

Astronomy tests Tele Vue's new eyepiece line

Delos eyepieces feature generous eye relief, a wide field, and tack-sharp optics.
by Tom Trusock

Tele Vue Optics of Chester, New York, introduced a new line of eyepieces just before the 2011 Northeast Astronomy Forum in Suffern, New York. Called Delos, the two models (6mm and 10mm) sport 20mm of eye relief, a 72° apparent field of view, and an adjustable eye guard. Each is also compatible with the company's Dioptrx line of astigmatism corrector lenses.

After testing, I've concluded that the Delos are wonderful eyepieces. Both performed nearly identically, so I will discuss the characteristics of the line as a whole.

And the line continues to grow. As this issue was going to print, breaking news arrived from Al Nagler of Tele Vue about the next eyepiece in the Delos stable: "It will be in the 17mm range."

Trial by starlight

I routinely use several telescopes when testing eyepieces; my favorite is a Petzval design apochromatic refractor (one with

four lenses arranged in two pairs). Due to a lack of inherent aberrations, it makes any optical deficiencies in an eyepiece quite clear. To get an idea of how they play with other scopes, I also use a smaller doublet refractor, a compound telescope, and a fast Newtonian reflector.

Through my 3.35-inch (85mm) Petzval refractor, the 6mm Delos eyepiece framed the Moon well. Details were crisp and sharp to the edge of the field of view. Contrast was excellent — right up there with some of the best planetary eyepieces I've ever used.

I searched for but saw no internal reflections or scattering in either eyepiece. Sometimes seen in low-quality models, these reduce image contrast.

The flat field the Delos eyepieces produce really made star fields pop. Open clusters epitomized the old standard "diamonds on velvet." Stars both on and off axis showed no sign of astigmatism. When I viewed deep-sky objects like the North America Nebula (NGC 7000) from a dark site in the Upper Peninsula of

Product specifications

Tele Vue Delos 6mm eyepiece
Barrel size: 1¼"
Eye relief: 20 millimeters
Apparent field of view: 72°
Field stop: 7.6 millimeters
Weight: 16 ounces (454 grams)
Price: \$319

Tele Vue Delos 10mm eyepiece
Barrel size: 1¼"
Eye relief: 20 millimeters
Apparent field of view: 72°
Field stop: 12.7 millimeters
Weight: 14.4 ounces (408 grams)
Price: \$319



The 6mm Tele Vue Delos eyepiece offers 20mm of eye relief and a 72° apparent field of view, just like its 10mm counterpart. All photos courtesy Tele Vue Optics



The 10mm Tele Vue Delos eyepiece has a 1¼" barrel, like the 6mm Delos, but the 10mm offers a significantly larger true field of view.

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Michigan, the high contrast in the eyepiece was clearly evident by the black sky background and the nebula's fine details.

Switching to my Newtonian reflector, I noted plenty of detail in the Ring Nebula (M57) as well. Some striations showed along the object's outer edges, a gauzy haze crossed its center, and, using averted vision, I could see the central star. Overall, I found the light throughput of these eyepieces extremely high.

Saturn was an obvious planetary test, and, again, the Delos excelled. I observed subtle atmospheric banding and structure in the magnificent ring system. I noted no internal reflections, and the excellent contrast and sharpness across the field of view once again impressed me. And if you're concerned about color

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Tele Vue optician Paul Dellechiaie was the principal designer of the Delos eyepiece line.

rendition, to my eye, the eyepiece is neutral — neither making objects appear warm (yellowish) nor cool (bluish).

Styling and the numbers

Physically, Tele Vue's Delos eyepieces are imposing. While their barrels fit 1¼" focusers, the sheer size is more reminiscent of a 2" design. The eye lens is huge, which contributes to an extreme sense of immersion while observing.

The most innovative mechanical feature of the Delos line is the quick-adjust eye guard. A slight twist on the bottom half of the grip ring loosens the guard

and allows you to move it. Once you position it where you want, a twist in the other direction locks it. It's quick, easy, and intuitive. It's also much needed. With 20mm of eye relief, finding the exact position for viewing can be a bit tricky without a guide. When adjusting the eye guard, I recommend starting with it fully extended, and then moving it in until you can see the entire field of view.

Tele Vue lists the effective field-stop diameters at 12.7mm for the 10mm and 7.6mm for the 6mm. Using these numbers, you can calculate your eyepiece's true field of view in any telescope.

Simply divide the field-stop diameter by the scope's focal length (in millimeters) and multiply the result by 57.3. For a telescope with a focal length of 600 millimeters, the 10mm Delos eyepiece provides a true field of 1.21°, and the 6mm eyepiece gives a 0.73°-wide field.

Give the Delos a try

Overall, if you use eyeglasses when observing, prefer tons of eye relief, or desire the "picture window" of a 72° apparent field of view, Tele Vue has constructed an eyepiece that stands with the best deep-sky and planetary eyepieces on the market. ♪

How the Delos eyepiece came to be

Because there's a story behind every product, I called Tele Vue Optics in Chester, New York, to get the lowdown on the history and development of the new Delos eyepiece line. I chatted with Al Nagler, Tele Vue's legendary founder and CEO, and posed a few questions to him.

Q: What's the origin of the name Delos?

A: Well, I have to take credit for that. In the past, we've had some trouble coming up with names for our products, but in this case it was easy. First, I wanted to recognize optical designer Paul Dellechiaie with the letters "Del." Second, Delos is a beautiful Greek island where, according to myth, Apollo — the god of light — was

born. Third, it has the same number of letters as "Ethos" (another Tele Vue eyepiece line designed by Dellechiaie), and both names end in "os."

Q: Can you tell me a bit about the Delos' development?

A: The development of the Delos line is an offshoot of Ethos performance. We understood the qualities that proved successful with the Ethos line, and we wanted to create a smaller, less expensive eyepiece series. While that meant we had to restrict the apparent field of view somewhat, it also gave us the freedom to increase the eye relief and somewhat simplify the design while maintaining Ethos-like performance.

Q: What's special about the Delos eyepieces?

A: Our guiding principle in designing this eyepiece was to let it basically disappear to the user. That taps into the psychology of choosing eyepieces. And even though it was necessary for the concept, people really love the extremely large eye lens. They feel it gives them an immersive quality that's hard to pin down.

Q: Are you planning more focal lengths in the Delos line?

A: Absolutely. Shorter, in between, and longer focal lengths are in the works.

— Michael E. Bakich