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Celestron StarSense Explorer LT 114AZ

Celestron StarSense Explorer LT 114AZ Newtonian Reflector Telescope User Manual

Model: StarSense Explorer LT 114AZ

Brand: Celestron

1. INTRODUCTION AND OVERVIEW

The Celestron StarSense Explorer LT 114AZ is an innovative Newtonian reflector telescope designed to make stargazing accessible and enjoyable for beginners. It leverages smartphone technology to analyze the night sky in real-time, guiding users to celestial objects with ease. This manual provides comprehensive instructions for setting up, operating, maintaining, and troubleshooting your telescope.



Figure 1.1: Celestron StarSense Explorer LT 114AZ Telescope with smartphone dock, eyepieces, and Barlow lens.

2. WHAT'S IN THE BOX

Upon unboxing your Celestron StarSense Explorer LT 114AZ, verify that all the following components are present:

- Optical Tube
- Mount and Tripod (preassembled)
- 25mm Eyepiece
- 10mm Eyepiece
- 2x Barlow Lens
- StarPointer Finderscope
- StarSense Smartphone Dock

EVERYTHING YOU NEED FOR ASTRONOMY

- StarSense smartphone dock
- Red dot finderscope (in case you want to use the telescope without your phone)
- Sturdy, full-height tripod



Figure 2.1: Key components including the StarSense smartphone dock, red dot finderscope, and full-height tripod.

3. SETUP INSTRUCTIONS

Follow these steps to assemble your telescope and prepare it for observation:

1. **Unpack Components:** Carefully remove all items from the packaging.
2. **Set Up Tripod:** Extend the tripod legs to their full height and spread them apart for stability. Ensure the accessory tray is securely attached to the tripod brace.
3. **Attach Optical Tube:** Mount the optical tube onto the altazimuth mount. Secure it using the provided screws and knobs.
4. **Install Finderscope:** Attach the StarPointer finderscope to its designated bracket on the optical tube.
5. **Insert Eyepiece:** Insert the 25mm eyepiece into the focuser. This eyepiece provides a lower magnification, ideal for initial alignment and wider field of view.
6. **Attach Smartphone Dock:** Securely attach the StarSense smartphone dock to the telescope.
7. **Download StarSense Explorer App:** Download the Celestron StarSense Explorer app from your smartphone's app store (available on App Store and Google Play).

8. **Initial App Setup:** Launch the app and follow the on-screen instructions for initial setup and calibration. This process uses your phone's camera to analyze star patterns and precisely align the telescope.



Figure 3.1: The simple 3-step process for setting up your StarSense Explorer telescope.

4. OPERATING INSTRUCTIONS

4.1 Using the StarSense Explorer App

The StarSense Explorer app is your primary tool for navigating the night sky:

- Dock Your Smartphone:** Place your smartphone securely into the StarSense dock.
- Launch App:** Open the StarSense Explorer app. The app will display a real-time view of the sky through your phone's camera.
- Sky Recognition:** The app uses patented sky recognition technology to identify star patterns and determine the telescope's exact position.
- Select Object:** The app will generate a list of the best celestial objects visible from your location at that

specific time. Select an object from this list.

5. **Follow Arrows:** On-screen arrows will guide you to manually move the telescope towards your selected object.
6. **Observe:** Once the bullseye on the app turns green, your target is centered in the eyepiece, ready for observation.

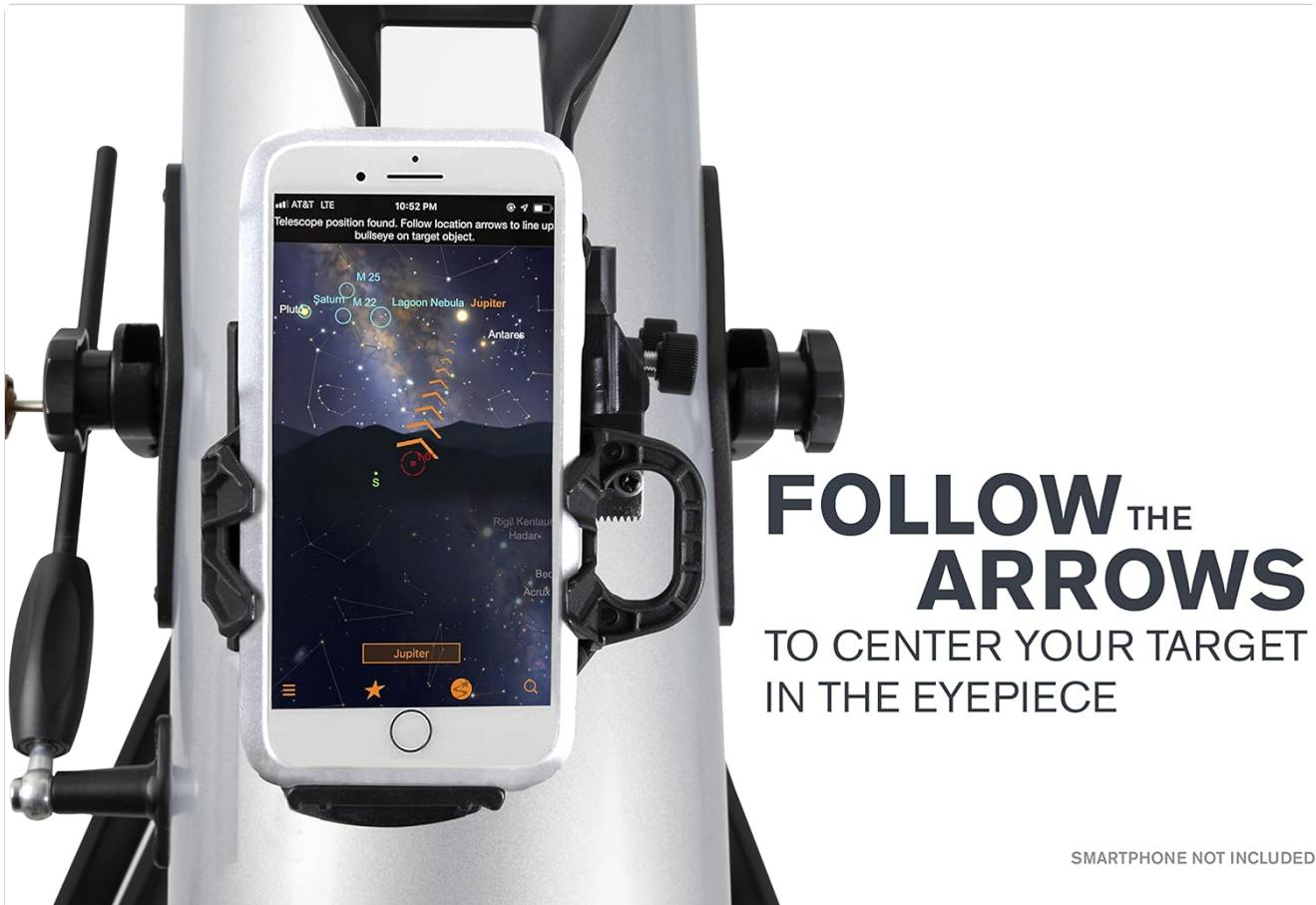


Figure 4.1: The StarSense Explorer app provides directional arrows to guide your telescope to celestial targets.

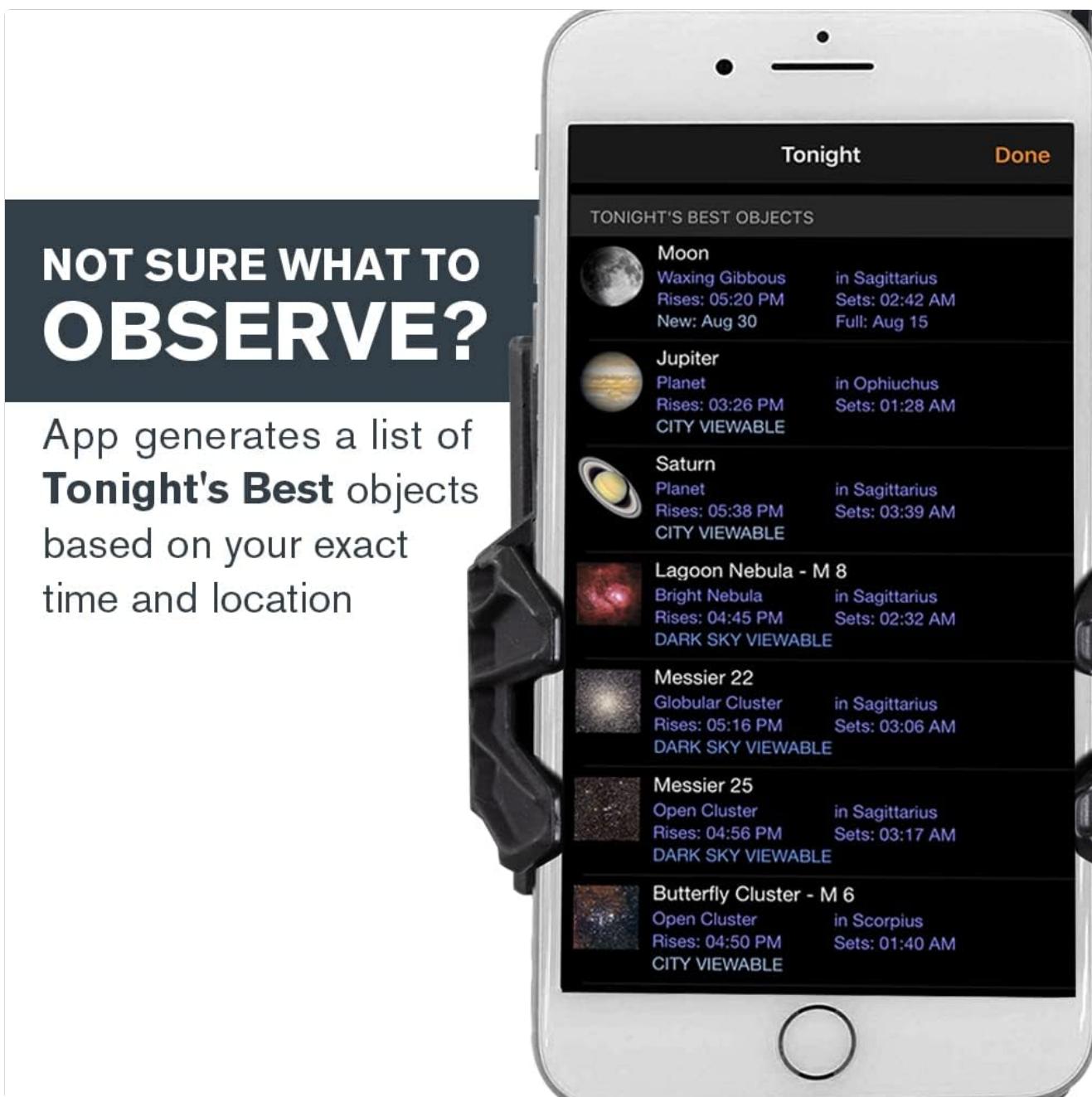


Figure 4.2: The app generates a curated list of visible objects based on your time and location.

4.2 Manual Operation and Eyepiece Usage

The telescope features a manual altazimuth mount with altitude slow motion adjustment for smooth tracking. You can also use the telescope without the app by using the StarPointer finderscope.

- **Eyepieces:** The telescope includes 25mm (40x magnification) and 10mm (100x magnification) eyepieces. Use the 25mm for wide views and the 10mm for higher magnification.
- **2x Barlow Lens:** Insert the 2x Barlow lens before an eyepiece to double its magnification (e.g., 25mm with Barlow = 80x, 10mm with Barlow = 200x).
- **Focusing:** Use the focuser knobs to achieve a sharp image.



Figure 4.3: Different magnification levels provided by the included eyepieces.

4.3 Official Product Video

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Video 4.1: Official Celestron video demonstrating the StarSense Explorer LT telescope's features and ease of use with a smartphone.

5. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your telescope:

- **Cleaning Optics:** Use a soft, lint-free cloth (like the included lens cloth) and specialized optical cleaning fluid to gently clean the telescope lenses and mirrors. Avoid touching optical surfaces with bare hands.
- **Dust Protection:** Always keep dust caps on the optical tube and eyepieces when not in use.
- **Storage:** Store the telescope in a dry, dust-free environment. The original packaging is ideal for long-term storage.
- **Avoid Extreme Temperatures:** Do not expose the telescope to rapid temperature changes or extreme heat/cold, as this can affect optical components.

6. TROUBLESHOOTING

Common issues and their solutions:

Problem	Possible Cause	Solution
Cannot see anything through eyepiece.	Dust caps are on. Eyepiece not inserted correctly. Object not in field of view.	Remove all dust caps. Ensure eyepiece is fully inserted and secured. Use the StarSense app to center the object.
Image is blurry.	Out of focus. Atmospheric conditions.	Adjust the focuser knobs slowly. Observe on nights with steady air (less twinkling stars).
StarSense app not aligning.	Phone not properly docked. Poor visibility of stars.	Ensure phone is firmly seated in the dock. Try calibrating on a clearer night or from a darker location.
Telescope moves too easily/is unstable.	Tripod legs not fully extended/locked. Mount knobs loose.	Fully extend and lock tripod legs. Tighten all mount adjustment knobs.

7. SPECIFICATIONS

Feature	Detail
Product Dimensions	23.62 x 38 x 38 inches (folded) / 36"D x 36"W x 60"H (assembled)
Item Weight	10.4 pounds
Item Model Number	22452-CGL
Optical Tube Length	24 Inches
Objective Lens Diameter	114 Millimeters
Eyepiece Description	25mm and 10mm eyepieces
Telescope Mount Type	Altazimuth Mount
Focus Type	Manual Focus
Finderscope	Reflex (StarPointer)
Power Source	Battery Powered (for finderscope, 1 Lithium Metal battery included)

8. WARRANTY AND SUPPORT

Your Celestron StarSense Explorer LT 114AZ telescope comes with a **2-Year US Warranty**. For any technical assistance or support, please reach out to Celestron's team of US-based experts. Additional warranty details and

support resources can be found on the official Celestron website.

For more information, visit the [Celestron Store on Amazon](#) or refer to the [Warranty \(PDF\)](#).