

ESSLNB ES2014

ESSLNB 700X70mm Refractor Telescope Instruction Manual

Model: ES2014

Brand: ESSLNB

INTRODUCTION

This instruction manual provides detailed guidance for the assembly, operation, maintenance, and troubleshooting of your ESSLNB 700X70mm Refractor Telescope. Designed for both adults and astronomy beginners, this telescope offers excellent optical performance for observing celestial objects and terrestrial landscapes. Please read this manual thoroughly before using your telescope to ensure proper setup and optimal viewing experience.

PRODUCT OVERVIEW AND COMPONENTS

Familiarize yourself with the main components of your ESSLNB telescope:

- **Optical Tube:** The main body of the telescope containing the objective lens.
- **Objective Lens:** The large lens at the front of the telescope that gathers light. (70mm aperture)
- **Eyepieces:** Removable lenses used for viewing. (K4mm, K10mm, K20mm included)
- **Barlow Lens (3x):** Increases the magnification of any eyepiece.
- **Diagonal Prism:** Redirects light at a 90-degree angle for comfortable viewing and erect images.
- **Red Dot Finder Scope:** Helps locate objects in the sky before viewing through the main telescope.
- **Focus Knobs:** Used to adjust the focus for clear images.
- **Stainless Steel Tripod:** Provides a stable base for the telescope, adjustable in height.

- **Accessory Tray:** Attaches to the tripod for convenient storage of eyepieces and accessories.
- **Phone Adapter:** Allows attaching a smartphone to capture images and videos through the eyepiece.
- **Moon Filter:** Reduces glare when observing the moon.



Image: The ESSLNB 700X70mm Refractor Telescope with its primary components and accessories, including the optical tube, tripod, various eyepieces, Barlow lens, finder scope, and phone adapter.

SETUP

Follow these steps to assemble your telescope:

1. Set up the Tripod:

Extend the tripod legs to the desired height and spread them apart for stability. Secure the leg locks. Install the accessory tray onto the tripod's center brace.

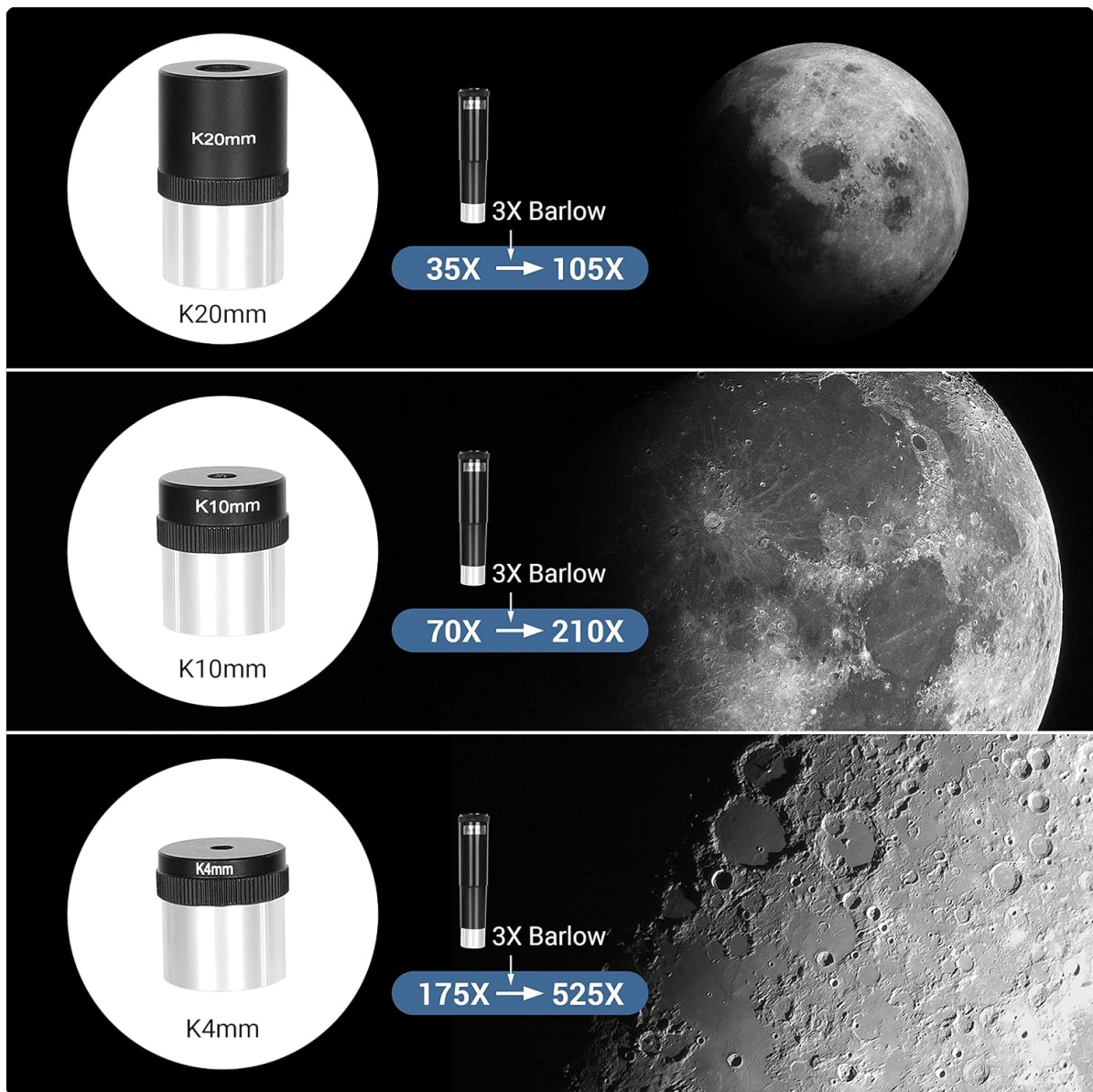


Image: An assembly diagram illustrating the various parts of the telescope and their connection points for easy setup.

Your browser does not support the video tag.

Video: A comprehensive demonstration of the ESSLNB 700X70mm Refractor Telescope, including its adjustable tripod, optical features, and general assembly process.

2. Attach the Telescope Tube:

Place the main telescope tube onto the tripod head and secure it using the provided screw. Ensure it is firmly attached.

3. Install the Red Dot Finder Scope:

Slide the red dot finder scope into its mounting bracket on the telescope tube and tighten the screws to secure it. This scope helps in quickly locating objects.



Image: The red dot finder scope, illustrating how it achieves erect images and simplifies target location compared to inverted views.

4. **Insert the Diagonal Prism:**

Insert the diagonal prism into the focuser tube and secure it with the small screw. This accessory provides a comfortable viewing angle.

5. **Choose and Insert an Eyepiece:**

Select an eyepiece (e.g., K20mm for lower magnification and wider field of view for initial observation) and insert it into the diagonal prism. Tighten the screw to hold it in place.



Image: Comparison of magnifications (35X to 525X) achievable with K20mm, K10mm, and K4mm eyepieces, both with and without the 3x Barlow lens.

1. Pointing the Telescope:

Use the pan handle on the altazimuth mount to move the telescope horizontally and vertically. Loosen the lock knobs to adjust the position, then tighten them to secure the telescope in place. The integrated compass on the mount can assist with initial orientation.



Image: The adjustable stainless steel tripod with its accessory tray installed, showing the maximum height of 116cm.

2. Using the Red Dot Finder Scope:

Look through the red dot finder scope to locate your desired object. Align the red dot with the object. Once aligned, the object should be visible in the main telescope's eyepiece.

3. Focusing:

Turn the focus knobs slowly until the image in the eyepiece becomes clear and sharp. Fine-tune as needed for optimal clarity.

4. Changing Magnification:

To change magnification, swap eyepieces. Higher magnification eyepieces (smaller mm number) provide a more zoomed-in view but a narrower field of view. For even higher magnification, insert the 3x Barlow lens between the diagonal prism and the eyepiece.

5. Using the Phone Adapter:

Attach the phone adapter to the eyepiece. Secure your smartphone onto the adapter using the suction cups. Open your phone's camera app and align it with the eyepiece to capture images or videos.



Image: The phone adapter with its suction basins, designed for convenient installation of your phone to ensure stability while capturing images or videos.

Your browser does not support the video tag.

Video: A detailed video showcasing the ESSLNB 700X70mm Refractor Telescope, including the use of the phone adapter for capturing observations.

6. Using the Moon Filter:

For comfortable viewing of the bright moon, screw the moon filter onto the bottom of the eyepiece before inserting it into the diagonal prism. This reduces glare and enhances contrast.

MAINTENANCE

- **Cleaning Lenses:** Use a soft, lint-free cloth specifically designed for optical lenses. Gently wipe the lens surfaces to remove dust or smudges. Avoid touching the optical surfaces with bare hands.
- **Storage:** When not in use, store the telescope in a dry, dust-free environment. Keep all lenses covered with their caps to prevent dust accumulation and scratches.
- **Handling:** Always handle the telescope and its accessories with care to prevent damage. Avoid sudden impacts or dropping components.

TROUBLESHOOTING

Problem	Possible Cause	Solution
---------	----------------	----------

Problem	Possible Cause	Solution
Image is blurry or out of focus.	Incorrect focus; eyepiece not fully inserted.	Adjust focus knobs slowly. Ensure eyepiece is fully inserted and secured.
Cannot find objects.	Finder scope not aligned; incorrect pointing.	Align the red dot finder scope with the main telescope. Practice pointing with a low magnification eyepiece.
Image is inverted or reversed.	Normal for astronomical telescopes (unless using an erect-image diagonal).	For terrestrial viewing, ensure you are using the erect-image diagonal prism.
Image is too dark.	Too high magnification for conditions; light pollution.	Use a lower magnification eyepiece. Observe from a darker location.

SPECIFICATIONS

Feature	Detail
Model Number	ES2014
Optical Design	Refractor
Aperture	70mm
Focal Length	700mm
Eyepieces Included	K4mm, K10mm, K20mm (1.25")
Barlow Lens	3x
Maximum Magnification	525x
Finder Scope	Red Dot Finder
Mount Type	Altazimuth Mount
Tripod Material	Stainless Steel
Product Dimensions	25 x 25 x 51.6 inches
Item Weight	6.3 ounces

WARRANTY AND SUPPORT

ESSLNB provides friendly customer service and assistance for a full 12 months from the date of purchase. If you encounter any issues or have questions regarding your telescope, please do not hesitate to contact our customer support team. We aim to respond to all inquiries within 24 hours.

For further assistance, you may also refer to the official [Installation Manual \(PDF\)](#).