

FIRST light

Vixen BT81S-A binocular telescope

An alternative to binoviewers and binoculars that offers portable prowess

WORDS: PAUL MONEY

VITAL STATS

- **Price** £949
- **Optical design** Air-spaced doublet objective
- **Aperture** 81mm (3.2 inches)
- **Focal length** 480mm; f/5.9
- **Coatings** Magnesium fluoride
- **Mounting** Vixen dovetail with 6.35mm tripod thread
- **Finder** Optional extra
- **Eyepieces** None supplied
- **Weight** 4.1kg
- **Supplier** Vixen UK/Opticron
- **www.vixenoptics.co.uk**
- **Tel** 01582 726522

We are born with binocular vision; it's the natural way we view the Universe. But unless you use a binoviewer, most telescopes only let you use one eye at a time. Binoculars offer a good alternative, but don't usually have the flexibility of swappable eyepieces. This is where the Vixen BT81S-A binocular telescope comes into play. It boasts a pair of 81mm air-spaced doublet objectives, which are coated with magnesium fluoride to reduce a colour fringing effect called chromatic aberration.

The scope has a focal length of 480mm with a focal ratio of 5.9, providing a wide field of view of 3.5° when used with 40mm eyepieces. An integrated vixen dovetail bar allows you to attach it to either an equatorial or an altaz mount, and it has a 6.35mm thread to secure it to a standard tripod. A finderscope mounting bracket, dew shields for both objectives and a carry handle complete the main setup.

Also supplied is a single information sheet that explains how to use the setup and align the optics correctly, which is important for getting the best out of the binoculars. No eyepieces are included: we were supplied with four pairs of Vixen NLV eyepieces for our tests – 40mm, 20mm, 15mm and 10mm, giving magnifications of x12, x24, x32 and x48 – along with a heavy-duty tripod.

At just 4.1kg without eyepieces, the system is quite portable. Using the carry handle, we were able to move the binoscope, on the tripod, around the garden with relative ease. The back section holds the 45° prisms and the interocular adjustment-focuser housing for 1.25-inch eyepieces. The eyepieces 'push fit' into the focuser rather than being secured with a holding screw; this works adequately, but we did feel it was a weak point in an otherwise good system. Interocular adjustments are made

by turning the rubber-gripped prism housing, which was firm and smooth, as was the focusing.

SKY SAYS...
The Moon fitted comfortably in the field of view using the 10mm eyepieces, revealing craters and features

Scanning the skies

Vixen recommends eyepieces with a focal length of no less than 10mm and our experience bears this out. We began with a pair of 40mm eyepieces, which gave us crisp images of large objects such as open cluster Melotte 111 and the Beehive cluster across the field of view. These were impressive, but our most memorable view was of the

crescent Moon, earthshine and Venus with a splash of stars. We were also able to spot smaller and fainter deep-sky objects such as neighbouring galaxies M81 and M82 with this setup, but we found that we had better views with higher-power eyepieces. ▶

VIEWS TO MATCH YOUR MOODS

Most standard pairs of binoculars have a fixed magnification because they have integrated eyepieces. Some models have integrated zoom eyepieces, but better still is the option to swap them to suit your needs. The BT81S-A is a body-only unit, which means you can pick the eyepieces that provide the best magnification for the celestial objects you want to view. As you explore the night sky and your

stargazing targets evolve, you're free to add additional pairs at a later date rather than being stuck with just the one set.

The four pairs of Vixen NLV eyepieces supplied for this review performed admirably. From our tests, we'd recommend the 10mm, 20mm and 40mm eyepieces as the ideal range to go with this scope.



CARRY HANDLE

A simple yet useful feature, the carry handle proved invaluable when attaching the dual tubes to a tripod and packing it away. We also found it easy to move the whole setup mid-session with this handle.

FINDER BRACKET

Because the scope's eyepiece assembly block is at a 45° angle to the main optical axis, we found the inclusion of a finder mounting bracket very useful for attaching a red-dot finder.

FOCUSERS

Each eyepiece has a focuser with a good rubber grip that was very smooth when focusing, with no play in the mechanism and no image shift. Each eyepiece can be easily adjusted independently and once done there was no need to readjust them during extended use.



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OPTICS

The optics gave good views of the Moon and deep-sky objects ranging from open clusters to bright galaxies. There was slight internal ghosting from the brightest stars, but overall the quality of the field of view was very good, with only the slightest deterioration near the edge.

SKY SAYS...

Now add these:

1. Vixen 7x50 finderscope and holder
2. Pair of Vixen NLV 20mm eyepieces
3. SXG-HAL130 tripod with HF2 altaz fork mount

INTEROCULAR ADJUSTMENT

A vital part of any binocular system, we found that the interocular adjustment was very easy and smooth. This allowed us to merge the views from each eyepiece accurately into a single combined image for a relaxed viewing experience.

► It seems that the BT81S-A is more suited to wide-field deep-sky observing, as the planets appeared as quite small discs when we viewed them. That said, with the 10mm eyepieces we could still see Saturn's rings and Venus's half phase, and could just make out the belts of Jupiter plus the four Galilean moons. Turning to our Moon, the 10mm eyepieces revealed lots of craters and features, and our neighbour comfortably fitted in the field of view.

Star clusters such as the superb Pleiades in Taurus and the Perseus OB association were impressive in the 40mm and 20mm eyepieces. Slotting in the 20mm eyepieces, we moved on to the Orion Nebula, which was replete with nebulosity. Switching to the 10mm eyepieces to crank up the magnification, we got sparkling views of the Trapezium cluster and the nebulosity at its heart. Using the same setup, globular cluster M13 was a lovely ball of cotton wool with a hint of barely resolved stars scattered across it, and we could just split colourful double star Algieba in Leo.

Overall the setup gives great wide-field views of the night sky, and where close planetary conjunctions occur they bring an added dimension to the view, so we can heartily recommend it. But bear in mind that we attached our own red-dot finder for the purposes of this review and it proved invaluable for locating many faint targets; you may wish to considering investing in one. **S**

VERDICT

BUILD AND DESIGN	★★★★★
EASE OF USE	★★★★★
FEATURES	★★★★★
FIELD OF VIEW	★★★★★
OPTICS	★★★★★
OVERALL	★★★★★

ALL PHOTOS: PAUL WHITFIELD