

FIRST light

iOptron Smart EQ Pro
Go-To mount

This lightweight mount has a low load capacity but offers great portability – and an added benefit for trips south of the equator

WORDS: STEVE RICHARDS

VITAL STATS

- Price £449.99
- Load capacity 5kg
- Hand controller Go2Nova 8408
- Database 59,000 objects
- Flash upgradeable Yes
- Autoguider port ST4
- Tripod 1.25-inch tubular steel legs
- Weight Mount 2.8kg (excluding counterweights), tripod 2.6kg
- Supplier Altair Astro
- www.altairastro.com
- Tel 01263 731505

The iOptron Smart EQ Pro is billed as a super-portable equatorial mount and, weighing just 5.4kg all in all, it is certainly that. The mount head weighs 2.8kg without counterweights and is an unusual rectangular shape, finished in a mix of cream alloy sections for strength and matching coloured plastic for finishing trim. Two black plastic panels, one each side of the head, reveal compartments for eight AA batteries, though there is also a 12V external power socket. Two RJ11-style sockets complete the connections – one marked 'HBX' that allows you to connect the Go2Nova hand controller and an identical but unmarked socket that provides the industry standard ST4 autoguiding port.

The mount is supplied with a quick start manual, although a comprehensive PDF manual is available for download. iOptron's excellent illuminated polarscope is pre-installed on this mount, though there is a minor design issue here in that if you use the mount at a latitude of 50° or greater, you can't remove the polarscope cap as it is blocked by the latitude adjustment bolt – the cap must be removed in advance. The tripod is also lightweight (2.6kg) and certainly helps with the 'grab and go' aspect of the mount, although we did find that the plastic locking collars for height adjustment introduced a little more flex than we would have liked.

DESIGNED WITH CUNNING

The whole ethos behind this mount is its grab and go nature, which is not that easy to achieve with a fully functional equatorial Go-To. However, the careful choice of materials and attention to detail in the design has produced a mount that meets these aims.

The sturdy, box-shaped aluminium housing has been cunningly designed so that much of the mass of the gears and motors resides on the counterweight side

of the RA axis. This has the effect of shifting the centre of gravity of this axis in the right direction to minimise the counterbalance weight required to offset the telescope itself, which is conveniently mounted very close to the RA axis. The two side pods that store the eight AA batteries for the built-in power supply also provide some counterbalance. The lightweight steel tube tripod completes the package by giving reasonable stability.

SKY SAYS...

When tracking, the mount kept each object centred in the field of view for well over 75 minutes

With the clutch disengaged, the RA axis rotates very freely, making the mount easy to balance, but the dec. axis was stiff in comparison and it was more difficult to assess the correct balance point. However, the iOptron manual states that balance in the dec. axis is not critical because of the low load capacity of this mount. It was a good match for our William Optics Megrez 72 refractor. Balancing it required the single 0.9kg counterweight, supplied as standard, to be placed at the maximum extension of the retractable counterbalance bar.

Have mount, will travel

Polar alignment was simple and straightforward with the assistance of the hand controller, which displayed a circular 'clock' showing the position of the star Polaris at our local time and location. It was a simple matter to adjust the altitude and azimuth bolts on the mount until the view through the polarscope matched that of the hand controller.

Users in the southern hemisphere would find it equally simple to use the hand controller display to show the position of the star Sigma Octantis. Combined with the grab and go features of the mount, this makes it an excellent travelling companion for astronomy holidays in both hemispheres. ▶

VIXEN-STYLE MOUNTING BLOCK

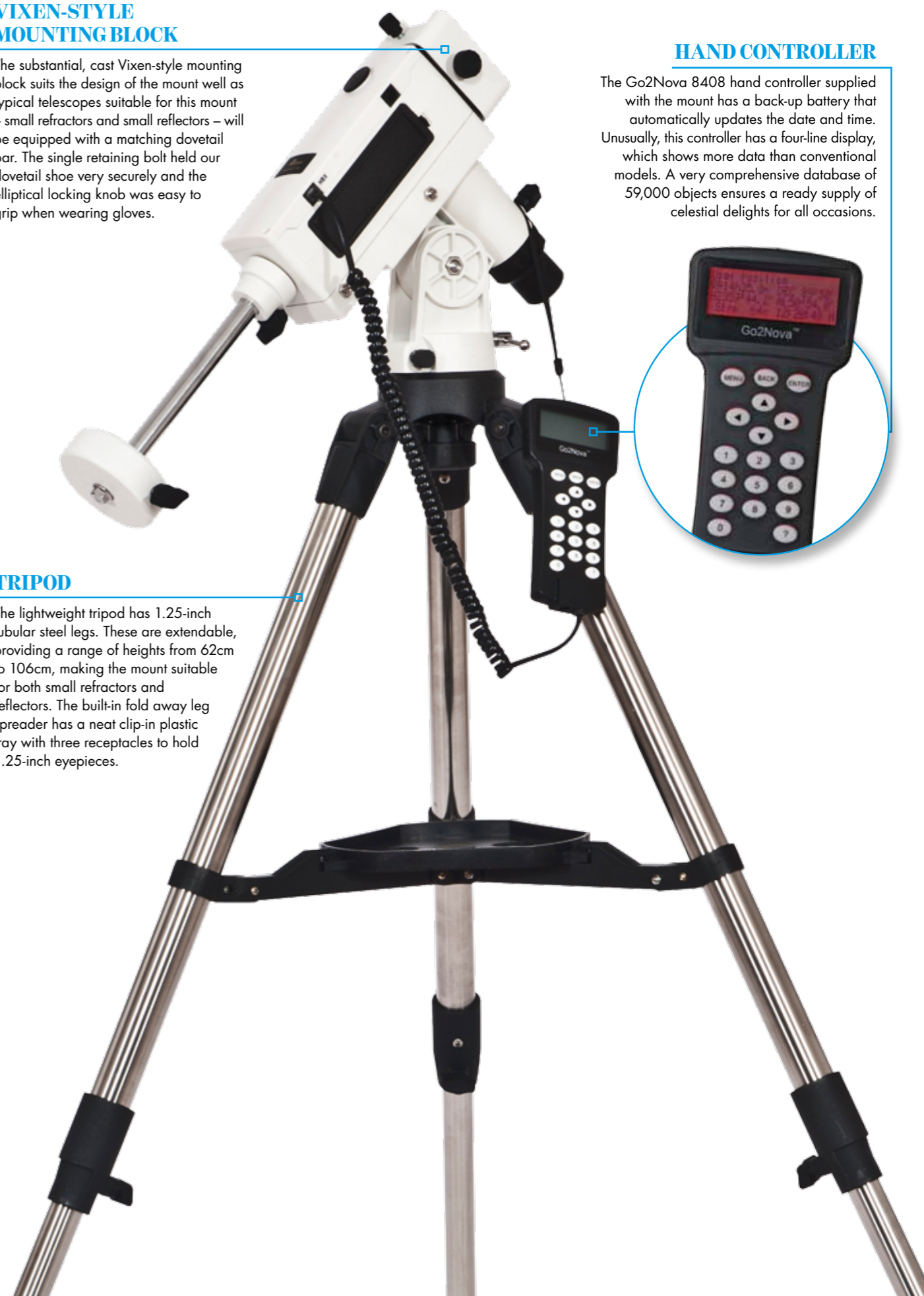
The substantial, cast Vixen-style mounting block suits the design of the mount well as typical telescopes suitable for this mount – small refractors and small reflectors – will be equipped with a matching dovetail bar. The single retaining bolt held our dovetail shoe very securely and the elliptical locking knob was easy to grip when wearing gloves.

HAND CONTROLLER

The Go2Nova 8408 hand controller supplied with the mount has a back-up battery that automatically updates the date and time. Unusually, this controller has a four-line display, which shows more data than conventional models. A very comprehensive database of 59,000 objects ensures a ready supply of celestial delights for all occasions.

TRIPOD

The lightweight tripod has 1.25-inch tubular steel legs. These are extendable, providing a range of heights from 62cm to 106cm, making the mount suitable for both small refractors and reflectors. The built-in fold away leg spreader has a neat clip-in plastic tray with three receptacles to hold 1.25-inch eyepieces.



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BATTERY BOXES

Ultra portable mounts like this are designed to be taken to dark observing sites, so minimising the amount of equipment you need to take with you makes good sense. The conveniently placed battery pods mean that an external power supply is not required as the mount is completely self contained.

POLARSCOPE

The illuminated polarscope is unusual as it has a reticule with two sets of engraved circles on it. The inner set are for use in the northern hemisphere, to align the mount with Polaris, while the outer set are for use south of the equator to align to the southern hemisphere pole star, Sigma Octantis.



► You have a choice of one-, two- or three-star alignment, the Go-To accuracy improving with the number of alignment stars used. For most of our sessions we chose the three-star alignment option, which helps to alleviate the problem of cone error – a pointing error that occurs if the telescope is not mounted at exactly 90° to the RA axis. This alignment method worked very well, ensuring that all our subsequently chosen objects appeared comfortably within the view of our 17mm eyepiece. However, using one-star alignment also produced perfectly acceptable Go-To results with our short focal length (432mm) refractor.

When tracking, the mount kept each object centred in the field of view for well over 75 minutes – after which we abandoned this test as it clearly passed with flying colours.

If you don't want to use the Go-To system and hand controller at all, the mount can be manually pointed at any object and then, when the power switch is turned on, it will track quite happily at sidereal rate with no controller attached.

We very much enjoyed our time with this mount as it was light to carry, easy to set up and polar align, produced good Go-To results and tracked well. We certainly felt that it achieved its portability goals easily as well as making for an excellent beginner's mount. **S**

SKY SAYS...

Now add these:

1. Altair Lightwave 60mm refractor
2. Eight AA batteries
3. Altair Miniguider 60mm guiding system

ALL PHOTOS: PAUL WHITEFIELD

VERDICT

ASSEMBLY	★★★★★
BUILD AND DESIGN	★★★★★
EASE OF USE	★★★★★
GO-TO ACCURACY	★★★★★
STABILITY	★★★★★
OVERALL	★★★★★