

Using StarSense Autoguider with the SkyPortal App

INSTRUCTION MANUAL

Model # 94008

ENGLISH



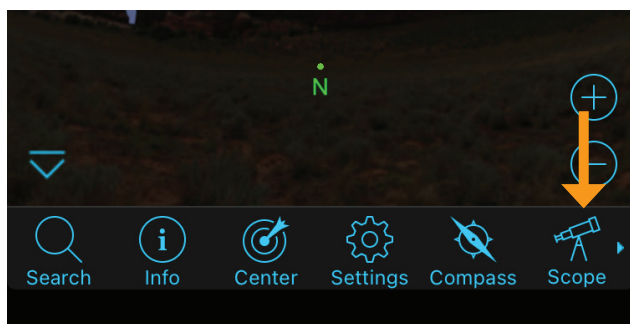
You can control your StarSense Autoguider (SSAG) via your smartphone using the Celestron SkyPortal Powered by SkySafari™ mobile app.

What you'll need:

- A smartphone running the most recent version of the SkyPortal mobile app, available free in the Apple App Store or Google Play
- Either a WiFi-enabled Celestron telescope, e.g., NexStar Evolution, OR a Celestron computerized mount plus the SkyPortal WiFi Module accessory (sold separately)
- StarSense Autoguider, installed and connected to your telescope mount (for help, refer to the SSAG manual)

To use SSAG with the SkyPortal app:

1. Ensure SSAG is connected to one of the telescope mount's AUX ports.
2. Power on the mount.
3. Connect to the telescope's WiFi network with your smartphone.
 - Under available WiFi networks, the telescope will display as "Celestron-####" with #### being digits and letters.
4. Open the SkyPortal app.
5. Select the telescope icon in the bottom right of the screen.



6. Select "Connect and Align." The app will now initiate alignment. Position your telescope for alignment using one of the following methods:
 - a. For EQ mounts with home position switches (e.g., CGX), press "OK," and the mount will now move to the home position.
 - b. For EQ mounts without home position switches (e.g., Advanced VX), the app will prompt you to move the telescope to the home position index marks. You can manually move the telescope or use the on-screen telescope controls.
 - c. For AZ mounts, point your telescope at the northern horizon using the on-screen telescope controls. The telescope tube should be roughly level to the ground and pointing North.
 - d. For AZ mounts on an EQ wedge, enable the wedge option on the Scope Setup screen. Navigate to the Scope Setup screen by selecting Settings > Setup and Control. Then select "StarSense

Wedge Align Enabled." Next, go back to the main planetarium screen, cancel the current alignment, and press "Connect and Align" again. Follow the on-screen prompts. You'll also need to set the telescope to the initial position. For the Northern Hemisphere, the forks should be pointing North with the optical tube at 90° pointing South.

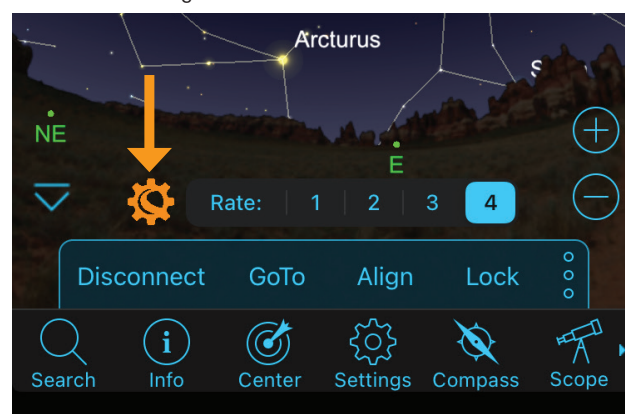


Northern Hemisphere



Southern Hemisphere

NOTE: You can access to the Scope Setup screen directly by pressing the Celestron Settings icon near the bottom of the screen.



7. The automatic alignment will now begin. EQ mounts will slew to two points in the western sky and then two points in the eastern sky to obtain alignment references. AZ mounts will slew to three points around the sky. If you previously performed a Center Calibration, you can now use SSAG to locate objects. If you have not completed a Center Calibration, SkyPortal will prompt you to do so. Proceed to step 8.

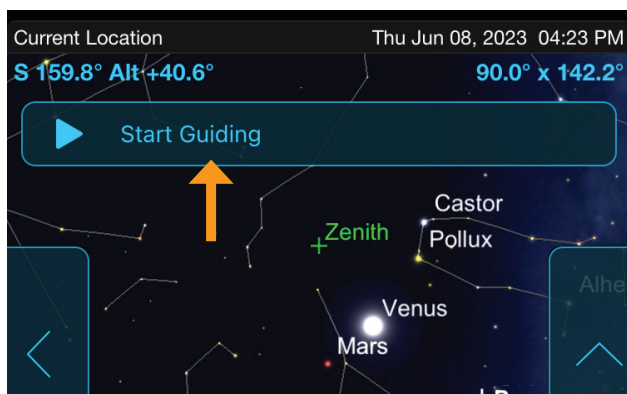
8. Center Calibration aligns SSAG's field of view with the telescope's field of view. This step generally only needs to be done once because SSAG saves Center Calibration data in its internal memory. The next time you connect to SSAG with the app, you will not need to center calibrate again unless you have moved the SSAG onto a different telescope optical tube.

- a. To Center Calibrate, choose a star from the planetarium interface, then press "GoTo." The telescope will slew close to the star, but the star may not be in the telescope's field of view.
- b. Use the on-screen direction buttons to precisely center the star in the telescope's field of view. When you are finished, press "Align" at the bottom of the screen. Then press "Calibrate."
- c. The app will complete the Center Calibration process.

You are now ready to use SSAG to find objects in the night sky. Simply select an object in the app and tap "GoTo." Precise GoTo functionality is on by default, so stars should appear well-centered within the telescope's field of view. When SSAG is performing Precise GoTo, the app will display "Star Sensing."

Guiding

Initiating autoguiding with SSAG through the SkyPortal app is easy. Press the "play" (forward-facing triangle) button in the Guiding Bar shown near the top of the planetarium interface.



SSAG will automatically calibrate itself for guiding and then begin guiding. After guiding begins, the play button will change to a stop (square) button.

The Guiding Bar displays data about guiding performance—RA and Dec RMS tracking errors and the "S" and "Q" numbers. The "S" number is the number of stars SSAG is using for guiding. The "Q" number represents the quality of the guiding, essentially a measurement of current seeing conditions—zero is poor, while 100 is ideal.

Press the "stop" button in the Guiding Bar to stop guiding.

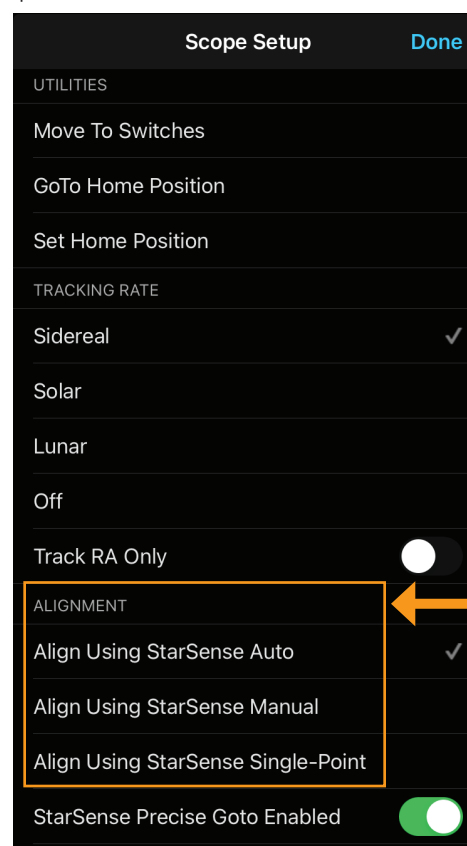
You must reinitiate guiding by pressing the play button after you slew to a new object. Doing so allows SSAG to recalibrate itself for guiding on a different point in the sky.

Polar Alignment

Polar alignment assistance with SSAG is currently unavailable through the SkyPortal app. However, SkyPortal supports the All-Star Polar Alignment (ASPA) procedure for accurate polar alignment of your mount. Remember, you must perform a sky alignment again after performing ASPA, as you will be moving the entire mount. SkyPortal will prompt you to realign after completing ASPA.

Other Alignment Methods

On the Scope Setup screen (Settings Menu > Setup and Control, or just press the Celestron Settings icon), you can select a couple of other alignment options.



StarSense Manual Align

StarSense Manual Align lets you manually slew the telescope to alignment points you choose instead of automatic preset points. If your observing site has many obstructions or clouds passing through, you may find StarSense Manual faster and more convenient than StarSense Auto. To use StarSense Manual, select "Align Using StarSense Manual" from the Scope Setup screen. Now, the next time you choose "Connect and Align," the app will prompt you to perform a StarSense Manual Align. Follow the on-screen instructions. You can slew the telescope to any position in the sky that is free of obstructions. Keep alignment points at least 30° away from each other in both axes.

StarSense Single-Point Align

StarSense Single-Point Align allows you to align by manually slewing to only one area of the sky. It is the fastest way to align but provides the least accurate pointing model for the mount. But remember, SSAG will still use its Precise GoTo functionality to center objects accurately, so this fast procedure may be all you need for casual observing. You can also add additional alignment points later to improve your mount's accuracy using the Align>Align command (see below). To use StarSense Single-Point, select "Align Using StarSense Single-Point" from the Scope Setup screen. The next time you "Connect and Align," you will be prompted to perform a StarSense Single-Point Align. Follow the on-screen instructions.

Adding Additional Alignment Points with the Align>Align Command

SSAG's built-in Precise GoTo functionality allows it to center objects in the field of view regardless of how accurate the mount's pointing model is. Nevertheless, if desired, you can continually improve your mount's pointing accuracy by adding additional alignment points to its pointing model.

To add alignment points, slew the telescope to any area of clear sky. Select "Align" from the options at the bottom of the screen, then select "Align" again. You can add up to a total of 10 alignment points.

NEED ASSISTANCE? Contact Celestron Technical Support
celestron.com/pages/technical-support

Product design and specifications are subject to change without prior notification.

This product is designed and intended for use by those 14 years of age and older



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