Quick Start Guide

SkyHunter™ Portable EQ/AZ GoTo System

PACKAGE CONTENTS (for #SHEQA only)[1]

- SkyHunter™ mount head with built-in Li-ion rechargeable battery and Wi-Fi
- SkyHunter™ EQ base
- iPolar™ electronic polar scope
- Counterweight – 3 lbs (1.35 kg)
- Counterweight shaft
- MiniUSB cable for battery charging, firmware upgrade and computer control
- #3221 stainless steel tripod
- #8041 pier extension

ONLINE RESOURCES (**www.iOptron.com**)

- QSG and User's Manual
- Optional accessories, such as tripod, hand controller and iPolar
- Firmware upgrades (check online for the latest version)
- Tips for set up and using the product
- Reviews and feedbacks from other customers

[1] Packaging contents vary for different part number. See iOptron website for details

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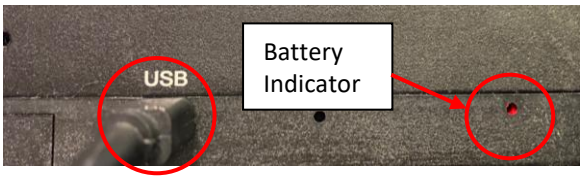
1. **Charge the battery**: The SkyHunter™ mount is shipped with battery partially charged. ***It is suggested to fully charge the battery before each session.*** Insert the miniUSB plug into the USB port on the side of the mount, and connect the other end of the USB cable into a USB port of a computer, a smart phone charger or a portable battery pack (not included). The input power should be 5V, >1A. When a new battery is fully charged, the battery status indicator may flash rapidly (about 5Hz). You may charge the mount with the power switch either on or off. (However, when the power switch is turned off, the battery status indicator does not function). When the indicator stays steady on, the battery power should be sufficient for your session. When the indicator blinks slowly (about 0.5Hz), it indicates the power is low and recharging is necessary.



Please don't charge the battery or use USB power when temperature is at or below 0°C (32°F), otherwise the rechargeable battery might be permanently damaged.

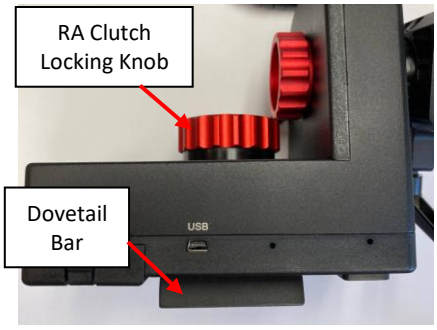
The mount can be operated while the battery is charging.

Equatorial Mode Setup

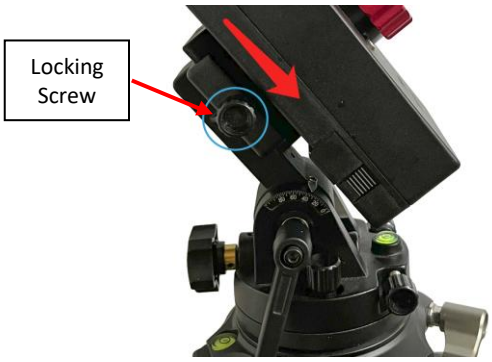
2. **Attach SkyHunter mount onto a tripod: EQ mode** To set up a SkyHunter mount in EQ mode, an EQ base is needed. The EQ base has a 3/8" threaded hole. Attach it onto an iOptron #3221 tripod, #8401 extension pier or a camera tripod with a 3/8" mounting pole.

There are 4 threaded holes and a stopper screw on the EQ base. Move the stopper to the position reflecting to your site latitude.

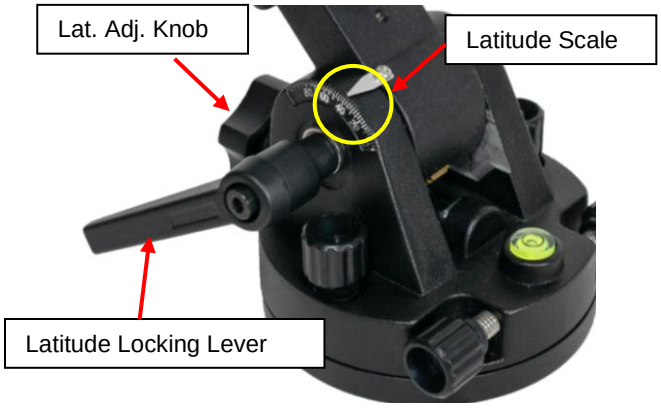
Turn the dovetail bar counterclockwise (or hold the dovetail bar then turn the mount clockwise) to release the RA clutch. Do the opposite to lock the RA clutch.



Release the EQ base dovetail bar locking screw and slide the mount head into the EQ base dovetail saddle. Tighten the locking screw. Make sure that dovetail bar sits flashing inside the saddle.



3. **Adjust Latitude:** Release EQ base Latitude Locking Lever a little bit. Turn Latitude Adjustment Knob to adjust the latitude until the arrow points to the current latitude on the Latitude Scale. Tighten the locking lever. Turn the lever while pulling it outward to rest the lever at a non-blocking position.

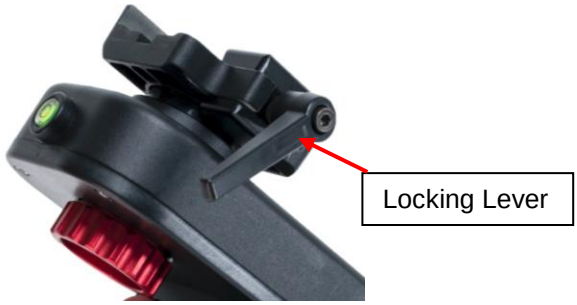


4. **Install counterweight**: Thread the CW shaft into the counterweight mounting hole located at the bottom of the mount. Remove the CW Safety Cap at the end of CW Shaft. Slide the CW over the shaft with the

larger opening facing down. Tighten the CW Locking Screw to hold the CW in place. Place the Safety Cap back onto the shaft.

For a low latitude use, the CW shaft can be threaded into the DEC Clutch Locking Knob to avoid CW hits the tripod/pier.

5. **Install and balance telescope**: SkyHunter mount has a Vixen dovetail saddle. Release the dovetail Saddle Locking Lever and slide the telescope dovetail plate into the saddle. Tighten the Saddle Locking Lever. ***Adjust the locking lever handle parallel to the saddle to avoid it hitting the mount during goto and tracking.***



Loosen RA and DEC clutches to balance the telescope. You may need more than one CW for heavier payload or large diameter scope.

6. **Install iPolar**: To install an iPolar electronic polar scope, loosen the iPolar thumb screw, slide it over the mount bubble level house, tighten the thumb screw.

7. **Polar Alignment**: To achieve accurate tracking, precise polar alignment is crucial. The simple and less accurate way is aiming through the polar sight hole located on RA axis to the Polaris (or Sigma Octantis) while adjusting the azimuth and altitude angles until the Polaris appears in the center of the field of view. Locking all the knobs when done.

If an iPolar is installed, refer to iPolar Operation Manual from iOptron's website to perform the polar alignment, or steps briefly outlined below:

- Download and install iPolar Software (first time use).
- Connect a miniUSB cable between the iPolar and a computer USB port.
- Click Connect and start polar alignment by following on screen instructions.

When the pole star is not in sight or no iPolar installed, refer to online Instruction Manual for ***BrightStar Polar Alignment***. Another way to perform polar alignment is using the polar alignment procedure in planetarium software.

Altazimuth Mode Setup

8. **Attach SkyHunter mount onto a tripod: AA mode**
SkyHunter mount has a 3/8" threaded mounting hole. It can be mounted onto an iOptron #3221 tripod, #8401 extension pier or a camera tripod with a 3/8" mounting pole.

Adjust the tripod to level the mount by place the bubble inside the middle circle. For a better result, check the bubble position while rotating the mount in azimuth and make sure it stays at the same place.

Balance under the AA mode is not very critical, especially in azimuth direction. However, good balance or slightly front heavy in altitude direction is recommended. Slightly front heavy should help engaging the alt axle and prevent the alt clutch from loosening.

Mount Operation

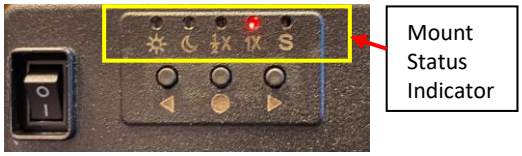
9. **Zero Position:** This is the starting reference point of the GOTO performance. Assuming you are in northern hemisphere, face the SkyHunter™ mount to the true north with the assistance of a compass, with telescope at the highest point for the EQ mode. For AA mode, point the scope to Zenith, with the HBX port side facing South (scope on the right side of the mount).

   The mount power on position is Zero Position for control software

EQ Mode AA Mode

10. **Use mount control panel:** mount control panel is located at the bottom of the mount. If the mount is set at EQ mode, the mount will be in tracking mode at a rate that shown on the Mount Status Indicator when the mount is powered on.

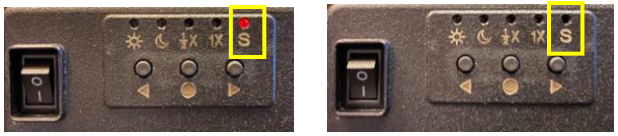
If your goal is only to take image of the sky and stars, set the tracking speed to ***1X*** (celestial tracking speed). With a good polar alignment, this will keep the stars round in your image. If you would like to take an image of both the starry sky and the night landscape at the same time, you may set the tracking speed at ***1/2X***. This will let you take clear images of both the sky and the land objects at a proper exposure. ***Solar*** speed is for tracking the Sun and ***lunar*** speed for the moon.



Keep pressing the center round button ● to change the tracking speed from ***Solar***=>***Lunar***=>***1/2X*** =>***1X***.

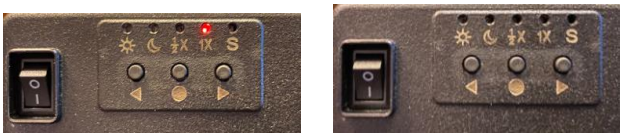
You may fast slew the RA axis by pressing and holding ◄ or ► button while the mount is at tracking mode.

The letter "***S***" indicates if the mount is set to northern or southern hemisphere; if the LED under "***S***" is on, it indicates the mount is set to southern hemisphere. To change this setting, press and hold the center round button ● until the LED under letter "***S***" starts to blink. Press the ● button briefly to toggle between the "***S*** (LED on, right)" and "***N*** (LED off, left)".



Southern Hemisphere Northern Hemisphere

To switching between EQ and AA, press and hold the ● button while power on the mount. When all 5 LEDs are starting blinking, release the ● button. If there is any **ONE** LED is on, the mount is in EQ mode (left). If **NO** LED is on, the mode is in AA mode (right).

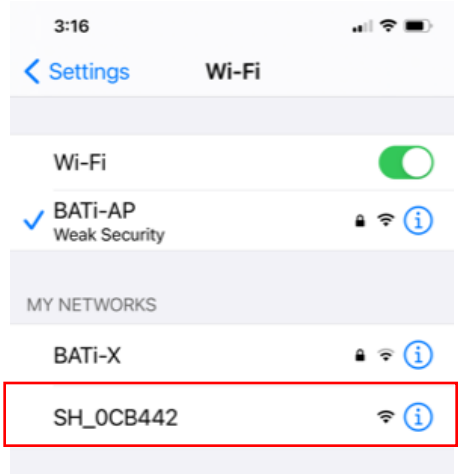


EQ Mode AA Mode

There is no auto-tracking in AA mode when the mount is powered on. Tracking will start after GOTO.

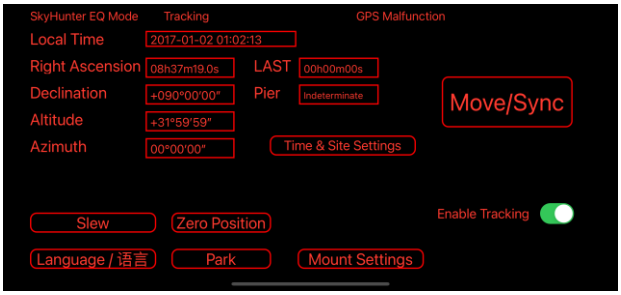
11. **Mount control via a SmartPhone/Tablet:** The mount can be controlled by the mobile iOptron Commander for goto and tracking.

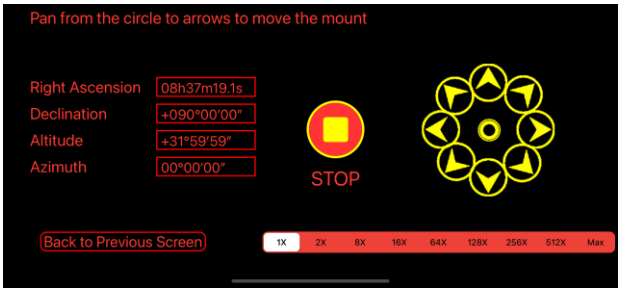
Turn the mount power on. Check your SmartPhone WIFI setting and connect to a WIFI device named SH_XXXXXX.



Launch iOptron Commander, Click on Connect.

Now you can control the mount via your phone/tablet.





Please refer to online full operation manual for more detailed information.

12. **Mount control via a 8410 hand controller:** A SkyHunter™ mount uses an optional 8410 hand controller. Press **MENU** button, then **Settings** => **Set Time and Site** to set the hand controller.

Check for **Daylight Saving Time** using arrow key to toggle between **Y** and **N**. Enter the time zone offset to the UTC; for examples:

- Boston is "UTC -300 minutes"
- Los Angeles is "UTC -480 minutes"
- Rome is "UTC +060 minutes"
- Sydney is "UTC +600 minutes"

Use arrow keys and number keys to set the date, time, longitude and latitude. Press **ENTER** to confirm.

After set the mount to Zero Position physically, press **MENU** => **Zero Position** => **Set Zero Position** to register the Zero Position.

Perform **One Star Align** or **Sync to Target** to correct the Zero Position discrepancy and improve GOTO accuracy. Refer to User's Manual for more details about improving GOTO accuracy.

The mount is now ready for GOTO and tracking targets.

Mount control via SkySafari: The mount can be controlled by SkySafari 6 Plus or later version for goto and tracking, on iOS or Android. Please refer to online full operation manual for more detailed information.

13. **Mount control via a computer:** A SkyHunter™ mount can be controlled by iOptron Commander on a PC computer via ASCOM (see iOptron online manual for details). It might also be controlled by a MacOS computer or a Raspberry Pi device via third party direct drive or INDI drive.

Visit www.iOptron.com for a full instruction manual and accessories. Contact support@ioptron.com for technical supports.

IOPTRON ONE YEAR TELESCOPE, MOUNT, AND CONTROLLER WARRANTY

A. iOptron warrants your telescope, mount, or controller to be free from defects in materials and workmanship for one year. iOptron will repair or replace such product or part which, upon inspection by iOptron, is found to be defective in materials or workmanship. As a condition to the obligation of iOptron to repair or replace such product, the product must be returned to iOptron together with proof-of-purchase satisfactory to iOptron.

B. The Proper Return Merchant Authorization Number must be obtained from iOptron in advance of return. Contact iOptron at support@ioptron.com or 1.781.569.0200 to receive the RMA number to be displayed on the outside of your shipping container.
All returns must be accompanied by a written statement stating the name, address, and daytime telephone number of the owner, together with a brief description of any claimed defects. Parts or product for which replacement is made shall become the property of iOptron.

The customer shall be responsible for all costs of transportation and insurance, both to and from the factory of iOptron, and shall be required to prepay such costs.

iOptron shall use reasonable efforts to repair or replace any telescope, mount, or controller covered by this warranty within thirty days of receipt. In the event repair or replacement shall require more than thirty days, iOptron shall notify the customer accordingly. iOptron reserves the right to replace any product which has been discontinued from its product line with a new product of comparable value and function.

This warranty shall be void and of no force of effect in the event a covered product has been modified in design or function, or subjected to abuse, misuse, mishandling or unauthorized repair. Further, product malfunction or deterioration due to normal wear is not covered by this warranty.

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This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

iOptron reserves the right to modify or discontinue, without prior notice to you, any model or style product.

If warranty problems arise, or if you need assistance in using your telescope, mount, or controller contact:

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Monday-Friday 9AM-5PM EST

NOTE: This warranty is valid to U.S.A. and Canadian customers who have purchased this product from an authorized iOptron dealer in the U.S.A. or Canada or directly from iOptron. Warranty outside the U.S.A. and Canada is valid only to customers who purchased from an iOptron Distributor or Authorized iOptron Dealer in the specific country. Please contact them for any warranty.