



**iOptron® 150mm**

**Maksutov-Cassegrain Optical Tube Assembly**

# INSTRUCTION MANUAL



***NEVER USE A TELESCOPE TO LOOK AT THE SUN! Looking at or near the Sun will cause instant and irreversible damage to your eye. Children should always have adult supervision while observing***

Welcome to a new world of adventure! The iOptron Rumak-type 150mm Maksutov-Cassegrain comes with a dual speed focuser for fine-tuning your images and an attachable dew shield for better performance in cold temperatures.

These instructions will help you set up and properly use and care for your telescope. Please read them over thoroughly before getting started.

## Getting Started

Your telescope comes fully assembled from the factory. The optics have been installed and collimated, so you should not have to make any adjustments to them. Keep the dust covers on the telescope when it is not in use.

## Mounting the Telescope

The iOptron MAK 150mm is a perfect mate for the iOptron MiniTower™ or MiniTower Pro™ goto altazimuth mount, or the SmartStar®-PR goto equatorial mount. It has a Vixen-style dovetail rail for mounting the scope quickly and directly onto an altazimuth or equatorial mount.

## Use of Optional Accessories

Your telescope does not come with eyepieces and diagonal so as to offer the greatest flexibility in configuring it to your needs.

The 2" compression ring accessory holder

accepts 2" eyepieces, star diagonals, camera adapters, etc. There are several accessories that come with the MAK 150mm OTA. One is a 1.25" compression ring adapter that slips into the 2" holder. This lets you use optional 1.25" accessories (eyepiece, star diagonal, camera adapter, terrestrial image erecting diagonal, DSI-type camera, etc.) The second is an adapter for Schmidt-Cassegrain accessories. This lets you use any SCT thread-on accessories you might already have (star diagonals, camera adapters, etc.) The third item is a standard T-adapter that also slips into the 2" holder and lets you use a DSLR for prime focus imaging.

## Selecting an Eyepiece

Always begin viewing with the lowest power eyepiece. (Note: a 20 mm focal length eyepiece is lower power than a 10 mm one.) A formula can be used to determine the power of each eyepiece: Telescope focal length divided by eyepiece focal length equals magnification.

Ex.  $1800\text{mm} \div 20\text{mm} = 90\text{X}$  (magnification)

## Focusing Telescope

Point the telescope so the front end is aimed in the general direction of an object you wish to view. When you first look in the eyepiece, the image you see may be fuzzy, or out of focus. If so, gently turn the focus knob with your fingers until the image becomes sharp. Go a little bit beyond sharp focus until the image just starts to blur again. Then reverse

the rotation of the knob just to make sure you've hit the exact focus point. You will have to readjust the focus when aiming at subjects of varying distances, or after changing eyepieces. Turn the fine tuning knob for finer adjustments.

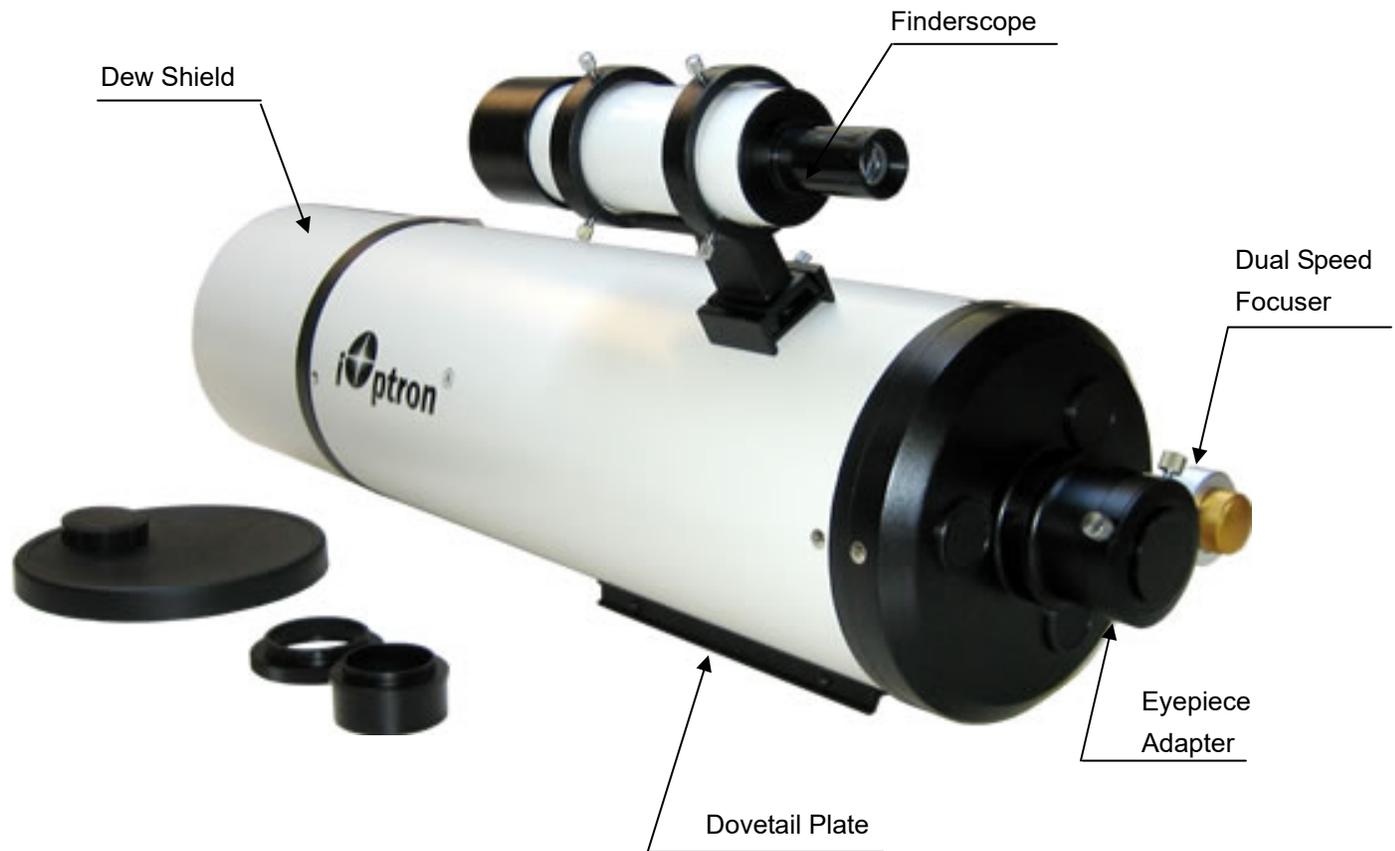
If you have trouble focusing, rotate the focus knob counterclockwise as far as it will go. Now look through the eyepiece while slowly rotating the focus knob clockwise. You should soon see the point at which focus is reached. (Please be patient turning the focus knob. There are about 11 full turns from one end to the other when using the larger/coarse tuning knob).

Try to practice this during daytime by aiming the main telescope tube at a land-based target at least 200 yards away (e.g. A telephone pole or building).

## **Aligning Finderscope**

The supplied 8x50mm straight-through finderscope comes with a quick-release bracket. The dual-ring bracket has six collimating screws for precise alignment with the main scope optics. The quick-release bracket slips into a dovetail mounting shoe at the rear of the scope during use.

First, look through Main Telescope Tube and establish a well-defined target (see focusing telescope section). Tighten all lock knobs of your mount (Declination, Latitude, Right Ascension, and Horizontal Axes) so that telescope's aim is not disturbed. Then look through the finderscope and adjust the six collimation screws to center the object in the finderscope. Now, objects located first with the finderscope will be centered in field of view of the main telescope.



## Specifications

Clear Aperture	150mm
Focal Length	1800mm
Focal Ratio	f/12
Lens Type	Catadioptric Rumak style Maksutov-Cassegrain
Resolving Power	0.77 arc seconds
Visual Limiting Magnitude	12.8
Finderscope	8x50 w/ finder ring
Dew Shield	Twist-lock aluminum shield
Focuser	Dual speed
Tube Length	21 3/4" (Without dew shield) 27 1/8" (With dew shield)
Tube Weight	13.4 lbs
Astrophotography	T-ring adapter included for attaching a camera
Other Accessories	2" to 1.25" compression ring accessory holders; Adapter Ring for Schmidt-Cass Accessories
Dust Cover	Light reducing lens cover
Gross Weight	22 lbs
Warranty	One year limited

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