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› [Celestron](#) /

› [Celestron - PowerSeeker 50AZ Telescope - Manual Alt-Azimuth Telescope for Beginners - Compact and Portable - Bonus Astronomy Software Package - 50mm Aperture 50AZ Refractor W/Basic Smartphone Adapter](#)

## Celestron 21039

# Celestron PowerSeeker 50AZ Telescope Instruction Manual

Model: 21039

Brand: Celestron

## INTRODUCTION

The Celestron PowerSeeker 50AZ is a powerful yet easy-to-use refractor telescope designed for beginners and intermediate astronomers. It offers a combination of value, quality, and user-friendly features, making it ideal for observing celestial objects like the Moon, planets, and distant galaxies. This manual provides essential information for setting up, operating, and maintaining your telescope to ensure optimal performance and enjoyment.

## WHAT'S IN THE BOX

Your Celestron PowerSeeker 50AZ Telescope package includes the following components:

- Optical tube
- Mount
- 20mm, 12mm, and 4mm eyepieces
- 1.5x image erecting eyepiece
- Star diagonal
- Finderscope
- 3x Barlow Lens



Image: All components of the Celestron PowerSeeker 50AZ Telescope, including the main optical tube, tripod, various eyepieces, and accessories.

## SETUP GUIDE

Follow these steps to assemble your Celestron PowerSeeker 50AZ Telescope:

- 1. Assemble the Tripod:** Extend the tripod legs to a stable height. Ensure the accessory tray is securely attached to provide stability and a convenient place for your eyepieces.
- 2. Attach the Mount:** Secure the Alt-Azimuth mount to the top of the tripod.
- 3. Mount the Optical Tube:** Carefully attach the telescope's optical tube to the mount. Ensure it is firmly secured with the provided screws or clamps.
- 4. Install the Finderscope:** Attach the finderscope to its bracket on the optical tube. This will help you locate objects before viewing them through the main telescope.
- 5. Insert the Star Diagonal:** Place the star diagonal into the focuser of the telescope. This accessory provides a more comfortable viewing angle.



6. **Insert an Eyepiece:** Choose an eyepiece (e.g., the 20mm for wider views) and insert it into the star diagonal.

7. **Adjust Height:** The tripod allows for height adjustment, making it suitable for various users.



Image: The Celestron PowerSeeker 50AZ Telescope shown at two different heights, demonstrating its adjustable tripod for comfortable viewing.

Video: An overview of the Celestron PowerSeeker AZ Telescopes, demonstrating assembly and basic operation. This video provides visual guidance for setting up your telescope.

## OPERATING YOUR TELESCOPE

The PowerSeeker 50AZ features a manual Alt-Azimuth mount, providing intuitive control for navigating the night sky.

- **Pointing and Tracking:** Use the slow-motion altitude rod to make smooth, precise adjustments in the up/down direction. The yoke mount allows for easy horizontal movement. Adjust the rod to the desired position and secure it

with the cross knob.

- **Eyepiece Selection:** Experiment with the included eyepieces (20mm, 12mm, 4mm) to achieve different magnifications. The 20mm eyepiece provides a wider field of view, ideal for locating objects, while the 4mm offers higher magnification for detailed observations.
- **Barlow Lens:** The 3x Barlow lens triples the magnification of any eyepiece it's used with. Insert the Barlow lens into the focuser first, then insert an eyepiece into the Barlow. Note that very high magnifications can sometimes result in dimmer or less clear images, especially for beginners.
- **Focusing:** Rotate the focuser knob until the image appears sharp and clear. Fine-tuning the focus is crucial for optimal viewing.
- **Day and Night Use:** The telescope is equipped with erect image optics, making it suitable for both astronomical viewing and terrestrial (land-based) observations during the day.



Image: The telescope's versatility for viewing both land-based targets during the day (ducks on water) and celestial objects like the Moon at night.



**30X**  
MAGNIFICATION



**50X**  
MAGNIFICATION



**150X**  
MAGNIFICATION

Image: Examples of different magnifications (30x, 50x, 150x) achievable with the telescope, illustrated with views of the Moon.

# 50mm APERTURE

PROVIDES CRISP  
**WIDE FIELD VIEWS OF**  
• CRATERS ON THE MOON  
• PLANETS



Image: Close-up view highlighting the 50mm aperture, which provides crisp, wide-field views of celestial objects like craters on the Moon and planets.

## MAINTENANCE AND CARE

Proper maintenance will ensure the longevity and performance of your telescope:

- **Cleaning Optics:** Use a soft, lint-free cloth specifically designed for optical lenses. Gently wipe away dust. For stubborn smudges, use a specialized optical cleaning solution sparingly. Avoid touching the lens surfaces with your fingers.
- **Storage:** When not in use, store the telescope in a dry, dust-free environment. Keep all caps on the optical tube and eyepieces to prevent dust accumulation.
- **Handling:** Always handle the telescope by its main tube or mount, avoiding direct contact with the lenses.
- **Environmental Factors:** Avoid exposing the telescope to extreme temperatures or sudden temperature changes, which can cause condensation.

## TROUBLESHOOTING

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If you encounter issues with your telescope, consider the following common solutions:

- **Cannot See Anything / Blurry Image:**

- Ensure all lens caps are removed, including the small cap on the objective lens.
- Adjust the focuser knob slowly until the image becomes sharp.
- Verify that the eyepiece is fully inserted into the diagonal or Barlow lens.
- If using the Barlow lens, ensure it is correctly positioned between the telescope and the diagonal, not between the diagonal and the eyepiece.
- Allow the telescope to acclimate to the outdoor temperature for 20-30 minutes to reduce thermal currents inside the tube.

- **Difficulty Locating Objects:**

- Align your finderscope with the main telescope during daylight hours on a distant, stationary object.
- Start with the lowest magnification eyepiece (20mm) to get a wider field of view, then switch to higher magnification once the object is centered.

- **Image Appears Upside Down or Reversed:**

- This is normal for astronomical telescopes. The included 1.5x image erecting eyepiece can correct the image for terrestrial viewing.

## SPECIFICATIONS

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Feature	Detail
Model Name	PowerSeeker 50AZ Telescope
Item Model Number	21039
Brand	Celestron
Optical Tube Length	70 Millimeters
Objective Lens Diameter	50 Millimeters
Eyepiece Lens Description	20mm, 12mm, and 4mm eyepieces
Telescope Mount Description	Altazimuth Mount
Focus Type	Manual Focus
Item Weight	3.6 pounds
Product Dimensions	34 x 30 x 52 inches
Country of Origin	China

## WARRANTY AND SUPPORT

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Your Celestron PowerSeeker 50AZ Telescope comes with a **2-Year US Warranty**, ensuring peace of mind regarding your

purchase. Celestron is committed to providing excellent customer service and offers unlimited access to technical support from their team of US-based experts.

For detailed warranty information, please refer to the official Warranty PDF document:[Celestron Warranty Information](#).

For additional resources, FAQs, and to contact support, visit the official Celestron Store:[Celestron Store on Amazon](#).

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