Adding Celestron’s StarSense AutoAlign accessory to one of the company’s older telescopes lets you align its go-to drive much more easily than before. Celestron

Astronomy tests Celestron’s StarSense

This accessory allows you to transform your old go-to mount into one that aligns itself.

by Phil Harrington

The company includes two mounting brackets. The smaller bracket is compatible with the Vixen-style dovetail bases found on Celestron’s refractors and reflectors, while the larger one matches the base you’ll find on Celestron’s Schmidt-Cassegrain and EdgeHD instruments. For this test, I mounted the larger bracket on my C6 Schmidt-Cassegrain telescope.

How it works

StarSense uses a small built-in digital camera to take a series of sky images 6.88° wide by 5.86° high. The software then scans for bright, recognizable stars. That information, coupled with the data you input allowed StarSense to use a technique astronomers call “plate solving” to find the coordinates of the center of the captured image. That determines where the telescope is pointing. From that starting point, the observer can select from more than 40,000 celestial objects programmed into the hand controller’s database.

Included with the AutoAlign unit is a matching StarSense hand controller (which takes the place of Celestron’s original NexStar hand controller), two mounting brackets, and an input cable to couple the imager to your mount’s auxiliary input. Please note that the mount must have two auxiliary inputs: one for the imager cable and one for the hand controller.

Mounts with only one port for the hand controller, like the vintage CG-5 Computerized Mount I used for this review, require Celestron’s AUX Port Splitter ($19.95).

How it performs

Attaching the StarSense to your telescope is a simple task. Remove the existing finder scope, install the appropriate mounting bracket, and slide on the imager.

The instructions warn that if the unit doesn’t sense enough stars, the controller will read out “Too Few Stars” and move the scope to a different region of sky. While strong twilight, terrestrial obstructions, heavy light pollution, and moonlight could be problematic, the StarSense had no problem completing the process from my moonless suburban backyard, which isn’t exactly a dark site. The naked-eye limiting magnitude there is about 4.5. The StarSense also offers a manual mode that lets the user select the area of sky for the alignment images. This is useful in locations with an obstructed horizon. Celestron warns, however, that this method is not as accurate as automatic alignment. Still, I found that it does offer reasonably good accuracy within that region of sky.

The first time I used the StarSense, I had to perform a second operation to align its center with that of its telescope — in effect the electronic equivalent of aligning a finder scope with the main instrument. This process required that I select a named star from its database and instruct the StarSense to go there. I chose Aldebaran (Alpha [α] Tauri). With a wide-field eyepiece in place, the scope slewed to Aldebaran’s general vicinity. It was a bit more than one field of view off. Using the hand controller’s arrows, I centered the star in the eyepiece, pressing “Enter” and “Align” when instructed. Once I finished this, the message “Realignment Required” appeared. This meant I needed to shut off the telescope, turn it back on, and repeat the AutoAlign process.

Once done, the hand controller’s read-out posted “Alignment Complete,” and I was ready to observe. And guess what? It worked perfectly.

Purposely trying to throw it off, I chose widely separated objects, going from the Orion Nebula (M42) to Ursa Major’s Cigar Galaxy (M82), to the Ghost of Jupiter (NGC 3242) in Hydra, and then onward to Jupiter itself in Gemini. Each time, my target was in the eyepiece’s field of view.

How it rates

I came away impressed with Celestron’s StarSense accessory. Despite the age of my CG-5 mount, the new unit worked perfectly the first time, and every time. Rather than manually initialize the go-to control when I went out, I simply set up the scope, hit “Auto Align,” and while the scope was doing its thing, I was inside making a cup of tea. What could be better than that?

The StarSense AutoAlign accessory replaces the finder scope on older Celestron telescopes. The unit comes with two mounting brackets; pick the one that works with your instrument. [PHIL HARRINGTON]