

Binocular Sky Review: Opticron Adventurer T WP 10x50

Manufacturer's Specification

Weight (g)	759
Field of View (°)	6.0
Eye Relief (mm)	18
IPD (mm)	53-74
Waterproof	Yes
Prism Type	Porro
UK Guarantee	2 years
Origin	China
Body Material	Aluminium alloy and Polycarbonate
Armour Type	Thin textured rubber
Nitrogen Gas Filled	No
Prism Material	BAK-4
Prism Coating	Fully multi-coated
Lens Coating	Fully multi-coated
Eyecup Type	Fold down



Price: £79

Available from: [First Light Optics](#)

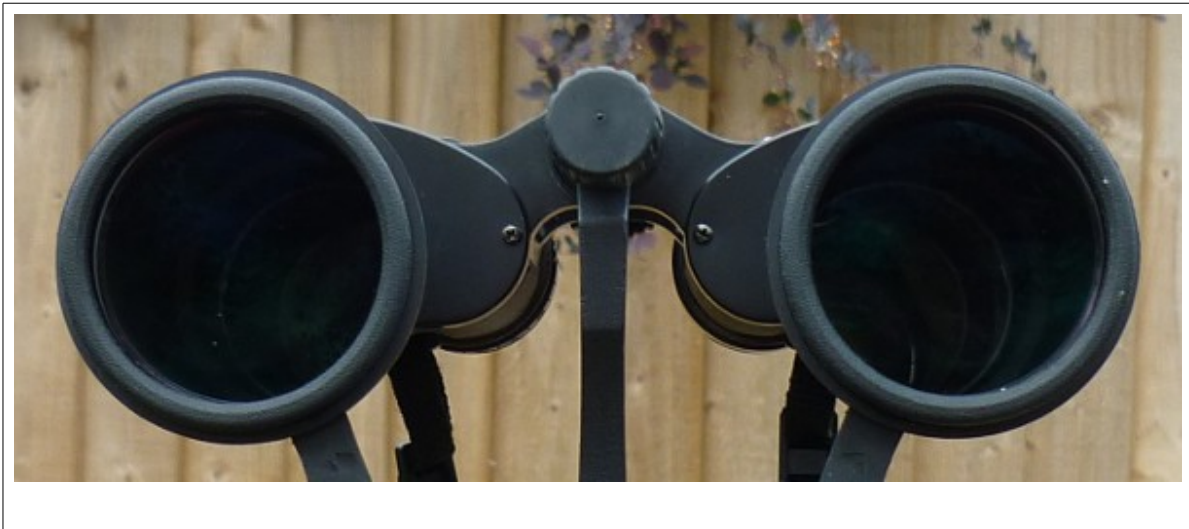
Initial Impressions

The binocular is a Porro-prism design of Zeiss (aka “European”)-type construction, i.e. the objective tubes screw into to the prism housing. The prism housings and objective tubes are covered in a thin textured rubber-type armour, which gives a secure grip with or without gloves. The centre-focus is smooth throughout its range, as is the right eyepiece dioptre adjustment. The focus wheel has a rubber “tyre”, giving it a comfortable feel. It also doesn’t get cold as quickly as a plastic focus wheel would. The hinge also operates smoothly and is sufficiently stiff that it is unlikely to be inadvertently adjusted while focusing. After I let the binocular get cold, there was no “stiction” in the hinge or focus adjustments. The eye-cups fold down easily. When they are up, pressure on them does not cause any rocking of the eyepiece bridge; when down, the rocking is very small indeed and I could not detect any focus change when I held them against my spectacles.

The prisms appear to be held in place with clips and cement. They do not appear to be grooved on their hypotenuses. The reflective surfaces appear to be masked with black plastic; this should help reduce stray light.

The coatings look very good and reflect a small amount of light (green dominant). The insides of the objective tubes are not ribbed, but do have what appears to be a light baffle that should help to

control of stray light. There is a tiny opaque segment in each light path, suggesting that the prisms are marginally undersized. I calculated the resulting light loss to be just under 0.2% of the total: you will not notice it!



The cordura-type case has enough padding to protect the binocular from only the lightest knocks it might get in reasonable use. The strap is permanently attached and there is a substantial belt/harness loop on the back of the case. The case closes with a hook-and-loop fastener. The well-fitting rubber plug-in type objective covers are tethered; they are each designed with a recess to aid removal. They can be completely removed from the binocular if you don't like dangling covers when you are observing. The eyepiece covers are plastic and fit extremely well; they will not accidentally fall off.



A removable cap at the distal end of the hinge reveals a $\frac{1}{4}$ " Whitworth (standard photographic) threaded bush for a tripod adaptor (not included). If you are using it unmounted, you will appreciate the wide neoprene part of the good quality neckstrap.

Testing the Specifications

I measured the effective aperture by shining collimated light into the eyepieces; the emergent beam had a diameter of 48.5mm, indicating only very slight internal stopping. There are no grey segments in the exit pupil, confirming that the prisms are of high-index glass. I measured the minimum interpupillary range as 53 to 75 mm. The minimum is not restricted by the presence of a tripod adaptor. The eye cups are 38 mm diameter, so there is 15 mm between them at their closest which

is more than adequate to accommodate most people's noses, and makes the binocular very suitable for people with smaller faces. The objective lenses are recessed 7 mm into their barrels, offering minimal protection against accidental touching and against peripheral light, but insufficient for any dew protection. With fully-corrected vision, the right eyepiece dioptre adjustment is set very close to zero, suggesting that it is properly adjusted. There is a considerable amount of "beyond infinity" focus, so the binocular could be used without spectacles by people with moderate (as well as those with hyperopia/presbyopia). For those who do need spectacles, the eye lenses are recessed 3 mm into their housings so, with the eye-cups folded down, there is 15 mm of the specified 18 mm eye relief available. I found this to be adequate to enable the entire field of view to be visible.

"If there is a better 10x50 for under £125, I've not seen it."

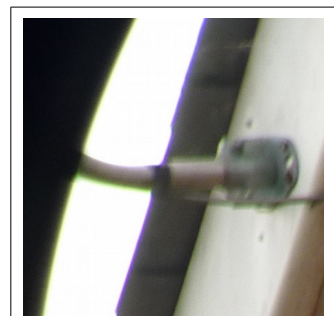
It is often the case with waterproof Porro-prism binoculars that there is some focus-lag as the O-ring seals on the eyepiece tubes do their job. I could detect no focus lag on this binocular; this is probably due to the very stable eyepiece bridge.

Under the Stars

For testing I both hand-held it and mounted it on an [Amazon Basics tripod with a trigger-grip \(aka joystick\) head](#). My observing site is in a reasonably dark suburban location.

Prisms that are clipped/cemented in place are prone to shifting if the binocular is roughly handled. At first light, a double image indicated that this had happened in transit to the test binocular. A brief email exchange later, and Opticron invoked their standard customer service procedure and, 5 working days later I had a perfectly collimated replacement.

It's always nice when a binocular just "snaps" to focus, and this binocular does exactly that. There is an exceptionally sharp sweet spot in the central 50% of the field of view, outside which field curvature just begins to become apparent. However, the image is still reasonably crisp over the central 75 %; the outer 5% or so is affected by astigmatism and vignetting. I was able to keep Delta Cephei (41 arcsec, magnitudes +4.1 and +6.1) split to about 75%. Control of false colour (chromatic aberration) is very good on axis, but becomes noticeable on bright objects (e.g. Venus or the lunar limb) once they outside the central sweet spot, although it is still well-controlled and not overly obtrusive here. I did not notice it at all on first magnitude stars, except right near the edge, when they are also affected by astigmatism and vignetting. Because the small-diameter eyepieces tend to constrain the position of your eyes, you don't need to consciously seek the on-axis position for your eye so as to minimise CA.



Chromatic aberration is noticeable, but not obtrusive

There is an unobtrusive amount of pincushion distortion, just sufficient to eliminate the nauseating "rolling ball" effect that can occur without it. Control of stray light from objects in the field of view is good and I was unable to induce it to give me spurious ghost images of the Moon or Venus when they were anywhere except immediately outside the edge of the field of view. Colour rendition was very good. The varied colours of the stars in the southern part of Cepheus were easily apparent.

The binoculars are very light weight and very comfortable to use.

Conclusions

When I reviewed the “ordinary” [Opticron Adventurer](#) 18 months ago, I was struck by the quality of such a low-priced instrument and declared, “*you would need to spend perhaps three times as much to get a binocular that gives significantly better images.*” This is no longer true: Opticron has cracked it with the *Adventurer T WP*. Everything works as it should, the image in the sweet spot is extremely good, it has decent coatings, it is lightweight and comfortable to use, the strap is good quality and comfortable, unusually for a budget binocular it is not significantly stopped down, and it will suit a wide range of faces. Unusually for a binocular in this price range, it is waterproof and, therefore, resistant to dew-ingress.

Being picky, it would be a better general purpose binocular if the close focus was nearer than 7m, but this isn't a problem for astronomy. So what could improve? Only things that would make it more expensive: nitrogen or argon-purging, multi-position twist-up eyecups, tethered eyepiece covers (you can source those from 3rd party suppliers), proper prism cages. With the exception of the last of these, they are personal preferences anyway and, given Opticron's customer service, you are not at risk from prism-displacement resulting from poor quality control or a knock in transit.

So, I'm going to stick my neck out again: If there is a better 10x50 for less than £125, I don't know of it. If you want a decent general-purpose binocular primarily to use for astronomy and your budget is around £100, this could well be it.

Binocular Sky Ratings (/10)	
Sharpness of Image	10
Size of usable field	7.5
Colour Correction	8
Control of stray light	9
Eye relief	10
IPD	10
Overall Optical Quality	9.1
Focus mechanism	10
Right eyepiece adjustment	10
Eye cups	8
Hinge	10
Armour	8
Weight and balance	10
Overall Mechanical Quality	9.3
Case	7
Neck-strap	10
Objective caps	10
Eyepiece caps	8
Value for Money	10
Overall	9.3

Stephen Tonkin
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