Quick Start Guide

SmartStar® Solar 60 GOTO Telescope
With Solar Filter & Electronic Eyepiece
#8506

FEATURES

- 60mm refractor telescope with glass solar filter
- Alt-Azimuth GOTO mount– The Cube™-- The only mount of its kind for ultimate rotation
- Dual-axis servomotor with optical encoder for precise GOTO and tracking
- GoToNova® 8405 hand controller. The most intuitive controller on the market
- 4 line and 21-character LCD screen with backlit LED for easy to read
- 5,000+ object database plus 128 user-defined objects
- Mega pixel electronic eyepiece for viewing & capturing video and photos with a computer
- Operate on 8 AA batteries (not included) or AC/DC adapter (optional #8417)
- Optional car charger adaptor available (#8418)
- GPS-compatible with optional GPS Module (#8411)
- Sturdy aluminum tripod
- Heavy duty backpack
- 1 year limited warranty

PACKAGE CONTENTS

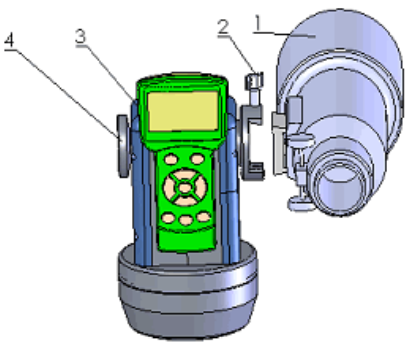
- SmartStar® Cube™ –E telescope mount
- 60mm refractor telescope with removable glass solar filter
- GoToNova® 8405 Hand Controller
- Controller Cable
- 90º diagonal
- 25mm eyepieces
- 1.3 mega pixel CMOS electronic eyepiece
- USB cable
- Tripod
- Backpack bag

ONLINE CONTENTS *(click under "Support" menu button)* www.iOptron.com

- Full manual *(you can refer to the full manual for more details on set-up and operation).*
- Tips for operating
- Reviews and feedback from other customers
- Optional accessories

Assembly Terms

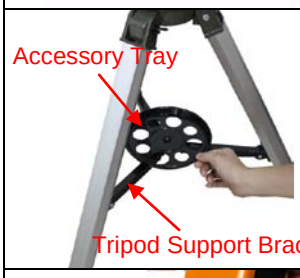
1. Telescope tube
2. Dovetail lock
3. Hand controller
4. Altitude lock
5. Mount
6. Diagonal
7. Eyepiece
8. Tripod



Quick Start Guide for SmartStar® Solar 60 Telescopes

Step 1. Preparing the tripod

Unlock the tripod leg locks.
Extend tripod legs to full length
Lock the leg-locks afterwards.



Step 1a.

Stand the tripod upright by spreading the tripod's legs out uniformly.

Push down slightly on the Tripod Support Bracket to lock in place. Attach the Accessory Tray to the Tripod Support Bracket via a screw on the bottom of the tray. Turn the tray until hand tight – don't over tighten the tray.

Step 2. Attaching the mount

Insert Azimuth Lock Screw into the hole on the tripod. (start from underneath)
Position center of the mount base onto the threaded screw. Turn the Azimuth Lock Screw to secure the mount.

Step 3. Installing batteries (not included)

Pull off the battery compartment cover (see red arrow).
Gently pull the battery holder (shown next) out of the compartment. Be careful not to pull out the attached wires.

Step 3a.

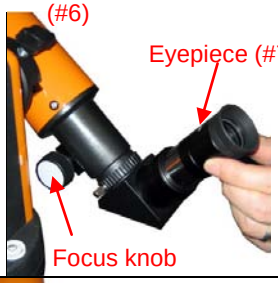
Insert 8 AA batteries (not included) according to the diagram on the holder.**
Replace the holder back into the batteries compartment and replace the cover.

Note: fit the batteries holder back into the compartment with the attached wires at the bottom right corner (see arrow in the photo).

**** Use only fresh batteries; do not mix fresh and old batteries; insufficient battery power may cause error messages; optional AC Adapter and Car Charger accessories are available at www.ioptron.com**

Step 4. Attaching telescope

Attach telescope to mount using the dovetail lock knob (#2).



Step 5. Attaching optics

Insert 90º diagonal: Insert diagonal (#6) into the eyepiece side of the telescope. Tighten the thumbscrews to a firm feel only.

Insert the eyepiece: Remove the supplied 25mm eyepiece (#7) from its container and slide it into the open end of the diagonal. Tighten the thumbscrews to a firm feel only.
Remove the round dust cover lid from the end of telescope.

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 lower power eyepiece (such as the 25mm eyepiece) to get a wider field of view. Later on you can change to higher powers. (Eyepieces of higher powers have narrower field of views; it's more difficult to locate objects using high-power eyepieces.)

Step 6. Connecting hand controller

Plug hand controller into any one of the HBX (handbox) ports on the mount.
Turn on power. Now you are ready to observe. Use the 4 Arrow keys (▲▼◄►) to rotate the scope Up, Down, Left, and Right. Use the SPEED key to change the slew speed from the slowest (2X) to the fastest (MAX).

Step 7. Set telescope to PARK POSITION

(1) Position the mount so that the "SOUTH" mark is facing south (A compass may be helpful).
(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.

Step 8. Level the mount

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 torpedo levels) to assure precise leveling.

Step 9. Set up controller

Press the I/O power switch ON (controller will light up).

Press the MENU key once.
Scroll (with the ▲/▼ keys) to "Set Up Controller"
Press ENTER.

Scroll to "Set Up Time and Site" in the next screen.
Press ENTER.

Step 10. Setup local time

Now "Set Local Time:" is displayed at the top. A blinking cursor is at the second line.
Use ◄/► keys to scroll through the fields. Use ▲/▼ keys to change the numbers.
The last field of this screen is for setting "DaylightTime saving".
Use ▲/▼ keys to switch between "Y" (yes) and "N" (no).
Press ENTER when finished.

<table>
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<td>Step 11. Setup site info
Now “Setup Site Info:” is displayed at the top. A blinking cursor is at the second line. (“Longi” means longitude; “Lat” means latitude.)

Use ▲/▼ keys to change the numbers and letters. Use ◄/► keys to scroll through the fields.
The last line of this screen is for setting time zone information (add or subtract 60 minutes (Mins.) per time zone).
<u>Examples: minutes “behind” UT or “ahead” of UT</u>
New York: 300 Mins. “behind” UT
Los Angeles: 480 Mins. “behind” UT
Rome: 60 Mins. “ahead” of UT
Sydney: 600 Mins. “ahead” of UT
Press ENTER when finished.

The mount is now ready to find (GOTO) and track objects.</td>
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<td>Step 12. Select and Slew to an object

Press Menu button.
Scroll to “Select and Slew”
Press ENTER.</td>
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<td>Step 13. Goto the Sun
Select category “Planets, Sun, Moon” by scrolling with the arrow keys. Press ENTER.
Then select “Sun”) by scrolling with the arrow keys. A beep and a warning message will occur. Press ENTER to confirm.

The telescope will automatically slew to the object and lock on. It will automatically begin to track once it locks on to the object.</td>
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<td>Step 14. Sync to Target (Use this to center and synchronize the object selected in Step 12).
Press MENU. Scroll to “Sync. To Target”. Press ENTER. Next use the arrow keys (▲▼◄►) to center the object in the eyepiece. Then press ENTER again to synchronize the object with the memory.

To slew to other objects simply repeat steps 12 and 13. You do not need to repeat step 14 except for adjustments as needed.

(Refer to the full online manual for 1-star and 2-star alignments. Sync to Target is the same as 1-star Alignment except that you choose the object to align to.)</td>
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Plug USB connector into your computer.</td>
<td>Step 15. Use Electronic Eyepiece. (Optional)
Remove cap from end of electronic eyepiece and insert electronic eyepiece into the telescope tube opening (Remove optical eyepiece first). Next, plug each end of the USB cable into the electronic eyepiece and your computer.

Your computer will detect the electronic eyepiece as new hardware and install the camera driver automatically. Next, you can open image/video capture programs such as Window Movie Maker or other webcam program, select the right camera and begin to view a live feed from the telescope.

An electronic eyepiece works just as a short focal length (few mm) eyepiece. Therefore, you need to start the observation with the longer focal length eyepiece. In most cases, directly replace an optical eyepiece with an electronic eyepiece will not bring an clear image onto the computer screen immediately.

If your PC does not have a webcam application software installed, you may download one from internet, such as VitualDub from www.VirtualDub.com, or Future WinJoe at www.ioptron.com/future.rar.</td>
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