



# ZenithStar 71 ED **APO**

## User Guide

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## WARNING!

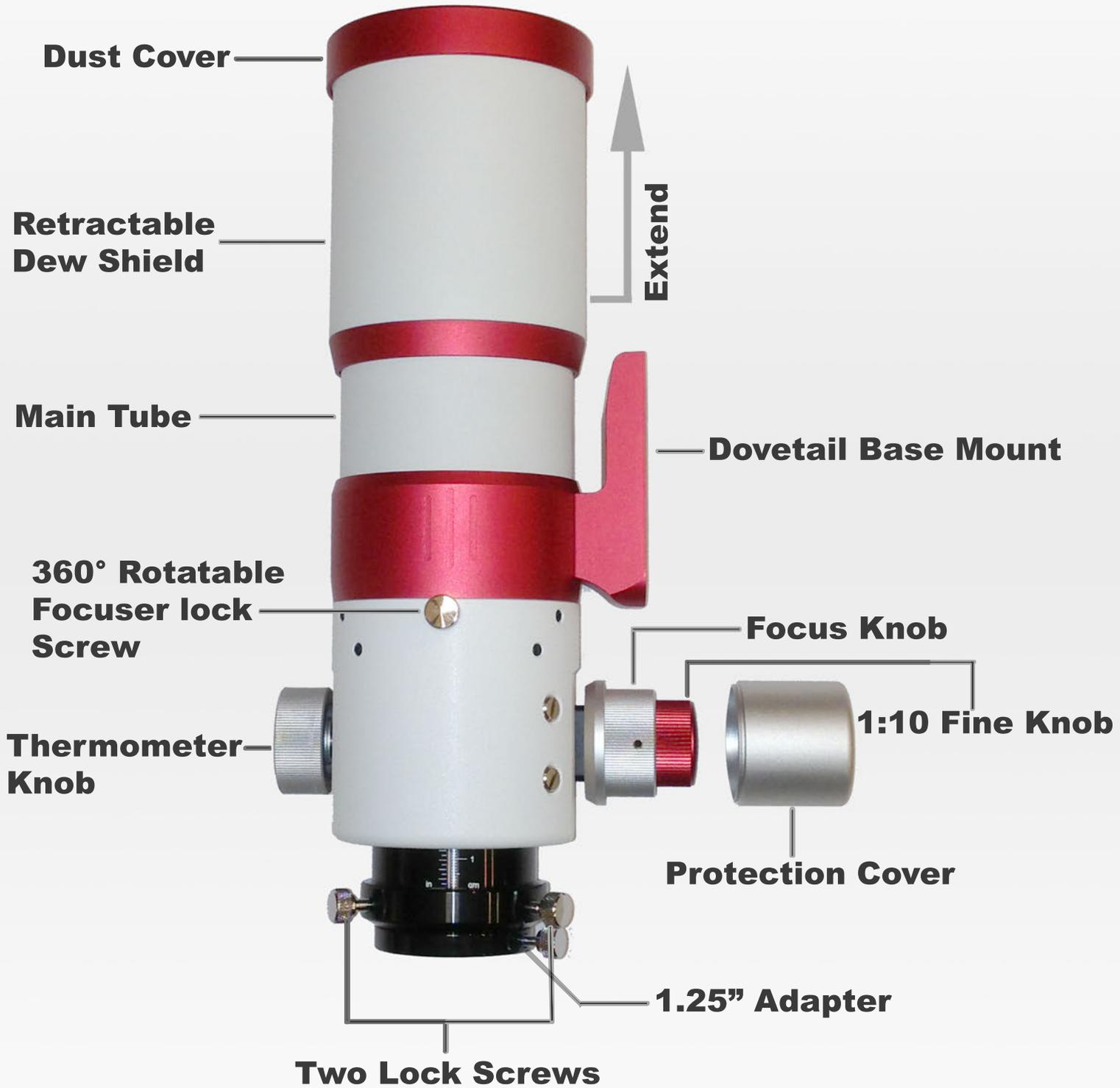
**DO NOT USE THIS TELESCOPE UNDER ANY CIRCUMSTANCES TO DIRECTLY VIEW THE SUN.**

It could easily cause instant blindness or serious damage to your eyes. To view the sun, use only appropriately designed solar filters that will reject 99.96% of the sun light and heat. Educate your family on how to use this telescope properly during day and night time observations. For further information please contact your local dealer.



**CAUTION!!**

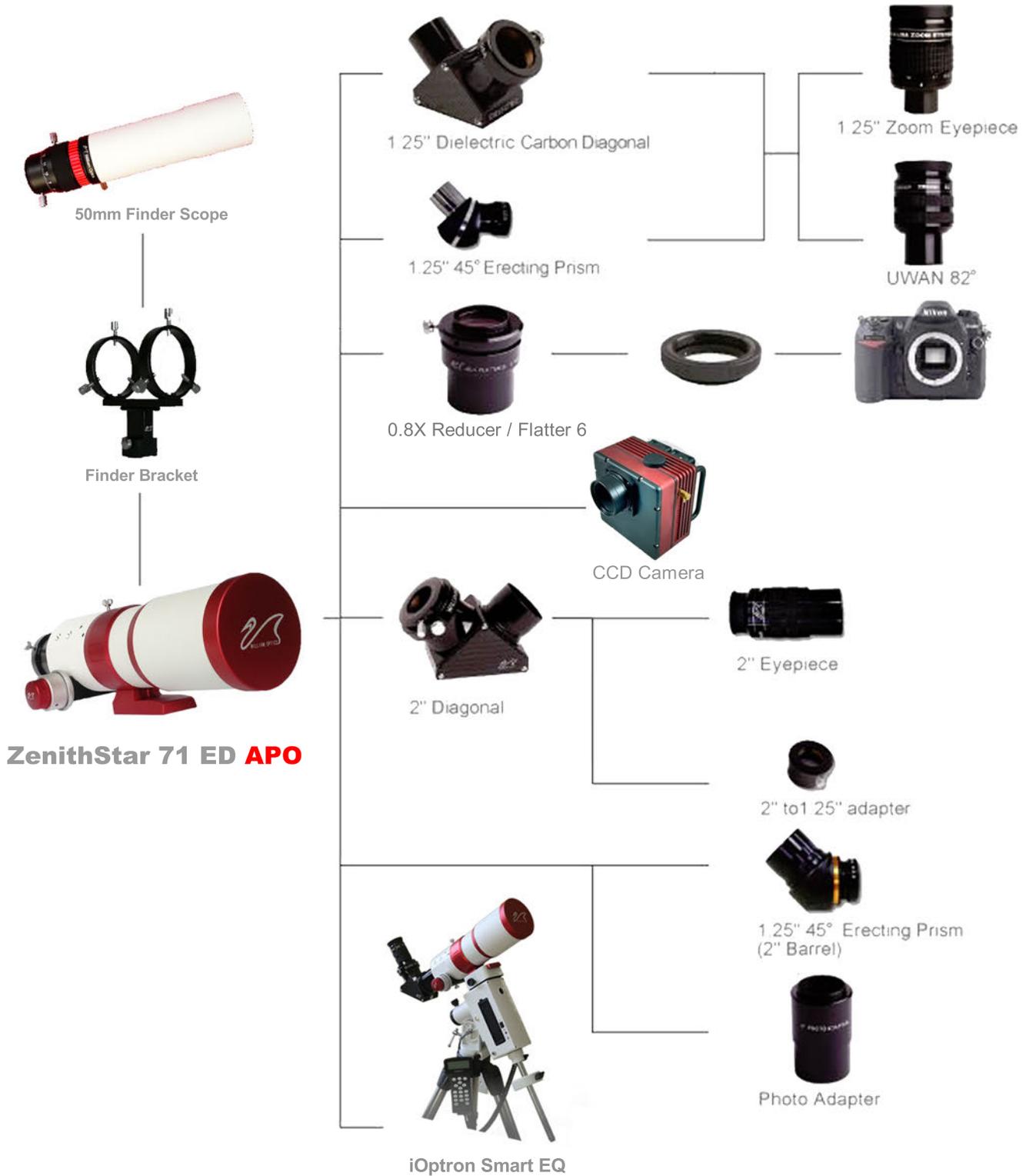
# ZenithStar 71 ED Overview



# ZenithStar 71 ED Specifications

Aperture	71mm
Focal Ratio	F/5.9
Focal Length	418 mm
Objective Type	ED Doublet, Air Spaced, Fully Multi-Coated, SMC coating.
Resolving Power	1.58"
Limiting Magnitude	11
Lens Shade	Retractable
Focuser	50.8mm(2") Rack & Pinion Focuser with 1:10 Dual Speed microfocuser 80 mm (3.2")Focuser Travel Length 360° Rotatable Design
1.25" Adapter	Brass Compression Rings
L-type Mount	Integrated L Bracket (fits SmartEQ mount)
Field Stops	Baffles
Tube Diameter	93 mm (3.66")
Tube Length	310 mm Fully Retracted 355 mm Fully Extended
Tube Weight	6 lbs. (2.7 kg)

# ZenithStar 71 ED Accessories Chart



# Connection Instructions

4.) Insert eyepiece for visual observation and tighten diagonal lock screw.

3.) Tighten both lock screws after diagonal was attached.

1.) Loosen both lock screws for release 1.25" adapter.

2.) Remove 1.25" adapter then insert 2" diagonal.



# Usage

The ZenithStar 71 is designed for both daytime and nighttime viewing, as an outstanding travel scope. We recommend purchasing a WO 2" star diagonal to make the most of these little telescopes.

Because the ZenithStar 71 are well suited to viewing nebulae, clusters, large galaxies and comets, we recommend the use of high quality wide-angle eyepieces. The WO SWAN, UWAN and SPL series eyepieces are available in a variety of focal lengths. Viewing the moon and planets is also impressive at magnifications of 140X when seeing conditions permit.

To calculate the magnification of your telescope and eyepiece combination, divide the telescope focal length in mm by the eyepiece focal length in mm.

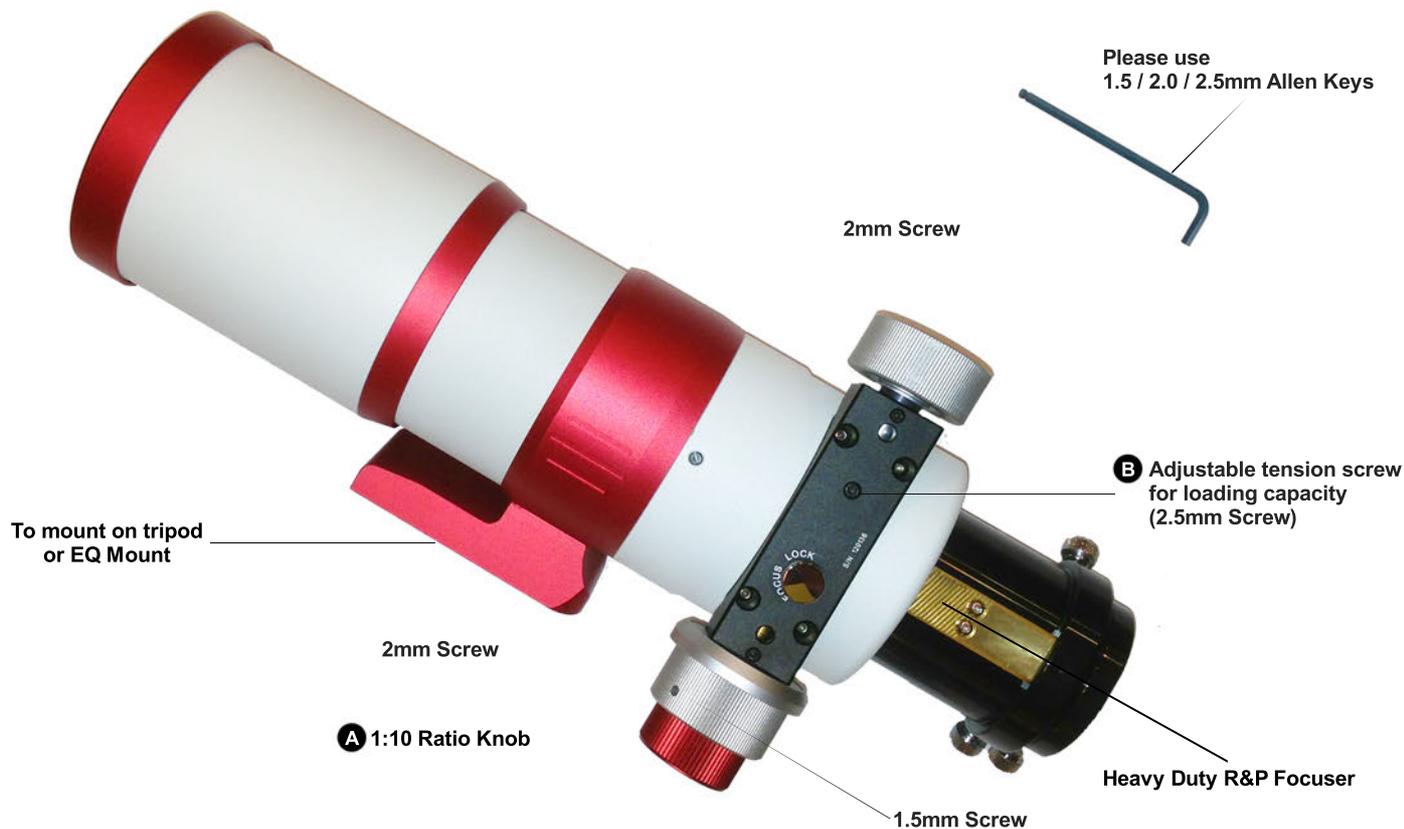
Keep in mind that the atmosphere plays an important role in seeing conditions, and only the best seeing conditions will support high power viewing. Additional power under less than ideal seeing conditions will not result in an increase in viewable details, and lower powered eyepieces should there be used under those conditions. It's easiest to locate objects using low power eyepieces (20X magnification) and then zoom in by switching to higher powered eyepieces. The largest field of view will be seen using a 12x low power-wide field of view eyepiece.

A stable tripod or mount is recommended for optimal viewing. This includes high quality photography tripods, and German Equatorial mounts, which are designed for astronomical use and include precise tracking of celestial objects. Optional accessories from WO include mounting rings and plates, super high quality 2" Quartz star diagonals which provide for superior viewing and high quality images.

The ZenithStar telescopes are suitable for large-field astrophotography; ZenithStar 71 has great color correction at a fast speed of f5.9.

Please see our website for examples of photos taken with this telescope. The Accessories Chart on page 5 and page 10 provides additional details on photographic accessories for various CCD, digital and film cameras.

Never aim your telescope or finder scope at the Sun without proper Solar filters installed on the front of the telescope. Doing so for even a moment may permanently damage your vision. Proper Solar filters consist of a filters made by reputable manufacturers, designed to fit tightly over the front of the dew shield Solar eyepiece filters are not considered safe, and should not be used. With proper front mounted Solar filters, the telescope will not be harmed by viewing the Sun. Contact your Authorized WO Dealer for further information on the brands, sizes, and prices of proper solar filters.



**A** All WO telescopes, are now fitted with a smooth and precise dual speed 1:10 focusing system, it's means that for every ten full rotations of the small fine-focus knob the large knob rotates once.

**B** The focuser drawtube tension can be adjusted using a 2.5 mm Allen key and tension should be adjusted only when necessary by progressively tightening the screw until you reach the desired tension.

## Storage and Cleaning

- ▶ We suggest placing all accessories inside an airtight container with desiccative control. Secondly, remember to store the telescope in a non-humid environment, never leave it le build up. Be particularly careful after a night observation that the lens has no dew on it before storing the telescope away.
- ▶ In case the lens surface becomes dusty, smeared, or gets fingerprints or fungus build-up on it, first of all, remove any surface particle by using an air blower, then carefully proceed to wiping the lens gently with a lint-free proper soft cloth. Use a lens liquid cleaner to get the best cleaning result. Make sure you change your cloth to a new one from time to time. The above-mentioned indications are not necessary if you carefully protect your telescope.
- ▶ The beautiful finish of your ZenithStar 71 is not easy to ruin. Nonetheless take care of the exterior body tube by wiping it down with a slightly damp soft cloth from time to time. Water should be enough to do the job. Please do not use any organic solvent on your telescope, for example alcohol, benzene and other hazardous chemical as this might ruin it.

# Caution and Safety, Optional Equipment

▶ **Caution! Never directly view the sun light with your telescope.**

Do not aim your ZenithStar 71 at the Sun because this might impair your vision. Loss of eyesight can occur when your telescope is not properly protected by solar viewing filter. (Solar filters can be easily purchased through your WO Authorized Dealers).

- ▶ Always place the optical telescope assembly (OTA) on a completely flat surface, unstable placement of telescope may cause it to fall, and if handled without caution, it may easily injure yourself and others.
- ▶ Never use your telescope under rainy conditions: this telescope is not designed to be water-proof. If your telescope accidentally gets caught in rain, please wipe down the water with a dry clean cloth, but if the lens gets totally soaked by water, please contact your WO Authorized Dealer right away for details on a service solution.
- ▶ Do not disassemble or attempt repairing your telescope without a written authorization from William Optics Corp. : this violates the warranty terms under the limited product warranty section and invalids any guarantee. Always consult with your local WO Authorized Dealer or with William Optics Corp. for details on how to service your telescope.

## Optional Equipment

In order to operate your ZenithStar 71 you will need the following minimum equipment:

A sturdy tripod for astronomical or birding usage or a mount (equatorial or ALT-AZ).

A mirror diagonal or erecting prism (The WO 2" Dielectric Diagonal is strongly recommended for better results in star observation and digital photography. A top-quality Dielectric Quartz model is also available now). At least one or two good eyepieces (6 to 40 mm wide-field recommended) depending on the application.

Other accessories depending on application.

# Recommended Products



**Strongly Recommended for photographer**

- 50mm Finder / Guiding Scope.
- 50mm Rings and Bracket.
- WO Flattener 6 / x0.8 Reducer.



- Digiscoping adapter: universal adapter for any type of digital camera.
- Red dot finder.
- W.O. 2" extender / adapter.



4mm



7mm



16mm



28mm



3mm



6mm



12.5mm

- Ultra wide angle UWAN and SPL (Super Planetary Long eye-relief) Eyepieces.



20mm



15mm



9mm

### 1.25" Eyepieces

super Wild Angle(72°).  
9mm,15mm,20mm focal lengths.  
5 elements in 4 groups, fully multi coated.  
Parfocal.



40mm



33mm



25mm

### 2" Eyepieces

super Wild Angle(72°).  
25mm,33mm,40mm focal lengths, FMC.  
Generous eye-relief.



- iOptron Smart EQ mount