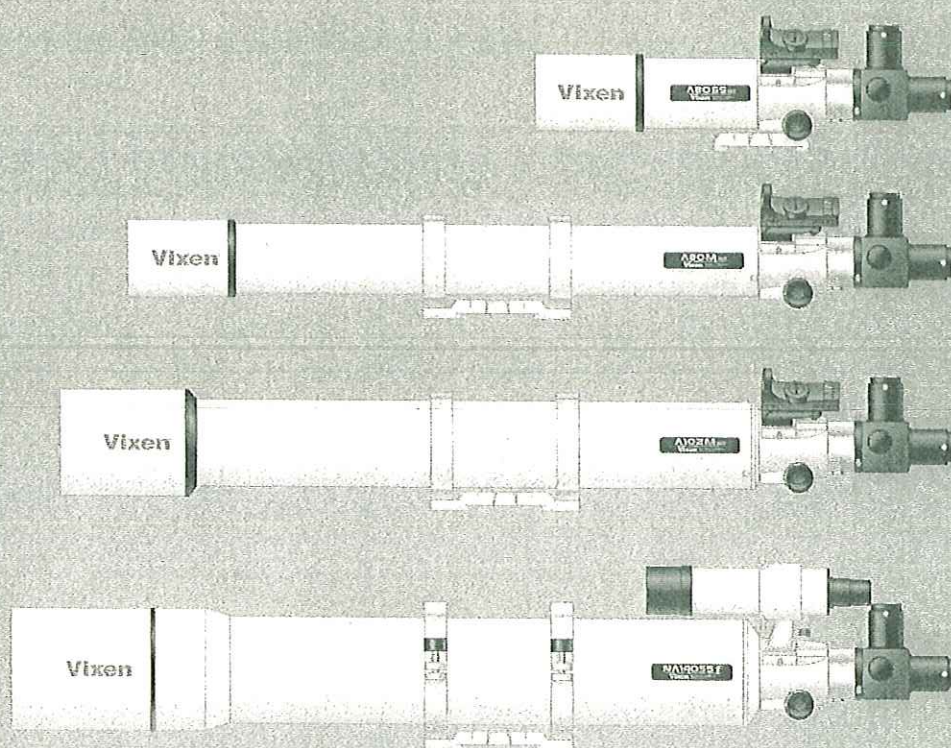


Vixen®

NA140SSf

A80SS A80M A102M

REFLECTORS



PREFACE

Thank you very much for your purchase of a Vixen astronomical telescope.

This manual applies to the NA140SSf, A80SS, A80M and A102M telescopes. 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 or guide scope. 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

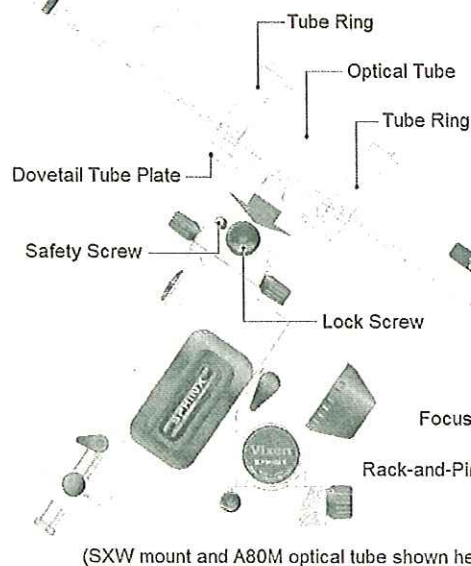
- Do not leave the product inside a car in bright sunshine or in other hot place. Keep any strong heat sources away from the product.
- When cleaning, do not use solvents such as paint thinner or similar products.
- Do not expose the product to rain, water, dirt or sand.
- Avoid touching any lens or 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 Optics 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.

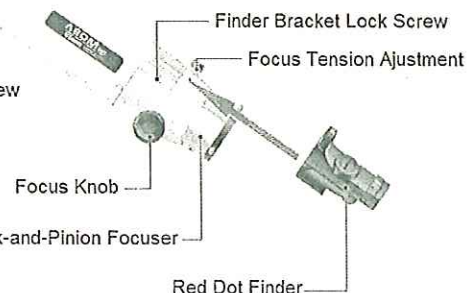
● Attaching the Telescope Tube to the Mount

Loosen both the dovetail-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

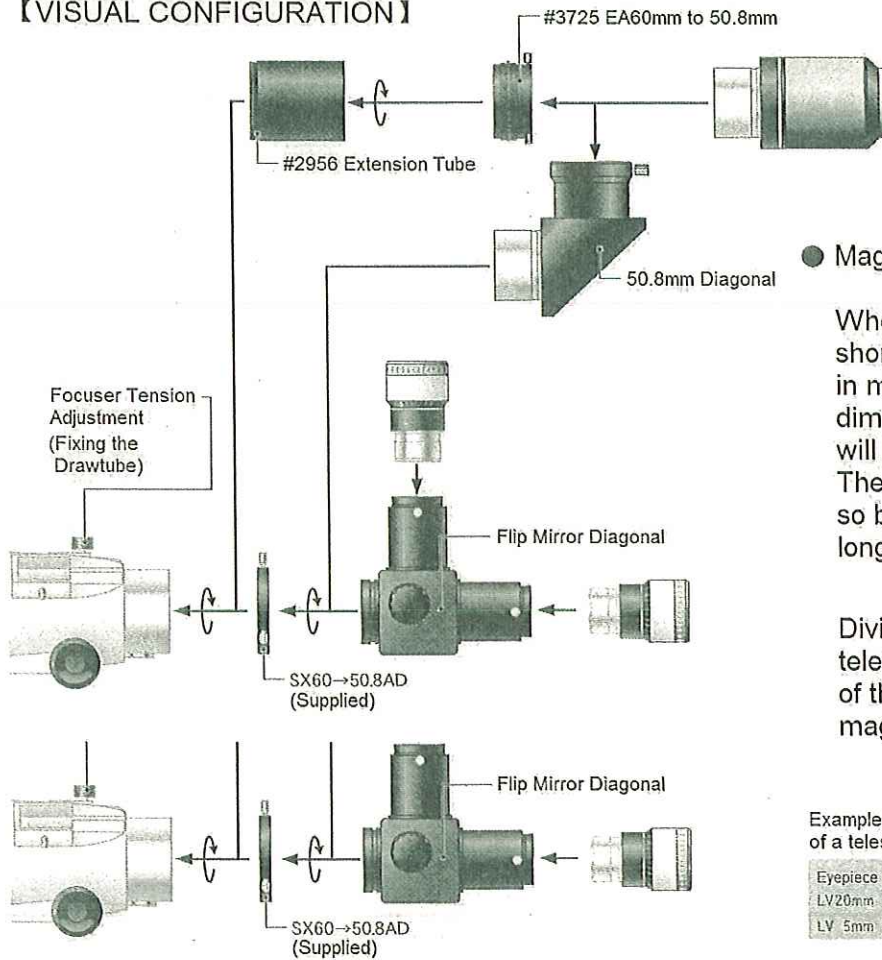
Loosen the finder bracket lock screw on the telescope's finder bracket shoe. Attach the finder scope as shown in the figure and tighten the finder bracket lock screw securely.



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.

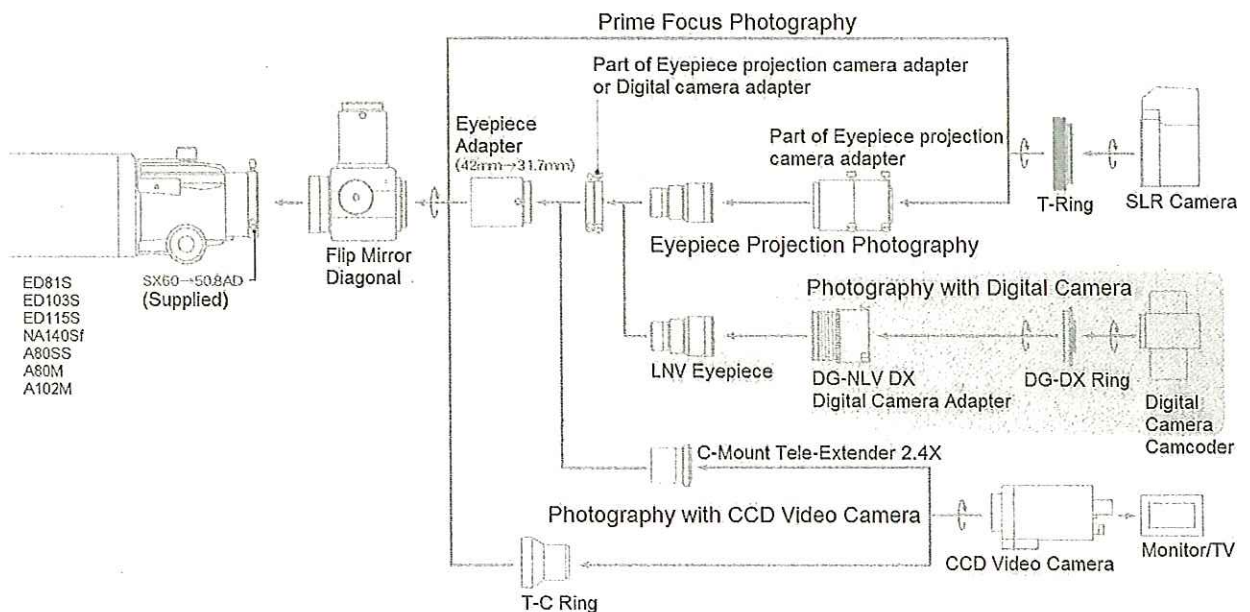
The image will be harder to see so begin with an eyepiece with long focal length.

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
LV20mm	800mm	20mm	= 40
LV 5mm	800mm	5mm	= 160

【PHOTOGRAPHIC CONFIGURATION】



SPECIFICATIONS

The specifications are subject to change without notice.

Model	A80SS	A80M	A102M	NA140SSf
Objective Lens	Achromatic, Multi-coated	Achromatic, Multi-coated	Achromatic, Multi-coated	Neo-Achromatic (4-element)
Effective Aperture	80mm	80mm	102mm	140mm
Focal Length	400mm	910mm	1000mm	800mm
Focal Raito	1 : 5	1 : 11.4	1 : 9.8	1 : 5.7
Light Gathering Power	131 X	131 X	212 X	400 X
Resolving Power	1.45 arc sec.	1.45 arc sec.	1.14 arc sec.	0.82 arc sec.
Limiting Magnitude	11.3	11.3	11.8	12.5
Drawtube Diameter / 64mm				
Thread / 60mm-42mmT				
Push-fit 50.8mm-31.7mm				
Tube Length	362mm	915mm	1060mm	1024mm
Tube Outer Diameter	90mm	90mm	115mm	140mm
Tube Weight(w/o accessory)	2.3 Kg	2.5 Kg	3.8 Kg	6.5 Kg
7x50 Finder Scope	—	—	—	⊙
Red Dot Finder	⊙	⊙	⊙	—
Flip Mirror Diagonal	⊙	⊙	⊙	⊙
Tube Rings	—	⊙	⊙	⊙
Dovetail Tube Plate	Short Plate	⊙	⊙	⊙