

2017
Sky at Night
 MAGAZINE
Reviews

Bringing you the best in equipment and accessories each month, as reviewed by our team of astro experts

HOW WE RATE

Each category is given a mark out of five stars according to how well it performs. The ratings are:

- ★★★★★ Outstanding
- ★★★★☆ Very good
- ★★★★☆ Good
- ★★★★☆ Average
- ★★★☆☆ Poor/Avoid



See interactive 360° models of all our First Light reviews at www.skyatnightmagazine.com



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Find out why this scope might be the holiday companion you have been looking for

This month's reviews



FIRST LIGHT

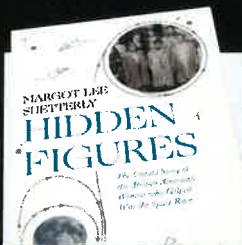
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Find out more about how we review equipment at www.skyatnightmagazine.com/scoring-categories

FIRST LIGHT

See an interactive 360° model of this scope at
www.skyatnightmagazine.com/vixenA62SS



Vixen A62SS 2.5-inch achromatic refractor

A scope of short stature that makes for an excellent travel companion

WORDS: STEVE RICHARDS

VITAL STATS

- **Price** £429
- **Optics** Achromatic lens with four elements in two groups of two
- **Aperture** 62mm (2.5 inches)
- **Focal Length** 520mm, (f/8.4)
- **Focuser** Single speed Crayford with etched scale
- **Extras** Padded case, eyepiece extension tube, Allen key wrench
- **Length** 305mm
- **Weight** 1.5kg
- **Supplier** Opticron
- **www.vixenoptics.co.uk**
- **Tel** 01582 726522

ALL PICTURES: WWW.THESECRETSTUDIO.NET

It is often said that you should choose your travelling companions carefully, and perhaps none more so than a telescope that will accompany you on your travels. It is with this in mind that Vixen has produced its latest refractor, the 2.5-inch A62SS.

This diminutive achromatic scope is supplied in a soft, protective carrying case that is small enough to comply with aircraft carry-on luggage regulations, yet leaves plenty of room for a star diagonal and a set of eyepieces. An eyepiece extension tube is included with the scope and this holds a secret for casual photographers in the form of a male T-thread.

Close examination of the lens elements showed that the fully multicoated surface treatment had been well applied, producing a slight green tinge when held to the light at the right angle. The inside of the optical tube is fully baffled and painted in a matt black coating. Its robust, single-speed Crayford focuser can be rotated through 360° to help with framing and there is a lock to secure the focus tube once it is in the desired position. Attached to the focuser is an anti-marring mount that accepts standard finderscopes.

For our preliminary tests, we mounted the scope on our own Vixen Porta Mount II using the shoe permanently attached to the telescope tube. This

SKY SAYS...

What really impressed us was how the view snapped into focus – no 'grey area' here, just a crisp image

combination made for a substantial yet easily transportable system. Vixen supplied a prism star diagonal, a trio of SLV eyepieces (12mm, 15mm and 25mm) and a 2x Barlow lens for the purposes of this review.

We started with a daytime test to check for chromatic aberration by observing the outlines of tree branches against a bright sky – and indeed there was a purple and yellow aberration, but it was not unduly intrusive. To confirm our findings, we repeated the tests using our own set of Hyperion eyepieces with the same result. However, what really impressed us was how the view snapped into focus – no 'grey area' here, just a crisp image across the whole field of view.

Airy extraordinary

As darkness fell we were greeted with a clear sky that allowed us to carry out a set of star tests, and these showed even intra- and extra-focus airy disks with no signs of astigmatism. Star shapes remained good out to over 85 per cent of the field of view, at which point the star shapes elongated with a red tinge towards the centre and a green tinge towards the field edges.

We then got down to the enjoyable task of observing a range of objects – including globular clusters M13 and M92, planetary nebulae M27 and ▶

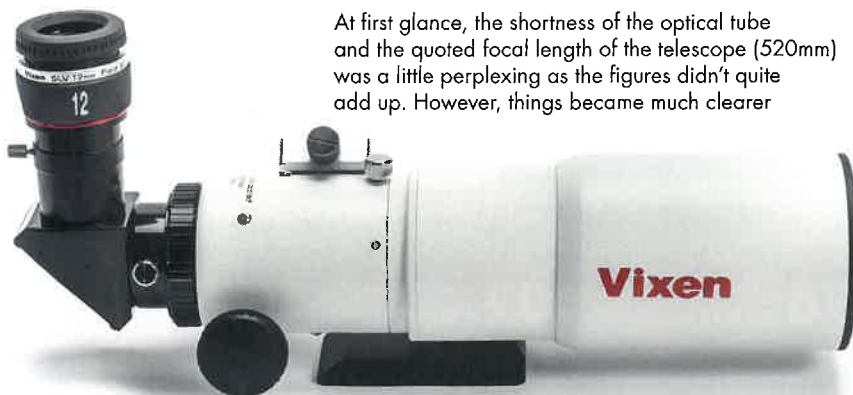
NO ORDINARY ACHROMAT

At first glance, the shortness of the optical tube and the quoted focal length of the telescope (520mm) was a little perplexing as the figures didn't quite add up. However, things became much clearer

when we realised that this was no ordinary achromat. Instead of the usual two lens elements, this design possesses four of them.

The lens elements are arranged in two groups of two with a normal achromatic doublet objective lens and a second pair at the rear placed in a fixed position just before the focuser. The front pair focus the image and correct colour to the same extent as a standard achromatic lens while the rear pair act as an image amplifier in the same manner as a Barlow lens by diverging the light from the objective.

This design allows the tube to be compact and thus easily transportable. It offers an effective focal length of 520mm at f/8.4, a good compromise for general observations of the night sky.



INTERNAL BAFFLES AND BLACKENING

To maintain good contrast in the view, it is important to keep light reflections to a minimum and the A62SS achieves this in two ways. The internal surfaces are coated in a matt black finish and complemented by a number of knife-edge baffles to further absorb unwanted reflections.



CRAYFORD FOCUSER

Unusually, the A62SS is supplied with only a single speed Crayford focuser, so there is no fine adjustment knob. However, the focuser was a delight to use, providing a crisp and smooth action that made it easy to snap into focus when observing or imaging. The focus tube is etched with a millimetre scale.



VIXEN MOUNTING SHOE

A permanently installed mounting shoe is included. As well as its standard dovetail profile for attachment to an astronomical mount, there are also 1/4-inch and 3/8-inch thread sockets for standard photographic tripods. The mounting shoe extends backwards to help achieve balance.



FIRST LIGHT



◀ NGC 7000, made up of 22 exposures of 600 seconds, taken with a one-shot-colour camera

► M57, and the asterisms known as Kemble's Cascade and the Coathanger. But the true gem of our sessions was the colour-contrasting pair of stars that form Albireo in Cygnus. Later in the review period we observed the quarter Moon and enjoyed some great views of lunar features, but here we witnessed the tell-tale signs of chromatic aberration in the form of green and yellow brightness on the lunar limb.

Although primarily an observing instrument, we couldn't resist attaching a light, one-shot colour CCD camera to the T-adaptor hidden inside the eyepiece extension tube. As expected from an achromat, there was some chromatic aberration, resulting in violet haloes around bright stars. Typical of all refractors that don't have in-built field flatteners, the stars were distorted by field curvature towards the edges of the field of view. We used a Bahtinov mask to achieve focus and found the focus action to be smooth in operation, making it very easy to achieve an accurate focus despite there being no slow-motion knob. Tightening the focus lock imparted a small image shift but maintained the set focus.

The Vixen A62SS refractor is an excellent travelling companion and we would recommend it to any astronomer looking for a portable telescope for observing rather than astrophotography. 📷

VERDICT

BUILD & DESIGN	★★★★★
EASE OF USE	★★★★★
FEATURES	★★★★★
IMAGING QUALITY	★★★★★
OPTICS	★★★★★
OVERALL	★★★★★

SKY SAYS...

Now add these:

1. Vixen diagonal
2. Vixen 2x Barlow lens
3. Vixen 25mm SLV eyepiece

1.25-INCH EYEPIECE HOLDER AND EXTENSION TUBE

The focus tube is supplied with a 1.25-inch compression ring eyepiece holder. However, an eyepiece extension tube is also supplied to allow straight-through observing. The extension has a 1.25-inch filter thread and the eyepiece holder section can be unscrewed to reveal a T-thread for camera attachment.



DEW SHIELD

The retractable alloy dew shield extends 88mm past the front of the telescope and provides excellent protection from stray light and the effects of dewing. A felt lining retains the shield in the extended position simply and firmly. There was no slippage during our observing sessions.

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