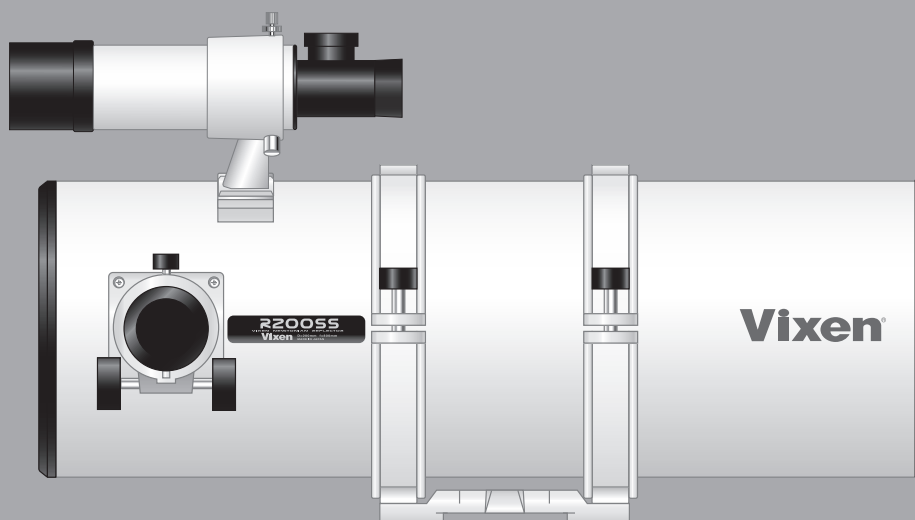


Vixen®

Instruction Manual for **R200SS** Optical Tube Unit

NEW REFLECTOR TELESCOPES



PREFACE

Thank you for your purchase of a Vixen astronomical telescope.

This manual applies to the R200SS telescope. You may occasionally find descriptions in the text not relevant to your particular model. Read the instructions for your mount along with this manual if you purchased the telescope as a complete package.

⚠ WARNING!

Never look directly at the sun with the telescope or its finder scope or eyepiece. Permanent and irreversible eye damage may result.

⊘ CAUTION

- ⊘ Do not leave the optical tube uncapped in the daytime. Sunlight passing through the telescope or finder scope may cause a fire.
- ⊘ Do not use the product while moving or walking, injuries could result from a collision with objects or from stumbling or falling.
- ⊘ Keep small caps, plastic bags, or plastic packing materials away from children.
These may cause a danger of swallowing or suffocation.
- ⊘ Do not use the product in a wet environment and do not handle with wet hands.

HANDLING AND STORAGE

- ⊘ Do not leave the product inside a car in bright sunshine, or in other hot places. Keep any strong heat sources away from the product.
- ⊘ When cleaning, do not use organic solvents such as paint thinner or similar products.
- ⊘ Do not expose the product to rain, water drops, dirt or sand.
- ⊘ Avoid touching any lens or mirror surfaces directly with your hands. In case a lens or mirror becomes dirty with fingerprints or general smears, gently wipe it using a commercially available lens cleaner and a lens cleaning paper or cloth, or consult your local Vixen dealer.
- ⊘ Blow off dust on lenses using a commercially available blower brush.
- ⊘ For storage, keep the product in a dry place and do not expose to direct sunlight.

SETTING UP THE TELESCOPE

Refer to your mount instructions along with this manual.

Attaching the Telescope Tube to the Mount

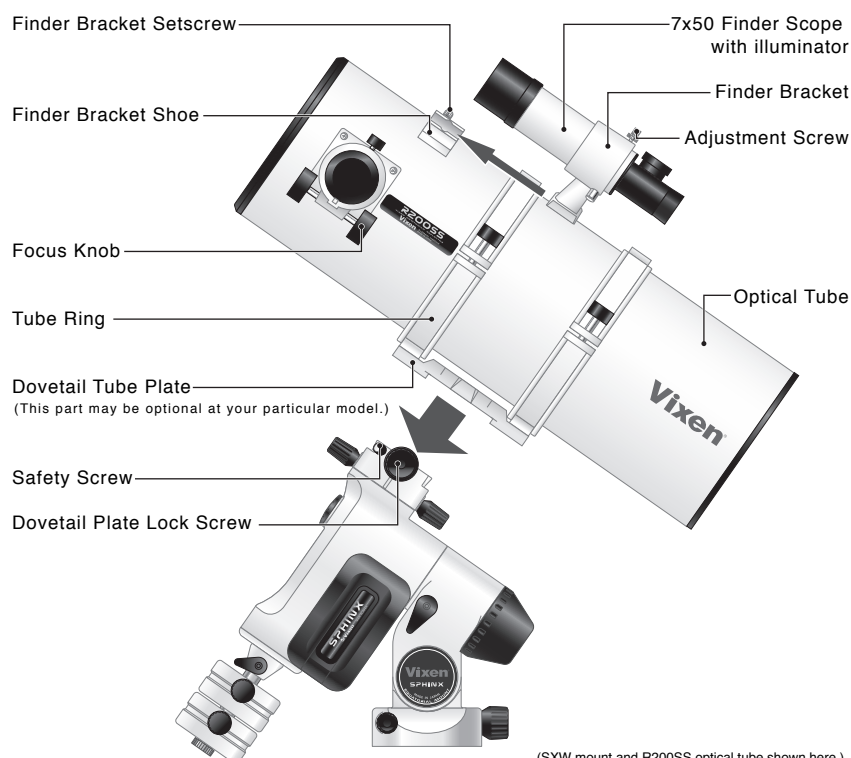
Loosen both the dovetail tube-plate lock screw and safety screw until the tips of these screws no longer extended into the inner part of the dovetail block. Slide the dovetail mounted scope into the dovetail mounting block as shown in the figure. Tighten the dovetail lock screw (centered on the notch) onto the dovetail tube plate until snug. Then tighten the small chrome safety screw onto the dovetail mounting block until snug.

Attaching the Finder Scope

(This part may be optional at your particular model.)

Loosen the finder bracket lock screw on the telescope's finder bracket shoe. Attach the 7x50 finder scope as shown in the figure and tighten the finder bracket lock screw securely.

The basic operations of the telescope such as balancing the telescope and adjusting the finder scope are described in the instruction manuals for the Vixen Equatorial Mount.

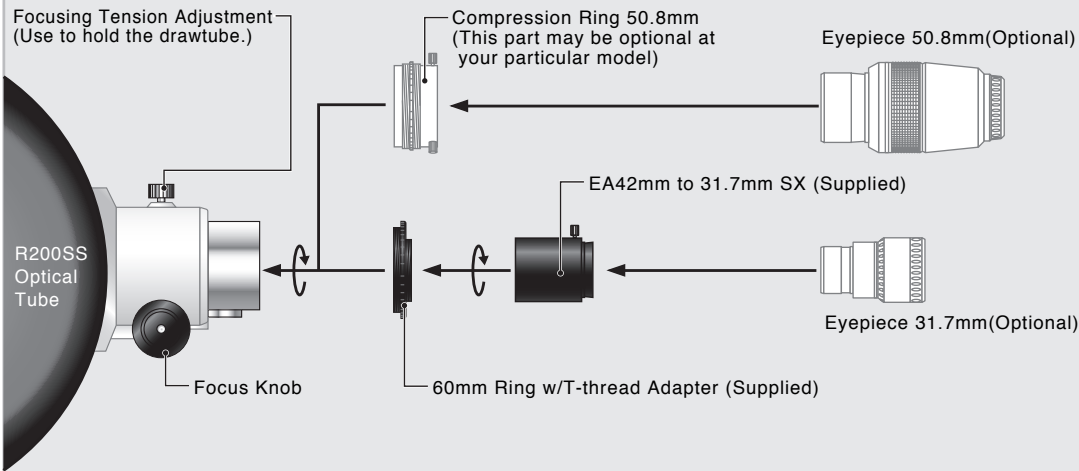


(SXW mount and R200SS optical tube shown here.)

OPTIONAL ACCESSORY CHART

You may need an eyepiece as sold separately. The telescope does not come with the eyepiece as standard accessory unless you purchased a package.

Visual Configuration



Magnification of the Telescope

When using an eyepiece with short focal length (small number in millimeters), the image will be dim and the range of sharp focus will be small. The image will be harder to see so begin with an eyepiece with long focal length (low magnification).

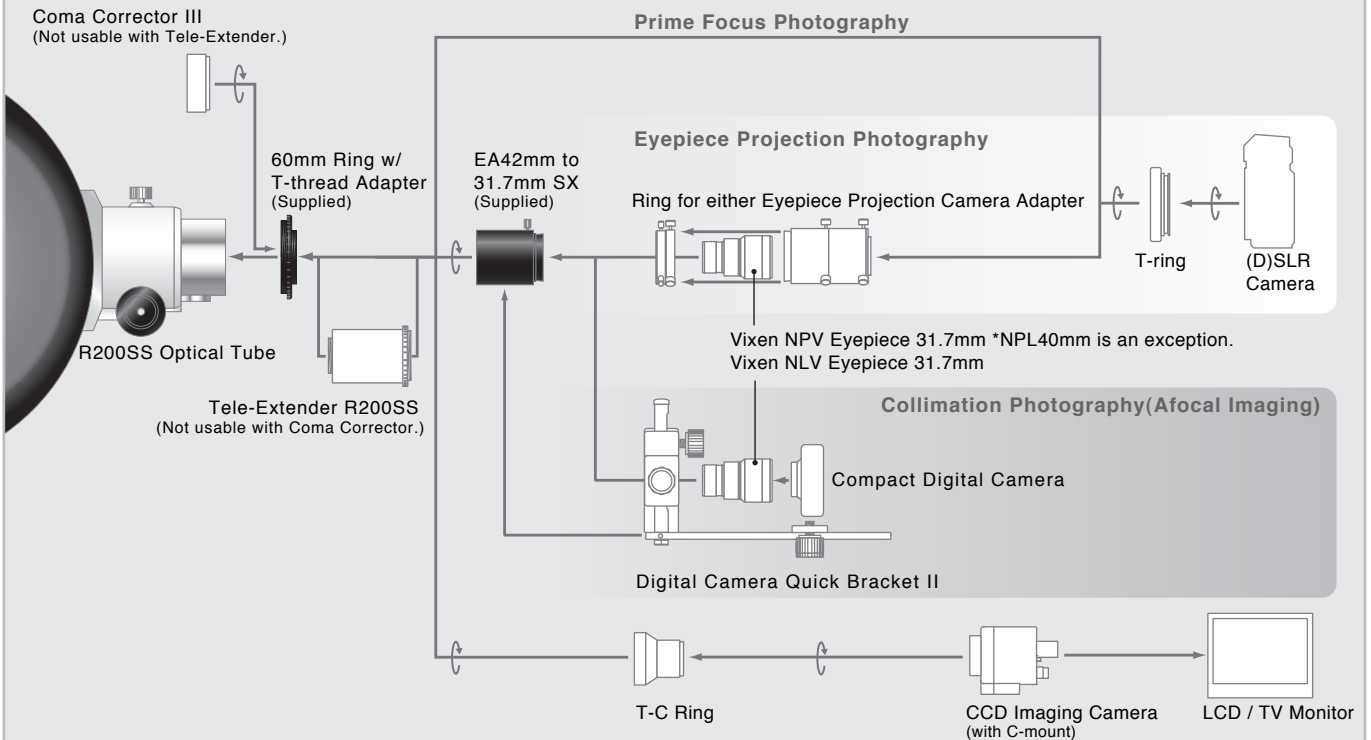
Dividing the focal length of the telescope by the focal length of the eyepiece gives the magnification.

Example: Calculating the eyepiece magnification of a telescope with 800mm focal length.

Eyepiece	Focal length of telescope	Focal length of eyepiece	Magnification
NLV20mm	800mm	÷ 20mm	= 40x
NLV 5mm	800mm	÷ 5mm	= 160x

Photographic Configuration

Some of the optional accessories shown in this chart will be needed if you take pictures with (D)SLR camera, compact digital camera or CCD video camera.



SPECIFICATIONS

The specifications are subject to change without notice.

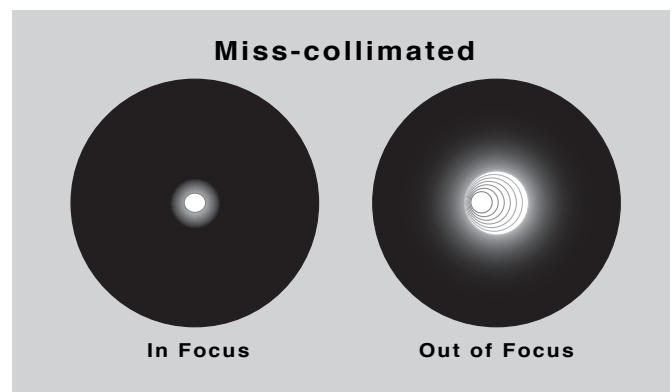
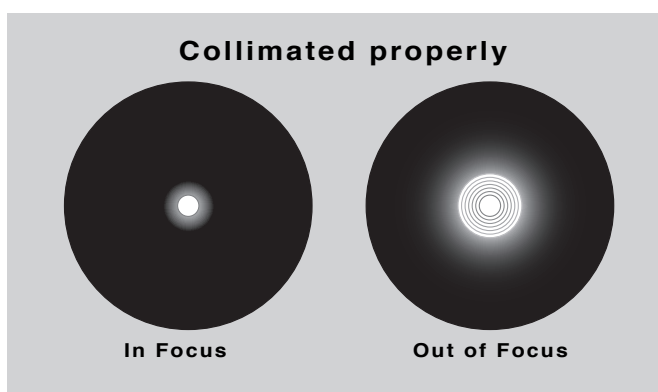
Model	R200SS Newtonian Reflector
Optical Design	Parabolic Mirror, Multicoated
Effective Aperture (D)	200mm
Focal Length (F)	800mm
Focal Ratio	1 : 4
Light Gathering Power	816x
Resolving Power	0.58 arc seconds
Limiting Magnitude	13.3
Drawtube Diameter	64mm
Threads	60mm, 42mm for T-ring
Push fit	31.7mm
Tube Length	700mm
Outer Tube Diameter	232mm
Tube Weight	5.3 kg (w/o accessories)
Accessories	7x50 Finder Scope with illuminated reticle Tube Rings Dovetail Tube-Plate (The 7x50 finder and dovetail tube-plate may not be included in your particular model.)
Total Weight	7.2 kg

COLLIMATION

The optics of the telescopes are aligned correctly at Vixen's factory before shipment. It is rare that telescopes go out of alignment, unless its tube is knocked strongly. Please contact a Vixen dealer in your area for repair or re-collimating if your Vixen telescope is out of collimation.

Examine the Collimation

Select a second- or a third-magnitude star and place it the center of the telescope's field of view by using a moderately high power eyepiece. Focus the star precisely. And then defocus slightly and you will look for striped patterns that surround the star. If the striped pattern can be seen as a concentric image, your telescope is properly aligned.



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