

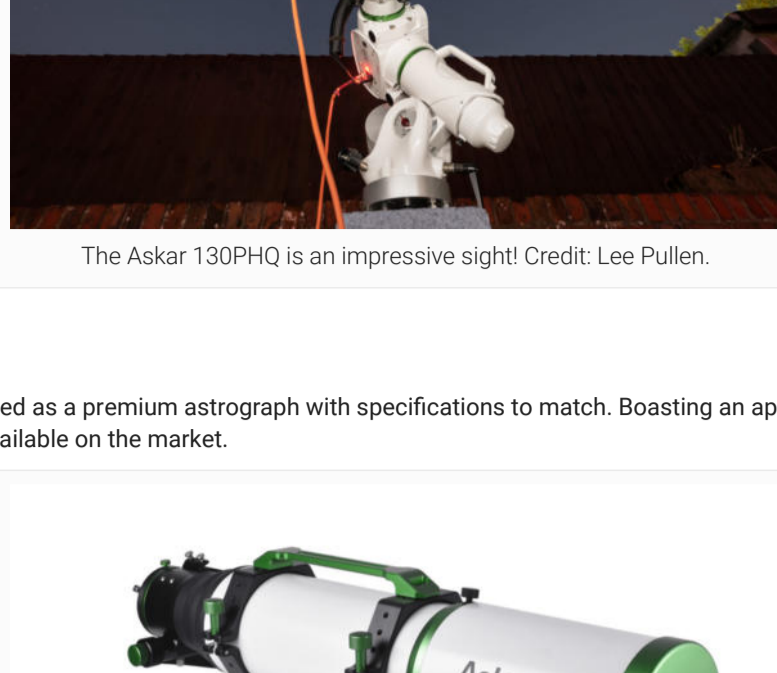


Askar 130PHQ Flatfield Astrograph Review: A Large Refractor That Delivers

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By: Lee Pullen | Published: Dec 07, 2022

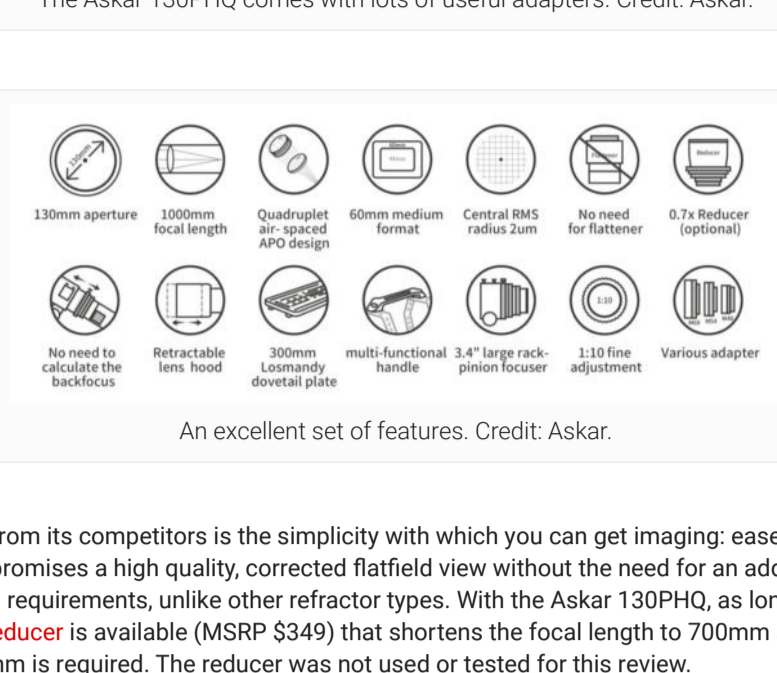
Over the past few years, Chinese manufacturer **Askar** (part of **Sharpstar Optics**) has been quietly making a name for themselves with a series of astrophotography focused telescopes and accessories that combine high quality, excellent usability, and reasonable price. Askar may not have the brand awareness or reputation of some others, but they have their fans, and for good reason. Askar's latest product is their most expensive to date: the **Askar 130PHQ Flatfield Astrograph**.



The Askar 130PHQ is an impressive sight! Credit: Lee Pullen.

A Premium Astrograph

Priced at \$3499, the Askar 130PHQ is pitched as a premium astrograph with specifications to match. Boasting an aperture of 130mm and a focal length of 1000mm, it's one of the larger refractors available on the market.

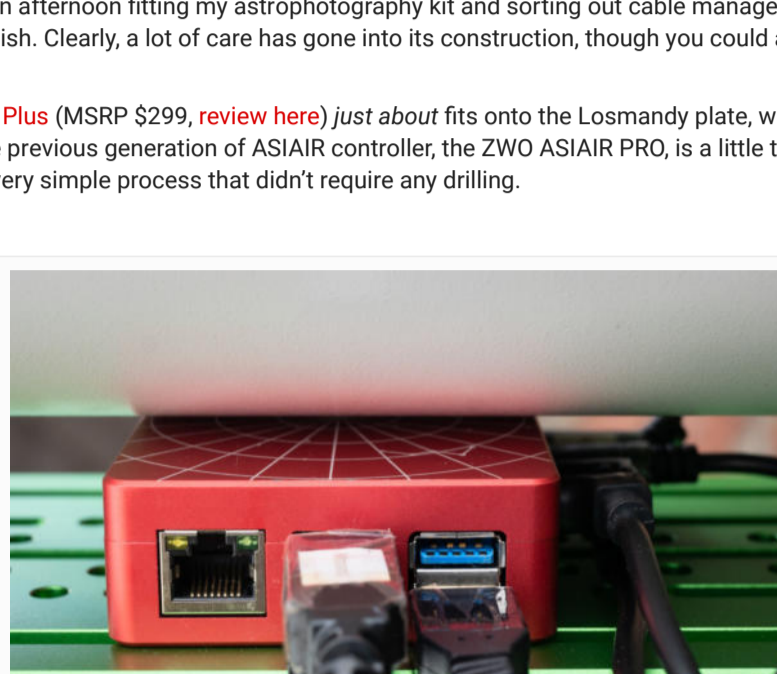


The Askar 130PHQ comes with lots of useful adapters. Credit: Askar.



An excellent set of features. Credit: Askar.

What makes the Askar 130PHQ stand out from its competitors is the simplicity with which you can get imaging: ease-of-use is built into the design. It's a quadruplet air-spaced apochromat, which promises a high quality, corrected flatfield view without the need for an additional reducer. Very progressively, due to its Petzval-like design, there are no back focus requirements, unlike other refractor types. With the Askar 130PHQ, as long as your image is in focus the back focus is automatically correct. An optional **0.7x reducer** is available (MSRP \$349) that shortens the focal length to 700mm and speeds it up to f/5.4 from its native f/7.7. With the reducer a back focus of 55mm is required. The reducer was not used or tested for this review.

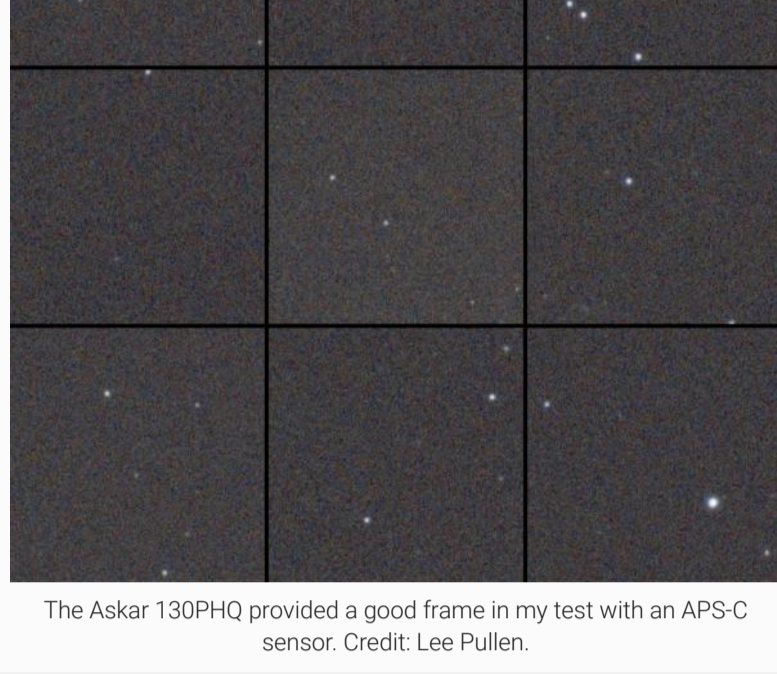


The quality of the fit and finish is consistently high. Credit: Lee Pullen.

Usability is reflected in other aspects too. The telescope comes supplied with a high-quality carry case and a number of adapters that allow you to screw almost any camera or accessory directly into the imaging train. This neatly avoids issues of tilt or sag. There's a built-in carry handle, camera rotator, oversized tube ring thumb-screws, and large Loamandy plate that makes balancing a breeze. Note that although the Askar 130PHQ is very user-friendly, it's not recommended for beginners. Imaging at 1000mm is challenging, with factors such as focus and tracking needing a high degree of accuracy.

After receiving my Askar 130PHQ, I spent an afternoon fitting my astrophotography kit and sorting out cable management. The telescope itself oozes quality, with every component having a first-rate finish. Clearly, a lot of care has gone into its construction, though you could argue it's to be expected at this price point.

I was very happy to find that a **ZWO ASI Air Plus** (MSRP \$299, [review here](#)) just about fits onto the Loamandy plate, with maybe 1mm of space between it and the bottom of the telescope tube. Note that the previous generation of ASI Air controller, the ZWO ASI Air Pro, is a little taller so it wouldn't fit. I also found that attaching a **ZWO EAF** (MSRP \$199) was a very simple process that didn't require any drilling.

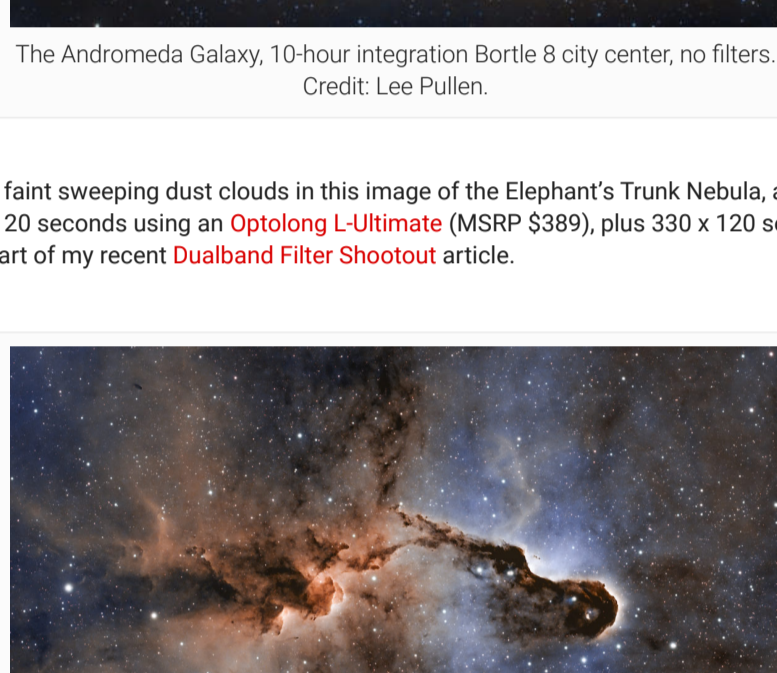


An ASI Air Plus just about fits in the space under the telescope tube. Credit: Lee Pullen.

I put the Askar 130PHQ onto my **Sky-Watcher EQ6R-Pro mount** (MSRP \$2025), got it balanced, and started imaging with excellent results being obtained immediately. Really, this is quite remarkable. And as someone that takes no joy in fiddling about with complex components or scouring internet forums to find solutions to obscure technical problems, it's all the better. Being a refractor, the collimation is factory set and requires no adjustment. In short, the Askar 130PHQ is a joy to use.

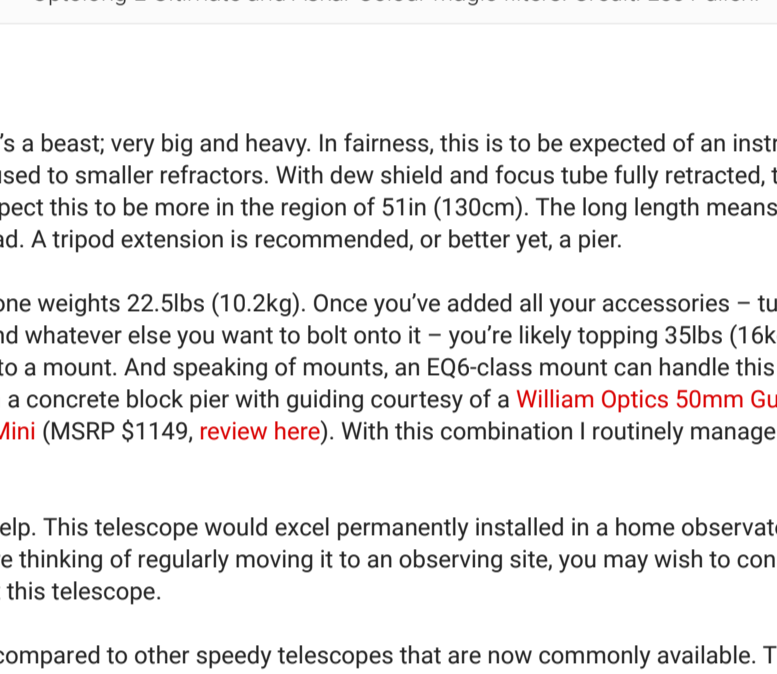
Image Quality

Anyone spending this much on a telescope will demand very high image quality. Does the Askar 130PHQ deliver? According to my tests, it certainly does. The field is flat corner to corner and stars throughout the frame are perfect circles. A caveat here: I'm using a **ZWO ASI200MM Pro camera** (MSRP \$1999, [review here](#)), which has a cropped APS-C sensor. Askar claims that the quality holds even up to a 60mm medium format image circle, but I'm unable to test this with my kit.



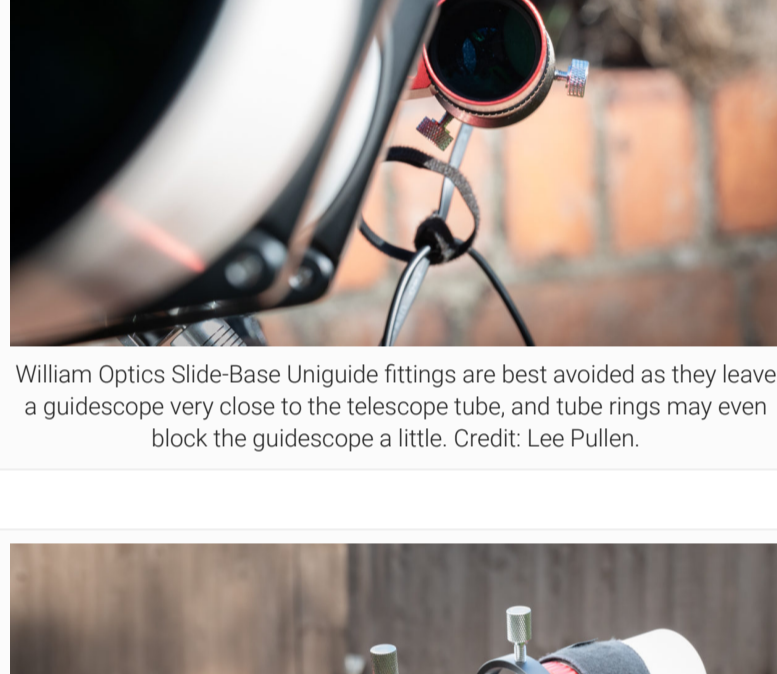
The Askar 130PHQ provided a good frame in my test with an APS-C sensor. Credit: Lee Pullen.

The Askar 130PHQ's large aperture was very useful for resolving detail in the Andromeda Galaxy in the 10-hour integration below (Bortle 8 city center, no filters).



The Andromeda Galaxy, 10-hour integration Bortle 8 city center, no filters. Credit: Lee Pullen.

The excellent optics allowed me to capture faint sweeping dust clouds in this image of the Elephant's Trunk Nebula, also taken from a Bortle 8 city center. This image is a 22-hour integration on of 330 x 120 seconds using an **Optolong L-Ultimate** (MSRP \$389), plus 330 x 120 seconds using an **Askar Colour Magic 6nm** (MSRP \$279). The data were gathered as part of my recent [Dobband Filter Shootout](#) article.



The Elephant's Trunk Nebula, 22-hour integration Bortle 8 city center. Optolong L-Ultimate and Askar Colour Magic filters. Credit: Lee Pullen.

Supersized Refractor

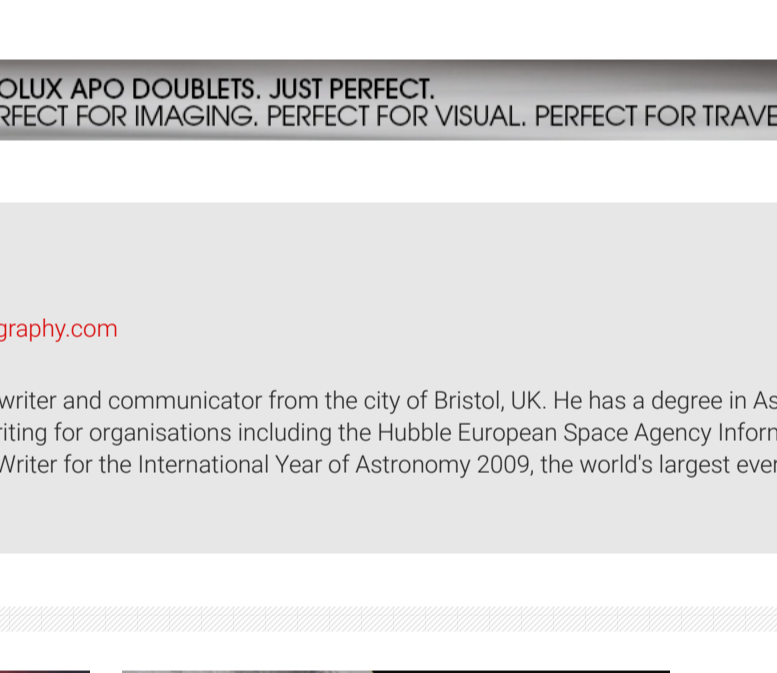
So, are there any downsides? To be blunt, it's a beast; very big and heavy. In fairness, this is to be expected of an instrument of this class, but the sheer size and weight may come as a surprise to anyone used to smaller refractors. With draw shield and focus tube fully retracted, the length is 33.5m (85cm), but when in use and with a camera attached to the back, expect this to be more in the region of 51m (166m). The long length means that the telescope is at risk of colliding with tripod legs when imaging an object overhead. A tripod extension is recommended, or better yet, a pier.

As for weight, the optical tube assembly alone weighs 22.5lbs (10.2kg). Once you've added all your accessories - tube rings, Loamandy plate, guide scope and guidecam, imaging camera, autofocus, and whatever else you want to bolt onto it - you're likely topping 35lbs (16kg), all in a naturally unwieldy form. It's at the limit of what I'm confident lifting up and onto a mount. And speaking of mounts, an EQ6-class mount can handle this telescope, but I wouldn't trust anything less. I've been using a Sky-Watcher EQ6R-Pro on a concrete block pier with guiding courtesy of a William Optics 50mm Guide Scope with 1.25" ROTO Lock (MSRP \$141, [review here](#)) and a ZWO ASI120MM Mini (MSRP \$1149, [review here](#)). With this combination I routinely manage a guiding RMS in the 0.3" to 0.6" range, with my all-time best being 0.29".

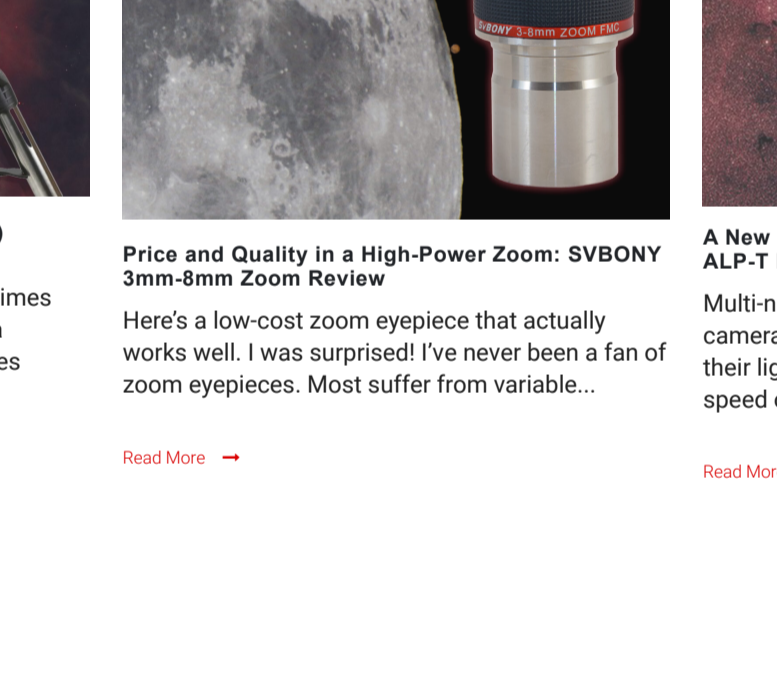
Though unwieldy, the built-in handle does help. This telescope would excel permanently installed in a home observatory, or, as I do, transported a short distance onto a pier when the skies are clear. If you're thinking of regularly moving it to an observing site, you may wish to consider something more portable. The same advice goes if you're unsure if you could lift this telescope.

The other issue is that f/7.7 is a little slow compared to other speedy telescopes that are now commonly available. The optional reducer takes the 130PHQ to f/5.4 and, depending on the camera you use, you may want to bin your data to get a suitable working resolution, which gives a corresponding speed boost too. So the situation might not be as bad as it first seems with regard to speed.

Also note that if you're using a guide scope instead of an off-axis guider you'll need a tall finder bracket to ensure there's enough clearance between the telescope tube and the guide scope. Something like a William Optics Slide-Base Uniguide sits very low, which could cause issues.



William Optics Slide-Base Uniguide fittings are best avoided as they leave a guide scope very close to the telescope tube, and tube rings may even block the guide scope a little. Credit: Lee Pullen.



Taller finder brackets work well. Credit: Lee Pullen.

Final Thoughts

The Askar 130PHQ is a stunning telescope that's well designed and makes image acquisition as simple as possible. If you're in the market for a large refractor, are confident that you can physically lift it when necessary, and are experienced enough to handle the challenges inherent with working at 1000mm then it delivers your serious consideration.

There are other telescopes available with similar specifications to consider as well. The **Sky-Watcher Esprit 120ED APO** (MRP \$4165) and **Sky-Watcher Esprit 150ED APO** (MSRP \$8250) smaller to mind. Or, if you like the sound of the Askar 130PHQ but think it's just a bit too big, heavy, and expensive, then perhaps you'll find happiness with its spring brother, the **Askar 107PHQ** (MSRP \$2495).

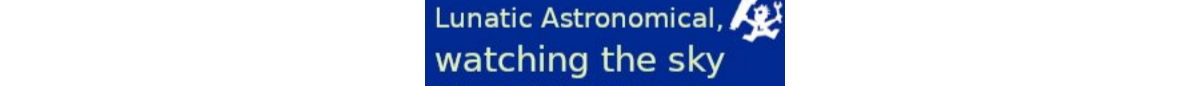
Only time will tell whether the Askar 130PHQ becomes a classic, but I see myself being happy with it for many years to come.

- Plus:**
Well designed and user-friendly
Good value for a premium refractor

- Minus:**
Very large and heavy

MSRP: \$3499
Website: <http://askarlenz.com/>

For more, read Urban Astrophotography's comprehensive [Askar 130PHQ review](#).



About Lee Pullen
<http://urbanastrophotography.com>

Lee Pullen is a science writer and communicator from the city of Bristol, UK. He has a degree in Astronomy and a master's in Science Communication. He began his career writing for organisations including the Habbe European Space Agency Information Centre and the European Southern Observatory, as well as becoming Staff Writer for the International Year of Astronomy 2009, the world's largest ever science outreach initiative. Lee runs the website [UrbanAstrophotography.com](#)

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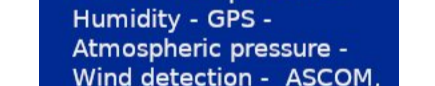
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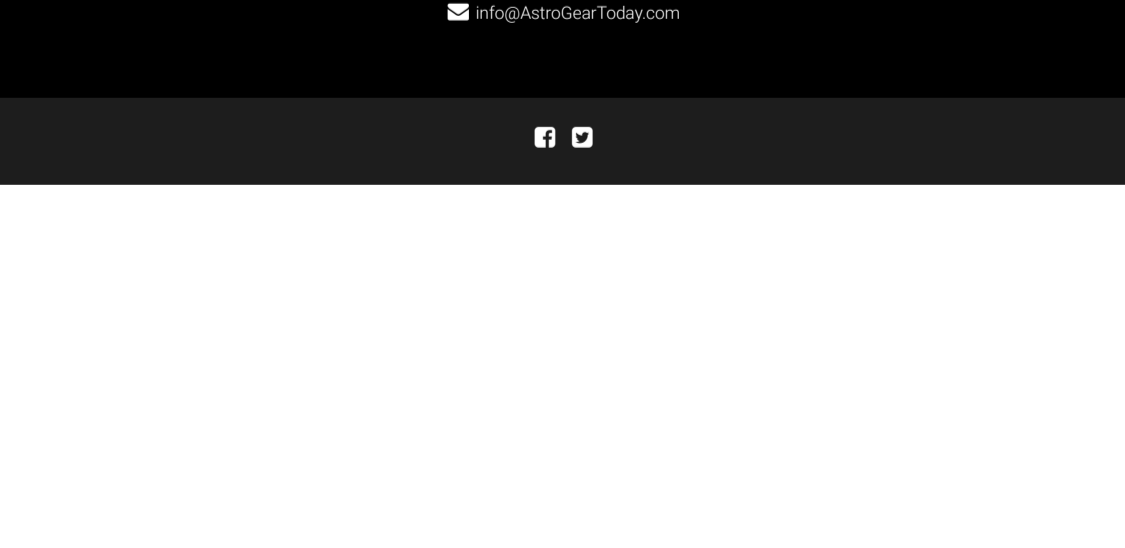
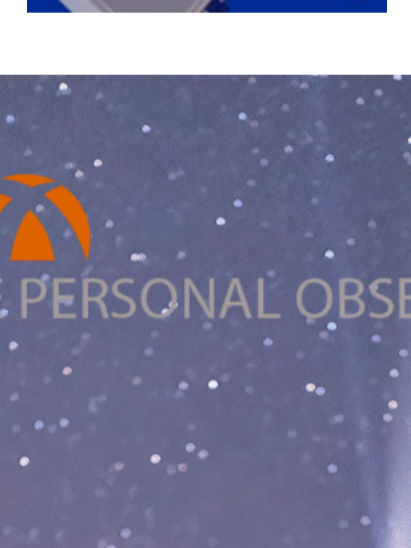
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