and Wi-Fi ensure seamless wireless connectivity.



Figure 1: The ZWO Seestar S50 Smart Digital Telescope, showing the main unit, tripod, carrying case, USB-C cable, and quick start guide.

What's in the Box

Upon unboxing your ZWO Seestar S50, please verify that all the following components are included:

- Seestar S50 Telescope Unit
- Carrying Case
- Carbon Fiber Tripod
- Type-C Cable
- Quick Start Guide



Figure 2: All components included in the Seestar S50 package, neatly arranged for inspection.

Setup

Initial Setup

1. **Unpack the Seestar S50:** Carefully remove the telescope unit, tripod, and accessories from the carrying case.
2. **Attach the Tripod:** Extend the carbon fiber tripod legs and ensure it is stable. The Seestar S50 comes with a complimentary compact tripod. It can also be connected to various photography tripods through a 3/8" screw thread for stable and precise positioning.
3. **Mount the Seestar S50:** Securely attach the Seestar S50 unit to the tripod.
4. **Power On:** Press and hold the power button on the Seestar S50 until the indicator lights illuminate.
5. **Download the App:** Download the official Seestar app from your device's app store.
6. **Connect via Bluetooth/Wi-Fi:** Open the Seestar app on your smartphone or tablet and follow the on-screen instructions to connect to your Seestar S50 via Bluetooth or Wi-Fi.
7. **Level the Device:** Ensure the Seestar S50 is level using the app's leveling indicator for optimal performance.



Figure 3: The Seestar S50 connected to a smartphone displaying the app interface, ready for operation.

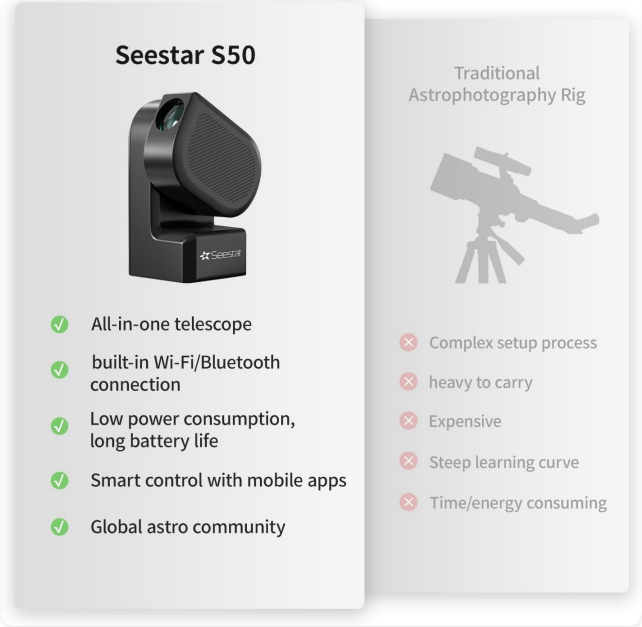


Figure 4: Illustration of the full-automatic find and track feature, showing the Seestar S50 and a smartphone displaying a star map for target acquisition.

Video 1: An official product video titled 'Explore the Universe with Seestar S50' from ZWO STORE, demonstrating the setup and initial use of the Seestar S50 telescope.

Operating the Seestar S50

Seestar App Features

The Seestar app provides comprehensive control over your telescope, offering various modes to enhance your observation and astrophotography experience:

- **EQ Mode:** This mode utilizes an equatorial mount setup, providing more accurate tracking of celestial objects compared to

the standard Alt-Az mode. It is ideal for longer exposure times and reduced field rotation, leading to professional-level astrophotography results.

- **Plan Mode:** Allows you to select multiple targets for capture. You can set necessary parameters for each target and schedule when to photograph them, automating your observation sessions.
- **Mosaic Mode:** Automatically stitches two images together from adjacent patches of the night sky. This feature enables you to achieve larger fields of view than normally possible, similar to creating a panoramic photo.

The app also provides access to tonight's best targets, GoTo functionality, a live star database view, and auto voice broadcast for imaging progress updates.



Figure 5: The Seestar S50 demonstrating its tilt and pan capabilities, highlighting its support for Equatorial Mode with a dedicated mount.

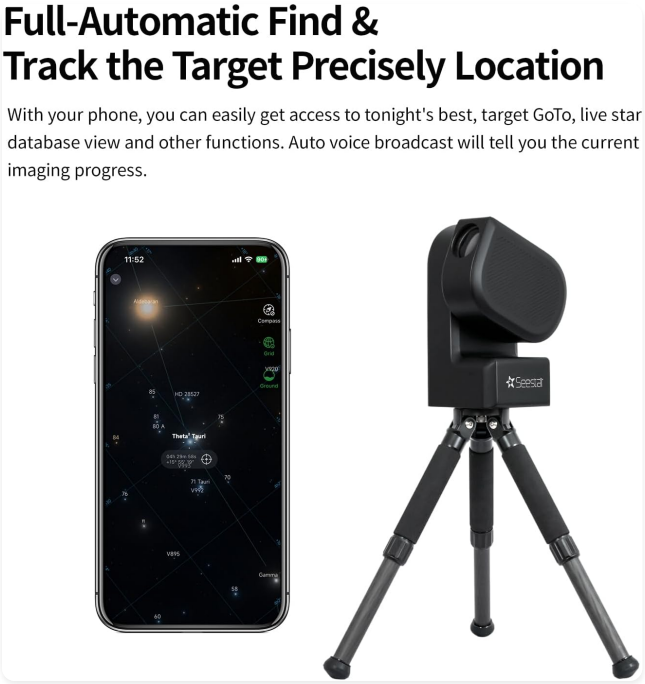


Figure 6: A user interacting with the Seestar S50 via a smartphone in an outdoor setting, showcasing the wireless control.



Figure 7: A child engaging with the Seestar S50 app, illustrating its user-friendly interface for all ages.



Figure 8: A user observing the night sky with the Seestar S50, highlighting its use in low-light conditions for astronomical viewing.

Maintenance

To ensure the longevity and optimal performance of your ZWO Seestar S50, follow these maintenance guidelines:

- **Cleaning Optics:** Use a soft, lint-free microfiber cloth specifically designed for optical lenses to gently wipe the telescope's lens. For stubborn smudges, use a specialized optical cleaning solution sparingly. Avoid touching the lens with bare hands.
- **Cleaning Body:** Wipe the exterior of the Seestar S50 with a clean, damp cloth. Do not use harsh chemicals or abrasive cleaners.
- **Storage:** Store the Seestar S50 in its original carrying case in a cool, dry place away from direct sunlight and extreme temperatures. Ensure the lens caps are on to protect the optics from dust.
- **Battery Care:** The Seestar S50 uses Lithium Ion batteries. For long-term storage, it is recommended to charge the battery to about 50% capacity. Avoid fully discharging the battery frequently, as this can reduce its lifespan.
- **Dew Heater:** The integrated dew heater helps prevent condensation on the lens. Ensure it is functioning correctly in humid

conditions.

Troubleshooting

If you encounter issues with your ZWO Seestar S50, please refer to the following common troubleshooting steps:

- **Device Not Powering On:** Ensure the battery is sufficiently charged. Connect the Type-C cable and try charging for at least 30 minutes before attempting to power on again.
- **Cannot Connect to App:** Verify that Bluetooth and Wi-Fi are enabled on your smartphone/tablet. Ensure the Seestar S50 is powered on and within range. Try restarting both the Seestar S50 and your mobile device.
- **Poor Image Quality:** Check if the lens is clean and free from dust or smudges. Ensure the device is properly focused (autofocus should handle this, but manual adjustment might be needed in extreme cases). Verify that the sky conditions are clear and free from excessive light pollution.
- **Tracking Issues:** Ensure the tripod is stable and the device is perfectly level. Recalibrate the device's position using the app if necessary.
- **App Crashing/Freezing:** Ensure your Seestar app is updated to the latest version. Clear the app's cache or reinstall it if problems persist.

For persistent issues not resolved by these steps, please contact ZWO customer support.

Specifications

Detailed technical specifications for the ZWO Seestar S50 Smart Digital Telescope:

Feature	Specification
Product Dimensions	5.1 x 5.6 x 10.1 inches (5.1"D x 5.6"W x 10.1"H)
Item Weight	5.5 pounds
Item Model Number	Seestar S50
Batteries	2 Lithium Ion batteries required
Date First Available	July 11, 2024
Manufacturer	ZWO
Color	Black
Compatible Devices	Smartphone
Model Name	Seestar S50
Maximum Height (Tripod)	363 Millimeters
Tripod Head Type	Pan Heads
Folded Size (Tripod)	274.5mm (compact storage length of the tripod only)

Warranty and Support

ZWO offers various protection plans for your Seestar S50. You may consider purchasing a 2-Year or 3-Year Protection Plan for extended coverage. Additionally, a 'Complete Protect' plan is available, covering all eligible past and future purchases on a monthly basis.
For detailed safety information, please refer to the official PDF document:Safety Information (PDF).
For further assistance, product information, or to explore other ZWO products, visit the official ZWO Store:ZWO Official Store.

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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

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Email

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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