

Carson RP-400

Carson Red Planet 50-100x90mm Refractor Telescope (RP-400) Instruction Manual

Model: RP-400 | Brand: Carson

INTRODUCTION

The Carson Red Planet Series RP-400 is a refractor telescope designed for astronomical viewing. It features fully coated optics and a heavy-duty aluminum tripod with an equatorial mount, which helps in counteracting shaking and movements. This telescope is equipped with setting circles for precise celestial object location and comes with a 6x30mm finder scope and two high-quality eyepieces (K20mm and K9mm) for optimal viewing results. It is suitable for observing celestial bodies such as the Rings of Saturn and the Moons of Jupiter.



Image: The Carson Red Planet RP-400 Refractor Telescope, fully assembled on its tripod, positioned in a room setting.

WHAT'S IN THE BOX

- K20mm Eyepiece
- K9mm Eyepiece
- 90-degree Corner Lens (Diagonal)
- Adjustable Aluminum Tripod
- 6x30mm Finder Scope
- Counterweight Bar with Counterweight
- Cradle Ring with Lock Knobs
- Equatorial Style Mount

KEY FEATURES

- **Magnification:** 50x-100x

- **Aperture:** 90mm
- **Focal Length:** 1000mm
- **Finder Scope:** 6x30mm for easy object location.
- **Mount Type:** Equatorial Style Mount for precise tracking of celestial objects.
- **Optics:** Superior, fully coated optics for clear images.
- **Durability:** Heavy-duty aluminum tripod for stability.

SETUP GUIDE

This section provides instructions for assembling and setting up your Carson Red Planet RP-400 Refractor Telescope. Proper assembly ensures optimal performance and viewing experience.

1. Tripod and Mount Assembly

Begin by extending the legs of the aluminum tripod to a stable height. Attach the equatorial mount to the tripod head, ensuring it is securely fastened. The equatorial mount is designed to align with the Earth's rotation, allowing for easier tracking of celestial objects.





Image: The Carson Red Planet RP-400 Refractor Telescope fully assembled on its equatorial mount and tripod.

2. Attaching the Telescope Tube

Carefully place the main telescope tube into the cradle ring on the equatorial mount. Secure it using the lock knobs on the cradle ring. Ensure the tube is balanced by adjusting its position within the rings and by attaching the counterweight to the counterweight bar until the telescope is stable and easy to move.



Image: A close-up view of the front (objective lens) of the Carson Red Planet RP-400 Refractor Telescope, showing its red tube and black lens housing.

3. Installing the Finder Scope and Eyepieces

Mount the 6x30mm finder scope onto its designated bracket on the main telescope tube. Insert the 90-degree corner lens (diagonal) into the focuser tube. Then, insert either the K20mm or K9mm eyepiece into the diagonal. The K20mm eyepiece provides lower magnification and a wider field of view, useful for locating objects, while the K9mm offers higher magnification for detailed observation.



Image: A detailed view of the focuser mechanism and an inserted K20mm eyepiece on the Carson Red Planet RP-400 Refractor Telescope.

4. Aligning the Finder Scope

Before observing, align the finder scope with the main telescope. Point the main telescope at a distant, stationary object during daylight hours. Look through the main telescope's eyepiece and center the object. Then, adjust the screws on the finder scope bracket until the same object is centered in the finder scope's crosshairs. This alignment is crucial for easily locating celestial objects at night.

Setup and Usage Overview Video

For a visual guide on choosing and setting up your telescope, including details on refractor and reflector types, and different mount types, please watch the official Carson video below. This video also highlights the ability of Red Planet series telescopes to view deep space objects like the moons of Jupiter and the rings of Saturn.



Video: An overview from Carson on how to choose a telescope, covering refractor and reflector types, and different mount options like Alt-Azimuth and Equatorial mounts. It also discusses the deep space viewing capabilities of the Red Planet series.

OPERATING THE TELESCOPE

1. Focusing

Once an object is located in the eyepiece, turn the focuser knob slowly until the image appears sharp and clear. Fine adjustments may be needed as objects move across the sky or as atmospheric conditions change.

2. Using the Equatorial Mount for Tracking

The equatorial mount is designed to track celestial objects as they appear to move across the night sky due to Earth's rotation. After aligning the mount to the celestial pole (Polar Alignment), you only need to adjust one axis (the Right Ascension axis) to keep an object centered in your eyepiece. This is particularly useful for high-magnification viewing and astrophotography.

3. Deep Space Viewing

The RP-400 telescope is capable of deep space viewing. To observe fainter objects, ensure you are in a dark-sky location away from light pollution. Allow your eyes to adapt to the darkness for at least 20 minutes. Start with the lower magnification K20mm eyepiece to locate the object, then switch to the K9mm eyepiece for a more magnified view.

MAINTENANCE

- **Cleaning Optics:** Use a soft, lint-free cloth specifically designed for optical lenses. Gently brush away any dust particles before wiping. For smudges, use a specialized optical cleaning solution applied to the cloth, not directly to the lens.
- **Storage:** Store the telescope in a dry, dust-free environment. Keep the dust caps on the objective lens and eyepiece holder when not in use to prevent dust accumulation.
- **Handling:** Always handle the telescope by the main tube or mount, avoiding direct contact with optical surfaces.

TROUBLESHOOTING

- **Blurry Images:** Ensure the focuser knob is adjusted correctly. Atmospheric conditions can also cause blurring; try observing on a night with stable air.
- **Difficulty Locating Objects:** Verify that the finder scope is properly aligned with the main telescope. Start with the lowest magnification eyepiece (K20mm) for a wider field of view.
- **Image Drifts Out of View:** For equatorial mounts, ensure proper polar alignment. For both mount types, use the slow-motion controls to track objects.
- **Vibrations:** Ensure the tripod is set up on a firm, level surface. The heavy-duty construction of the equatorial mount helps minimize vibrations.

SPECIFICATIONS

Product Dimensions	40.6 x 43.1 x 61.4 inches (61.4"D x 40.6"W x 43.1"H)
Item Weight	22 pounds
Model Number	RP-400
Brand	Carson

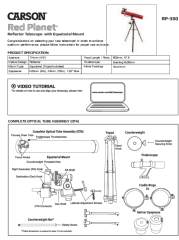
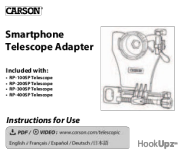

Model Name	Red Planet Series
Objective Lens Diameter	90 Millimeters
Telescope Mount Description	Equatorial Mount
Focus Type	Manual Focus
Finderscope	6x30mm
Lens Coating Description	Glass
Exit Pupil	0.81 Millimeters


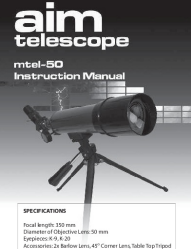
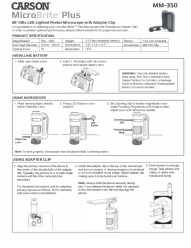
WARRANTY AND SUPPORT

Carson provides a One Year Limited Warranty for this product, covering defects in material and workmanship from the date of purchase. For additional warranty details or support, please contact Carson directly. For further assistance or inquiries, visit the official Carson store:[Carson Store on Amazon](#).

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Related Documents - RP-400

	<p>Carson Red Planet RP-300 Reflector Telescope Assembly and Specifications</p> <p>Assembly instructions and product specifications for the Carson Red Planet RP-300 Reflector Telescope with Equatorial Mount. Learn how to set up and use your telescope.</p>
	<p>CARSON Smartphone Telescope Adapter: Instructions for Use</p> <p>Comprehensive guide to using the CARSON Smartphone Telescope Adapter with your telescope. Learn how to attach your smartphone, align the camera, and capture images. Includes FAQs and tips.</p>
	<p>Carson STAR SR-100 Refractor Telescope Assembly and User Guide</p> <p>Comprehensive guide for assembling and using the Carson STAR SR-100 Refractor Telescope with Alt-Az Mount. Learn about product specifications, assembly steps, and important safety warnings.</p>

 <p>CARSON Smartphone Telescope Adapter</p> <p>Included with: - 1x Smartphone Adapter - 1x 1.25" Eyepiece - 1x 1.25" Eyepiece - 1x 1.25" Eyepiece</p> <p>Instructions for Use English / Français / Español / Deutsch / IT / 日本語</p> <p>HookUpz™</p>	<p>Carson HookUpz™ Smartphone Telescope Adapter: Instructions for Use</p> <p>Comprehensive user guide for the Carson HookUpz™ Smartphone Telescope Adapter, covering setup, phone insertion, alignment with telescopes, photography tips, troubleshooting FAQs, and care instructions.</p>
 <p>aim telescope mTEL-50 Instruction Manual</p> <p>SPECIFICATIONS Focal length: 550 mm Diameter of Objective Lens: 50 mm Aperture: 4.9 x 4.25 Accessories: 2x Barlow Lens, 4x Corner Lens, Table Top Tripod</p>	<p>Carson MTEL-50 Telescope Instruction Manual</p> <p>Instruction manual for the Carson MTEL-50 telescope, covering specifications, assembly, magnification, care, and safety information.</p>
 <p>CARSON MicroBrite Plus MM-350</p> <p>LED Lighted Pocket Microscope with Adapter Clip</p> <p>FEATURES: - LED Lighted Pocket Microscope - Adapter Clip - 1.25" Eyepiece - 1.25" Eyepiece - 1.25" Eyepiece</p> <p>INSTRUCTIONS: 1. Insert the Adapter Clip into the Microscope. 2. Insert the Smartphone into the Adapter Clip. 3. Adjust the Smartphone to the correct position. 4. Turn on the LED Light. 5. Adjust the Focus Wheel to the correct position. 6. Turn on the Microscope.</p>	<p>CARSON MM-350 MicroBrite Plus LED Lighted Pocket Microscope with Adapter Clip User Guide</p> <p>Instructions and specifications for the CARSON MM-350 MicroBrite Plus LED Lighted Pocket Microscope with Adapter Clip, including setup, usage, and safety warnings.</p>