10 x 50 Right Angle Finder Scope with Illuminated Reticle

User's Manual

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WARNING: Never look directly at the Sun with the naked eye or with this optic. Permanent irreversible eye damage can result.

Overview

The Apertura 10 x 50 Right Angle Finder Scope uses a high quality cemented doublet refractor objective with a 200mm focal length. This main objective offers good color correction, a bright image, and sharp high contrast views. When combined with the included 20mm illuminated eyepiece the finder has a generous 5° field of view.

Specifications

General Specifications

- Aperture: 50 mm
- Focal Length: 200 mm
- Field of View: 5°
- Focusing: Helical Focuser
- Eyepiece Eye Relief: 20 mm
- Eyepiece Focal Length: 20mm
- Extra Features: Internally Baffled
- Material: Aluminum Flat White or Black
- Assembled Weight: 1lb 15oz
- Attachment: Standard “Synta Style” Finder Base (Included)
- Eyepiece Illuminator Battery: LR44 (x2)

Thread Specifications

- Finder Base Attachment Screws: M4 x 0.7mm - 10mm long
- Finder Base Thumb Screws: M4 x 0.7mm - 10mm long
- Alignment Thumb Screws: M5 x 0.8mm - 20mm long
- Diagonal Rotation Lock Thumb Screw: M4 x 0.7mm - 10mm long
- Eyepiece Compression Thumb Screw: M4 x 0.7mm - 10mm long
- Eyepiece Illuminator: M8x0.75

Using The Finderscope

Parts of the Finderscope

1. Finder Scope Assembly
2. Finder Scope Rings and Mounting Stalk
3. Finder Scope Alignment Screws
4. 20mm Crosshair Eyepiece
5. Eyepiece Illuminator
6. Finder Scope Mounting Shoe
7. Finder Scope Mounting Shoe Screws

Assembling the Finderscope

The first step in assembling the finder scope is to locate the six plastic tipped Finder Scope Alignment Screws (Part #3) and thread them just a couple turns into the Finder Scope Rings (Part #2, as shown in the following image.

Next, remove the small circular rubber cover on the side of the 20mm Crosshair Eyepiece (Part #4), and thread the silver Eyepiece Illuminator (Part #5) into the side of the eyepiece.

Then, you'll want to remove the dust cover from the finder scope's focuser and from the bottom of the illuminated eyepiece. Insert the eyepiece into the focuser end of the Finder Scope Assembly (Part #1) and gently tighten the small silver thumb screw at the top of the focuser.

Carefully slide the Finder Scope Assembly, objective end first, into the mounting rings and then evenly tighten the six alignment screws of the mourning rings.

Mounting

The 10 x 50 Right Angle Finder Scope comes from the factory with an Apertura Premium Finder Scope Shoe that can be attached to most telescopes on the market. For telescopes that use an unusually wide mounting base, like larger SCTs, please contact us for more information about the mounting solutions available for your specific application.

Focusing

The 50mm Right Angle Finder has two separate focus adjustments available. One adjustment is part of the eyepiece (#1), and this will change the focus of the reticle within the eyepiece. The second adjustment is the helical focuser on the guide scope's eyepiece holder (#2). This will adjust the focus of the guide scope as a whole. In general, adjusting the reticle eyepiece and then the main focus of the scope is sufficient. In some cases you might find that it takes a few iterations back and forth of adjusting the eyepiece, then finder, and back to the eyepiece, before the focus of both the reticle and the night sky is perfect.

Diagonal Prism

The Diagonal prism that comes with the Apertura 50mm Right Angle Finder gives an upright and correct image, the same orientation that you see with your unaided eye. The diagonal is rotatable and this is very useful for telescopes that use a diagonal mirror. Refractor, Cassegrain, and SCT telescope designs, when used with a diagonal mirror and on an equatorial mount, will position the mirror at different angles in the sky depending on where the scope is pointed.

The finder scope comes from the factory with the rotational lock screws snugged. Sometimes you might find that the rotational adjustment on the diagonal takes more force than you might expect. In this instance you can slightly loosen each of the three screws located on the same ring as the diagonal rotation thumb screw. Once the screws have been loosen, the thumb screw indicated in the following photograph can be used to set the tension and to lock the diagonal mirror in place.

NOTE:
In some instances you might find that the diagonal does not stay in place, even though the thumb screw is tightened. This can happen when you try to adjust the diagonal position counterclockwise without first loosening the thumb screw. This causes the diagonal to unscrew from the finder scope housing. To remedy this situation simply tighten the thumb screw and rotate the diagonal clockwise. This will retighten the diagonal onto the finder scope. At this point you can then loosen the thumb screw and adjust the diagonal position accordingly.

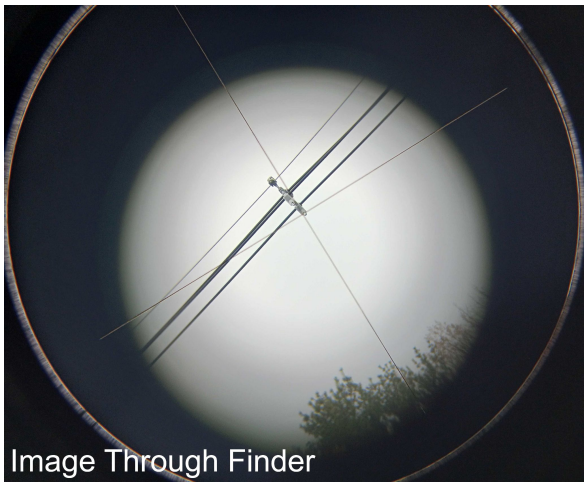
Eyepiece illuminator

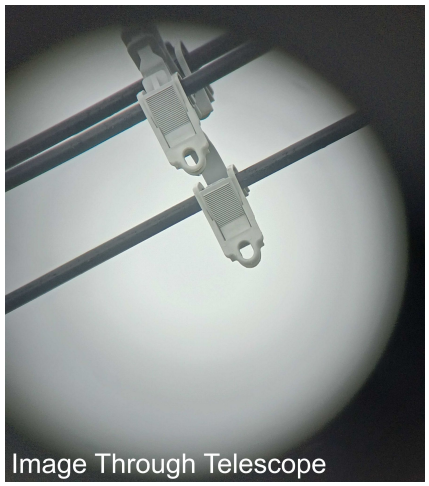
The illuminated 20mm eyepiece included with this finder scope uses a small battery to power the adjustable brightness LED illuminator. The power switch has an integrated brightness adjustment that is infinitely adjustable between off and full power. Turn the knob at the end of the illuminator clockwise until you hear and feel a click, and then gradually turn the knob further clockwise, adjusting the brightness as you look into the finder scope.

To change the battery unthread the illuminator housing at the position where it transitions into a straight walled tube, as highlighted in the following image. The illuminator uses two commonly available L44 batteries.

Aligning the Finder Scope

Once scope is mounted, aim the main telescope at a distant object away from the sun. Many people like to use the top of a tree, a cellphone tower, or part of a telephone pole. Once the main telescope is aligned with a known distant object, look through the finder scope and see where it is pointing. If the finder is not also centered on this object, adjust one set of thumb screws to tilt and tip the finder scope so that the crosshairs are centered on the exact object that the main telescope is pointed at. It is usually not necessary to adjust both the front and back ring, simply choose one set of thumb screws to adjust and stick with that set. The following images show a representation of what you might see through both the Telescope and Finder Scope.





At this point it is best to snug all six of the finder scope adjustment screws to be sure that the finder will hold its position over time. As you snug the screws it is best to look through the finder to make sure that it remains centered as you finish tightening them.

Warranty

The *Apertura Absolute Warranty* provides two years of coverage against product defects. After the initial two-year warranty expires, this product qualifies for Apertura's Three-Year Accident Replacement Program. In addition, the Apertura Absolute Warranty is transferable! It is important to keep your original receipt and the product's original boxes and packaging, should you need to make a claim.