



## 700X70mm ASTRONOMICAL TELESCOPE



## INSTRUCTION MANUAL

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# Introduction

ESSLNB new astronomy telescope can let you enjoy and explore both terrestrial and celestial objects in our nature as well as a lot of fun. Our manufacturer promises that it is a kind of high-end product with non-polluting and non-toxicity substances, each of whose materials have passed the professional certification to be harmless to the human body. Please read this instruction manual carefully and completely. There is much important information you need to know to give the best effect from your telescope.

If you need help in assembling or operating your telescope, you may contact us by mail at any time.

Let's go on a wonderful journey to operate our telescope. Wish you will love it.

## WARNING

TO AVOID ANY EYE INJURY NEVER LOOK DIRECTLY INTO ANOTHER OPTICAL INSTRUMENT THROUGH THE TELESCOPE AND NEVER OBSERVE THE SUN WITH UNPROTECTED EYES!

# Telescope Parts



A. Main body

B. Objective lens

C. Red dot finderscope

D. Eyepiece

E. 90°Erect diagonal prism

F. Focusing Knob

G. Aiming control & lock

H. Screw

I. Tripod leg

J. Tray

K. Leg locks

# Instruction For Assembly



1. Extend the tripod legs to desired length by opening the screw



2. Gently pull the tripod apart and close the screw



3. Attach the accessory tray (J) to the flanges of the tripod legs by rotating it until fix in the groove according to hole shape



4. Put the astronomical body into the tripod head and turn the screw knob to fix it.



5. Move the battery's insulating piece away , and move switch on



6. Insert the finderscope into the bracket



7. Loosen the thumbscrew and remove the cap



8. Insert the diagonal lens into the focusing tube. Hold it in place by tightening down the mounting bolts



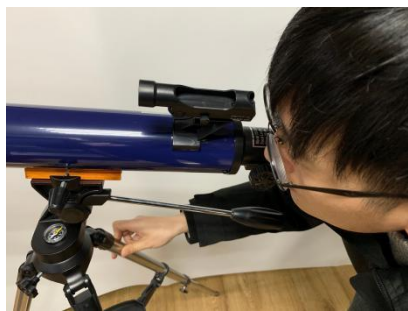
9. Loosen the thumbscrew. Insert the eyepiece into the diagonal lens. Then tighten it

10. If there is a balow len, insert it between eyepiece(diagonal lens)and the focusing tube. Maybe it's better effect between eyepiece and focusing tube without diagonal lens. Depending on your need



Assembly is completed

# Telescope Use



1. Open the red dot finderscope

2. Use the finderscope to find the target you want to see



3. After find the target, look into eyepiece of it, turn the direction of telescope to your target, then tighten screw

4. Look into the eyepiece of telescope, roll the focusing knob to make the target clear



5. Replace to high power eyepiece to magnify your target

6. If there is a balow len, insert it as shown in the instruction of assembly



# ALTITUDE-AZIMUTH MOUNT

The telescope is fitted with an Altitude-Azimuth mount. “Altitude” refers to the telescope’s up and down or vertical movement, while “Azimuth” refers to its sideways or horizontal movement. The Altitude Azimuth mount used in conjunction with the micro adjustable Altitude control and Azimuth Lock(N) lets you see the entire night sky or any celestial body without having to move the tripod.

## MAGNIFICATION--SELECTING A SUITABLE EYEPIECE

The magnification defines the telescope’s ability to enlarge an image or to bring it closer in order to see it better.

$$\text{EXAMPLE: } \frac{700\text{mm focal length}}{\text{Eyepiece K20 (20mm)}} = 35X$$

The required degree of magnification depends on the object to be observed.

To this end, we recommend confirming to the following general guideline: ideal viewing conditions are obtained when the magnification factor corresponds to no more than 15 to 20 times the lens diameter, i.e. the optimal magnification of 175X to 525X obtained with a 70mm diameter lens makes it possible to observe most celestial bodies. We recommend using a lower magnification factor for observing the stars as the field of view will be wider so that the object being observed will be easier to locate. The highest magnification factor should only be used for especially finely detailed observations of the moon. This is because the moon is relatively close and exceptionally bright, so that good detail resolution is obtained even with a high magnification ratio.

# BARLOW LENS

The Barlow lens increases the magnification factor provided by the telescope. A 3X Barlow lens will therefore triple the telescope's magnification power. Consequently it is possible to triple a 35X magnification factor to increase it to 525X using a 3X factor Barlow lens. The highest magnification factor Barlow lens should only be used for very bright, large objects such as the moon and the brightest planets or during nighttime observations when conditions are optimal. Do not use the Barlow lens and the eyepiece extension in conjunction with the angle prism for this combination leads to especially low resolution and results in the inability to properly focusing viewing. If the Barlow lens to the focusing tube, then fit the required eyepiece directly onto the Barlow lens. Focusing is then performed in the usual way.

## TIPS

1. Always start viewing with your 20mm eyepiece. This is your low power eyepiece and its wide viewing field will make it easier to locate objects. By the way, you will notice that stars, when seen through your telescope, still look like points of light. This is because they are so far away. Even the largest telescopes show stars only as bright points.
2. Once you have located an object and the view is clear you may wish to change to the high power eyepiece. You will notice that your object looks bigger, but not as bright as seen with the 20mm eyepiece. This is normal. If the viewing conditions are not good the high power image may not appear sharp or stable. If this happens, switch back to the 20mm eyepiece and try the high power eyepiece another night. You can also achieve higher power by inserting the 3X Barlow lens between the telescope and either eyepiece. This triples the available power.

# Cleaning & Maintenance of Optics

Optical components of a telescope will over time get dirty. The amount of dirt and dust collected onto a lens or mirror should only be removed with the utmost care and this is at times best left to people with experience in this procedure. A considerable amount of dirt or dust must be present on the optical surface before one will notice the effect visually.

1. Keeping the dust caps on during storage of the telescope will reduce the amount of dust collect.

2. After using the telescope there might be dew condensation, on the optical surfaces. When the telescope is brought inside remove the dust caps and allow the moisture to evaporate naturally Point the telescope downwards so as to minimize the collection of airborne dust.

3. Once the moisture is gone then replace the dust caps.

4. If you wish to remove dust from the lenses or mirrors you first should try using a can of filtered compressed air. Remove the dust cap and the dew shield in the case of the refractor style of telescope, or take the mirror cell out of the reflecting type. Once you are able to freely blow across the surface of the optics then begin by first pointing the can away from the piece and gently expel some air. This will remove any condensate in the air can lines and clear off dust that may have accumulated on the discharge tube. Next using short quick bursts of air carefully remove the dust particles. DO NOT HOLD THE TRIGGER OF THE COMPRESSED AIR FOR TOO LONG AS CONDENSATE MIGHT BE BLOWN OUT ACROSS THE OPTICAL SURFACE. If particles still remain after several attempts at removal than the telescope should probably be taken back to the dealer for cleaning.

The optics of your telescope should last a long time before they generally require a major cleaning. Avoid sudden temperature fluctuations likely to cause any dampness in the air to condense on the telescope's lens. By keeping the dust caps on and avoiding the temptation to handle the lenses or mirrors you will find that very little is needed in the way of optical maintenance.



**Thanks for choosing us.  
Enjoy yourself!**