

www.williamoptics.com
William Optics Corp.

ZenithStar 66 SD APO

INSTRUCTION MANUAL



Thank you for choosing a William Optics ZENITHSTAR 66SD high-quality short tube refractor. This simple step-by-step instruction manual is designed to provide Zenithstar owners with a better understanding of how to operate their new telescope by providing precise, updated information.

These instructions will also guide you through how to properly maintain the Zenithstar, and how to operate it at its maximum capabilities.

Please carefully familiarize yourself with your telescope's parts and functions before operating it for the first time.

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!!

CONTENTS

Getting to know your telescope	01
ZenithStar 66 SD Doublet APO Specifications	02
ZenithStar 66 Accessories Chart	03
Connection Instructions (SCT Diagonal Mirror)	04
Connection Instructions (Red Dot Finder)	05
Connection Instructions (Aligning Red Dot Finder)	06
Usage	07
Storage and Cleaning	08
Caution and Safety, Bundle Equipment	09
Optional Equipment	10
Recommended Products	11-16

Getting to know your telescope



ZenithStar 66 SD Doublet APO Specifications

Aperture	66 mm
Focal Ratio	F / 5.9
Focal Length	388 mm (15.3")
Objective Type	Doublet, Air Spaced, Fully Multi-Coated, STM coating
Resolving Power	1.78"
Limiting Magnitude	10.8
Lens Shade	Retractable
Focuser	40.6 mm (1.6") Crayford Focuser with 1:10 dual-speed microfocuser 63 mm (2.4") Focuser Travel Length 360° Rotatable Design
1.25" Adapter	Brass Compression Ring
L- type Mount	L Bracket
Field Stops	10 Baffles
Tube Diameter	75 mm (2.95")
Tube Length	300 mm (11.8") Fully Retracted 360 mm (14.2") Fully Extended
Tube Weight	3.5 lbs. (1.7 kg)
Case	Aluminum Case (Standard)
Case Dimensions (WxHxD)	38.5 cm x 24.5 cm x 16.5 cm (15" x 9.6" x 6.5") (Water Resistant)
Case Weight	3.7 mm (1.6")

ZenithStar 66 Accessories Chart



Above diagram is only for future connectivity purposes.
Please contact our Authorized Dealers for accessories purchase.

Connection Instructions

(2" SCT Diagonal & Optional SCT Adapter)

Step-1



Extend the tube fully and connect the scope via the L-base bracket or mounting rings.



Remove the 1.25" adapter to mount a WO SCT Diagonal or extender.

Step-2



Make sure that the diagonal is tightly secured before operating.



Holding the diagonal steady in position with one hand, turn the SCT ring on the SCT thread of the ZS 66.

Step-3



An OPTIONAL SCT extender/adaptor allows you to use 2" accessories on your ZS66. Replace the 1.25" adapter with the extender.



The extender is not designed to use standard push-in diagonals, but as an extender for non-WO 1.25" diagonals, or for 2" accessories such as photo adapters.

Connection Instructions

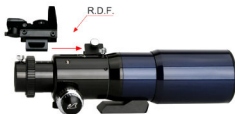
(Red Dot Finder)

Step-1



Take out the finderscope screw from the drawtube top with a small flat screwdriver. This is the larger black screw at the left of the rotation lock thumbscrew. We suggest positioning the RDF base with the thumbscrew facing towards the left (for clarity purposes it's shown on the right hand side on these instructions).

Step-2



Insert the quick release red-dot finder bracket in the base.

Step-3



Lock the bracket thumbscrew properly and follow alignment instructions. Note that this is an optional product available for purchase from WO.

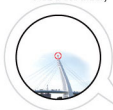
Connection Instructions

(Aligning R.D.F.)



The alignment of the finder needs to be performed only when necessary. We recommend aligning during daytime by point telescope and finder at the same far object.

View Field of Red Dot Finder.
(with WO Erecting Illuminated
Red Dot Finder)



Brightness Adjustment

Alignment Set screws

Reticule Selector



Step-1

Find a distant object in the telescope with a low power eyepiece.

Step-2

Use a 2mm Allen key to loosen the setscrew on the left side of the RDF, near the bracket under the letter "R". Using a 2.5 mm Allen key make adjustments to the Alt-Az adjustments (marked R and UP) until the red dot in the reticule overlays the same object as the center of the eyepiece view.

Step-3

Using a high magnification eyepiece (short focal length) repeat this procedure for fine alignment.



View Field of Telescope.
(with WO Dielectric)

Usage

The Zenithstar 66SD is designed to work with SCT-thread Diagonals, for both daytime and nighttime viewing, as an outstanding travel scope. We recommend purchasing a WO 2" star diagonal to make the most of this little telescope.

Because the Zenithstar 66SD is well suited to viewing nebulae, clusters, large galaxies and comets, we recommend the use of high quality wide-angle eyepieces. The WO SWAN and UWAN series eyepieces are available in a variety of focal lengths. Viewing the moon and planets is also impressive at magnifications of 120X when seeing conditions permit.

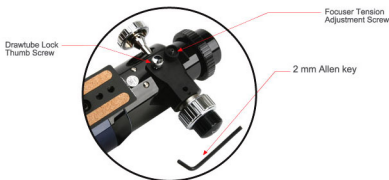
To calculate the magnification of your telescope and eyepiece combination, divide the telescope focal length in mm by the eyepiece focal length in mm.

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 66SD has great color correction at a fast speed of f/5.9. Please see our website for examples of photos taken with this telescope. The Accessories Chart on page 03 provides additional details on photographic accessories for various CCD, digital and film cameras.

Never aim your telescope or finderscope 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.



All WO telescopes, including ZenithStar, are now fitted with a smooth and precise dual speed 1:10 focusing system.

1:10 means that for every ten full rotations of the small fine-focus knob the large knob rotates once.

The focuser drawtube tension can be adjusted using a 2mm Allen key on the screw protruding from the black hollow ring.

Tension should be adjusted only when necessary by progressively tightening the screw until you reach the desired tension.

Make sure that the black ring is always tight against the focuser.

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 in a hot heated environment. If not properly stored, it may develop mildew growth and other preventable 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 66SD 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 for Safety

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

Do not aim your ZenithStar 66 at the Sun because this might impair your 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.

Bundle Equipment

1. Stylish soft bag or Aluminum case, with custom-fitted foam, water resistant, carry-on size.
2. L-bracket base.
3. Dew shield cover.
4. 2" to 1.25" Adapter.

Optional Equipment

In order to operate your ZenithStar 66 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" SCT 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.

Also available from WO:

- W.O. 2" SCT extender / adapter.
- Red dot finder.
- W.O. 2" Star Mirror Diagonals.
- W.O. 1.25" 45° Erecting prisms.
- Ultra wide angle UWAN and SPL (Super Planetary Long eye-relief) Eyepieces.
- DCL 52,4337 series "Digital Camera adapter Lens for Digital Cameras and Digital Video".
- Digiscoping adapter: universal adapter for any type of digital camera.

Recommended Products

D i a g o n a l M i r r o r s



2" SCT Quartz
Dielectric Diagonal



2" SCT Dielectric Fiber
Carbon Diagonal



1.25" Dielectric
Carbon Diagonal

Dielectric Diagonals

New Dielectric Diagonals with Carbon Fiber Plates (2" and 1.25"). Minimum 99% reflectivity 10mm thick oversize flat for optimal image stability for those who need just the best, Quartz mirror version, with even higher polishing accuracy and reflectivity. 2" Adapters with compression rings and SC telescope adapter included in 2" versions.

F l a t t e n e r



0.8x Reducer/Field Flattener v.II

It now boasts a removable 2" nosepiece and rotating function. The field flattener is optimized for APS size chips, and recommended with telescopes from 66 to 90mm. Suggested lens to chip distance for optimal results is 56mm. The field flattener has an SCT-type thread that will easily screw onto your ZenithStar 66 SD to achieve an amazing ultra-wide field at f/4.8.

You will not need to buy two different products for your 80mm refractors and your 66mm refractors. All in ONE!

2" SCT Extender Adapter



2" SCT/ ZS66 Adapter

Allows connection of 2" accessories such as photo adapters or 2" diagonals to ZS66 and other 2" SCT-thread telescopes. Completely anodized. Anti-marring brass compression ring chromed thumbscrew.

Digital Camera adapter Lenses



DCL-4337



DCL-52

These innovative digital adapters lens are designed for large-lens digital camera and digital video cams users' needs. It can be connected to any 2" diagonal or erecting prism.

E r e c t i n g P r i s m s



2" 45°



1.25" 45° with 2" Barrel



1.25" 45°

45° Erecting Prisms

Perfect both for astronomical and terrestrial observations. Revolutionary and sophisticated design, extra-smooth feel.

T e l e s c o p e & C a m e r a T r i p o d



Tripod TR-188

The William Optics Light-Medium Tripod is for the photographer or observer who wants everything he needs without killing his wallet!

In fact, the WO tripod offers everything you need in a tripod and more. A working height range of 30.9 to 74 inches means you can find the perfect angle, high or low, to capture your objects. And it comes with a 3 section leg, which will give you all the stability you'll ever need.

It is entirely aluminum made, with a stylish finish. The leg material and leg lock type are made of high quality aluminum.

The tripod weighs 6.6lbs and offers great stability without compromising its portability and ease of use.

Using our WTR-188 quality tripod, you can easily mount up to (7 lbs) maximum on it. That means that any small telescope like 66mm William Optics for example is perfect and easily handled. For larger or heavier scopes -or for high power observations-, we recommend our EZ Touch ALT-AZ Mount with wooden tripod instead.

Red Dot Finder



Red Dot Finder (R.D.F) with Quick Release Bracket

This very practical R.D.F. comes with a handy, quick-release bracket included in the price. Centering your object in the sky has never been easier!

Guiding Rings



Guiding Rings

These beautiful 100mm guiding rings are made out of solid aluminum, anodized in black, and will fit virtually every 60 to 90mm O.D. tube to be used as guiding scope. You can use these rings for most 80mm telescopes like our Megrez or ZenithStar and for our ZS66 series!

SWAN 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.

UWAN 82° Eyepieces



4mm



7mm



16mm



28mm

Ultra Wild Angle(82°).

28mm(2°),16mm(1.25°),

7mm(1.25°),4mm(1.25°).

S P L E y e p i e c e s



3mm



6mm



12.5mm

SPL
EYEPieces

1.25" Eyepieces

Super Planetary Long eye-relief (55°)

3mm, 6mm, and 12.5mm focal lengths, Internally baffled, All lenses' edges and internal spacers blackened, Fully multicoated.

Z o o m E y e p i e c e



Zoom Eyepiece 22.5-7.5 mm

Finally a zoom eyepiece at a price everyone can afford! Experience the convenience of 5 eyepieces in one at the price of half! New-design, long eye relief, 66° high quality wide angle eyepiece.



WILLIAM OPTICS

Crafting the World's Finest Astronomical Instruments

CONTACT US

WILLIAM OPTICS

Toll Free: +1-866-918-6888

Ph :+1-714-898-7989

Fax :+1-714-892-6067

web : www.williamoptics.com

✉ : wo@williamoptics.com

