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› Celestron StarSense Explorer LT 80AZ Telescope Instruction Manual

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Model: StarSense Explorer LT 80AZ

INTRODUCTION

The Celestron StarSense Explorer LT 80AZ is an app-enabled refractor telescope designed to simplify stargazing for beginners. It utilizes your smartphone to analyze the night sky and guide you to celestial objects in real-time. This manual provides detailed instructions for assembling, operating, maintaining, and troubleshooting your telescope.

WHAT'S IN THE BOX

Carefully unpack all items and ensure you have received the following components:

- Optical tube
- Mount and tripod (preassembled)
- 25mm eyepiece
- 10mm eyepiece
- Erect image diagonal
- 2x Barlow Lens
- StarPointer™ red dot finderscope
- Accessory tray
- StarSense Explorer phone dock



Image: All components of the Celestron StarSense Explorer LT 80AZ Telescope, including the optical tube, tripod, smartphone dock, eyepieces, Barlow lens, diagonal, and red dot finderscope.

SETUP INSTRUCTIONS

1. **Assemble the Tripod and Mount:** Extend the tripod legs to a suitable height and secure them. Attach the accessory tray to the center brace for stability and storage.
2. **Attach the Optical Tube:** Place the telescope's optical tube onto the altazimuth mount. Ensure it is securely fastened using the provided screws or clamps.
3. **Install the Finderscope:** Slide the StarPointer™ red dot finderscope into its bracket on the optical tube and tighten the retaining screw. Remove the plastic tab from the battery compartment to activate the battery.
4. **Insert the Diagonal and Eyepiece:** Insert the erect image diagonal into the focuser of the telescope. Then, insert either the 25mm or 10mm eyepiece into the diagonal and secure it with the thumbscrew. For higher magnification, you can insert the 2x Barlow lens between the diagonal and the eyepiece.

5. **Attach the StarSense Explorer Phone Dock:** Mount the StarSense Explorer phone dock onto the optical tube. Ensure it is firmly attached.

PERFECT FOR BEGINNERS

EASY AS 1-2-3

1 DOCK
YOUR SMARTPHONE

2 LAUNCH
THE STARSENSE EXPLORER APP

3 OBSERVE
STARS, PLANETS AND MORE

SMARTPHONE
NOT INCLUDED



Image: Visual guide illustrating the simple 1-2-3 setup process: dock your smartphone, launch the StarSense Explorer app, and begin observing.

OPERATING INSTRUCTIONS

Using the StarSense Explorer App

1. **Download and Launch the App:** Download the StarSense Explorer app from your smartphone's app store (compatible with iPhone 6 and up, and most Android phones from 2016 or later running Android 7.1.2 or newer). Launch the app.
2. **Dock Your Smartphone:** Place your smartphone securely into the StarSense Explorer phone dock.
3. **Align Your Phone:** Follow the in-app instructions to align your phone's camera with the telescope's optics. This one-time alignment ensures accurate sky recognition.
4. **Select a Target:** The app will generate a list of the best celestial objects visible from your current location and time. Select an object from this list.

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

FOLLOW^{THE} ARROWS

TO CENTER YOUR
TARGET IN THE
EYEPIECE



SMARTPHONE NOT INCLUDED

Image: A smartphone docked in the StarSense Explorer mount, displaying on-screen arrows that guide the user to center a celestial target in the telescope's eyepiece.

NOT SURE WHAT TO OBSERVE?

App generates a list of **Tonight's Best** objects based on your exact time and location



Image: A smartphone screen showing the StarSense Explorer app's 'Tonight's Best Objects' feature, listing visible celestial bodies based on time and location.

Eyepiece Usage and Magnification

The telescope comes with two eyepieces: a 25mm for lower magnification and a wider field of view, and a 10mm for higher magnification. The 2x Barlow lens doubles the magnification of any eyepiece it is used with.

- **25mm Eyepiece:** Provides a magnification of 36x. Ideal for locating objects and viewing larger celestial bodies like the Moon or star clusters.
- **10mm Eyepiece:** Provides a magnification of 90x. Suitable for more detailed views of planets and smaller deep-sky objects.
- **2x Barlow Lens:** When used with the 25mm eyepiece, it provides 72x magnification. With the 10mm eyepiece, it provides 180x magnification.



Image: A visual comparison demonstrating the magnification difference between the 25mm eyepiece (36x) and the 10mm eyepiece (90x) when observing the Moon.

MAINTENANCE

Proper care and maintenance will ensure the longevity and optimal performance of your telescope.

- **Cleaning Optics:** Use a soft, lint-free cloth specifically designed for optical lenses. Breathe lightly on the lens to fog it, then gently wipe with circular motions. Avoid touching optical surfaces with your fingers.
- **Cleaning the Telescope Body:** Wipe the exterior of the telescope with a soft, clean cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the telescope in a dry, dust-free environment. Keep all caps on the optical tube and eyepieces when not in use to prevent dust accumulation.
- **Environmental Considerations:** Avoid exposing the telescope to extreme temperatures or sudden temperature changes, which can cause condensation.

TROUBLESHOOTING

If you encounter issues with your StarSense Explorer LT 80AZ telescope, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
App cannot connect or locate position	Poor GPS signal, incorrect phone alignment, app glitch.	Ensure you are in an open area with clear sky view. Re-align your phone with the telescope optics as per app instructions. Restart the app or your phone. Check for app updates.
Image is blurry or out of focus	Focuser not adjusted, atmospheric conditions, incorrect eyepiece.	Adjust the focuser knob slowly until the image is sharp. Allow the telescope to equalize to ambient temperature. Ensure you are using the correct eyepiece for the object.
Cannot see anything through the eyepiece	Dust caps on, finderscope not aligned, wrong target.	Remove all dust caps from the telescope and eyepiece. Ensure the red dot finderscope is aligned with the main telescope. Verify the app is guiding you to a visible object.
Telescope assembly issues (e.g., missing holes)	Manufacturing defect.	Contact Celestron customer support immediately for assistance or replacement parts.

SPECIFICATIONS

Feature	Detail
Optical Design	Refractor
Aperture	80 mm (3.15 inches)
Focal Length	900 mm
Focal Ratio	f/11
Eyepieces	25mm (36x), 10mm (90x)
Barlow Lens	2x
Finderscope	StarPointer™ red dot finderscope
Mount Type	Altazimuth Mount
Tripod	Full-height aluminum tripod
Smartphone Compatibility	iPhone 6 and up, most Android phones from 2016 or later (Android 7.1.2+)
Item Weight	9.2 pounds
Product Dimensions	38.98 x 18.03 x 11.02 inches
Model Number	22451

WARRANTY AND SUPPORT

Your Celestron StarSense Explorer LT 80AZ Telescope is backed by a **2-Year US Warranty**. This warranty covers defects in materials and workmanship under normal use.

For warranty claims, technical assistance, or any questions regarding your telescope, please contact Celestron customer support. You can also refer to the official warranty document for detailed terms and conditions:

[Download Warranty \(PDF\)](#)

Celestron provides unlimited support from their team of US-based experts to assist you with your product.

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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

Anonymous

Email

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

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