



## PRODUCT REVIEW

by Terence Dickinson



### A LIGHTWEIGHT TRAVEL MOUNT FOR DSLR IMAGING

Dispensing with the usual counterweights and bulk of a traditional equatorial mount, the AstroTrac fits in a suitcase along with its (user-supplied) camera tripod.

#### ACCURATE TRACKING

The whole idea behind the AstroTrac is portability. Powered by a 12-volt battery pack, the unit produced excellent tracking performance in our tests using telephoto lenses up to 300mm.

PHOTOS BY TERENCE DICKINSON



**PERFECT PORTRAITS** The North America Nebula, right, and galactic cluster M35, above, were imaged on the AstroTrac (5-minute exposures), using a 200mm f2.8 lens on a Hutech-modified Canon 40D digital SLR camera. Note the tiny ninth-magnitude cluster NGC2158 below M35.



# Innovative Tracking Platform

Accurately guided astrophotos without a traditional equatorial mount? Sounds unlikely, but this clever new device does exactly that.

**A**S MODERN CIVILIZATION WITH ITS ubiquitous light pollution has chased velvet dark skies ever farther from where most of us live, highly portable astronomical equipment is more desirable than ever. For this reason alone, I was immediately interested in testing the AstroTrac TT320, a revolutionary new equatorial mount intended for guiding cameras used for wide-field astro-imaging. The extreme portability of this design—it easily fits in airline luggage—makes it attractive for astro-imaging at the most remote sites.

Star clusters, nebulas and galaxies—the stuff that everyone would like to photograph—all require a time exposure of anywhere from a few seconds to many minutes. During that interval, Earth rotates enough to smear the image. A very accurate equatorial mount with a motor drive is required to keep the camera pointed at the intended target.

You might ask, “What about the telescope to shoot through?” For decades, I have advised backyard astronomers with an urge to record portraits of the night sky that the keys to astrophotography are the

camera and the equatorial mount. Set aside the idea of shooting through the telescope initially. The tracking accuracy required for telescopic imaging comes with a steep learning curve that is best to avoid at the beginning. Instead, start with a camera lens in the 15mm-to-200mm range. These focal lengths do not require the stringent guiding tolerances that a telescope places on a mount.

A modern digital single-lens reflex camera (referred to as a DSLR) with its standard lens can be a surprisingly powerful tool for astro-imaging. But equatorial mounts for telescopes tend to be overbuilt for the simple job of holding a camera and guiding it during a time exposure. Enter the AstroTrac TT320, a single-purpose device that embodies a complete rethink of camera tracking for astrophotography.

The AstroTrac dispenses with the traditional equatorial mount’s counterweights and dual-axis design by having the weight of the camera centrally supported by a heavy-duty camera tripod (supplied by the user). Atop the tripod, the camera sits on a photo-tripod ball-

and-socket head (also user-supplied). The genius of the design is that the accuracy for celestial tracking (i.e., compensating for the Earth’s rotation) is achieved by lightweight arms that open, scissorlike, via high-precision gearing. The gearing works both ways with a simple control button to switch to tracking in the opposite hemisphere.

Maximum exposure time with this system is about two hours, which is replenished by rewinding the gear in reverse at a much faster rate. Since a typical DSLR deep-sky exposure is in the 2-to-10-minute range, many exposures can be taken before the AstroTrac’s arms need to be reset.

The portability of the device is remarkable: less than 50 centimetres in length when fully retracted, it weighs about three pounds. You will need to add a sturdy camera tripod, a ball-and-socket tripod head, a 12-volt power supply and your DSLR. The polar-alignment scope is a mandatory “optional” accessory. It attaches with magnets to a receptacle that can be rotated to a comfortable position. The AstroTrac is available in Canada for \$699; the polar scope is an additional \$159. More details are available at the Kendrick Astro Instruments website ([www.kendrickastro.com](http://www.kendrickastro.com)).

I found the AstroTrac easy to use, with excellent results, as the two images above attest. If you have been thinking about this type of photography, I can recommend the AstroTrac. ■