Celestron Heliostar 76 H-Alpha Telescope Bundle

Celestron Heliostar 76 H-Alpha Telescope Bundle User Manual

Model: Heliostar 76 H-Alpha Telescope with SolarQuest Mount

Introduction

This manual provides essential information for the safe and effective operation of your Celestron Heliostar 76 H-Alpha Telescope Bundle. Please read through these instructions carefully before initial use to ensure optimal performance and longevity of your equipment. This bundle includes the Celestron Heliostar 76 H-Alpha 76mm Aperture Telescope and the SolarQuest Solar Tracking Mount with HelioFind Solar Finder.

Safety Precautions

WARNING: Never look directly at the sun without proper solar filters. Permanent eye damage or blindness can result. The Celestron Heliostar 76 H-Alpha Telescope is specifically designed for safe solar observation, but always ensure all components are correctly assembled and filters are securely in place before viewing.

- Always supervise children when using the telescope.
- Do not modify the telescope or its components.
- Store the telescope in its protective hard case when not in use.

Setup and Assembly

1. Unboxing and Component Identification

Carefully remove all components from the packaging. Verify that all items listed below are present. Refer to the image for visual identification of the bundle contents.

Figure 1: The image displays the Celestron Heliostar 76 H-Alpha Telescope, its protective hard case, the SolarQuest Solar Tracking Mount with its tripod, and various accessories including eyepieces and a camera phone adapter. This illustrates all components included in the bundle.

- Celestron Heliostar 76 H-Alpha Telescope (76mm Aperture, 630mm Focal Length)
- SolarQuest Solar Tracking Mount with HelioFind Solar Finder
- 20mm 70-degree Eyepiece
- Camera Phone Adapter
- Protective Hard Case

2. Assembling the SolarQuest Mount

1. Extend the tripod legs of the SolarQuest mount to a stable position. Ensure the tripod is level on a firm surface.
2. Attach the mount head to the tripod. Secure it firmly using the provided locking mechanism.

3. Attaching the Heliostar 76 Telescope

1. Carefully place the Heliostar 76 telescope tube into the mounting rings on the SolarQuest mount.
2. Tighten the mounting ring screws to secure the telescope. Ensure it is balanced.
3. Insert the 20mm 70-degree eyepiece into the focuser. Secure it with the thumbscrew.

Figure 2: This image shows the fully assembled Celestron Heliostar 76 H-Alpha Telescope mounted on the SolarQuest Solar Tracking Mount, alongside its protective hard case and accessories. This provides a visual reference for the complete setup.

Operating Instructions

1. Powering On and Automatic Alignment (SolarQuest Mount)

The SolarQuest mount features an automatic alignment system for ease of use.

1. Ensure the mount has fresh batteries installed (refer to mount manual for battery type and installation).
2. Place the assembled telescope and mount outdoors in an area with a clear view of the sun.
3. Press the power button on the SolarQuest mount. The built-in GPS and HelioFind solar finder will automatically level the mount and calculate the sun's azimuth and altitude.
4. The mount will then automatically slew to and begin tracking the sun. This process typically takes a few moments.

Figure 3: This image illustrates the Celestron Heliostar 76 H-Alpha Telescope, mounted on its tripod, with a bright sun in the background, symbolizing its primary function of solar observation and tracking.

2. Solar Observation with Heliostar 76 H-Alpha Telescope

The Heliostar 76 is designed for detailed H-alpha solar viewing.

- **Focusing:** Use the 2-inch dual-speed Crayford focuser to achieve a sharp image. The dual-speed mechanism allows for both coarse and fine adjustments.
- **H-Alpha Imaging:** The telescope utilizes Solis etalon technology and a Triffed tuner for high-quality H-alpha imaging, providing a bandpass of less than 0.5Å for detailed views of solar prominences, filaments, and sunspots.
- **Eyepiece Use:** Begin with the provided 20mm 70-degree eyepiece for a wide field of view. You may experiment with other compatible eyepieces for different magnifications.
- **Camera Phone Adapter:** Attach your smartphone to the eyepiece using the camera phone adapter to capture images or videos of your solar observations.

Figure 4: This image highlights three key aspects of the Heliostar 76mm H-Alpha telescope: its 76mm aperture, its ease of use combined with powerful capabilities, and its integrated Heliostar solar finder, all set against a backdrop of Earth and the Sun.

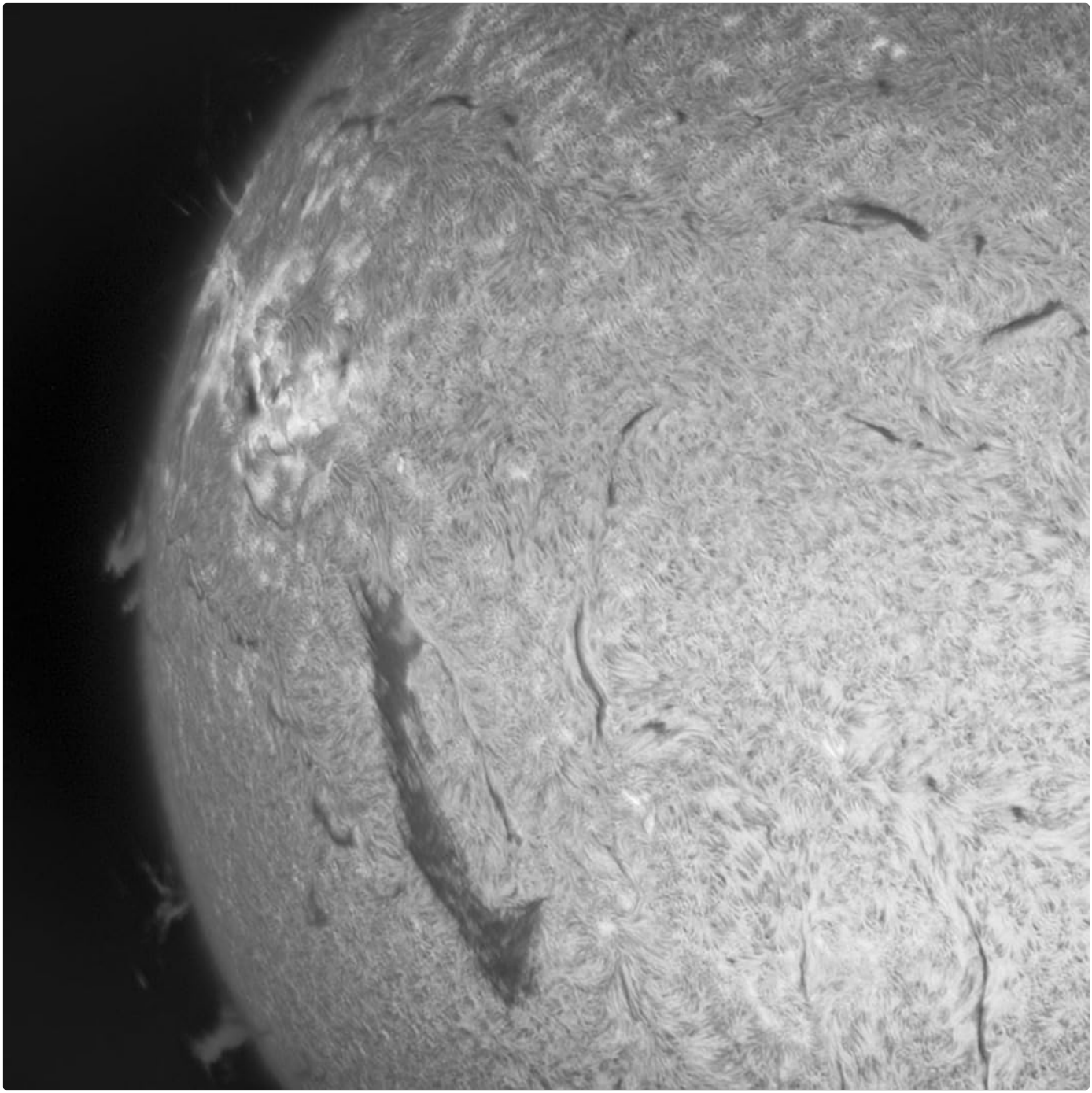


Figure 5: A grayscale image showing a detailed, close-up view of the sun's surface, revealing intricate patterns of granulation and solar features, as seen through the Celestron Heliostar 76 H-Alpha Telescope.

Maintenance and Care

- **Cleaning Optics:** Use a soft, lint-free cloth specifically designed for optical surfaces. Gently wipe away dust. For stubborn smudges, use a specialized optical cleaning solution applied to the cloth, not directly to the lens.
- **Storage:** Always store the telescope and mount in their protective hard case in a cool, dry environment, away from direct sunlight and extreme temperatures.
- **Battery Care:** If the SolarQuest mount will not be used for an extended period, remove the batteries to prevent leakage and corrosion.
- **General Care:** Avoid touching optical surfaces with bare hands. Keep caps on the telescope when not in use.

Troubleshooting

Problem	Possible Cause	Solution
Mount not tracking the sun.	Low batteries; obstructed view of the sun; GPS signal interference.	Replace batteries; move to an open area; restart the mount.
Image is blurry or out of focus.	Focuser not adjusted correctly; atmospheric conditions.	Adjust the Crayford focuser slowly using both coarse and fine adjustments; wait for stable atmospheric conditions.
No image visible.	Lens caps still on; eyepiece not inserted correctly; sun not centered.	Remove all lens caps; ensure eyepiece is fully inserted and secured; allow mount to complete tracking, or manually center the sun using the HelioFind.

Specifications

Feature	Detail
Brand	Celestron
Model	Heliostar 76 H-Alpha Telescope Bundle
Telescope Aperture	76mm
Telescope Focal Length	630mm
Focal Ratio	f/8.3
Bandpass	< 0.5Å
Focuser	2-inch Dual-Speed Crayford
Mount Type	SolarQuest Solar Tracking Mount with HelioFind Solar Finder
Item Weight (Bundle)	59.1 pounds
Product Dimensions	9.1 x 9.1 x 9.1 inches
UPC	196271294795

Figure 6: An infographic summarizing the key specifications of the Celestron Heliostar 76 H-Alpha Telescope, including weight, focal length, lens aperture, bandpass, and application (Surface of the Sun).

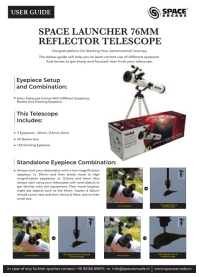
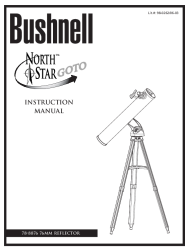
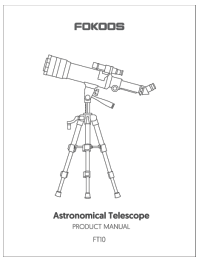
Warranty and Support

For warranty information and technical support, please refer to the official Celestron website or contact Celestron customer service directly. Keep your purchase receipt as proof of purchase for warranty claims.

Celestron Contact Information:

- Visit the official Celestron website for support resources and FAQs.
- Contact Celestron customer service for assistance with product issues or inquiries.

Related Documents - Heliostar 76 H-Alpha Telescope Bundle

	Space Launcher 76mm Reflector Telescope User Guide User guide for the Space Launcher 76mm Reflector Telescope, detailing eyepiece setup, combinations, and focusing techniques for astronomical observation.
	Celestron Astro Fi Telescope Instruction Manual Explore the night sky with the Celestron Astro Fi Telescope (Model #22204). This detailed instruction manual provides clear, step-by-step guidance on assembly, alignment, operation via the SkyPortal app, and smartphone astrophotography. Perfect for beginners and enthusiasts looking to discover celestial wonders.
	Bushnell Northstar Goto Telescope 78-8876 Instruction Manual This manual provides comprehensive instructions for setting up, operating, and maintaining the Bushnell Northstar Goto Telescope 78-8876. It covers assembly, computer interface, alignment procedures, celestial object viewing, and warranty information.
	Celestron EclipSmart Travel Solar Scope 50mm Refractor Telescope Instruction Manual This instruction manual provides detailed guidance on assembling, using, and safely observing the Sun with the Celestron EclipSmart Travel Solar Scope 50mm Refractor Telescope. It covers parts identification, assembly steps, focusing, solar warnings, and information on solar phenomena like eclipses and sunspots.
	FOKOOS FT10 Astronomical Telescope: Product Manual, Setup Guide, and Specifications Comprehensive product manual for the FOKOOS FT10 Astronomical Telescope, covering setup instructions, accessories, maintenance, warranty, and basic parameters. Learn how to assemble, use, and care for your telescope.
	How to Autoguide Celestron Compustar Telescopes: A Complete Guide A comprehensive guide detailing how to autoguide Celestron Compustar telescopes, covering tracking errors, autoguiding techniques, hardware, software, and setup for advanced astrophotography.