

## Explore Scientific 80-30050

# National Geographic 50mm Astronomical Refractor Telescope (Model 80-30050) User Manual

Model: 80-30050

## INTRODUCTION

Thank you for choosing the National Geographic 50mm Astronomical Refractor Telescope. This instrument is designed for observing celestial objects such as the Moon, planets, and brighter deep-sky objects. It features fully coated optics, an adjustable tripod, and integrates with an astronomy application for enhanced sky navigation. This manual provides comprehensive instructions for assembly, operation, maintenance, and troubleshooting to ensure optimal use of your telescope.

## SAFETY INFORMATION

- **Never look directly at the sun through the telescope or its finder scope.** Permanent and irreversible eye damage, including blindness, can result.
- Do not point the telescope at the sun, even if you are not looking through it. Damage to the telescope can occur.
- Adult supervision is recommended when children are using the telescope.
- Store the telescope in a dry, dust-free environment when not in use.

## PACKAGE CONTENTS

Verify that all components listed below are present in your package:

- 50mm Refractor Telescope Optical Tube Assembly (OTA) with Dew Shield
- Pan Tilt Mount
- Adjustable Tripod with Accessory Tray
- 1.25" Eyepieces (PL26 mm and PL9.7 mm)
- 2x Barlow Lens
- Diagonal
- Smartphone Mount with Bluetooth

- Smartphone Adapter
- Panhandle
- Focuser



Image: The National Geographic 50mm Refractor Telescope fully assembled with a smartphone attached to its mount.

#### What's Included



#### Parts Overview

1. 50 mm Refractor Telescope
2. Pan Tilt Mount
3. Tripod with accessory tray
4. Optical Tube Assembly (OTA) with Dew Shield
5. Focus Wheel
6. Diagonal
7. 1.25" Eyepieces (PL26 mm and PL9.7 mm)
8. 2x Barlow Lens
9. Smartphone Mount w/Bluetooth
10. Panhandle
11. Focuser
12. Smartphone Adapter

Image: Detailed diagram illustrating the various components included with the telescope, such as the optical tube, mount,

tripod, eyepieces, Barlow lens, and smartphone accessories.



Image: A close-up view of the telescope's accessories: the smartphone adapter, diagonal, 2x Barlow lens, PL9.7 mm eyepiece, and PL26 mm eyepiece.

## SETUP AND ASSEMBLY

Follow these steps to assemble your telescope:

1. **Set up the Tripod:** Extend the tripod legs to a stable height. Secure the accessory tray to the center brace of the tripod.
2. **Attach the Pan Tilt Mount:** Mount the pan tilt head onto the tripod. Ensure it is securely fastened.
3. **Attach the Optical Tube:** Place the telescope's optical tube assembly (OTA) onto the pan tilt mount. Tighten the mounting screws to hold the OTA firmly in place.
4. **Install the Diagonal:** Insert the diagonal into the focuser drawtube. Secure it with the thumbscrew. The diagonal redirects the light at a 90-degree angle, providing a more comfortable viewing position.
5. **Insert an Eyepiece:** Choose an eyepiece (e.g., PL26mm for lower magnification, wider field of view) and insert it into the diagonal. Secure it with the thumbscrew.
6. **Attach the Smartphone Mount:** Secure the smartphone mount to the top of the telescope tube. This mount is designed to hold your smartphone for use with the astronomy app.
7. **Attach the Panhandle:** Screw the panhandle into the pan tilt mount for easier control and movement of the telescope.



Image: The National Geographic 50mm Refractor Telescope fully assembled, showing the optical tube, mount, tripod, and smartphone mount.

## OPERATING THE TELESCOPE

### Eyepiece Selection and Magnification

Your telescope comes with two Plössl eyepieces (PL26mm and PL9.7mm) and a 2x Barlow lens. The magnification is calculated by dividing the telescope's focal length (which is 500mm for this model) by the eyepiece's focal length.

- **PL26mm Eyepiece:**  $500\text{mm} / 26\text{mm} = \text{approximately } 19.2\text{x}$  magnification.
- **PL9.7mm Eyepiece:**  $500\text{mm} / 9.7\text{mm} = \text{approximately } 51.5\text{x}$  magnification.

The **2x Barlow lens** doubles the magnification of any eyepiece used with it. Insert the Barlow lens into the diagonal first, then insert the eyepiece into the Barlow lens.

- **PL26mm with 2x Barlow:**  $19.2\text{x} * 2 = 38.4\text{x}$  magnification.
- **PL9.7mm with 2x Barlow:**  $51.5\text{x} * 2 = 103\text{x}$  magnification.

Start with the lowest magnification (PL26mm eyepiece) to locate objects, then switch to higher magnifications for more detailed views.

### Focusing

Once an object is centered in your eyepiece, slowly turn the focus wheel until the image appears sharp and clear. Fine-tune the focus for optimal viewing.

### Astronomy App Integration

The telescope is designed to work with the National Geographic ARTelescope App. Download the app to your smartphone. Mount your smartphone onto the telescope's dedicated mount. The app uses your phone's sensors to identify constellations and planets as you move the telescope across the night sky. It provides an in-app encyclopedia with additional details about celestial objects.



Image: A screenshot from the astronomy app displaying the Cancer constellation in the night sky.



Image: A screenshot from the astronomy app providing detailed information about the planet Mars.

### Using the Smartphone Adapter for Imaging

The included smartphone adapter allows you to capture images through the telescope. Attach your smartphone to the adapter, then carefully position the adapter over the eyepiece. Use your phone's camera app to take photos or videos of your observations. This is ideal for sharing your celestial views with others.

## MAINTENANCE

- **Cleaning Optics:** Use a soft, lint-free cloth specifically designed for optical lenses. Gently wipe the lens surfaces. For stubborn smudges, use a small amount of optical cleaning fluid on the cloth, not directly on the lens.
- **Cleaning the Telescope Body:** Wipe the telescope tube and tripod with a soft, damp cloth. Avoid abrasive cleaners.
- **Storage:** When not in use, cover the telescope with the dust caps and store it in a cool, dry place to prevent dust and moisture buildup.

## TROUBLESHOOTING

Problem	Possible Cause	Solution
Image is blurry or out of focus.	Focuser not adjusted correctly.	Adjust the focus wheel slowly until the image is sharp.
Cannot see anything through the eyepiece.	Dust caps still on; eyepiece not inserted correctly; wrong target.	Remove all dust caps. Ensure eyepiece is fully inserted and secured. Start with the lowest magnification eyepiece and aim at a bright, distant object during the day to practice.
Image is dim or unclear.	Light pollution; high magnification in poor conditions; dirty optics.	Observe from a dark location. Use lower magnification eyepieces. Clean optics as described in the Maintenance section.
Smartphone app not connecting or displaying correctly.	Bluetooth issue; app permissions; phone not calibrated.	Ensure Bluetooth is enabled on your phone. Check app permissions for location and sensors. Calibrate your phone's compass if necessary. Restart the app.


## SPECIFICATIONS

- **Model Name:** StarApp50MM
- **Item Model Number:** 80-30050
- **Objective Lens Diameter:** 50 Millimeters
- **Telescope Type:** Refractor
- **Eyepieces Included:** PL26mm, PL9.7mm
- **Barlow Lens:** 2x
- **Telescope Mount:** Altazimuth Mount
- **Focus Type:** Manual Focus
- **Finderscope:** Reflex
- **Compatible Devices:** Smartphone (for app integration and imaging)
- **Product Dimensions:** 4.25 x 8.75 x 29 inches
- **Item Weight:** 4.64 pounds
- **Manufacturer:** Bresser

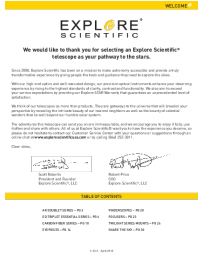

## WARRANTY AND SUPPORT

This National Geographic telescope is manufactured by Bresser and licensed by National Geographic, ensuring quality construction. For support or warranty inquiries, please refer to the contact information provided with your product packaging or visit the Explore Scientific website. Keep your purchase receipt as proof of purchase for warranty claims.

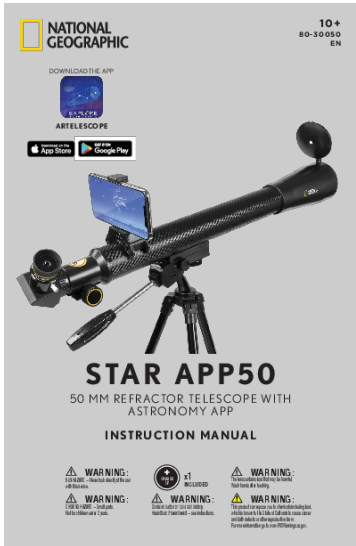
### Related Documents - 80-30050

 <p>TELESCOPE 10" Truss Tube Dobson</p> <p>10" Truss Tube Dobson</p>	<p><a href="#">Explore Scientific 10" Truss Tube Dobson Telescope User Manual &amp; Guide</a></p> <p>Comprehensive user manual and guide for the Explore Scientific 10" Truss Tube Dobson telescope (Model 0116925), covering setup, operation, maintenance, and safety.</p>
 <p>134mm Equatorial Newtonian Instruction Manual</p> <p>134mm Equatorial Newtonian</p>	<p><a href="#">Explore Scientific 134mm Equatorial Newtonian Telescope Instruction Manual</a></p> <p>Comprehensive instruction manual for the Explore Scientific 134mm Equatorial Newtonian Reflector Telescope (Model ES-ON13449EQ3). Covers assembly, alignment, focusing, collimation, care, maintenance, and basic telescope principles for amateur astronomers.</p>
 <p>6-inch/8-inch/10-inch Classic Dobsonians Instruction Manual</p> <p>6-inch/8-inch/10-inch Classic Dobsonians</p>	<p><a href="#">Explore Scientific 6, 8, 10-inch Classic Dobsonian Telescopes: Instruction Manual &amp; Assembly Guide</a></p> <p>Detailed instruction manual for Explore Scientific's 6-inch, 8-inch, and 10-inch Classic Dobsonian reflector telescopes. Learn about unpacking, assembly, setup, operation, collimation, maintenance, and specifications.</p>
 <p>8-inch Red Classic Dobsonian Instruction Manual</p> <p>8-inch Red Classic Dobsonian</p>	<p><a href="#">Explore Scientific 8-inch Red Classic Dobsonian Telescope Instruction Manual (ES-ON20859RR)</a></p> <p>This instruction manual provides detailed guidance for assembling, using, and maintaining the Explore Scientific 8-inch Red Classic Dobsonian telescope, model ES-ON20859RR. It covers safety precautions, parts identification, step-by-step assembly, operational tips, optical collimation, and telescope basics.</p>



	<p><a href="#">Explore Scientific Telescopes and Accessories User Manual</a></p> <p>Comprehensive guide to Explore Scientific telescopes, including AR Doublet, ED Triplet Essential, and Carbon Fiber Series. Learn about eyepieces, finderscopes, focusers, and Twilight Series mounts, with setup, care, and usage instructions.</p>
	<p><a href="#">Explore Scientific 114mm Equatorial Newtonian Instruction Manual</a></p> <p>Comprehensive instruction manual for the Explore Scientific 114mm Equatorial Newtonian telescope, covering assembly, operation, alignment, and app usage for amateur astronomers.</p>

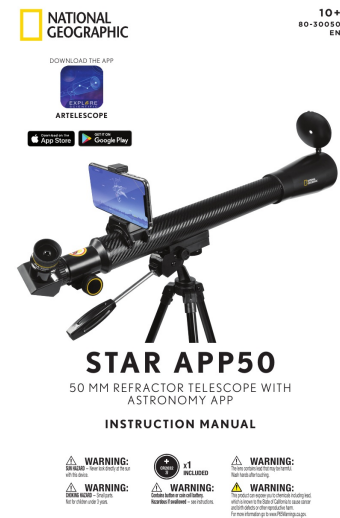
Documents - Explore Scientific – 80-30050



[National Geographic StarApp50 50mm Refractor Telescope Instruction Manual](#)

This instruction manual provides comprehensive guidance for the National Geographic StarApp50 50mm Refractor Telescope with Astronomy App. It covers setup, safe usage, telescope operation, smartphone adapter integration, app features, observing tips, types of telescopes, key terminology, and FCC compliance.

lang:en score:36 filesize: 3.68 M page\_count: 20 document date: 2020-10-09



[\[pdf\] Instructions](#)

ManualDobsonian Shroud for 10 and 12 Truss Tube DOB Telescope — GalleryNG 80 30050 APP50mmTelescope IM 2020cdn shopify s files 1 0867 5570 5150 NG 2020 v 1758914431 ||| DOWNLOAD THE APP ARTELESCOPE 10 **80-30050** EN STAR APP50 50 MM REFRACTOR TELESCOPE WITH ASTRONOMY APP INSTRUCTION MANUAL WARNING: SUN HAZARD - Never look directly at the sun with this device. WARNING: CHOKING HAZARD - Small parts. Not for children under 3 years. CR2032 3V X1 INCLUDED WARNING: C... lang:en score:17 filesize: 3.68 M page\_count: 20 document date: 2020-10-09