

Barr & Stroud Series 8 8 x 42 Review



The Barr & Stroud Series 8 8 x 42 Package.

A Work Commenced October 12 2021

Product Name: Barr & Stroud Series 8 8 x 42

Country of Manufacture: China

Field of View: 142m@ 1000m (8.1 angular degrees)

Exit Pupil: 5.25mm

Eye Relief: 17.5mm

Dioptre Compensation: +/- 3

Close Focus: 1.9m(advertised), 1.89m measured

Chassis: Textured rubber armoured Magnesium alloy

Coatings: Fully broadband multi-coated, silver and phase correction coatings applied to BAK-4 Schmidt Pechan roof prisms

ED Glass: No

Nitrogen Purged: Yes

Waterproof: Yes (1.5 metres for 3 minutes)

Weight: 794g(advertised), 716g measured

Dimensions: 17.5 x 13.0 x 5.2cm

Accessories: Tethered rubber rain guard & objective covers, lens cleaning cloth, quality logoed padded neck strap, soft padded carry case, warranty card, instruction sheet.

Warranty: 10 years (limited)

Retail Price: £189.95

Of all the modern formats used for recreational glassing, the 8 x 42 continues to be a firm favourite. And it's easy to see why. A magnification of 8x provides a more stable view than 10x, and a 42mm objective diameter affords a solid compromise between smaller and larger glasses that put constraints on low light use and weight, respectively.

And while it is generally true that you get what you pay for, a detailed survey of the mid-priced binocular market can showcase real bargains that punch well above what their modest price tags might suggest. One company that sits firmly in this category is Barr & Stroud. If you look back at my other reviews, you'll no doubt discover that I have an abiding interest in their sports optics products, based solely on my many positive experiences of their optical wares. In this review, I'll be test driving their new line of Series 8 open bridge roof prism binoculars that promise to deliver good optical quality and ergonomics in a fairly light weight package. What follows here are details of my experiences with the 8 x 42 Series 8, which I purchased with my own funds for the princely sum of £189.95 plus delivery.

First Impressions

Like all other purchases I've made from Barr & Stroud, the Series 8 package arrived in a very attractive box, slightly larger than the Series 5 binoculars I've sampled recently. That's because the Series 8 8 x 42 has a different optical design than the Series 5 binos, and, as a result, the instrument measures a few centimetres longer lengthways. The instrument was carefully packed away inside its soft padded carry case, together with all the accessories which included, a high-quality padded neck strap, tethered rubber objective covers and rain guard, a lens cleaning cloth, warranty card and a comprehensive instruction sheet.



The Barr & Stroud Series 8 8 x 42 is a very solidly made instrument, with a very handsome fit and finish.

Ergonomics

The Series 8 has a Magnesium alloy chassis overlaid by a thick, protective rubber armouring, with the sides of the barrels being ribbed for extra grip. The underside of the binocular has two prominent thumb indentations to help the user position the binocular as firmly as possible in the hands.



The underside of the Series 8 has two prominent thumb indents that make handling very natural and easy. Note the prominent ribbed armoring on the body which helps the user maintain a good grip while the binocular is in field use.

The eye cups consist of high-quality aluminium with a soft rubber overcoat that are very comfortable to rest your eyes on. They twist up in three stages and firmly lock in place when fully deployed, giving a very generous eye relief of 17.5mm, which renders them especially comfortable to use with eyeglasses. I elected to use them without glasses however, so kept them in their fully twisted out position throughout this review.



Note the long eye relief on the Series 8 ocular lenses which twist up using three intermediate positions to suit virtually all users.

The Series 8 was considerably lighter than I expected. Although the official specifications stated that it was nearly 800g, I measured its weight at just 716g; good news if you intend to do a lot of walking with this binocular.

The main advantages of the open bridge design is easier handling, especially if you must use just one hand. The open bridge design allows the user to hold the binocular and turn the focus wheel with one finger compared with the more common single bridge design. Another advantage is much quicker engagement with your subject, especially if you have to grab the instrument suddenly and bring it towards your eyes. This renders them more desirable if you are cycling or hiking with the binocular hanging 'round your neck. However, these advantages are confined mainly to full-sized instruments in the 42mm, 50mm and 56mm size categories. Moreover, the design quickly becomes less manageable in smaller compact models. If you come across a compact with an open bridge design, chances are it's more for aesthetic reasons than anything else.



The open bridge design on the Series 8 affords real ergonomic advantages over the single bridge design, especially when using one hand.

In the hand, the instrument feels very solid and easy to handle. The focus wheel is a little on the stiff side, but moves very smoothly, with no backlash. I would describe the focuser on this Series 8 as being slow but very precise, taking about 2.25 revolutions to go from one end of its focus travel to the other. That would make the binocular more suited to hunting than birding. The dioptre ring is located under the right ocular, as most instruments in this price class are. It's quite large and easy to grip though, moving with just the right amount of tension to move it smoothly so that it stays rigidly in place.

Optical Assessment

My first optical test was to check how well the instrument handled a very bright beam of white light. Turning my iPhone torch on to its highest setting, I aimed the binocular into the light from across my living room and examined the image. To be honest, I was expecting the Series 8 to pass with flying colours, based on my previous experience with other high-end products offered by Barr & Stroud. I needn't have worried. The result was excellent!

Compared with my Series 5 8 x 42 ED control binocular, the Series 8 showed a very clean image under these harsh conditions. There was little or no internal reflections, no annoying diffraction spikes and very little sign of diffused light around the beam. This indicates that the multi-layer coatings applied to the optical surfaces were doing their job suppressing internal reflections, and the lack of diffused light indicated that the glass used in the lenses and prisms of the Series 8 are very homogeneous. Indeed, overall, it was just as good as my excellent Series 5 in all such tests! Examining a bright sodium lamp after dark garnered a very clean image, as expected, with no diffraction spikes and no internal reflections. Collectively, these tests augured well for the Series 8, as my subsequent optical tests during daylight and at night were to reveal.

Examining the exit pupils of the Series 8 showed nice round pupils, with no evidence of truncation, though the right pupil did show a fairly prominent arc near the pupil;



Left eye pupil.



....and the right eye pupil.

As I initiated my daylight testing, I began to think about the reasons the Series 8 was significantly longer than the Series 5 models I had previously reviewed. In particular, I wondered whether there was a difference in focal length in going from the shorter Series 5 binoculars compared with the Series 8 models. I fired off an email to Barr & Stroud's parent company, Optical Vision Limited (OVL) asking for some information on this. I got an immediate response, stating that they would check with the optical engineers at their production site. A few days later, they sent me this response:

Firstly, the optical system of the Series 8 is different from traditional compact binoculars. It's actually based on a modified design from an older Swarovski binocular. It focuses using a positive lens, unlike the majority of traditional compact binoculars, which focus using a negative lens. That's why the traditional compact binoculars is shorter than the Series 8 models, but the focal length of both these series is the same; the length of binocular is not to be confused with its focal length. Secondly, this kind of optical system is more suitable for open bridge designs, with the length of the barrels being longer, so the hand can hold it better. This kind of optical system will also have better light transmittance, as there are only three lenses

in the objective housing. compared with more traditional compact binoculars, which have a four-lens objective system.

All very interesting!

So how did it perform?

Very well, as it turned out! The Series 8 delivers a very bright, sharp image with great contrast inside a very large sweet spot. Like all of the more advanced Barr & Stroud binoculars I've tested, glare is exceptionally well controlled, including veiling glare. I was able to ascertain the latter by looking up at the topmost boughs of a conifer tree in my back garden under a bright overcast afternoon sky. Veiling glare appears as a bright arc of light at the bottom of the image which, in the worst cases, produces an unsightly milky fog that robs the image of contrast. The Series 8 is right up there with the best binoculars I've tested in this regard.

The image has a warm cast that I found very pleasant. Greens, oranges and reds are particularly vibrant in the Series 8. Chromatic aberration is also very well controlled in this binocular. As I've discussed in previous reviews, I never judge a binocular on the basis of whether or not it has ED glass. I've seen plenty of examples of ED binos which show more chromatic aberration than well-made non-ED models. I was only able to detect very minor amounts of secondary spectrum on very high contrast objects and only by actively looking for it. I would say that this binocular has excellent control of false colour and is simply not an issue.

The enormous field of view in the Series 8 is very well corrected across most of the field, just like the Series 5 42 mm models. There is some field curvature and pincushion distortion as one moves from the centre to the edges, but nothing extreme or out of the ordinary.

Turning to low light performance, I tested the Series 8 against the Series 5 after sunset to look for any differences in brightness between the images. Going back and forth between the binoculars on shaded leaf litter under a bush about 30 yards distant, I felt the images were more alike than different, with perhaps the edge going to the Series 8. I wasn't especially surprised by this result, as one would really need a sizeable (~5 per cent) difference in transmittivity to affirm a noticeable distinction in image brightness here.

The instrument has very generous eye relief, and is very comfortable to use with eyeglasses, which showed me the entire field with no problems. Close focus is also very good. The quoted

figure is 1.9m and that is pretty much what I measured it to be. This is a binocular you can use as an excellent long-range microscope to examine insects, rocks, fungi and other natural curiosities close at hand.

Comparing the ergonomics on the Series 8 to my Series 5 8 x 42 ED, I would say that the Series 8 is just that little bit easier to use. There are just more ways to grip the barrels and the very similar weight to the Series 5 bino means that you won't easily tire of carrying it about. The logoed neck strap accompanying the instrument is well padded and very comfortable to use.

Tests under the Stars

On the evening of October 14, the skies cleared, and I was able to enjoy a waxing gibbous Harvest Moon low down in the south, straddled by Jupiter above it to its left, and Saturn to its right. Talk about a wonderful naked eye vista! The image of the Moon was excellent through the Series 8, with only the merest trace of secondary spectrum seen at the lunar limb. The crater fields were very sharply rendered, and the image was entirely free of glare and internal reflections. Turning later to some bright stars visible in the sky like Vega and Altair, I was able to show that the Series 8 was able to maintain excellent sharpness over most of the very large field. Because I was able to refocus the stars down to crisp points near the field stops, it confirmed that the main off-axis aberration was field curvature. Moving the Moon from the centre of the field to the field stops did show a moderate drop off in illumination, again, pretty normal behaviour for a mid-priced binocular like this. I was able to image some very faint stars very near the Moon, providing still more evidence of its excellent control of glare.

Observing some rich star fields, the binocular produced some very fine images of the Alpha Persei Association, with the field filled with innumerable stars of varying glory. The Pleiads were also a real treat even with the Moon in the sky. Their comely blue-white light came out beautifully in this 8x wide angle binocular. The generous field of view and well corrected field makes the Series 8 a particularly good instrument for sweeping up myriad Milky Way stars through Cygnus, Cassiopeia and Aquila. This is clearly a binocular that can be used equally well by day and by night, thus affording excellent mileage!

Conclusions and Recommendations



A very well designed, general-purpose binocular.

The Series 8 8 x 42 clearly represents great value for money, with optics that closely match its ergonomics. It's very easy to use and those who are fans of the open bridge design will very quickly take a shine to this instrument. Don't be put off by its non-ED labelling. This binocular shows just how good traditional crown & flint can be when properly executed. It does exactly what it says on the tin and makes for a very worthy addition to Barr & Stroud's line of high-performance binoculars. I would strongly recommend this to folk looking for a no-nonsense glass for the great outdoors and various astronomical excursions. The 10-year limited warranty offered by Barr & Stroud will also be honoured, as I can personally attest to.

Can't say fairer than that, can I?

Dr Neil English is an astronomer who has recently discovered the joys of studying the wonders of nature using binoculars of all types. His magnum opus, *Chronicling the Golden Age of Astronomy*, recounts the work of four centuries of telescopists, who turned their instruments skyward in search of celestial treasure.