

**Celestron 21041-CGL**

# Celestron PowerSeeker 60AZ Telescope Instruction Manual

Model: 21041-CGL

## 1. INTRODUCTION

The Celestron PowerSeeker 60AZ is a refractor telescope designed for amateur astronomers and beginners. It offers a combination of value, quality, and user-friendly features, making it suitable for observing celestial objects such as the Moon, planets, and brighter nebulae, as well as for terrestrial viewing.



Figure 1.1: The Celestron PowerSeeker 60AZ Telescope with its primary components.

## 2. PRODUCT OVERVIEW AND COMPONENTS

The PowerSeeker 60AZ telescope system includes the optical tube, an alt-azimuth mount, an adjustable aluminum tripod, and various optical accessories. Key features include:

- **60mm Aperture:** Provides crisp, wide-field views.
- **700mm Focal Length:** Offers a focal ratio of f/11.67.
- **Alt-Azimuth Mount:** Features slow-motion controls for smooth tracking.

- **Erect Image Optics:** Suitable for both astronomical and terrestrial observations.
- **Fully Coated Glass Optical Components:** Enhances image brightness and clarity.
- **Included Eyepieces:** 20mm (35x magnification) and 4mm (175x magnification).
- **3x Barlow Lens:** Triples the magnifying power of each eyepiece.
- **5x24 Finderscope:** Aids in locating objects.
- **Accessory Tray:** For convenient storage of eyepieces and other small items.



Figure 2.1: The telescope with its standard accessories, including eyepieces and Barlow lens.



Figure 2.2: The telescope's erect image optics allow for clear viewing of both terrestrial and astronomical targets.

### 3. SETUP GUIDE

The PowerSeeker 60AZ is designed for quick and easy assembly without the need for tools. Follow these steps to set up your telescope:

1. **Unpack Components:** Carefully remove all parts from the packaging and lay them out.
2. **Assemble Tripod:** Extend the legs of the aluminum tripod to a stable height. Attach the accessory tray to the tripod brace.
3. **Attach Mount:** Secure the alt-azimuth mount to the top of the tripod.
4. **Mount Optical Tube:** Attach the telescope's optical tube to the mount. Ensure it is securely fastened.
5. **Install Finderscope:** Slide the 5x24 finderscope into its bracket on the optical tube and tighten the retaining screws.
6. **Insert Diagonal and Eyepiece:** Insert the 1.25" erect image diagonal into the focuser. Then, insert the desired eyepiece (e.g., 20mm) into the diagonal and secure it.
7. **Align Finderscope:** During daylight hours, point the main telescope at a distant, stationary object (e.g., a tree or telephone pole). Look through the finderscope and adjust its alignment screws until the object is centered in both the finderscope and the main telescope's eyepiece. This step is crucial for easily locating objects at night.

## 4. OPERATING YOUR TELESCOPE

Using your PowerSeeker 60AZ involves understanding its optical components and mount controls.

### 4.1 Focusing

To focus, turn the focus knob located on the focuser until the image in the eyepiece is sharp. For best results, start with the lowest magnification eyepiece (20mm) and then switch to higher magnifications if desired.

### 4.2 Using Eyepieces and Barlow Lens

The telescope comes with two eyepieces: a 20mm eyepiece for 35x magnification and a 4mm eyepiece for 175x magnification. The 3x Barlow lens can be inserted between the focuser and the eyepiece to triple the magnification of any eyepiece. For example, using the 20mm eyepiece with the 3x Barlow lens will provide 105x magnification ( $35 \times 3$ ).



Figure 4.1: Examples of magnification levels achievable with the included eyepieces.





### 4.3 Navigating the Sky with the Alt-Azimuth Mount

The alt-azimuth mount allows for movement in two axes: altitude (up and down) and azimuth (left and right). Use the slow-motion altitude rod for precise vertical adjustments. While this mount is easy to use, it does not track celestial objects automatically, meaning you will need to manually adjust the telescope to keep objects in view as the Earth rotates.

### 4.4 Astronomy Software

Your telescope includes a free download of Celestron's

#### Related Documents

	<p><a href="#">Celestron PowerSeeker 60EQ Instruction Manual: Your Guide to Amateur Astronomy</a></p> <p>Discover the universe with the Celestron PowerSeeker 60EQ telescope. This instruction manual provides detailed guidance on assembly, operation, and maintenance for amateur astronomers.</p>
	<p><a href="#">Celestron PowerSeeker 127EQ Quick Setup Guide</a></p> <p>A comprehensive quick setup guide for the Celestron PowerSeeker 127EQ telescope, covering assembly, alignment, and first observations.</p>
	<p><a href="#">Celestron Heavy-Duty Alt-Azimuth Tripod Quick Setup Guide</a></p> <p>A quick setup guide for the Celestron Heavy-Duty Alt-Azimuth Tripod (Item #93607), providing step-by-step instructions for assembly and parts identification.</p>
	<p><a href="#">Celestron AstroMaster LT Series Telescopes Instruction Manual</a></p> <p>Comprehensive instruction manual for Celestron AstroMaster LT series telescopes, covering assembly, operation, basic astronomy, observing techniques, and maintenance for models like the 60AZ, 70AZ, and 76AZ.</p>