Observers in the first decade of the 21st century have seen an explosion in the popularity of short-focal-length apochromatic refractors (APOs), and with good reason. These super-portable scopes deliver sharp images of the Moon, planets, double stars, and bright deep-sky objects. Such instruments are great for grab-and-go stargazing. While portable short-focus APOs first caught on some 3 decades ago, most were beyond the budget of the average hobbyist.

Two of the newest entries in this burgeoning market come from Farpoint Astronomical Research. Best known for their astroimaging accessories, collimation tools, and dew-control systems, Farpoint recently introduced 3.15-inch (80 millimeters) f/7 and 4-inch (102mm) f/6.47 apochromatic refractors that are sure to attract the attention of amateurs.

A well-apportioned kit
For this review, I put the Farpoint 102ED Triplet through its paces. Like the smaller Farpoint 80ED Doublet, the 102ED includes many accessories, such as a two-speed focuser, a 7x50 straight-through finder scope, a 2" mirrored star diagonal, a 1¼" eyepiece adapter, a collapsible dew shield, rotating tube rings, and a Vixen-style dovetail mounting plate. With the sliding dew shield stowed, the 102ED measures just 24 inches (61 centimeters) long. And here's a plus: Everything fits in the included hard-shell, luggage-quality carrying case.

The heart of the 102ED is an air-spaced three-element objective lens made of extra-low dispersion (ED) FPL-53 glass — the most advanced ED glass available. It allows optical designers to shrink a telescope's focal length while still keeping false color (usually seen as a purple fringe around bright objects) to a minimum. FPL-53's optical properties are similar to those of calcium fluoride, which manufacturers use in the most expensive apochromatic refractors.

As I removed the metal lens cap for the first time, I was immediately taken by the objective's emerald green multicoatings. Peering inside the tube, I could see a pair of strategically placed internal baffles to prevent stray light from infiltrating the optical path. These two features show how highly refined the 102ED is.

More good news
The oversized Crayford-style focuser features 2.75 inches of travel and both coarse and fine adjustments, thanks to a built-in 10-to-1 speed reducer. Motions are smooth, with no evidence of side-to-side play, even when I inserted a heavy eyepiece. The design allows 360° rotation simply by loosening one thumb screw.

Imagers will appreciate that Farpoint incorporates a numerical scale on the focuser's drawtube for calibration. Once you find the focus for a given camera, the scale will allow you to return to that same setting quickly night after night.

The finder scope's design (it attaches to the telescope's mounting rings) makes it easy to aim the main tube anywhere. I
also found it a snap to detach and store in the carrying case when not in use. Although I had to tweak its alignment after reattaching it each time, the finder’s spring-loaded adjustment screws make that task simple.

One of the most innovative features that Farpoint includes is an eyepiece cap that can hold a pouch of desiccant gel. Desiccant absorbs moisture that might form on an optical surface, possibly damaging the delicate coatings. If you live in a damp environment, you’ll value this feature. In fact, I offer a small suggestion to Farpoint — it would be great if, in the future, the 102ED’s objective cap also incorporates a desiccant gel holder.

Weighing 10 pounds (4.5 kilograms), the 102ED is light enough to mount to a heavy-duty photographic tripod or any of a number of popular telescope mounts. To test this optical tube assembly, I placed it on my Celestron CG-5 mount.

Under the stars
Taking the scope out on the first clear night, I aimed it toward the waning gibbous Moon. Our natural satellite is an unforgiving target when it comes to chromatic aberration (which produces color fringing), but the Farpoint Triplet proved capable of meeting the challenge. Color correction was excellent, with the lunar limb showing only the slightest hint of a yellow fringe. Meanwhile, surface features were crisp and clear. Even with the magnification cranked up to 330x, image clarity and contrast remained excellent.

Jupiter loomed nearby. Throttling the telescope back to a more reasonable 132x, the intricate jovian belts and zones shone clearly. All four Galilean satellites displayed as pinpoints, and Io shone with a subtle ruddy tint.

After the Moon left the night sky, I turned to the Orion Nebula (M42) to see what else the little scope could do. At 30x, Orion’s entire sword fit into the 2° field of view created when I paired the 102ED with my own wide-field eyepiece. What a beautiful view! Likewise, the full span of the Pleiades star cluster (M45) packed into that eyepiece. I followed with superb views of the Double Cluster (NGC 869 and NGC 884), the Andromeda Galaxy (M31), the North America Nebula (NGC 7000) … well, you get the idea. The Farpoint 102ED performs as a magnificent wide-field telescope.

The right scope for you?
The 102ED would make a fine instrument for imaging as well. The scope fully illuminated the frame of my digital single-lens reflex camera at prime focus, showing little evidence of vignetting (which darkens or cuts off part of the image) and only minor distortion at the frame’s corners.

Indeed, Farpoint has introduced a worthy contender into the short-focus APO arena. If you are looking for a portable instrument that comes nicely outfitted with popular accessories, Farpoint’s 102ED Triplet could be just the ticket.

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