

REVIEWED

Omegon MiniTrack LX Quattro

Omegon's mini camera-mount tracks like clockwork

Low-tech but high quality, Omegon's MiniTrack LX Quattro offers several minutes of refined star-tracking, writes **Steve Ringwood**.



▲ The Omegon MiniTrack LX Quattro.

First, there were the dinosaurs. Then, through Archaeopteryx, they took flight for the freedom from ground dwelling. A similar evolution has taken place in camera platforms, which continue to develop into sophisticated and ever-lighter mediums of wide-scale capture of the night sky. Omegon is one of the leaders in this movement, so I was keen to grab the opportunity of seeing what this

new offering could do. My review of the Omegon MiniTrack LX Quattro was aided and abetted by Omegon's OM10 ball head and deluxe polar wedge, kitting me out with everything I needed for a night's imaging.

There has clearly been a great deal of thought put into this travelling camera platform. It is compact – barely 21cm in length and weighing just 660 grams – but it packs a great deal of functionality into its single piece CNC-machined bar of aluminium.

This is certainly no ordinary sky tracking camera platform. It declines to be tethered by a snaking power cord and offers no cavernous aperture for taking on board racks of ever-draining batteries. In a wonderful move of 'back to the future', this mechanism is entirely clockwork. Once fully wound and aligned via the attached pole finder, it will supply sky-tracking power for about an hour.

The MiniTrack can be deployed and polar aligned either using a pan head, via 1/4- and 3/8-inch photo threads in its baseplate, or (through the use of a cleverly created Vixen GP-style dovetail incorporated into the body) attached to a dovetail clamp, which the optional Omegon deluxe polar wedge offers.

At a glance

Tracking power duration: 60 minutes

Weight: 660g

Length: 21cm

Material: Aluminium

Included items: MiniTrack LX Quattro, optical polar finder, polar-finder holder, insert for the Southern Hemisphere.

Details: astoshop.eu

Price: £171

Optional extras:

Omegon Tripod Ball Head Pro OM10: £29.24

Omegon Deluxe Polar Wedge: £155

Omegon MiniTrack Carry Case: £25.90

I used the MiniTrack in both modes. Use on a pan head is fine. However, I soon discovered that pan heads are not created equally. The MiniTrack's spring, pole-finding-scope and the tracker body are all earthward projections that must clear any structure beneath, such as pan-head arms, clamps and tripod legs. Out of four pan heads that I had readily available, only one was svelte enough to allow clearance of all of the MiniTrack's projections.

Alternative attachment to the optional polar wedge offered no problems at all, with the added advantage that polar alignment with Omegon's wedge can be carried out with much greater precision and, arguably, greater strength. I thoroughly recommend that acquisition of the MiniTrack is also accompanied by this device too.

Talking of projections, this sky tracker needs no counterweights, despite a payload ceiling of an incredible four kilograms. A counterbalancing force is exerted by the beefy driving spring, enabling hefty cameras and lenses to be used without concern that the tracking rate will be adversely affected.

Polar alignment

Testing of the MiniTrack took place under beautiful late-spring skies, with a wi-fi controlled Canon 6D attached to the MiniTrack via Omegon's very solid OM10 ball head. I decided on using a 100mm lens. This would provide reasonably good starscapes, while allowing sufficient scale up to reveal any tracking idiosyncrasies.

However, nothing is going to work without accurate polar alignment. The provided pole-finder contains a reticule featuring star patterns for aligning on both north and south celestial poles (but not at the same time!). For southern observers, the major stars of Crux and Octans are provided, while the Northern Hemisphere alignment rests on Cassiopeia, Ursa Major and Polaris.

The pan head I used is pretty fluid and alignment was soon achieved with it, but deployment instead on Omegon's OM10 polar wedge was clearly superior – especially when it came to those teeny-weeny last adjustments.

All that is left is to power up the MiniTrack via the very tactile winding disc (clockwise direction, of course) and set it running. A brief and humourous



■ The Omegon MiniTrack LX Quattro ready for polar alignment, on a photographic pan head. Image: Steve Ringwood



■ The MiniTrack fully kitted out, atop the deluxe wedge and fitted with Omegon's ball head and the reviewer's Canon 6D with a 100mm lens. Image: Steve Ringwood

A great deal of thought has gone into this travelling camera platform – it packs a great deal of functionality into its single piece CNC-machined bar of aluminium.



word of warning: do not set the camera's aim, then wind the mechanism, for doing so rotates the mounted ball and socket—turning the camera away from your chosen target. Wind up first, target second. This sequence may be buried somewhere in the instructions, but I might have missed it.

I have just one niggling design criticism. There is a very small, unobtrusive locking screw that must be used to lock the winding knob before a ball joint is attached at the business end, and then released to allow use. Bizarrely, the head of this screw is of the Allen socket type, and therefore it requires use of the supplied Allen key to carry out this operation. Fate will almost immediately cast the essential Allen key into the long grass—but why should you worry needlessly about the whereabouts of a separate tool when a conventional retained thumb screw entering from the MiniTrack's underbelly would work just as well? It seems to counter the ethos of the MiniTrack as an otherwise completely self-contained and independently-minded device.

For target practice, I chose the areas of Lyra and Cygnus—the latter especially because not only are the primary stars neatly framed by the focal length

employed, but also its location within the Milky Way ensures a profusion of stars.

Longer exposures

A short word here about maximum exposure time. Omegon provides a guiding formula, this being maximum minutes equals 100 divided by the focal length of the camera lens. Consequently, for a 50mm lens (100/50) the maximum recommended image-tracking time would be two minutes. Ergo, the wider the lens, the longer trusted tracking can be. So, in theory, using my 100mm lens, the longest recommended exposure would be one minute.

Considering the obviously well-executed engineering tolerances, I did wonder if Omegon were being a little conservative on this guidance. I decided to go for broke and proceeded to execute two sets of exposures of five minutes each, both driven and undriven.

Using the 100mm lens, undriven exposures revealed the Earth's rotation wonderfully, the elapsed time dragging star images out into graceful shallow arcs. Of course, the motion also smeared out any capture of fainter stars, so the resulting frames were relatively unpopulated.

Yet driven by the MiniTrack, an explosion of stars was revealed. I was genuinely astonished by the accuracy of the tracking, for any errors over even just five minutes would be unforgiving (especially as this was five times Omegon's recommended 'dose'). I had kept the camera sensitivity at ISO 200 in order to keep interference from light pollution at bay and to prevent intrusion of the increasing twilight that during my trial period was steadily robbing the night of true darkness. Clearly much longer exposures at higher speeds with light-pollution filters are possible.

There is no toothed jiggery either, for the movement runs on needle roller bearings to ensure a smooth ride.



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I hope Omegon will forgive me for not dropping to shorter exposures. Having already excelled itself, the MiniTrack's performance could hardly be bettered by shortening the opportunity.

A clockwork heart

There are some who might scoff at a purely mechanical solution to sky-tracking, but be advised that this is not a time traveller from the Victorian age. Today's engineering tolerances raises this clockwork mechanism to an entirely different level of precision, and this precision can be attenuated. The clockwork's heart is designed to beat at 130–135 times per minute for optimal tracking. Under different payloads and orientations, the tone and timing of its ticking heart may drift from this ideal and this is detectable. The MiniTrack therefore provides a means of adjusting the spring tension to bring it back to its ideal. Of course, if you are a trained musician, such a temporal drift may be readily determined and corrected. Lesser mortals may be cheered to discover that there are smartphone apps out there (such as *Tap Tempo BPM*) that will detect the tempo for you.

I found that the tracking strength did not falter, even towards the end of its travel. However, I was caught out by one last trick up its sleeve. Just as its last gasp of strength gives out, it sets off a jangling alarm-clocking to tell you so. The first time out I was completely unaware of this terminal function and the sudden 'fire station' clanging in the dead of night nearly had me making one giant leap into orbit!

The Omegon MiniTrack LX Quattro is a truly compact and beautiful machine that makes its competitors look positively ungainly. I do recommend co-purchase of the optional OM10 ball head and deluxe polar wedge to make the kit complete. Of course, there is also an optional case for the MiniTrack. I think it is a mite mean not to include it in the price, but you will want to keep this sky tracker pristine for a long and fruitful life so you should definitely bite the bullet and include this in the ensemble too.

I really enjoyed my time with the MiniTrack LX Quattro and have no hesitation in recommending it for home use and as a keen companion on trips to dark skies anywhere.

Steve Ringwood is a regular contributor to *Astronomy Now*.



■ A close-up of the glove friendly winding knob. Image: Steve Ringwood



■ Notched adjustment on the main spring allows for precise changes to counter imbalances and load variations.



■ The Omegon MiniTrack deployed on Omegon's deluxe polar wedge.