

Celestron AstroMaster 114EQ

Celestron AstroMaster 114EQ Newtonian Telescope User Manual

Your guide to exploring the cosmos with your Celestron AstroMaster 114EQ Telescope.

INTRODUCTION

The Celestron AstroMaster 114EQ is a powerful, beginner-friendly telescope designed for both planetary and deep-sky viewing. Its impressive 114mm (4.5") primary mirror gathers plenty of light, revealing detailed views of Saturn's rings, Jupiter's moons, lunar craters, and distant galaxies like Andromeda. Aluminum and SiO₂ coatings boost brightness and contrast, delivering stunning clarity on every target.

If you're looking for a dual-purpose telescope appropriate for both terrestrial and celestial viewing, then the AstroMaster Series is for you. Each AstroMaster model is capable of giving correct views of land and sky. The AstroMaster Series produce bright, clear images of the Moon and planets. It is easy to see the moons of Jupiter and the rings of Saturn with every one of these fine instruments. For views of the brighter deep space objects like galaxies and nebulae, we recommend the larger aperture and light gathering ability of the Newtonian reflectors.

LARGE
114mm APERTURE

PERFECT FOR
DETAILED VIEWS OF

- CRATERS ON THE MOON
- RINGS OF SATURN
- CLOUD BANDS AND MOONS OF JUPITER
- SOME BRIGHTER NEBULAE



The 114mm aperture provides detailed views of celestial objects.

WHAT'S IN THE BOX

Your Celestron AstroMaster 114EQ comes complete with the following components:

- Optical tube
- Tripod and mount (preassembled)
- 20mm eyepiece with built-in erect image corrector
- Standard 10mm eyepiece
- Red-dot finderscope
- Manual



All components included with your AstroMaster 114EQ Telescope.

SETUP

Assembly of your AstroMaster 114EQ is fast and frustration-free, requiring no tools. Follow these steps to get your telescope ready for observation:

1. Unpack all components and ensure all parts listed in the "What's in the Box" section are present.
2. Set up the preassembled tripod and mount. The sturdy, adjustable tripod provides a stable base and can be customized for comfortable viewing for adults or kids, in a standing or seated position.
3. Attach the optical tube to the mount.
4. Install the red-dot finderscope onto the optical tube.
5. Insert the desired eyepiece (e.g., 20mm for lower magnification) into the focuser.



The fully assembled Celestron AstroMaster 114EQ Telescope.



The adjustable tripod allows for varying heights, from 46 inches to 58 inches.

OPERATING YOUR TELESCOPE

Eyepieces and Magnification

Your telescope comes with two eyepieces: a 20mm eyepiece (providing 50x magnification) and a 10mm eyepiece (for higher-power 100x views). The 20mm eyepiece includes a built-in erect image corrector, making it suitable for terrestrial viewing as well.



The 20mm eyepiece provides 50x magnification, and the 10mm eyepiece provides 100x magnification.

Equatorial Mount and Tracking

The sturdy German equatorial mount features slow-motion control knobs that let you make precise manual adjustments in right ascension and declination, perfect for smoothly centering and following objects as they appear to move across the sky due to Earth's rotation.



EQUATORIAL MOUNT WITH SLOW MOTION **CONTROLS** MAKES IT EASY TO FIND AND TRACK CELESTIAL TARGETS

The equatorial mount with slow motion controls allows for precise tracking of celestial targets.

Your browser does not support the video tag.

Official video demonstrating the features of the AstroMaster EQ Telescopes, including the equatorial mount and its ease of use for tracking celestial objects.

Exploring with SkyPortal App

Enhance your stargazing experience with the free Celestron SkyPortal mobile app for iOS and Android. This app helps you quickly locate objects in the night sky and provides audio descriptions for popular celestial bodies, making your observation sessions more informative and enjoyable.

INCLUDES
Starry Night®
EDUCATIONAL SOFTWARE

★ ★ ★ ★ ★
> ONE MILLION DOWNLOADS

LEARN MORE ABOUT
THE NIGHT SKY



CELESTRON
SkyPORTAL™
PLANETARIUM APP

LOCATE THOUSANDS OF OBJECTS
OVERHEAD IN REAL TIME

FREE



Available on the
App Store



ANDROID APP ON
Google play

*LAPTOP AND SMARTPHONE NOT INCLUDED

Utilize the SkyPortal app to locate thousands of objects overhead in real-time and the Starry Night software for planning stargazing sessions.

MAINTENANCE

Proper maintenance will ensure the longevity and optimal performance of your telescope. Keep the optical surfaces clean by using only specialized lens cleaning solutions and cloths. Avoid touching the lenses or mirrors directly. Store the telescope in a dry, dust-free environment when not in use, preferably in its original packaging or a dedicated telescope case.

Regularly check all screws and knobs for tightness, especially on the mount and tripod, to maintain stability. If collimation (alignment of mirrors) is required for Newtonian reflectors, refer to advanced guides or professional assistance to ensure precise optical performance.

TROUBLESHOOTING

Here are some common issues and their potential solutions:

- **Blurry Images:** Ensure the focuser is properly adjusted. Atmospheric conditions (seeing) can also affect image clarity. Allow the telescope to acclimate to the outdoor temperature for 30 minutes or more.
- **Difficulty Finding Objects:** Make sure your red-dot finderscope is properly aligned with the main telescope. Start with the lowest magnification eyepiece (20mm) to get a wider field of view, then switch to higher magnification.
- **Objects Drifting Out of View:** This is normal due to Earth's rotation. Use the slow-motion controls on the equatorial mount to track objects and keep them centered in your eyepiece. Ensure the mount is properly polar aligned for easier tracking.
- **No Image Visible:** Check that the lens caps are removed from both the main optical tube and the finderscope. Ensure an eyepiece is securely inserted into the focuser.

SPECIFICATIONS

Feature	Detail
Model Name	AstroMaster 114EQ Newtonian Telescope
Item Model Number	31042-CGL
Optical Tube Length	70 Millimeters
Objective Lens Diameter	114 Millimeters
Eyepiece Lens Description	20mm eyepiece with built-in erect image corrector, 10mm eyepiece
Telescope Mount Description	CG-2 Equatorial
Finderscope	Built-on StarPointer™ red dot finderscope
Product Dimensions	15.5"D x 15.5"W x 27"H (assembled)
Weight	13.29 Pounds
Power Source	Battery Powered (1 Lithium Metal battery included)

WARRANTY AND SUPPORT

Your Celestron AstroMaster 114EQ Telescope is backed by Celestron's 2-Year Warranty, providing peace of mind for your investment. For any technical assistance or inquiries, unlimited support is available from Celestron's US-based experts.

For detailed warranty terms and conditions, please refer to the official Warranty PDF document available for download:

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

For additional information and resources, you can also refer to the comprehensive User Manual (PDF):

[Download User Manual \(PDF\)](#)



