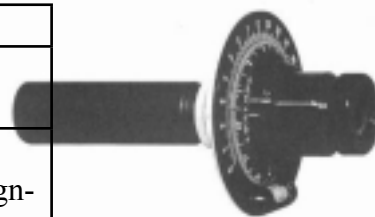


# INSTRUCTIONS FOR VIXEN SX POLAR AXIS SCOPE

FINDERSCOPE	6x30mm (8° real FOV)
POLAR ALIGNMENT METHOD	Date and Time graduation circles with meridian offset scale
POLAR ALIGNMENT RETICLES	Polaris alignment scale in the northern hemisphere and Octantis' four stars alignment in the southern hemisphere
ACCURACY OF ALIGNMENT	Less than 3 arc minutes
ILLUMINATOR	Red LED light, pre-installed
WATER LEVEL	Built in water-bubble level

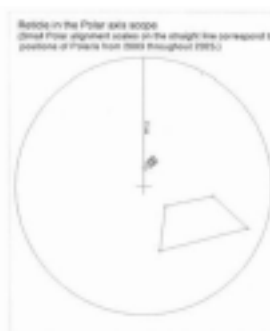
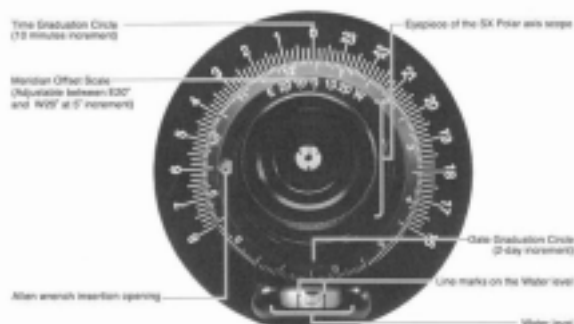


## ABOUT POLAR AXIS SCOPES

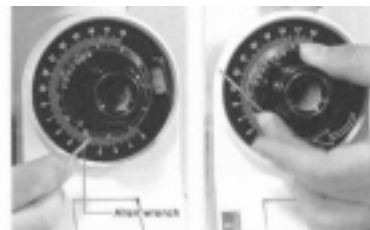
Polar Axis scopes are used for precisely pointing the equatorial mount at the celestial pole and this process is called “Polar Alignment”. When taking astrophotography of nebulae or star clusters, you will have to exactly set the telescopes’s axis of rotation to accord with the Earth’s axis of rotation.

Note: If Polar Alignment is not done properly, stars will rotate around an axis in the centre of the image or will trail off and you will not be able to get tight star images. Polar alignment is not possible in both the northern and southern latitudes of 70° or more. Check you latitude and longitude before starting polar alignment.

## VIXEN POLAR AXIS SCOPE COMPONENTS



## INSTALLING THE VIXEN SX POLAR AXIS SCOPE



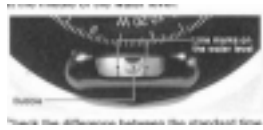
Remove the plastic Polar Axis cap by turning it counterclockwise.

Attach the SX Polar Axis scope to the Polar axis of the mount by turning it clockwise.  
\*Make sure the Polar Axis scope is inserted straight to avoid damaging threads.

After the Polar Axis scope is installed, turn the date graduation circle so that the Allen wrench insertion opening will overlap the hole underneath

Insert the supplied Allen wrench into the hole to use as a gripping aid.  
Secure the SX Polar Axis scope by gripping the Allen Wrench and turning it clockwise

Turn the time graduation circle by holding the water level on both sides so that the bubble is in the middle of the water level.



Check the difference between the standard time meridian of your region and your observing site on a map of the area. If the observing site is in the east of standard time meridian, rotate the time meridian indicator in the direction as indicated E on the meridian offset scale. If the observing site is in the west of the standard time meridian, rotate the time meridian indicator in the direction indicated W on the meridian offset scale. You can move the time meridian indicator by rotating the eyepiece of the Polar Axis Scope while you hold the date graduation circle with your finger as show in the image above.

### USING THE POLAR AXIS SCOPE IN THE SOUTHERN HEMISPHERE

Place Polaris at set position shown in the Figure by turning the altitude adjustment knob and azimuth adjustment knobs while looking through the Polar axis scope.

**Enlargement**

The position of the each celestial pole moves gradually year after year due to precession. According to this, the position of Polaris shifts every year as shown in the Figure. Place Polaris at a position on the alignment scale in the reticle.

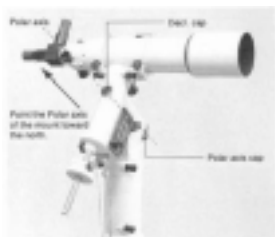


- ① Turn up the eyepiece on an area where the ground where you can see Octantis in the sky. Point the Polar axis of the mount in the direction of south by using a compass if available. Adjust the tripod legs so that you place the tripod as level as possible.
- ② Refer to set up procedures from ② throughout ③ that are described for the use in the northern hemisphere.
- ③ Rotate the reticle in the Polar axis scope by turning the eyepiece of the Polar axis scope until the orientation of the four small circles matches the orientation of the four stars of Octantis while looking through the Polar axis scope.
- ④ Place Octantis at set position in the reticle as shown in the Figure by adjusting the mount in altitude and azimuth by using the altitude adjustment knob and azimuth adjustment knobs while looking through the Polar axis scope.

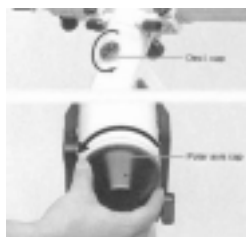
Four stars of Octantis	Brightness (Magnitude)
Sigma (σ)	5.5
Chi (χ)	5.2
Tau (τ)	5.6
Mu (μ)	5.7

### USING THE POLAR AXIS SCOPE IN THE NORTHERN HEMISPHERE

Set up your telescope on flat hard ground where you can see Polaris in the sky. Point the Polar Axis of the mount in the direction of North as shown in the figure below, using a compass if available. Adjust the tripod legs so that it is as level as possible.



Take off the Decl. cap and Polar Axis cap. These caps can be removed easily by twisting counter clockwise.



Adjust the mount in altitude until the latitude indicator (the edge in front of the altitude scale) points to your latitude (refer to the manual for the Sphinx equatorial mount). The mount is set at an altitude around 35° at the Vixen factory. Be sure to adjust the mount in altitude when your observing site is different from the initial setting. Release the altitude adjustment clamp and turn the knob as shown in the figures to the right. The mount can be adjusted within +/- 15° at 35°.





Advance the setting to aligning the telescope on the screen of the STAR BOOK until the relevant star chart appears on the screen. Refer to the section “Aligning the telescope” in the instruction manual of the Sphinx Mount



Rotate the Decl axis by operating the keys DC+ or DC- while looking in the Polar Axis in front of the Polar Axis body. Move until you see the Polar Axis Scope through the hole on the Decl. Axis.

Adjust the brightness of the illuminator for the Vixen Polar Axis scope. Press the key that is assigned for “MENU” to display the system menu. Choose Polar Axis Light Bright by moving the cursor with the arrow keys and then press “Select”. The dialog box opens and you can adjust the brightness of the illuminated reticle in the Polar Axis by operating the arrow keys as you look through the Polar Axis Scope.

