

FIRST LIGHT

See an interactive 360° model of this mount at www.skyatnightmagazine.com/skyeqm35



Sky-Watcher EQM-35 Pro Go-To mount

WORDS: TIM JARDINE

A trustworthy tracker with a handy transforming trick up its sleeve

VITAL STATS

- **Price** £629
- **Load capacity** 10kg in EQ mode, 6.5kg in lightweight mode
- **Hand controller** SynScan flash upgradeable
- **Database** 42,900 objects with complete Messier, NGC and IC catalogues
- **Autoguider port** ST-4 with 0.25, 0.5, 0.75 & 1x guide rate
- **Periodic error correction** Yes
- **PC compatible** Yes
- **Tripod weight** 5.7kg
- **Mount head weight** 4.38kg (3.28kg with dec. axis removed)
- **Counterweights** 2x3.4kg
- **Total weight** 16.88kg
- **Supplier** Optical Vision Ltd
- **Tel** 01359 244200
- **www**.opticalvision.co.uk

With the addition of the EQM-35 Pro to its comprehensive range of mounts, Sky-Watcher is filling the niche between lightweight travelling mounts, and the more sturdy and accurate mounts suitable for astrophotography. At first glance you'd be forgiven for mistaking this new mount for the ever popular EQ3 version, but the similarity is only surface deep, as the EQM-35 Pro boasts significant upgrades over its little sibling and can be niftily transformed into a lighter weight photo mount (see the 'Lighten up' boxout).

When the mount was delivered in a single box containing the mount head, the tripod and two counterweights, we were slightly taken aback by its weight, expecting something a little lighter. In fact, the tripod in the box is made of steel, rather than aluminium, and is similar to ones used for larger capacity mounts. There are also two counterweights at 3.4kg each. It took us around 30 minutes to set the mount up the first time, but only a few minutes on subsequent occasions. Right from the outset, we were encouraged by the solid, stable platform provided by this sturdy little mount.

The sound of science

A cigar socket power lead is provided, requiring a 3A, 12V DC supply. This connects to a control box, which clips onto one of the tripod legs. The SynScan controller has a holder held in place by a Velcro strap, although we did find this a little awkward to use in the dark. In standard configuration, the mount makes a sound not unlike a dentist's drill, but it isn't loud enough to get your neighbours complaining.

After very quickly polar aligning the mount and fitting our 3-inch refractor to it, we did a two-star alignment using Dubhe and Arcturus, then selected a nicely positioned star with plenty of movement across the sky, Vega, to test for tracking accuracy. We used a 10mm Plössl crosshair eyepiece for this, giving a magnification of 50x. The mount dropped onto Vega nicely, and after a couple of nudges to centralise ▶

Lighten up

The 'M' in the mount's name stands for 'modular', because the EQM-35 Pro offers users the option to strip it down into a lighter weight version, similar to Sky-Watcher's Star Adventurer mount but with higher capacity and a sturdier platform. The transition to lightweight photographic mode is made by removing the dec. axis completely from the mount. This is quickly achieved by removing four bolts from the dec. head, which comes off with the counterweight bar, allowing a supplied Vixen dovetail puck to be fitted. This reduces the weight by over 1kg. At this stage it's possible to fit extra accessories, available separately. To fit our DSLR with a heavy 200mm lens attached, we were loaned the Sky-Watcher L-shaped bracket and counterweight. This configuration allows you to slew to your desired target using the RA axis of the mount, and then manually adjust the camera to centre the object. We used the Moon, and the mount tracked it steadily once again, hardly deviating position after 30 minutes. Alternatively, a simple ball head fitting can hold a camera too, with no counterweight necessary.



▲ Stripped-down versions of the mount, one with an L-bracket (left), the other with a ball head (right)



180-tooth RA axis worm wheel

Tracking performance in the RA axis is greatly assisted by a 180-tooth gear wheel, (compared to 130-tooth in the EQ3). This enables smoother, consistent results and accurate Go-To capability, making it easier to find and photograph your target, or to hold it steadily in view while observing.

Payload

For visual use in its standard EQ mode, the EQM-35 Pro can support a decent weight, up to 10kg of telescope, and around 6.5kg when used for imaging in lightweight mode. This could allow for a combined telescope and auto-guiding equipment, perhaps making use of the ST-4 autoguider port on the control box.

Sturdy steel tripod and fitting

A solid base improves visual astronomy and is essential for sky photography. The extendable steel tripod, eyepiece-holding leg brace and substantial casting of the mount base itself come together to offer a really stable platform, minimising vibration and dampening the effects of wind or clumsy observers.

SynScan controller

The mount is controlled by a SynScan handset, an established and reliable system with admirable pedigree. Offering over 40,000 targets, and a choice of alignment routines, the SynScan makes it easy to navigate the sky, locating your favourite objects and finding new ones. The handset is upgradable via an internet download.

WWW.THESCREETUDIO.NET X 4, TIM JARDINE X 2

SKY SAYS...
Two mounts in one, and both of them are incredibly reliable

FIRST LIGHT

SKY SAYS...

Now add these:

1. Counterweight (1kg) and shaft for Star Adventurer
2. Dovetail L-bracket for Star Adventurer
3. Fotomate H-28QR heavy-duty tripod ball head

► it, we sat back to watch the star drifting out of the crosshair. Our notes from the session read: “Two minutes – zero drift. Five minutes – zero drift. 10 minutes – zero drift. WOW!” Only after 25 minutes did Vega just start to move away from the crosshair. Impressive, especially given the minimal time spent setting up and aligning the mount.

Having established the mount’s smooth,

accurate tracking ability, we set about testing some more realistic

scenarios. Swapping to our 4.5mm, 72° eyepiece gave us a useful 110x magnification, and we enjoyed slewing around the sky to such targets as the Ring Nebula, the Great Globular Cluster in Hercules, Albireo (Beta (b) Cygni) in Cygnus and many others, all of which were efficiently located. The mount was equally capable of finding and tracking planetary targets, and we enjoyed views of Jupiter and the Moon. The EQM-35 Pro steadfastly refused to yield to nudges and bumps, and Jupiter was still central in the view even after we invited some hamfisted, inexperienced passers-by to take a look.

We also tested the mount using our Pentax 75 SDHF refractor with an Atik 11000 full-frame CCD to take an image of the North America Nebula. Using bi-colour narrowband images we combined 12x5-minute unguided exposures in H-alpha, and 7x5-minute unguided in OIII, giving a total exposure time of 95 minutes taken with the EQM-35 in standard EQ mount mode. We also used the mount in its stripped-down mode with our Canon 6D, ISO 200, f/2.8, 70-200mm zoom lens set at 70mm. We captured a wider field view from Cygnus to Lyra using 15x5-minute unguided exposures with satisfying results indeed.

Overall the EQM-35 Pro offers beginners and old hands a stable, accurate mount that can be handily converted with ease into a more portable version. **S**



Polarscope

A key factor for EQ mount accuracy is polar alignment. Using the built-in polarscope, along with the altitude and azimuth bolts, we were able to quickly identify Polaris, adjust the mount until it rotated around the inscribed circle in the scope, and then enjoy views that stayed centred for long periods.

A bi-colour narrowband image of NGC 7000 taken with an Atik 11000 full-frame CCD on a Pentax 75 SDHF. Total exposure: 96 minutes



Cygnus to Lyra taken with a Canon 6D at ISO 200, f/2.8 70-200mm zoom lens set at 70mm; using 15x5-minute unguided exposures

Verdict

Assembly	★★★★★
Build and design	★★★★★
Ease of use	★★★★★
Go-To accuracy	★★★★★
Stability	★★★★★
OVERALL	★★★★★