



PRODUCT REVIEW

This rich-field Newtonian telescope is a great value for kids of all ages.

/// BY PHIL HARRINGTON

Orion's StarBlast

“You kids today have it too good.”

Did you ever hear that when you were growing up? I sure did. I try not to fall into the same generational trap, but when it comes to telescopes, kids do have it good today. Back in 1969, my first telescope was a 4-inch reflector that had appalling optics and a wobbly mount. It sold for \$29.95.

According to the United States Department of Labor, inflation has made that \$29.95 worth \$150 today. Would I spend that much on a similar telescope for a child who was just getting interested in astronomy? Absolutely not, especially when I could purchase the StarBlast from Orion Telescopes & Binoculars for the same \$150. The StarBlast is a great telescope for both young observers as well as those who are young at heart.

“Daddy, what’s a StarBlast?”

Designed by Orion and manufactured in China by Synta, the StarBlast is a compact 4.5-inch f/4 Newtonian reflector, or what’s often called a “rich-field telescope” (RFT). The scope comes ready to use, complete with a tabletop alt-azimuth mount, 6mm and 17mm Explorer II 1¼" eyepieces, a single power EZ-Finder II, dust caps, a collimation tool, a copy of the student edition of *The Sky* planetarium program on CD-ROM, and an instruction manual. All you need is a clear sky.

Orion markets the StarBlast as a kid’s scope, but in truth, anyone who enjoys scanning the Milky Way or viewing large targets like the Pleiades and the Andromeda Galaxy will enjoy this telescope. Traditionally, offering low-power, wide-field views is what RFTs do best. They are less suitable for high-powered observing



EXPLORER II 1¼" EYEPIECES included with the StarBlast have focal lengths of 17mm (26x) and 6mm (75x). ASTRONOMY: WILLIAM ZUBACK

because that requires short focal length eyepieces or Barlow lenses, which increase the magnification but decrease the field of view. The observer, therefore, has to move the telescope more often as the object drifts out of the field.

StarBlast details

Outwardly, the tube of the bluish-green StarBlast looks like it’s riding on half of a Dobsonian mount. Because the StarBlast’s tube assembly is lightweight (the entire assembly weighs only 13.5 pounds without an eyepiece), the designers rightfully felt that a full Dobsonian mount would offer no additional benefit. So the StarBlast

comes attached to a stubby “one-armed” mount that’s light enough to be carried by a child, yet sturdy enough to support the optical tube assembly.

Like Orion’s larger Dobsonian-mounted telescopes, the StarBlast’s mount is made from laminated chipboard. Teflon altitude and azimuth bearings produce smooth motions in both directions with no backlash. Tension on the altitude bearing can be adjusted by loosening or tightening a large knob that presses against a ball-bearing collar sandwiched between two washers. This simple feature proved very useful during testing because I used a wide variety of eyepieces that weighed anywhere from a few ounces to more than a pound.

I was also thankful the StarBlast’s tube could be rotated easily in its hinged, felt-lined, metal clamp just by loosening a large thumbscrew. Doing this let me balance the telescope perfectly no matter which eyepiece I used.

It also allowed me to rotate the tube so I could look through the eyepiece comfortably wherever I aimed the telescope. The optical tube assembly also can be removed from the mount for easy storage or cleaning, should the need arise.

The StarBlast in its mounting stands only 25 inches tall, which makes it a great grab-and-go telescope for impromptu observing. Be sure to bring along something to elevate the scope off the ground because it’s much too short to use alone. I used a short, plastic patio table, but some might prefer a picnic table, a barstool, or some other sturdy support. It’s best if the support touches the ground in three places like a tripod, as my four-legged table proved a little wobbly. I know some owners who use an upside-down wastepaper basket or an empty 5-gallon paint can, but these may rock on uneven ground.



THE STARBLAST quickly assembles into the easy-to-carry telescope pictured here. ASTRONOMY: WILLIAM ZUBACK

StarBlast setup

Our StarBlast, purchased and shipped directly from Orion, arrived safely in a double-lined box. Unlike some beginner telescopes that come with incomplete or poorly written instructions, the StarBlast owner's manual gives thorough information about setting up, maintaining, and using the telescope. The instrument itself emerges from its box almost completely set up. Just attach the base of the EZ Finder II to matching mounting screws that protrude out of the telescope tube, and the StarBlast is ready to go.

Our test telescope was delivered in perfect optical collimation (the alignment of the optical components of a telescope) despite its cross-country trek. Proper collimation is important for all Newtonians, but especially for those with focal ratios of 6 or less. Unlike Edmund's Astroscan and the similarly designed Bushnell model 78-2010, which both have collimation set at the factory and cannot be adjusted by owners, the StarBlast includes a primary-mirror cell that's easy to adjust.

To collimate the telescope, adjust three spring-loaded thumbscrews in or out to tweak the tilt of the primary mirror. Three smaller screws lock the thumbscrews in place once collimation is set. Take care not to overtighten the locking screws, as they may warp the cell and mirror slightly.

The ability to collimate the StarBlast is a great advantage for observers used to



THE ALT-AZIMUTH MOUNT of the StarBlast moves easily and holds the telescope's tube securely. *ASTRONOMY: WILLIAM ZUBACK*

inexpensive telescopes that use three thick vanes to hold the mirror in place. The StarBlast's adjustable secondary mirror support uses four razor-thin vanes to minimize intrusive diffraction spikes that form around bright objects.

Focuser travel was more than adequate to focus images using a wide variety of my own Tele Vue, Vixen, and Pentax eyepieces, as well as the two supplied eyepieces. Although the rack-and-pinion focuser that comes with the StarBlast is made of plastic, it does not have a plastic feel.

Instead, it moves smoothly, if a little stiffly. Like many inexpensive telescopes, the StarBlast's focuser is lubricated with thick grease that can

be a little gummy. Once I removed the focuser's pressure plate, cleaned the gearing with a degreaser, and relubricated it with a dry silicone spray, the focuser worked much more smoothly. (This procedure should be performed by an adult.)

The StarBlast at work

Because I've always enjoyed wide-field views of large deep-sky objects, I have a soft spot in my heart for small, short-focus Newtonian reflectors. As luck would have it, the StarBlast arrived during a clear spell in July, just as the summer Milky Way was ascending in the evening sky. I was impressed with what I saw.

Showpiece objects like the Lagoon Nebula (M8) in Sagittarius and open clusters M6 and M7 in Scorpius were sharp and clear through the four-element 17mm Explorer II eyepiece (26x). The 6mm Explorer II (75x) resolved a few individual stars around the edges of the Hercules Globular Cluster (M13), although the eyepiece's inherently short eye relief made viewing rather difficult. It would have been preferable if Orion had supplied, say, their 10mm Explorer II eyepiece and a 2x Barlow lens instead. That combination would yield 90x and offer better eye relief.

As I continued across the sky, I paused at the globular cluster M4 in Scorpius. Its "star bar" was clearly visible, and I was able to resolve some stars around the cluster's edge. The Swan Nebula (M17) and its surrounding star field were striking at low power, as was the Dumbbell Nebula (M27) in Vulpecula. The Ring Nebula (M57) was visible through the 17mm eyepiece, but I needed the extra magnification of the 6mm to see its smoke-ring shape.

Several double stars including Albireo (Beta Cygni), Rasalgethi (Alpha Herculis), and Mizar (Zeta Ursae Majoris) were resolved nicely through the StarBlast. And both pairs of Epsilon Lyrae, the famous Double-Double, split cleanly with the 6mm eyepiece.

Turning my attention eastward, I centered on Mars, last summer's showstopper. I didn't expect the StarBlast to show much detail on the Red Planet because the telescope's short focal length is better suited for Milky Way star fields than for detailed



LOOKING DOWN THE TUBE of the StarBlast, the secondary mirror supports and the 4½-inch primary mirror are prominent.

Phil Harrington is the author of the new observing guidebook, Star Watch, published by John Wiley & Sons.



THE COLLIMATION SCREWS are easy to reach at the back of the tube. *ASTRONOMY: WILLIAM ZUBACK*

views of planets. Still, the StarBlast did a respectable job, easily revealing the south polar cap as well as a subtle indication of Syrtis Major on the martian surface.

Using premium eyepieces

While the two eyepieces included with the StarBlast are quite capable of introducing the night sky to young or beginning astronomers, I couldn't resist the temptation of testing it with a few of my own eyepieces. Of course, we need to keep this in perspective because each of the eyepieces I used cost more than the StarBlast. But that said, I must admit the StarBlast impressed me greatly even when I used premium-grade eyepieces.

Both M8 and the nearby Trifid Nebula (M20) easily squeezed into the same field of my 22mm Tele Vue Panoptic eyepiece, as did NGC 6960 and NGC 6992/5, the two major segments of the Veil Nebula in Cygnus. The entire cosmic continent of the North America Nebula (NGC 7000) in Cygnus also fit nicely in the Panoptic's field and stood out surprisingly well when viewed through a nebula filter. I enjoyed many other memorable sights through the StarBlast, including the Double Cluster in Perseus (NGC 869 and NGC 884) and the Andromeda Galaxy (M31).



THE FOCUSER accommodates 1¼" eyepieces and moves smoothly. *ASTRONOMY: WILLIAM ZUBACK*

Back at Mars, a 10mm orthoscopic eyepiece combined with a 2.5x Powermate Barlow lens (yielding 113x) gave a fine view of the major dark marking on the martian surface, Syrtis Major, as well as the south polar cap, with the cap's darkened rim quite obvious. Next, I revisited the Ring Nebula (M57) and the Double-Double, both in Lyra. To my delight, both were resolved clearly. In fact, all four members of the Double-Double showed nicely defined diffraction rings when viewed through a 7mm Pentax XL eyepiece and 2.5x Powermate, which gave the scope a magnification of 161x.

StarBlast optics

Star-testing the StarBlast proved what I suspected all along — the telescope's optics are very good. Bench testing proved that the primary mirror's surface is smooth, with no zones and only the slightest turned edge, quite an accomplishment for an inexpensive, mass-produced telescope like the StarBlast.

The Orion StarBlast certainly lives up to its name. It's a blast to use! Although it's not as suitable for viewing planets as Orion's longer focal length SkyQuest

/// PRODUCT SPECS

Orion StarBlast 4.5-inch f/4 Newtonian reflector

Weight: 13 lbs.

Tube length: 18 inches

Eyepieces: Explorer II 17mm and 6mm

Finder: EZ Finder II

Focuser: 1¼" rack-and-pinion

Also includes: collimation tool, dust caps, *TheSky* (student edition), instruction manual

Contact information

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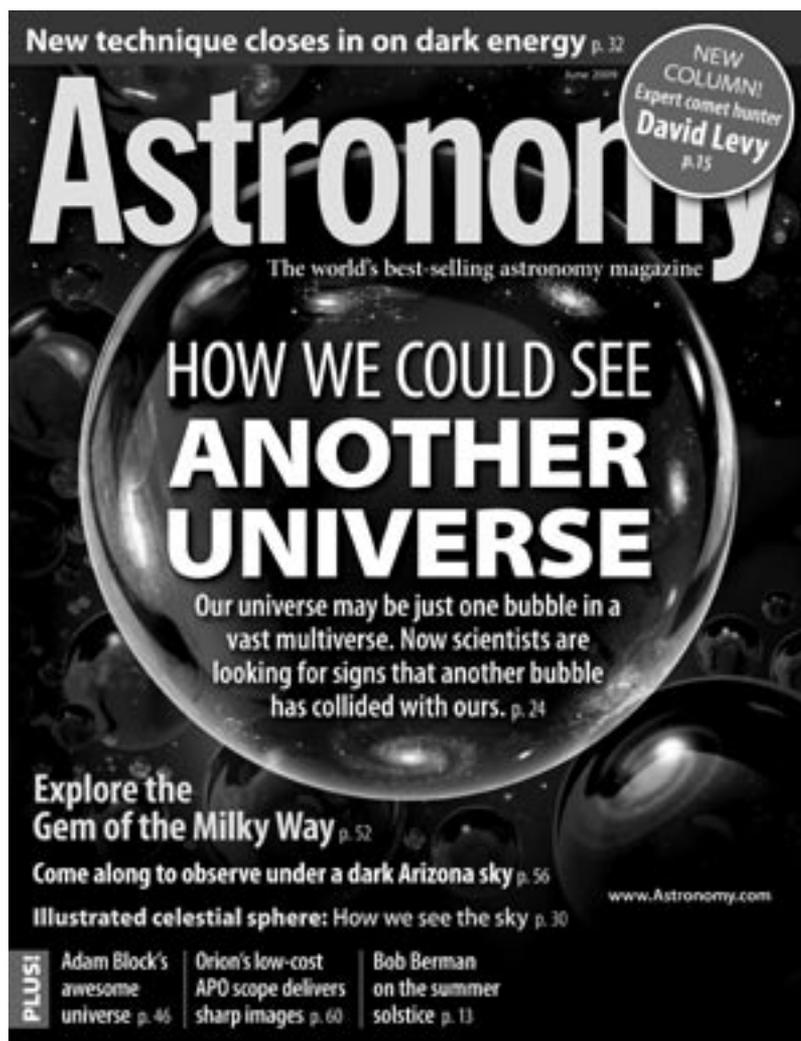
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XT4.5 (which costs more but also includes two superior Plössl eyepieces), I was kept busy for hours going back and forth between old deep-sky friends. Is the StarBlast for kids? Absolutely! Its compact size and light weight make it an ideal telescope for ages 9 or so and above. And when I say "above," I mean the sky's the limit because kids from 9 to 90 really will enjoy this telescope. ■

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