Sky Master 15X70 Binocular and Tripod/Mount

USER GUIDE

WARNING: Never look directly at the Sun through binoculars— even for an instant — as permanent eye damage will result. Do not point the binoculars at the Sun, as parts will melt! Children should use this telescope only with adult supervision.

The Telescope Lending Program is brought to you by:

Discover the Night Sky

Stellar Vista Observatory (SVO), a 501c3 nonprofit based in Kanab, UT, received a grant from the Utah Governor's Office of Outdoor Recreation with matching funds from the Kane County Office of Tourism to launch its Discover the Night Sky program.

The program encourages and facilitates outdoor recreation opportunities for children of all ages and levels of experience to meet growing community interest in viewing southern Utah's starry skies.

SVO's project is designed to enable residents of Kane County who may not already own astronomy equipment to enjoy exploring the night sky.

Our Astronomy kits are maintained in great working order by SVO members. We hope you enjoy using them to explore Southern Utah's amazing dark night skies! For more information go to the web page ***www.stellarvistaobservatory.org/discover-the-night-sky***

Note: Adult supervision is recommended for all equipment setup

We suggest reading this user guide and practicing with the binoculars inside before you take it out in the dark.

Table of Contents:

Adjusting Binoculars:

Adjusting the Interpupillary Distance (IPD)

Since the distance between the eyes varies among individuals, the two eyepieces of the binoculars must be correctly aligned (adjusted). This is called adjusting the interpupillary distance. To adjust this distance, lift the binoculars up to your eyes (using both hands) and look through them at an object in the distance. Move the two halves of the binoculars around the hinge until you see one clear circle of image through both eyes.

Adjusting Focus

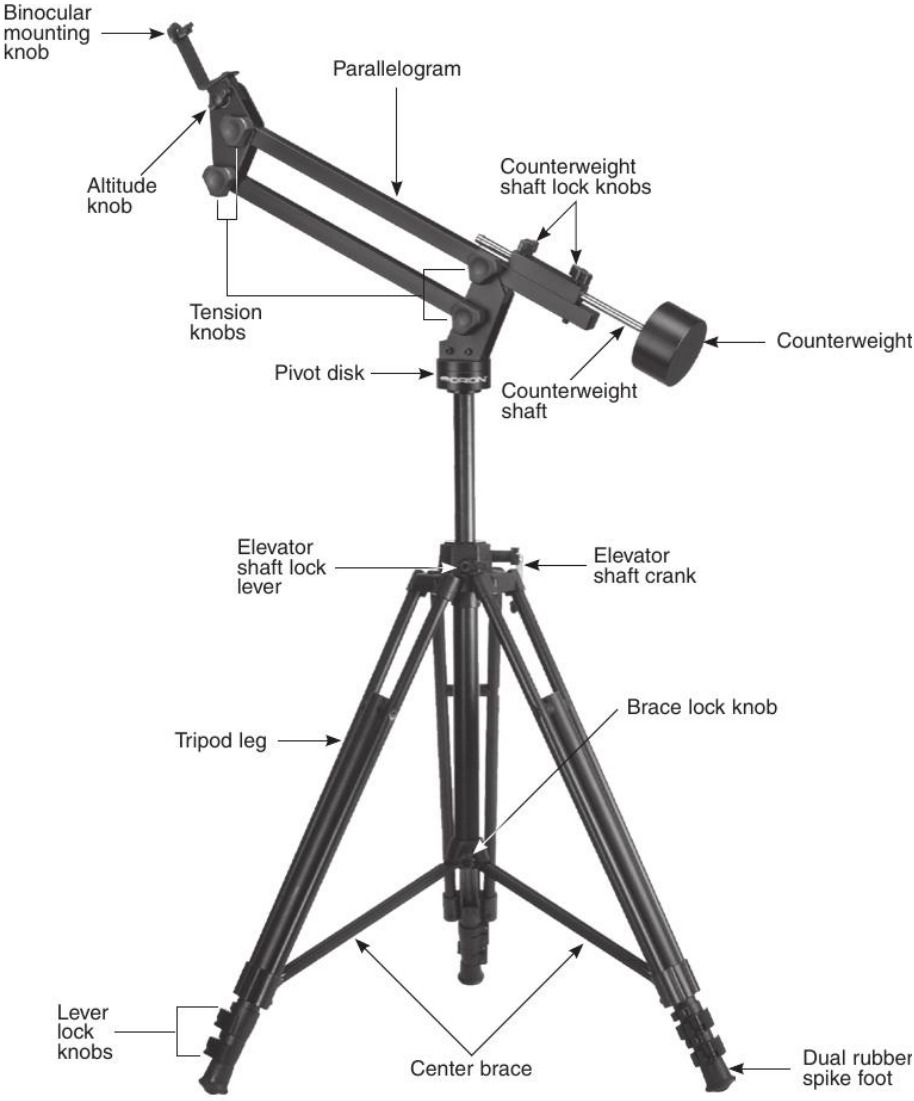
Most people have a variance of vision from their left to their right eye. To adjust the focusing system, (1) Close your right eye and look through the left side of the binoculars with your left eye at the subject matter. Rotate the center focusing wheel until the image appears in sharp focus; (2) Close your left eye and look through the right eyepiece (called the diopter). Rotate the right eyepiece until the image appears in sharp focus. (3) Now look through both eyepieces with both eyes open. Since you've already adjusted the right eyepiece, use only the center focusing wheel to refocus on a new object at a different distance.


Diopter ring
Center focus wheel
Center hinge

Note: The tripod provides a stable platform necessary for night sky viewing with the powerful binoculars provided.

Setting up the Tripod

Spread the legs of the tripod as far as they will go and lock them in place by tightening the brace lock knob. Keep the legs at their shortest height, for now. The Paragon-Plus tripod has a very wide stance for enhanced stability. The widest stance is achieved when the center brace arms are as far down as they will go on the elevator shaft housing. The brace lock knob should be tightened to secure the stance. When using the binocular mount, the tripod legs should always be fully extended, otherwise the weight of the binocular mount could cause the tripod to tip over. Extend the elevator shaft only as much as needed to get the binoculars to the proper height.

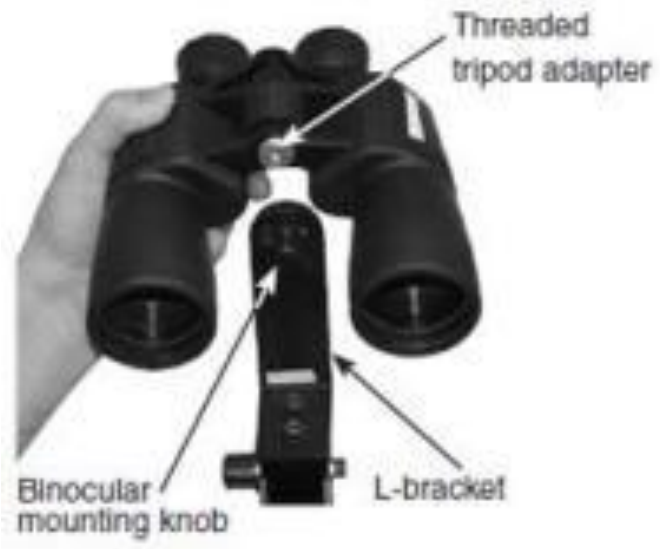

Binocular mounting knob
Parallelogram
Altitude knob
Counterweight shaft lock knobs
Tension knobs
Counterweight
Pivot disk
Counterweight shaft
Elevator shaft lock lever
Elevator shaft crank
Brace lock knob
Tripod leg
Lever lock knobs
Center brace
Dual rubber spike foot

Attaching the Paragon-Plus Binocular Mount to the Tripod

Line up the threaded pan head attachment shaft of the tripod with the threaded hole on the bottom of the pivot disk. Then hold the binocular mount still while turning the pivot disk to thread it onto the shaft.

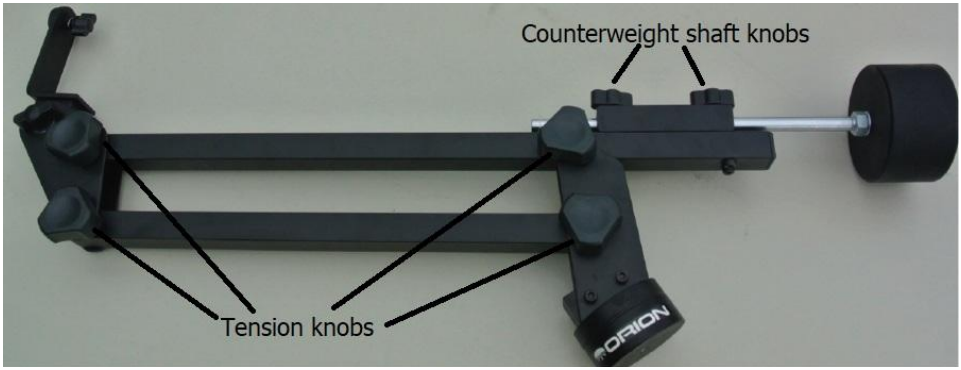
Attaching the Binocular to the Binocular Mount

Adjust the tripod height to the level you will be viewing from before mounting the binoculars. Thread the binocular mounting knob into the tripod adapter on the binocular until it is secure.



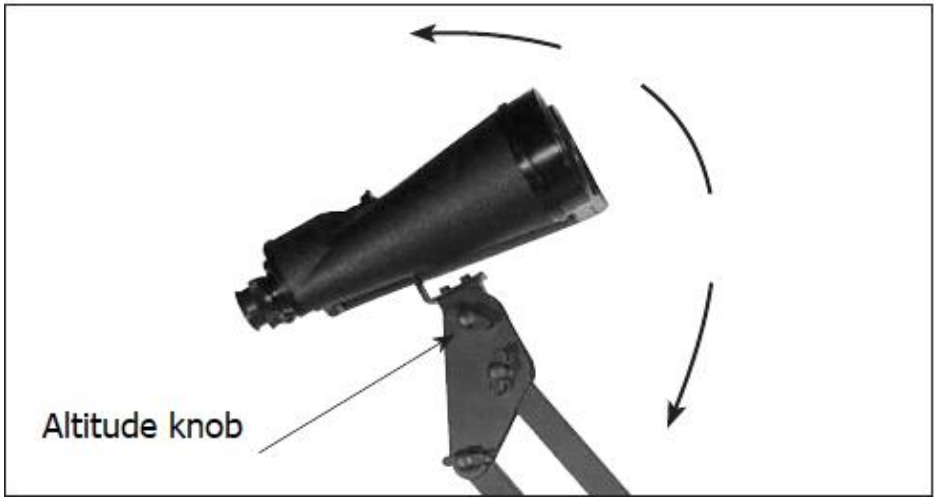
Balancing the Paragon-Plus Binocular Mount

To assure smooth movement, the binocular should be properly balanced on the mount by adjusting the counterweight shaft.
Loosen all four tension knobs and carefully bring the mount to a horizontal position. Loosen the counterweight shaft knobs and slide the counterweight shaft out from the mount until it balances the binocular on the other end. If the mount will not balance, increase the tension with the tension knobs.



Adjusting the "Tilt Angle" of the Binocular:

You should set the knob tension such that the binocular will move when pushed, but will not move on its own. Keep in mind that as the angle of the binocular approaches vertical, the knob tension will need to be increased so that the binocular does not flop over. Increase the knob tension when bringing the binocular 40˚ or more from horizontal.



Adjusting Azimuth: Moving the binocular in azimuth (left/right) is a simple matter of turning the mount on its pivot disk. There is no azimuth lock feature.

Adjusting the Height of the Binocular: A nice feature of the Paragon-Plus binocular mount is that when the binocular is pointed at an object, the height can be adjusted for different viewers without moving the binocular off its target. To do this, simply move the binocular so that only the parallelogram part of the mount is moving. Do not adjust the tilt angle of the binocular or move the mount on its pivot disk.

Parallelogram Safety Stop: The parallelogram has a safety stop to prevent the aluminum bars from completely collapsing. This ensures that no fingers will be caught and crushed by an accidental fast closing of the parallelogram. This feature will also prevent the counterweight from hitting the tripod.

Transporting: When moving the binocular mount any significant distance, you should remove the binocular to prevent it from being damaged. To make moving easier, you may want to separate the Paragon mount from the tripod.

When transporting equipment in your car, the tripod, mount and binoculars should be returned to their cases.

When and where to observe:

Before you head out in the dark be sure to have everything you will need.

#Plan for what to observe
#Know where objects are in the sky
#Tripod and Mount
#Black accessory bag and binocular
#Table
#Be sure weather conditions are suitable

Note: Please do not use SVO equipment in rain, snow or windy conditions

When: Observing bright objects like planets and stars can be done on any clear evening. But if you want to observe star clusters, galaxies, or other deep-sky objects, selecting a night with no moon is essential.
Atmospheric conditions also vary significantly from night to night. "**Seeing**" refers to the steadiness of the Earth's atmosphere at a given time. In conditions of poor seeing, atmospheric turbulence causes objects viewed through the telescope to "boil." When seeing is good, star twinkling is minimal and images appear steady in the eyepiece. Seeing is always best directly overhead, and worst at the horizon.

Our FAQs provide daily astronomical weather forecasts.

www.stellarvistaobservatory.org/discover-the-night-sky/#faq

Where: Southern Utah is famous for its dark night skies. But, if your home is surrounded by bright lights, you might need to drive a little bit to find them. For example, Dark skies are not required if you just want to look at the moon or planets, but important for most other celestial objects. For those living in Kanab, the boat ramp at Jackson Flat Reservoir (with some ambient light) or BLM campgrounds on Hancock Road, BLM trailheads off US 89 and Johnson Canyon Road offer very dark skies almost totally free of light pollution.

For a current map of light pollution, visit: https://cires.colorado.edu/Artificial-light

Dark Adaptation: It takes 20-30 minutes for our eyes to adapt to the dark. Use the included red LED flashlight when observing to preserve your night vision. Red lights do not inhibit our night vision as much as white lights or your cell phone screen.

One more time:

WARNING: *Never look directly at the Sun through binoculars— even for an instant — as permanent eye damage will result. Do not point the binoculars at the Sun, as parts will melt! Children should use this telescope only with adult supervision.*

Support

SVO provides technical support from Noon to 7:00 PM daily. If you have any setup or observational issues, questions or believe equipment maintenance is needed, call 435-644-3735.

Please take care of the equipment as if it were your own! The cost to replace this kit can be as much as $450! By treating the equipment gently and returning all pieces intact, others will be able to use it to observe the night sky well into the future!