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› Bushnell Refractor 600x50mm Telescope Instruction Manual

Bushnell 181561

Bushnell Refractor 600x50mm Telescope Instruction Manual

Brand: **Bushnell**

Model: **181561**

INTRODUCTION

This manual provides detailed instructions for the assembly, operation, and maintenance of your Bushnell Refractor 600x50mm Telescope. Designed for deep space viewing, this telescope offers clear and crisp images of celestial objects, making it ideal for amateur astronomers.

Key Features

- High-quality refractor design for clear, crisp images.
- Multiple eyepieces for various magnification levels.
- Sturdy tripod for stable observation.
- Finderscope for easy object location.

SETUP GUIDE

Follow these steps to correctly assemble your Bushnell Refractor Telescope.

1. Unpack Components

A collection of optical instruments and accessories. At the top is a black and silver telescope mounted on a tripod. Below it is a black telescope with the 'Bushnell' logo. To the left is a large black circular filter with multiple holes. In the center is a black microscope. To the right of the microscope are three cylindrical filters of different sizes. Below the microscope are two eyepieces, one labeled '1.5X' and the other '5X'. To the right of the eyepieces is a black carrying case with a silver lens. At the bottom left is a white instruction manual with the 'Bushnell' logo and the text 'INSTRUCTION MANUAL' and 'MANUAL DE INSTRUCCIONES'. At the bottom right is a small black carrying case and a small black rectangular object.

2. Assemble the Tripod

Extend the tripod legs to a stable position. Secure the accessory tray to the center brace of the tripod. Ensure the tripod is level and firm on the ground to provide a stable base for the telescope.



The tripod is shown fully extended and ready for the telescope tube to be mounted, providing a stable viewing platform.

3. **Attach the Telescope Tube**

Carefully place the telescope optical tube onto the altazimuth mount on top of the tripod. Secure it using the provided screws or clamps, ensuring it is firmly attached and does not wobble. The Bushnell logo should be facing upwards.



This image shows the complete Bushnell Refractor Telescope assembled and ready for use, with the optical tube mounted on the tripod.

4. Install the Finderscope

Locate the finderscope and its mounting bracket. Attach the finderscope to the designated slot on the main telescope tube, typically near the eyepiece end. Tighten the screws to secure it. The finderscope helps in quickly locating objects before viewing them through the main eyepiece.



A detailed view of the finderscope, which aids in aiming the telescope at celestial targets.

5. **Insert an Eyepiece**

Choose an eyepiece based on your desired magnification. For initial setup, a lower magnification eyepiece (higher mm number) is recommended. Insert the chosen eyepiece into the focuser at the end of the telescope tube. Secure it by tightening the small thumbscrew on the focuser. You may also use a Barlow lens in conjunction with an eyepiece for increased magnification.

TELESCOPIOS ASTRONÓMICOS



This image displays the different eyepieces and a Barlow lens that come with the telescope, allowing for varied magnification levels.

Setup Video Guide

This video provides a visual guide to assembling and setting up your Bushnell Refractor Telescope, demonstrating the steps for attaching the tube, tripod, finderscope, and eyepieces.

OPERATING YOUR TELESCOPE

Aligning the Finderscope

Before observing, align the finderscope with the main telescope. Point the main telescope at a distant, stationary object (e.g., a tree or building during the day). Look through the finderscope and adjust its alignment screws until the object is centered in both the finderscope and the main telescope's eyepiece.

Focusing

Once an object is centered, use the focus knob on the focuser to bring the image into sharp focus. Turn the knob slowly until the image is clear and distinct.

Changing Magnification

To change magnification, simply remove the current eyepiece and insert another. Remember that higher magnification (lower mm number eyepiece) will result in a dimmer and narrower field of view. The included Barlow lens can double or triple the magnification of any eyepiece.

Observing Celestial Objects

For astronomical observations, choose a dark location away from city lights. Start with a low magnification eyepiece to locate your desired object, then switch to higher magnifications for more detailed views. The altazimuth mount allows for easy up-down and left-right movement to track objects across the sky.

CARE AND MAINTENANCE

Cleaning Lenses

Use a soft, lint-free cloth specifically designed for optical lenses to clean the telescope's objective lens and eyepieces. Breathe lightly on the lens surface before wiping to help remove dust. Avoid touching the optical surfaces with your fingers. For stubborn smudges, use a specialized optical cleaning fluid sparingly.

Storage

When not in use, store your telescope in a dry, dust-free environment. Keep the dust caps on the objective lens and eyepiece to protect them. If possible, store the telescope in its original packaging or a padded case to prevent damage.

General Care

Avoid exposing the telescope to extreme temperatures or sudden temperature changes. Do not point the telescope directly at the sun without proper solar filters, as this can cause severe eye damage.

TROUBLESHOOTING COMMON ISSUES

Problem	Possible Cause	Solution
Image is blurry	Out of focus; dirty lens; atmospheric conditions	Adjust focus knob; clean lenses; wait for stable atmospheric conditions

Problem	Possible Cause	Solution
Cannot find objects	Finderscope not aligned; incorrect aiming	Align finderscope with main telescope; start with low magnification
Image is dim	High magnification eyepiece; light pollution	Use a lower magnification eyepiece; move to a darker viewing location
Telescope wobbles	Tripod not stable; loose connections	Ensure tripod legs are fully extended and locked; tighten all mounting screws

PRODUCT SPECIFICATIONS

Feature	Detail
Item Package Dimensions L x W x H	32.63 x 11 x 6.63 inches
Package Weight	3.13 Kilograms
Item Dimensions LxWxH	33 x 11 x 7 inches
Item Weight	600 Grams
Brand Name	Bushnell
Warranty Description	Limited Manufactuer
Model Name	Bushnell Refractor 50mm
Color	Black/silver
Material	Aluminum
Suggested Users	unisex-adult
Manufacturer	Bushnell
Part Number	181561
Included Components	Telescope
Optical Tube Length	600 Millimeters
Eye Piece Lens Description	Barlow
Objective Lens Diameter	50 Millimeters
Telescope Mount Description	Altazimuth Mount

Feature	Detail
Product Dimensions	33"D x 11"W x 7"H
Focus Type	Manual Focus
Power Source	Manual Operation" or "NA
Finderscope	Reflex

WARRANTY AND SUPPORT

Warranty Information

This Bushnell product comes with a Limited Manufacturer Warranty. For specific details regarding coverage and terms, please refer to the warranty documentation included with your purchase or visit the official Bushnell website.

Additional Support

For further assistance, product registration, or to explore other Bushnell products, please visit the official Bushnell store: [Bushnell Store on Amazon](#).