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› Sky-Watcher EQ6-R Telescope Mount User Manual

Sky-Watcher S30300

Sky-Watcher EQ6-R Telescope Mount User Manual

Model: S30300 | Brand: Sky-Watcher

INTRODUCTION

The Sky-Watcher EQ6-R is a fully computerized GoTo German Equatorial Telescope Mount designed for both visual observation and astrophotography. It features belt-driven motors for quiet and precise tracking, a computerized hand controller with an extensive celestial object database, and a robust design capable of supporting significant payloads.

WHAT'S IN THE BOX

The EQ6-R mount is shipped in two separate boxes. Please ensure all components are present upon delivery.

- **Box 1:** Mount head, SynScan hand controller, controller cable, update cable, power cable, DSLR trigger cable, user manual (printed), counterweight bar extension.
- **Box 2:** Tripod, spreader bar, two 11-pound counterweights.



Image: The Sky-Watcher EQ6-R Pro mount with its SynScan hand controller. This image shows the main components of the telescope mount system, including the equatorial head, counterweights, and the digital hand controller used for navigation and control.

SETUP

1. Tripod Assembly

1. Unpack the tripod and extend its legs to a stable position.
2. Attach the spreader bar to the tripod legs to enhance stability.

2. Mount Head Installation

1. Carefully lift the mount head and place it onto the tripod's mounting platform. Secure it firmly using the provided locking mechanism.
2. Attach the counterweight bar extension to the mount head.
3. Slide the 11-pound counterweights onto the counterweight bar. Adjust their position later for proper balance.

3. Connecting Components

1. Connect the SynScan hand controller to the designated "HAND CONTROL" port on the mount.
2. Connect the power cable to the "POWER" port on the mount and to a compatible 12V power source (4 amp minimum).
3. If using for astrophotography, connect your autoguider to the "AUTO GUIDE" port and your DSLR camera to the "SNAP" port using the appropriate cables.



Image: Close-up view of the Sky-Watcher EQ6-R Pro mount's control panel, showing the Hand Control, Auto Guide, Snap, and Power ports. These ports allow for connection of the SynScan hand controller, an autoguider for precise tracking, a DSLR camera for remote shutter control, and the main power input.

4. Polar Alignment

Accurate polar alignment is crucial for precise tracking, especially for astrophotography.

- **Using the Illuminated Polar Finderscope:** The mount includes an illuminated polar finderscope. Align the reticle with Polaris (Northern Hemisphere) or Octans (Southern Hemisphere) according to your location and the current date/time.
- **Using SynScan Hand Controller:** If Polaris is not visible, the SynScan hand controller can assist with polar alignment using

a visible star. Follow the on-screen instructions.

BUILT-IN ILLUMINATED POLAR SCOPE FOR EASY ALIGNMENT



Image: Detail of the built-in illuminated polar scope on the Sky-Watcher EQ6-R Pro mount. This scope is essential for accurate polar alignment, allowing users to precisely align the mount with the celestial pole for optimal tracking performance.



Image: Close-up of the improved heavy-duty latitude adjustment mechanism on the Sky-Watcher EQ6-R Pro mount. These robust adjustments allow for precise setting of the mount's latitude, which is critical for accurate polar alignment and tracking.

5. Balancing the Payload

Proper balancing of your optical tube and accessories is vital for smooth operation and motor longevity. Adjust the counterweights and the optical tube's position in the dovetail saddle until the mount is balanced in both Right Ascension (RA) and Declination (DEC) axes.



**44 POUND PAYLOAD CAPACITY
HANDLES THE MOST POPULAR
OPTICAL TUBE ASSEMBLIES**

Image: The Sky-Watcher EQ6-R Pro mount supporting a large optical tube assembly, demonstrating its 44-pound payload capacity. This image highlights the mount's ability to handle substantial telescope setups for both visual astronomy and astrophotography.

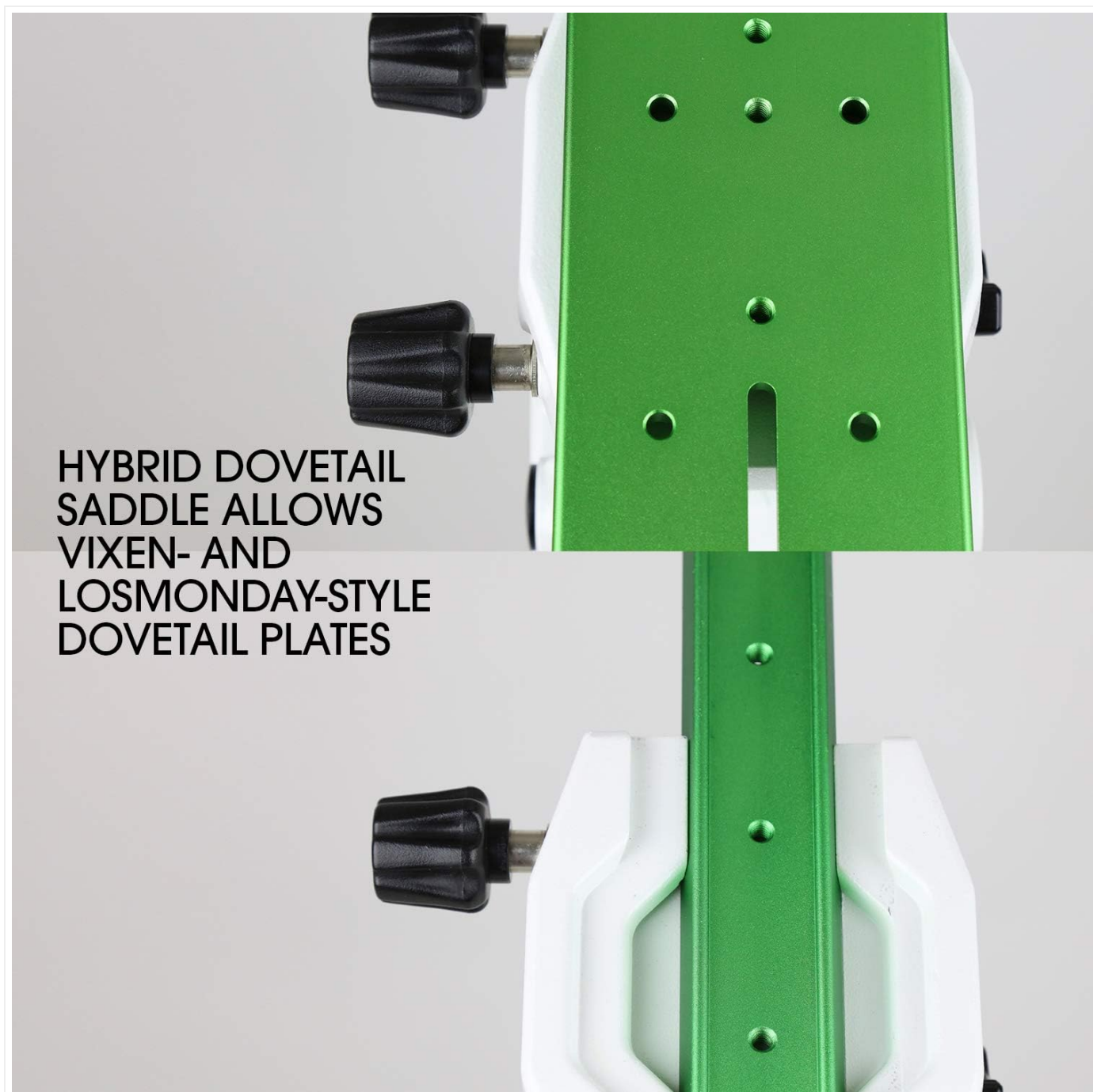


Image: Detail of the hybrid dovetail saddle on the Sky-Watcher EQ6-R Pro mount, which is compatible with both Vixen-style and Losmandy-style mounting plates. This versatile saddle allows users to attach a wide range of optical tubes and accessories.



Image: A hand demonstrating the retractable counterweight shaft on the Sky-Watcher EQ6-R Pro mount. This feature allows the counterweight shaft to be retracted for more convenient storage and transportation of the mount.

OPERATING THE EQ6-R MOUNT

SynScan Hand Controller

The SynScan hand controller is the primary interface for controlling the EQ6-R mount. It features a 2-line LCD display and a red backlit illuminated keypad for night-time use.

INCLUDES SKY-WATCHER'S SYNSCAN COMPUTERIZED HAND CONTROLLER

- 42,000+ CELESTIAL
OBJECT DATABASE
- MESSIER, CALDWELL,
IC AND NGC CATALOGS
- 2-LINE LCD DISPLAY
- RED BACKLIT
ILLUMINATED KEYPAD
FOR NIGHT TIME USE



Image: Features of the Sky-Watcher SynScan computerized hand controller. This image highlights its 42,000+ celestial object database, inclusion of Messier, Caldwell, IC, and NGC catalogs, a 2-line LCD display, and a red backlit illuminated keypad for easy use in dark conditions.

GoTo Functionality

The SynScan controller provides access to a database of over 42,000 celestial objects. After initial alignment, you can select an object from the database, and the mount will automatically slew to its position.

Slewing and Tracking

The EQ6-R Pro utilizes 64 microstep driven stepper motors, providing quiet and precise slewing up to 3.4°/sec (800X). Once an object is targeted, the mount will track it across the sky to compensate for Earth's rotation.



BELT DRIVE ON BOTH AXES

- WHISPER QUIET
- MINIMAL BACKLASH
- REDUCES PERIODIC ERROR

Image: Close-up view of the belt drive system on both axes of the Sky-Watcher EQ6-R Pro mount. This system ensures whisper-quiet operation, minimal backlash, and effectively reduces periodic error, leading to smoother and more accurate tracking.

Periodic Error Correction (PEC)

For astrophotographers, the SynScan hand controller has built-in PEC training. This feature allows you to record and correct for periodic errors in the mount's gears, improving tracking accuracy for long-exposure imaging.

MAINTENANCE

- **Cleaning:** Keep the mount clean and free of dust and debris. Use a soft, dry cloth for cleaning. Avoid using harsh chemicals or abrasive materials.
- **Lubrication:** The mount's internal mechanisms are factory-lubricated. If you notice any stiffness or unusual noise, consult the official Sky-Watcher support or a qualified technician. Advanced users may consider "hypertuning" for optimal performance, but this typically voids the warranty and should only be performed by experienced individuals.
- **Storage:** When not in use, store the mount in a dry, dust-free environment. Retract the counterweight shaft for compact storage.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Mount not powering on	Loose power connection, insufficient power supply.	Ensure power cable is securely connected. Verify power supply meets 12V (4 amp minimum) requirement.
Inaccurate GoTo or tracking	Poor polar alignment, incorrect date/time/location settings in hand controller, unbalanced payload.	Perform a precise polar alignment. Double-check all initial settings in the SynScan controller. Re-balance the mount.
Hand controller display not working in cold temperatures	LCD display limitations in extreme cold.	This is a known characteristic of some LCD displays. The functionality of the mount is generally unaffected. Consider keeping the hand controller warm if possible.
Mount makes grinding noises	Excessive payload, internal lubrication issue, foreign object.	Ensure payload is within the 44-pound limit. If noise persists, contact Sky-Watcher support. Do not attempt internal repairs unless qualified.

SPECIFICATIONS

Feature	Detail
Mount Type	German Equatorial
Payload Capacity	44 pounds (20 kg)
Motors	Belt-driven Stepper Motors (64 microstep)
Slewing Speed	Up to 3.4°/sec (800X)
GoTo Database	42,000+ celestial objects (Messier, NGC, IC, SAO catalogs)
Hand Controller	SynScan with 2-line LCD and red backlit keypad
Autoguider Port	ST-4 compatible
Connectivity	USB-B port for PC connection
Power Requirement	12V DC (4 amp minimum)
Tripod Leg Diameter	2 inches
Mounting Saddle Type	Hybrid (D- and V-style compatible)
Product Dimensions	25 x 21 x 12 inches
Item Weight	44 pounds
Model Number	S30300
Manufacturer	Sky-Watcher
Country of Origin	China

WARRANTY AND SUPPORT

For detailed warranty information, please refer to the official documentation provided with your product or visit the Sky-Watcher official website. For technical support, troubleshooting beyond this manual, or service inquiries, please contact Sky-Watcher customer service.

An official User Manual (PDF) is available for download: [Download User Manual \(PDF\)](#)

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question