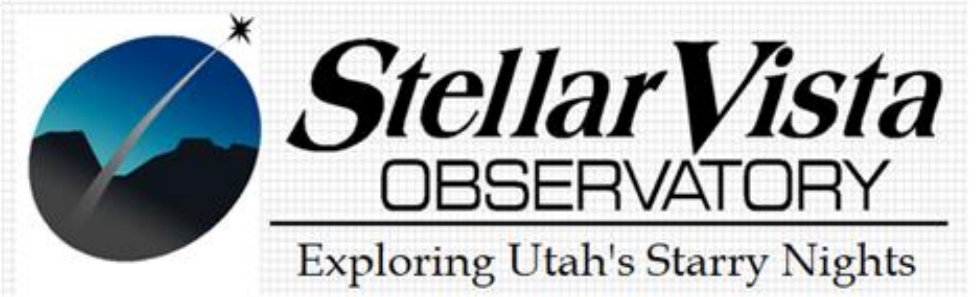
Orion StarBlast 6" Telescope
USER GUIDE

WARNING: Never look directly at the Sun through a telescope— even for an instant — as permanent eye damage will result. Do not point the telescope 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***

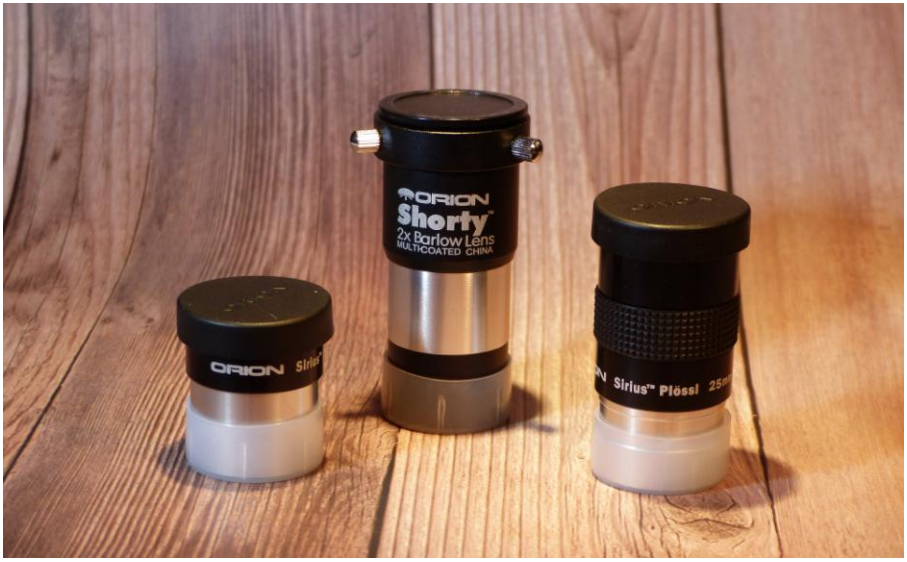
Table of Contents:

Getting Started

Note: Adult supervision is recommended for all equipment setup

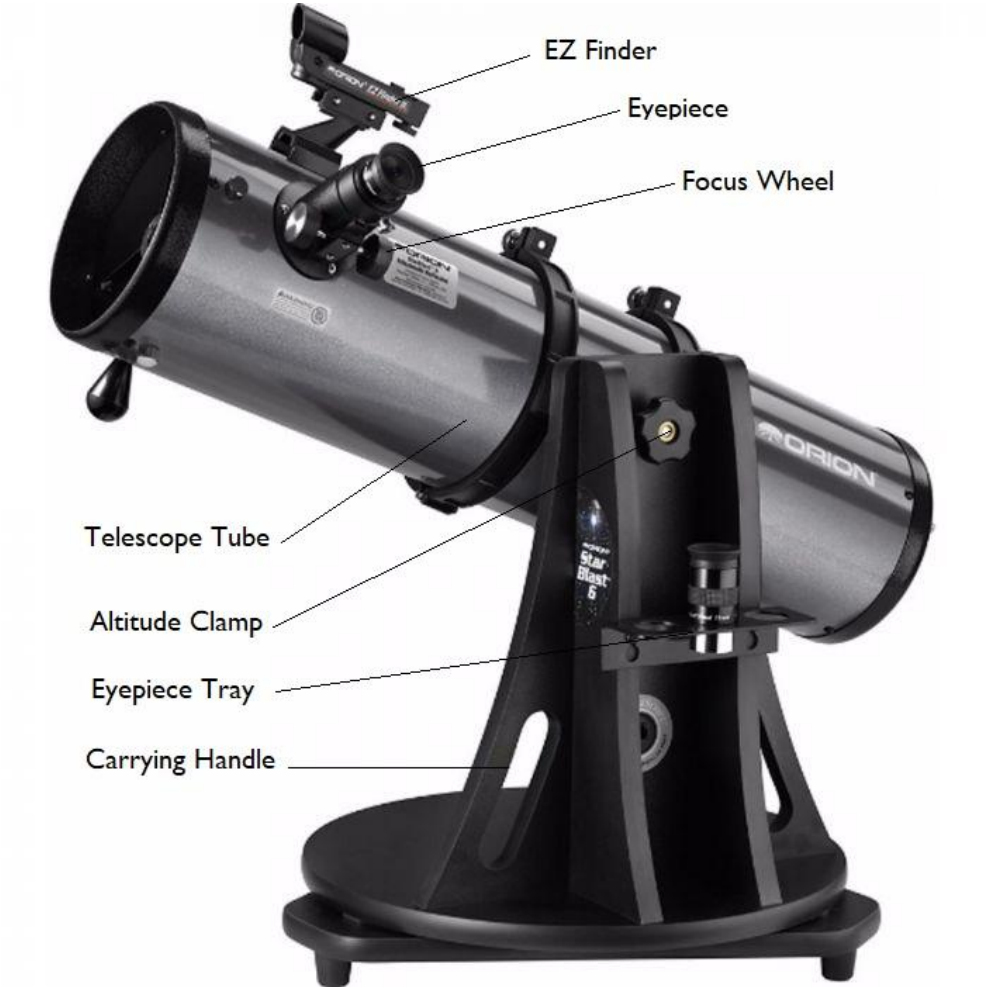
We suggest reading this user guide and practicing with the telescope inside before you take it out in the dark.

Eyepieces:



This 6" telescope comes with 2 eyepieces (17mm & 25mm) and a Barlow lens. The lower the number on the eyepiece the higher the power, the Barlow lens doubles the power of the eyepiece it is used with. When viewing it is best to use lower power (higher mm) eyepieces at first, because they offer a wider field of view making it easier to find objects.

When viewing deep space objects (star clusters and nebulae) as well as the moon, it is best to use lower power. When viewing planets or other small objects you can try higher power eyepieces to magnify the image more. However, higher power also magnifies any vibration or poor 'seeing' conditions, as well as gathering less light so images appear dimmer. There is always a tradeoff.


EZ Finder
Eyepiece
Focus Wheel
Telescope Tube
Altitude Clamp
Eyepiece Tray
Carrying Handle
ORION
Star Blast 6

Set-up: Place the telescope on the table provided. Put the eyepiece tray in place, and put the eyepieces in the tray. Put the 25mm eyepiece in the telescope by removing the dust caps and placing in the eyepiece receiver. Remove the dust cap from the front of the telescope tube. You are now ready to start using the telescope.

This is a "push-to" telescope, meaning that the user manually points the telescope at the desired target. The telescope moves on two axes: altitude (up/down) and azimuth (left/right). To locate an object, you simply move the telescope manually until you find what you are looking for. Once you find an object, you will need to reposition the telescope occasionally, as objects will drift out of the "field of view" (what you see through the eyepiece) due to Earth's rotation.

How to Focus: Try out the telescope during the day when you can see what you're doing. Aim the telescope in the general direction of an object on land (not the Sun) at least ¼ mile away. Look through the eyepiece and slowly rotate either of the two focus wheels until the object comes into sharp focus.

Note: like many reflector telescopes, the image in the eyepiece will be upside-down!

If you wear glasses, first try using them when you look into the eyepiece. You may find that you do not need to use them. People with severe astigmatism will generally obtain better views while wearing glasses.

EZ Finder

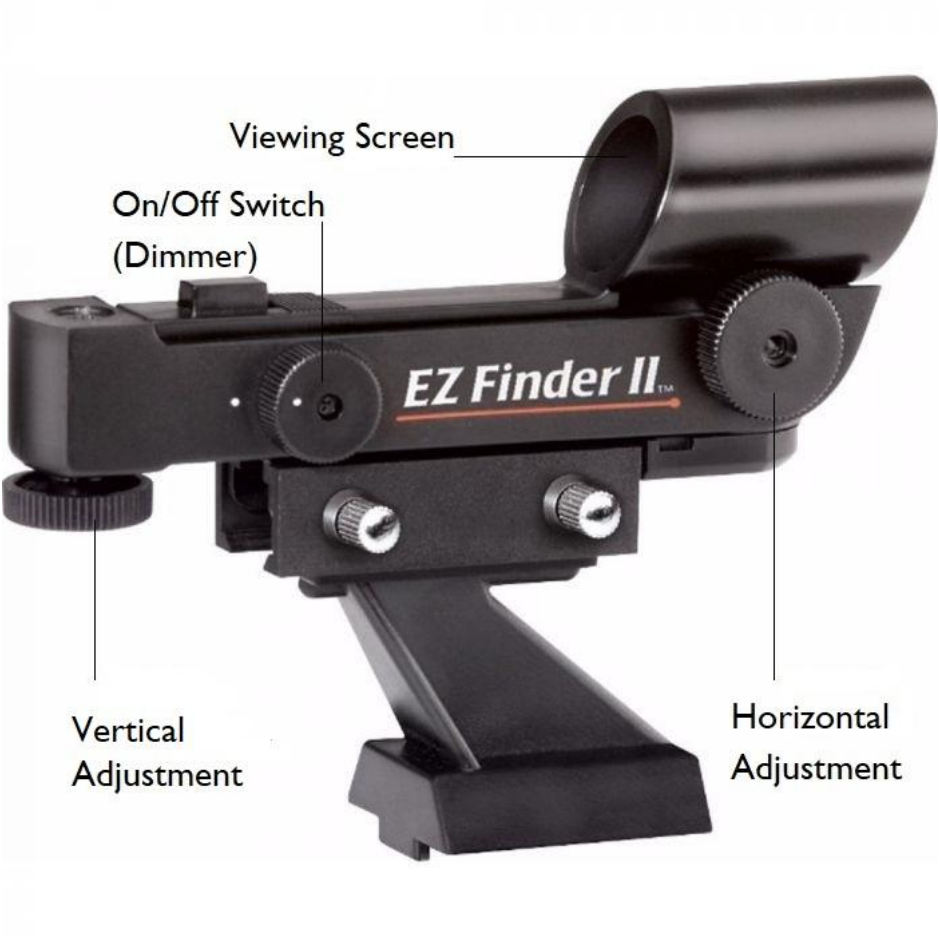
A “finder scope” helps you point the scope, rather like a rifle sight. The EZ Finder works by projecting a tiny red dot onto a screen mounted in the front of the unit, so that when you look through the screen, the red dot will appear to float in space. When the EZ Finder is properly aligned with the telescope, an object centered on the EZ Finder’s red dot should also appear in the center of the telescope’s eyepiece. If not you may need to re-align the EZ Finder (Pg. 10).

Using the EZ Finder:
Turn the dimmer switch to the ON position. Then, with your eye positioned near the rear of the telescope, look through the EZ Finder with both eyes open to see the red dot. This dot shows you where in the sky the telescope is pointing. Move the scope so the red dot is on the object you want to view, then the object should appear in the eyepiece.

Note: If you cannot find the red dot in bright daylight it may be necessary to turn the dimmer to a brighter setting.

Adjusting the EZ Finder: *Rarely necessary if telescope is handled gently*

Checking the alignment of the EZ Finder is easiest during daylight. Aim the telescope at a distant object, such as the top of a telephone pole or chimney and center it in the telescope's eyepiece. Now, turn the EZ Finder on and look through it. The object should appear near or under the red dot. If it does not, **without moving the telescope,** use the two adjustment knobs (Vertical & Horizontal) on the EZ Finder to position the red dot on the object you have centered in the eyepiece. Once the red dot is centered on the object in the eyepiece, you're done!



Remember to turn EZ Finder OFF once the object appears in the eyepiece

Transporting the Telescope

To carry the telescope, simply grab the carrying handle while placing your other forearm under the telescope tube to provide support, then lift.

When transporting the telescope in a car, place the scope on a seat and **use a seatbelt to secure it**. The lap belt goes across the base and the chest belt should cross the tube.

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
#Telescope
#Black accessory bag
#Table
#Be sure weather conditions are suitable

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

Letting the telescope cool down outside for 20 minutes can improve image quality.

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. Don't expect to take your telescope out into your backyard and see everything if you've just been inside under bright lights all evening. If you live in a city, true dark adaptation may be impossible unless you take the telescope to a darker location. 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.

Observing the Moon:

When viewing the moon, it can be too bright, temporarily destroying your night vision as well as washing out the details of the moon's surface. To correct this, you can use the moon filter by putting the telescope tube cover in place and sliding the filter aside to allow the correct amount of light into the telescope. This can bring an enormous change to the image seen through the eyepiece.

Keeping Equipment Clean

Cleaning the mirrors and eyepiece:
Please **DO NOT** touch or attempt to clean or align the mirrors inside the telescope. Let the caretaker know if they seem dirty.

To prevent dirt and dust build-up, always put the dust caps back on the eyepiece and telescope tube at the end of your observing session! Always store the telescope with all the dust caps on and the dust cover over the telescope.

One more time:

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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 telescope 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!