Fornax LighTrack II mount TESTED

Light weight, ease of use, and high accuracy make this mount a terrific choice.

by Jonathan Talbot

The LighTrack II is easy to assemble and use. Optional accessories include the FMW-200 wedge (far left) and the polar alignment scope (middle). *ASTRONOMY*: WILLIAM ZUBACK

Are you looking for a lightweight portable tracking mount for your DSLR or small telescope? Then the Fornax LighTrack II may be the mount for you.

I had the opportunity to test the capabilities of the LighTrack II for a month in my backyard under a dark sky with a DSLR, various lenses, and a 2.6-inch scope.

Fornax Mounts is a reputable Hungarian company that has been designing astronomical equipment for the past 20 years. It specializes in mounts and offers several equatorial models from lightweight to heavy duty — capable of holding payloads from 88 to 285 pounds (40 to 130 kilograms).

Initial impressions

In 2015, the company introduced its LighTrack II, which is a lightweight and portable tracking mount. I'm familiar with several other such mounts. The LighTrack II's design is similar to some, but instead of a screw drive, the LighTrack II uses an innovative friction drive.

A nice feature is the included periodic error test curve. The mount I tested showed that the periodic error was around 3" over the eight-minute test interval. The last four minutes of the test showed a periodic error of just 1". That's impressive! Finally, the maximum recommended weight capacity of the LighTrack II is 13 pounds (6 kg), which covers most DSLR and lens combinations.

The LighTrack II arrived in two small boxes. One contained the mount, polar scope, attachment screws, power cables, and a guide cable. The other box held the small Fornax FMW-200 wedge, which is an option to consider if you don't have a two- or three-axis rotating head for your tripod.

Getting the mount set up on my Manfrotto tripod was a breeze. The wedge simply threaded to the ⅜" attachment point on the top of the tripod, and the mount bolted to the wedge using the supplied metric Allen screws.

The mount and wedge

The face of the LighTrack II is well laid out with buttons to control the tracking. The options are Sidereal, Solar, Lunar, and Half. (Half stands for half sidereal rate.) Another button lets you select a Northern or Southern Hemisphere location.

Two buttons move the mount prior to tracking. A red blinking status light shows when the mount is tracking. On the rear side of the control panel is the power port, the on/off switch, and a guiding port.

The FMW-200 wedge is made of machined aluminum and is nicely anodized, so it threaded right onto my tripod. You adjust the altitude by turning the two large knobs on the side and referencing the side elevation scale. Once you have it where you want it, you slightly tighten the inner knobs to lock it down.

You adjust the azimuth with two threaded screws, and you can lock it into position with three thumbscrews. On the rear of the elevation bar is an adjustable Allen screw to fine-tune the friction. I had to tighten this down a lot when using my 2.6-inch scope, to the point where I could hardly move the wedge in elevation. To be fair, I was close to the maximum listed weight. When using a DSLR and lens, the adjustment was much easier.

In the field

The version of the LighTrack II I received also had the optional EQ5 polar alignment scope. It attaches to an arm that rotates out from the mount, held there by a threaded ring. Imprinted within the polar scope are representations of Cassiopeia, the Big Dipper, and a ring around the North Celestial Pole with a small circle for targeting Polaris. Southern Hemisphere observers will find the constellation Octans imprinted within the scope, along with a circle around the pole.

To polar align the mount, you rotate the polar scope to match the orientation of Cassiopeia and the Big Dipper, then adjust the wedge's altitude and azimuth controls to center Polaris in the small circle. Southern Hemisphere observers would position the major stars within Octans in the small circles provided.

This works fairly well, but I did have a few issues. First, the threaded ring, which attaches the polar scope to the mount arm, makes the polar scope hard to rotate when tightened down. I added a Teflon washer between the mount arm and the threaded ring to aid its rotation. Second, the resolution of the polar scope gets you "roughly aligned" and works fine using a three- or four-minute exposure and a lens with a focal length shorter than 50mm. However, it's much harder to get proper polar alignment and perfect tracking when using focal lengths longer than 50mm. This shouldn't surprise those familiar with lightweight tracking mounts. To optimize your alignment at longer focal lengths, drift alignment is needed.

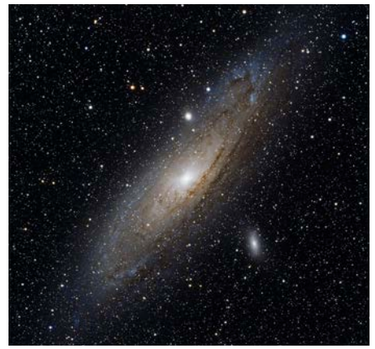
Lastly, the polar scope is not illuminated, and it's kind of awkward to hold a red flashlight to the edge of the polar scope and adjust the altitude and azimuth controls, especially when the mount is near its weight capacity. An illuminator would make this much easier.

LighTrack II imaging

The mount has a guider port on the back, but I did my imaging without it. I figured with the mount's extremely low periodic error, most tracking errors would be due to my polar alignment. My first target was the Andromeda Galaxy with the 2.6-inch refractor, which has a 336mm focal length.

In order to use a small scope, or even a long focal-length camera lens, you must balance the mount as carefully as possible. I borrowed a counterweight bar I use with another mount, and I threaded it into the LighTrack base.

Once the scope/camera combination was finely balanced — and at nearly the maximum recommended weight for the mount — I shot a set of unguided three-minute exposures at ISO 1600 with excellent results. I was so thrilled with the mount's tracking that I also shot the area around the Iris Nebula (NGC 7023).



The author used a Canon 60Da DSLR attached to a Stellarvue SV70T refractor, both mounted atop the LighTrack II, to capture the Andromeda Galaxy (M31). This image is a combination of 15 three-minute exposures at ISO 1600. JONATHAN TALBOT

This wide field shows the Pleiades (M45, right) and the California Nebula (NGC 1499). He used his Canon 60Da DSLR with a Rokinon 35mm f/1.4 lens on the LighTrack II. This image combines 15 three-minute exposures at ISO 1600. JONATHAN TALBOT

PRODUCT INFORMATION

Fornax LighTrack II Mount
Max. tracking time: 2 hours
Periodic error: +/- 1" over an eight-minute span
Tracking speeds: Sidereal, Solar, Lunar, Half Sidereal
Tracking directions: Northern or Southern Hemisphere
Dimensions: 11 by 5.5 by 3.2 inches (28 by 14 by 8 centimeters)
Mount weight: 2.9 pounds (1.3 kg)
Power: 12 volt DC adapter
Price: 430 euros
Contact: Fornax Mounts
2119 Pécel, Ady Endre utca 1
Hungary
+36 30 515 31 36
www.fornaxmounts.com

So how does this mount work with a more conservative DSLR camera and lens combination using a ball mount? Extremely well! At focal lengths from 14mm to 35mm, I had no issues with exposures up to four minutes long.

Using a 70-200mm zoom lens, I started to run into some tracking errors, which I think were caused by a combination of the large moment arm of the long lens and flexure when the mount was significantly out of balance on the ball head at various angles. The ball head was also probably flexing a bit.

When the camera was pointed low in the sky and not far out of balance, the results were excellent. However, I saw trailed images when the camera was pointed straight up due to flexure or balancing issues. I did a later test that verified this.

My results indicate that when you use a heavy camera/lens combination, it's important to use some sort of balancing mechanism, especially at focal lengths above 100mm. A good option would be to mount the camera to a counterweight bar.

Grade A results

My overall impression of the Fornax LighTrack II is that it is a terrific sky tracker with extremely low periodic error. It can handle a small scope and provide excellent unguided results using three-minute exposures. Tracking is flawless with a wide-field camera/lens combination.

The polar scope is adequate when using a wide-field setup. But when using focal lengths over 100mm, you should drift align after the rough alignment for optimum results. The wedge is well machined and adjusts easily under light loads.

I'm pleased with how this test went, and if you buy this mount, I'm sure your results will be good ones. Happy imaging!

Jonathan Talbot *is a seasoned astroimager who collects much of his data from his home in Ocean Springs, Mississippi.*