

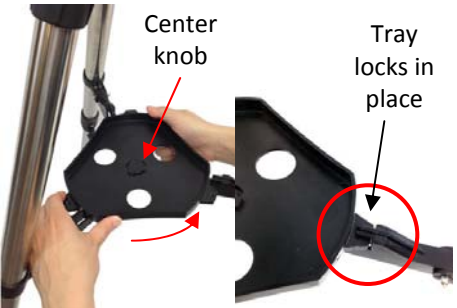

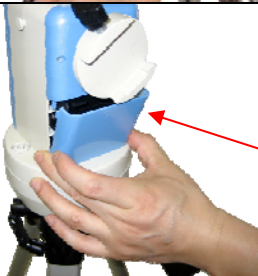




Quick Start Guide  
**SmartStar® Cube-E Series Systems**  
 (8500, 8502, 8503, and 8504)  
**SmartStar® Cube-G Series Systems with GPS**  
 (8800, 8802, 8803, and 8804)



 <p><b>Step 1. Set up Tripod</b></p> <p>1. Extend tripod legs to full extension and lock knobs.</p>	 <p>2. Stand Tripod upright. Then press down to lock center arms in place.</p>	 <p>Center knob</p> <p>Tray locks in place</p> <p>3. Place tray on center knob and turn tray until it locks in place. <i>(The tray will turn underneath the center knob)</i></p>
 <p>AZ Lock Screw</p>	<p><b>Step 2.</b> Attach mount to tripod using Azimuth Lock Screw.</p>	
	<p><b>Step 3a.</b></p> <p>Note: you may use 8 AA batteries (Step 3) or the AC adaptor (Step 5) to operate the mount.</p> <p>Lift the battery cover. Carefully pull out the battery holder from the compartment. Be sure not to accidentally disconnect the wires.</p>	
	<p><b>Step 3b.</b></p> <p>Insert 8 AA batteries <i>(not included)</i> in the holder. Refer to the diagram on the holder to orient the batteries properly. Replace the holder back into the battery compartment and replace the lid.</p> <p>For reference: the battery pack fits in with wires on the bottom right <i>(See arrow in photo)</i>. Use only fresh batteries. Using old or low batteries may cause error messages.</p>	
 <p>Dovetail lock knob</p>	<p><b>Step 4.</b> Attach telescope to mount using dovetail lock knob (#2).</p> <p><i>(Picture shows 80mm refractor. However all scopes will attach in the same manner.)</i></p>	

Plug in AC adaptor here

	<p><b>Step 5. Plug in hand controller and AC adaptor.</b>          Plug hand controller into either one of the two HBX ports on the mount. Next plug in AC adaptor. (Or use batteries—see step 3). Turn on power (the red light should go on).</p> <p>At this point you can begin observing manually. Use the 4 Arrow keys (▲▼◀▶) to rotate the scope Up, Down, Left, and Right. Use the SPEED key to change the slew rate from the slowest (1X) to the fastest (MAX). (Note: The slowest speed on the SmartStar®-E is 2X). The next steps show you how to set up the telescope and controller for automatic slewing and tracking.</p>
	<p><b>Step 6. Set up telescope for auto-observing.</b></p> <p>Level the mount using the bubble on side of mount by adjusting tripod legs. The bubble should be in the middle of the circle. It is also suggested to use additional levels (such as a torpedo level) to assure precise leveling.</p>
	<p><b>Step 7.</b>          Set telescope to PARK POSITION.</p> <p>(1) Position the mount so that the “SOUTH” mark is facing south (A compass may be helpful).</p> <p>(2) The telescope tube should be pointed directly up at the zenith. If it is not perfectly straight then loosen the altitude lock (#4) to adjust telescope.</p>
	<p><b>Step 8. Main Screen</b>          For models with GPS: Wait for controller to say “GPS-OK” or “Stop” in top right corner —not “GPS-ON”. GPS provides latitude, longitude, and current time only.</p> <p>Continue to step 9.          (Please note: this picture shows a 8402G hand controller for 88XX Cube-G mount. 85XX Cube-E mount has similar menu items, but with a smaller 4 line LCD 8405 hand controller.)</p>
	<p><b>Step 9.</b>          Press the MENU key once.          Scroll (with the ▲/▼ keys) to “Set Up Controller”          Press ENTER.          Then go to Set Up Local Time and Site in the next screen.          (This may be one or two menu items depending on your version)</p> <p>Select and then press ENTER.</p>
	<p><b>Step 10. Set Up Local Time</b>          Go to:          Set up Local Time (or “Local Time and Site”).          Press ENTER.</p> <p>Enter date and day-light savings (Y=yes. N=no).          (For a 8405 hand controller a checkmark is “yes”, X is “no”.)          Then press ENTER</p> <p>(Note: use arrow keys to scroll through screen and select numbers)</p>

	<p><b>Step 11. Set Up Site</b>  <i>GPS will provide the longitude and latitude information. If GPS is not included (or available), these values can be manually entered here.</i></p> <p>Use ▲/▼ keys to change the numbers and letters. Use ◀/▶ keys to scroll through the fields.</p> <p>The last line of this screen is for setting time zone information (<i>add or subtract 60 minutes (Min.) per time zone</i>).</p> <p><b>Examples: minutes “behind” UT or “ahead of” UT</b>  New York: 300 Min. “behind” UT  Los Angeles: 480 Min. “behind” UT  Rome: 60 Min. “ahead of” UT  Sydney: 600 Min. “ahead of” UT</p> <p>Press ENTER when finished.</p> <p><i>The mount is now ready to find (GOTO) and track objects.</i></p>
	<p><b>Step 12. Select and Slew to an object</b></p> <p>Press Menu button.  Scroll to “Select and Slew”  Press ENTER.</p>
	<p><b>Step 13.</b>  Select a category (ex. “Planets, Sun, Moon”) by scrolling with the arrow keys.  Press ENTER.</p> <p>Then select an object (ex. “Moon”) by scrolling with the arrow keys. Press ENTER.</p> <p>The telescope will automatically slew to the object and lock on. It will automatically begin to track once it locks on to the object.</p>
	<p><b>Step 14. Sync to Target</b> (<i>Use this to center and synchronize the object selected in Step 13</i>).</p> <p>Press MENU. Scroll to “Sync. To Target”. Press ENTER.</p> <p>Next use the arrow keys (▲▼◀▶) to center the object in the eyepiece. Then press ENTER again to synchronize the object with the memory.</p> <p>To slew to other objects simply repeat steps 12 and 13. You do not need to repeat step 14 except for adjustments as needed.</p> <p><i>(Refer to the full online manual for 1-star and 2-star alignments. Sync to Target is similar to 1-star Alignment except that you choose the object to align to.)</i></p>

**This page shows specific directions for the 80mm Refractor, 114mm Newtonian, and the 90mm Maksutov (depending on which telescope tube your unit may come with).**

**80mm Refractor (#8502 and #8802)**

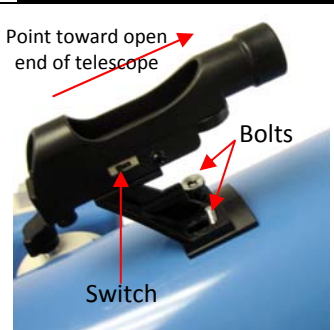


**Insert 45° diagonal:** Insert the diagonal into the eyepiece side of the telescope. Tighten the thumbscrews to a firm feel only.

**Insert the eyepiece:** Slide the eyepiece into the open end of the diagonal. Tighten the thumbscrews to a firm feel only. Remove the dust cover from the other end of optical tube assembly.

**Use the focus knob** to bring objects into focus. You may need to turn the focus knob quite a few turns to focus your telescope for the first time. Always start observing using a low power eyepiece (such as a 25mm eyepiece) to get a nice wide field of view. Later you can change to high power if so desired. Higher powered eyepieces have a much narrower field of view. So it's more difficult to initially locate objects using higher powered eyepieces.

**114mm Newtonian (#8503 and #8803)**



Attach the red dot finder scope to the telescope tube (#1):

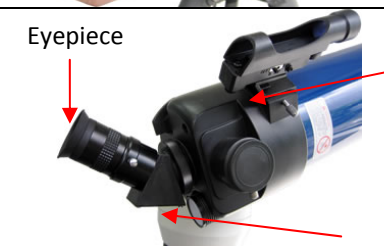
First remove the two washers on the tube. Then place the finder scope onto the two bolts and re-attach the washers securely. The finder scope should face towards the open end of the tube (see arrow in diagram).

Turn on the beam using the switch on the side. (*note: you may need to remove the plastic insulation placed next to the battery underneath*)

**90mm Maksutov-Cassegrain (#8504 and #8804)**



Install **Diagonal** by screwing it onto the back end of the scope. You can adjust the position of the diagonal by loosening the free-spinning threader on the diagonal.



Install the **Finderscope** by sliding the dovetail plate onto the sleeve (see arrow) and tightening the side screw.

The **eyepiece** can be placed on the end of the scope or on the side (see next step). Secure the eyepiece using the side screw.

Use the **focus knob** to adjust the focus.



This picture shows the **eyepiece on the side**. Remove the protective cap to insert the eyepiece. The diagonal is not used for side viewing.

Use the **flip switch** to flip the internal mirror to view from the side or the end of the scope.