

A New Astroscanner

One of astronomy's most enduring and distinctive-looking telescopes gets an upgrade.

The “new and improved” Astroscan. You can be forgiven for thinking that this is the same ol' scope Edmund Scientific has been making for more than three decades — most of the changes are subtle. The obvious ones involve the red-dot finder and a slip-on dew shield.

Edmund Scientific Astroscan Plus Telescope

US price: \$229

Scientifics

60 Pearce Ave.

Tonawanda, NY 14150

800-728-6999

www.scientificsonline.com

POP QUIZ: What telescopes have been in continuous production for more than 30 years? Okay, you got the Questar and Celestron's Schmidt-Cassegrains — those are gimmes. But I'll bet not many of you had Edmund Scientific's Astroscan on the list. Realizing that the Astroscan has been around for more than 30 years has made this stargazer feel a little old. I vividly recall seeing the first advertisement for the (then unnamed) curiously shaped scope in the September 1976 issue of this magazine. “A star is born . . . name it, win it!” ran the ad copy.

The Astroscan's bright red color betrays its '70s origins, yet the scope has managed to avoid acquiring a “retro” patina. That's because

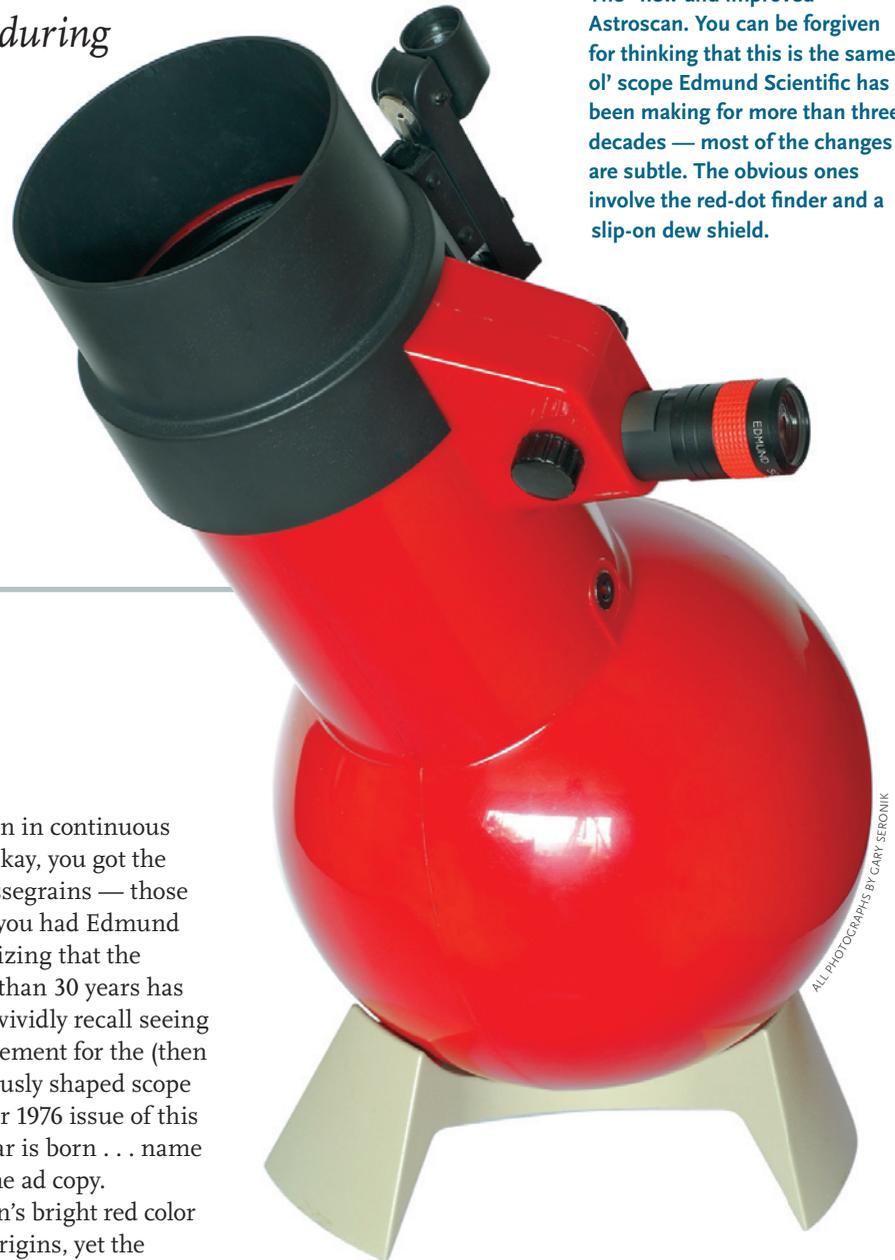
it's never left the marketplace — nostalgia requires an absence to develop. And like the legendary Questar, if you compare the current Astroscan to the '76 original, you'd be hard pressed to see any significant differences. That speaks well of the scope's design — it has endured because its fundamentals are sound.

WHAT WE LIKE:

- Easy to use
- Excellent documentation package
- Good choice of accessories

WHAT WE DON'T LIKE:

- Not suited for high magnification



ALL PHOTOGRAPHS BY GARY SERONIK

Getting Reintroduced

So what is an Astroscan? Its distinctive red ABS plastic shell houses conventional Newtonian optics — albeit with a fast primary mirror and a window in place of a spider to support the secondary mirror. The scope's defining feature, however, is its mount. The Astroscan was the first commercial telescope to use a ball-and-socket design



Simple but effective is a fitting description of the Astroscan’s focuser. The new version is subtly improved with the addition of a Teflon coating for a smoother focusing action (left). A nice feature of the scope’s front dust cap is that it can be used both with and without the dew shield in place (center). Eschewing the original’s metal peep sight, the new Astroscan features a unit-power, red-dot finder. Like most budget models, this finder suffers from an overly bright LED that can overpower faint targets (right).

— the spherical body of the scope simply rides on three felt pads affixed to a rigid aluminum base.

The new Astroscan (the “plus” model) reviewed here is essentially the 1976 instrument with a few evolutionary changes. Most obvious is the inclusion of a plastic dew shield. This tube extension helps slow the formation of dew on the scope’s optical window — a problem that plagued the original Astroscan. A nice feature of the dew shield is that it accepts the scope’s dust cap, so you can just leave the dew shield attached to the scope all the time.

A second significant update is the addition of a red-dot finder in place of the older model’s metal peep sight. Whether or not you see this as an improvement depends on how adept you were with the previous aiming device. Basic though it was, the peep sight had the notable advantages of never dewing up or requiring a battery!

The Astroscan’s red-dot sight suffers from an all-too-common ill: its light source ranges from bright to way too bright. I was able to dim the finder’s LED by dotting it with a felt marker and then wiping off most of the ink with my finger before it dried. On the plus side, this finder is one of the few I’ve seen that has a clear (non-tinted) view window, which makes sighting faint stars easier. However, if you’re left-eye dominant, as I am, you will probably find yourself using your other eye to aim the scope because of the finder’s low-profile mount.

Another change with the new Astroscan involves the eyepieces. The RKE-design models of yore have been replaced with Plössls. Included with the scope are 28-mm (yielding a magnification of 16×) and 15-mm (30×) eyepieces. Given that Plössls are a more advanced design that can handle the scope’s fast optics better, this is a meaningful improvement.

Thankfully, the one thing that hasn’t changed is the Astroscan’s superb documentation. Beginners will benefit richly from the inclusion of *The Edmund Sky Guide* (by Terence Dickinson and Sam Brown), the new

Astroscan User’s Guide (by James Mullaney), and a nifty planisphere. All scopes marketed as “introductory” should be so well equipped!

Astroscanning the Night Away

The Astroscan’s calling card has always been its ease of use. Simply set the base on a sturdy table, place the scope in the base, and away you go. I did my testing with the base sitting on the optional anti-skid rubber mat (\$7.95), which is a useful accessory if you use the scope on a smooth surface. The setup is remarkably stable. A sharp rap to the Astroscan’s tube dies out instantly — there’s simply no vibration. Excellent. And the ball-in-socket design also ensures you can always orient the eyepiece to a convenient angle. The 28-mm eyepiece’s 3° field of view, in conjunction with the red-dot finder, makes aiming the scope a piece of cake. This is especially important for beginners, who often struggle with this task.

Low-power, wide-field views are the Astroscan’s forte. I spent many enjoyable hours simply meandering among the stars, drinking in the panoramic vistas, with no particular destination in mind. Scanning the Milky Way is endlessly delightful and often breathtaking. Used this way, the Astroscan really has more in common with large binoculars than it does with conventionally mounted telescopes.

As good as the Astroscan is for sweeping star fields, it proved less well suited to high-magnification work.

SPECIFICATIONS & MEASUREMENTS*

Astroscan Plus Telescope

Aperture	4½ inches (105 mm)
Central obstruction	1.5 inches (36%)
Focal length	17.9 inches (f/4.3)

*All values measured by Sky & Telescope.



The Astroscan now comes with a pair of Plössl eyepieces in place of the original RKEs. They are part of the Astroscan's generous accessory package, which includes a planisphere, extra felt pads for the base, and two very informative instruction booklets.

If detailed views of the planets are your main interest, you should probably consider other scopes first. At magnifications above 50 \times , the images in my test

The Astroscan is capable of providing stunning wide-field views of the Milky Way. The scope (minus dew shield) stands only 19 inches (48 centimeters) high when aimed straight up.

Astroscan grew noticeably soft. Although bench testing showed the primary mirror to be of good quality, a star test revealed that it was being pinched by the mirror's simple mounting arrangement. Add to that a small amount of miscollimation (which is not user adjustable), and it's easy to see why the high-power views lack crispness. To be fair, over the years I've looked through many Astroscans, and most of them handled high magnification better than this one.

In practical terms, the soft high-power view really isn't a big deal. Perfect optics alone won't make Astroscan a planetary observing machine, since the mount's felt-against-plastic bearing surfaces have a modest amount of stiction, which



makes centering objects at high power a challenge. I also found that the focuser's motion, though generally quite good, became a bit jumpy when the scope was

Quick Look

Kendrick's Stargate Observer Tent

Price: \$795 Canadian
Kendrick Astro Instruments
36 Cawthra Ave., Toronto, Ont.
Canada M6N 5B3
416-762-7946; kendrickastro.com

Summer means many things to many people, but summertime camping is a surprisingly universal activity that spans national borders and cultural divides. And if you're an amateur astronomer, camping usually means bringing a telescope along to enjoy the sky. So why not have a tent that accommodates people *and* telescopes? That makes perfectly good sense to the folks at Kendrick Astro Instruments, and the Stargate Observer Tent is the latest and best-yet model in their line of tents.

I had a chance to test the Stargate prototype last summer. It was identical to the current production models, except that the new version has an enlarged sleeve

for one of the support poles, making the tent's assembly easier. Speaking of which, without instructions, I completed the first-time set up in less than 40 minutes. Then again, I'm 6 foot 4 (193 cm tall), and I've assembled a lot of tents over the years. The process would be very easy for two people, especially if, unlike me, they read the instructions beforehand explaining the color-coded system for identifying the proper positions for the support poles!

From experience I know that not all tents are created equal. The Stargate's construction is, however, right up there with the best of the best. The tent's design, materials, workmanship, and attention to detail are first class. The basic structure has a footprint about 10 feet (3 meters) wide and 14 feet long. The "observing" section has 4-foot side walls and an opening roughly 6 feet wide and 6½ feet long. As with all of Stargate's doors, there's a bug screen that



The Stargate Observer Tent's "inner" structure is, by itself, sufficient for dry conditions. It stands more than 6 feet (2 meters) tall at its highest point. In addition to weatherproofing the whole tent, the heavy-duty rain fly adds a vestibule at the "living" end. It is seen here with the fly rolled back for observing.

S&T DENNIS DI CICCIO



The Astroscan's "mount" consists of the scope's spherical body cradled in the cast-aluminum base shown here. Although extremely steady, the setup's felt-against-plastic motions proved jerky for high-power viewing.

cold. This made high-magnification focusing rather difficult.

A Paradox

The more I used the Astroscan, the more I became aware of its paradoxical nature. On one hand, its rich-field design yields

wide, bright views, making the scope about as user friendly as they come. Beginners in particular will cherish these aspects. On the other hand, the Astroscan is also a fairly specialized telescope that will appeal to more experienced observers seeking a bridge between binoculars and bigger scopes. In many respects, the Astroscan is more of a specialized instrument for wide-field viewing than it is a general-purpose scope. Don't read these comments as a condemnation of the little red scope, since they're not. The Astroscan is unsurpassed as a grab-and-go sky sweeper, and in my book, that makes it very worthwhile. Indeed, its views are not all that different from those of the 5-inch Apogee scope that Walter Scott Houston wrote about for decades in this magazine's Deep-Sky Wonders column.

Although the Astroscan has been promoted as a beginner's telescope from the

get go, other options have emerged in the 34 years since it first appeared. In particular, Orion's StarBlast 4.5 Astro Telescope or SkyQuest XT4.5 are, in my opinion, better choices for newbies who want to see everything from splashy open clusters to Jupiter's cloud belts and Saturn's rings. Those telescopes were favorably reviewed in this magazine's June 2003 (page 46) and April 2001 (page 59) issues, respectively. But for experienced observers, the Astroscan is a great second scope, offering a unique combination of ease-of-use, decent light-gathering power, and wide-field views. Here's hoping we'll be singing its praises for years to come. ♦

Contributing editor **Gary Seronik** is an experienced telescope maker, user, and reviewer. He scans the skies from his home near Victoria, B.C., Canada and can be contacted through his website: www.garyseronik.com.

can be zippered into the opening as well as a zippered wind-proof covering.

The observing section is partitioned by a zippered "wall" from the tent's "living" section, which is comfortable for one person or cozy for two. Of course, there's nothing preventing anyone from sleeping in the observing section. In fact, with the bug screen in place, it's a great place to just fall asleep looking up at the stars.

In dry climates it's sufficient to use just the main tent. If there's a chance of rain or dew, then the included rain fly is a must. Unlike the lightweight flies made for many camping tents, Stargate's rain fly is a heavy-duty waterproof structure that covers the entire tent (with adequate tie-downs for windy conditions). The fly also adds a nice "vestibule" at the living end of the tent. With the fly in place and the vestibule open, the overall footprint is 11 feet wide and 25 feet long. In other words, it's *big*. Indeed, when I set up the Stargate in the camping field at last year's annual Stellafane convention in Vermont, one bemused onlooker offered afterward that he thought I was setting up a portable car port!

The tent has a solid floor, which has the

advantage of keeping it waterproof. It also helps keep ground moisture out of the tent, which could condense on the walls during overnight cooling. But the solid floor means that scopes don't rest directly on the ground. This isn't a problem for hard surfaces or really heavy scopes. But lightweight equipment, especially camera tripods, can shift if the floor's fabric moves while you're walking around the equipment when the tent is set up on soft, grassy ground.

The entire tent tips the scales at about 40 pounds (18 kg) when packed in its storage bag. It's compact enough to tuck away in even the smallest car. And the Stargate just might possess a magic quality that isn't mentioned on the Kendrick website. One of the reasons I brought the tent to Stellafane last year was to test its waterproof design. Given the annual convention's track record, there was sure to be at least one shower or thunderstorm. But for the first time in recent memory the 2009 convention experienced three days of excellent conditions. I'm blaming it on the Stargate! ♦

— Dennis di Cicco

Although a wide-angle lens enhances the apparent roominess of Stargate's observing section, the area really is spacious enough for a large telescope (the model shown is a 12-inch) and several observers.

WHAT WE LIKE:

- Very well designed
- First-class construction

WHAT WE DON'T LIKE:

- No floor opening for a telescope

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