EQUIPMENT REVIEW

This 11-inch powerhouse puts thousands of celestial targets within your view.

/// BY MIKE D. REYNOLDS

Astronomy tests Celestron's CPC 1100 GPS

The Schmidt-Cassegrain telescope has come a long way since Celestron International introduced it in 1970. Celestron's original orange-tube C8 is memorable for its somewhat-radical optical and mount designs and reasonable cost. Back in the 1970s, most amateur astronomers used commercial 4- or 6-inch Newtonian reflectors or small refractors. Also, home-built telescopes abounded. But Celestron and the 8-inch C8 changed all of that.

Unpacking and setup

Celestron's CPC line of Schmidt-Cassegrain telescopes comes in three sizes: 8-inch, 9.25-inch, and 11-inch. The CPC 1100 — the 11-inch version — arrived with the tripod in one box and the telescope and accessories in a second. After unpacking, I set the tripod up first, then placed the fork-mounted telescope on it.

The heavy-duty tripod comes standard with the CPC 1100 system. The first SCT tripods could pinch a finger, or worse. But the CPC 1100 tripod is safe and easy to set up right out of the shipping carton.

The tripod's center-support bracket (and accessory tray) spreads its legs and contributes to a solid mount. This tray serves as an eyepiece holder and rotates out of the way when you fold and store the tripod.

THE TELESCOPE'S BASE covers the computer that contains the celestial database. Also, it has five external ports (hand control, two auxiliary, PC interface, and auto guider), a 12-volt input jack, the azimuth locking knob, and the on-off switch.

Solid locks adjust the tripod's height. A built-in level on top of the tripod lets you flatten the tripod's top before attaching the telescope. A level tripod is important for best operation of the CPC 1100's NexStar go-to computerized control system. The tripod also includes an attached strap that holds the legs together for storage and transport. This Celestron heavy-duty tripod rates just that: heavy duty.

After setting up the tripod, I prepared to attach the telescope and observe. As I've grown older, I've adopted the philosophy, "If it's hard to use, then I won't use it." So, I was curious to find out how difficult it would be to lift the telescope and secure it to the tripod. A handle on one fork and the instrument's balance made hefting the telescope into place easy. Personally, I would have preferred two handles.

The telescope easily centers on the tripod head with the help of a positioning pin. Rotate the telescope until you hear/feel the pin snap into place, and then tighten the three tripod screws. I had no difficulty doing this in the dark and needed no aftermarket centering product.

The CPC 1100 package includes a 1¼" star diagonal, an 8x50 finder scope, and a 40mm eyepiece. The finder was easy to install. The supplied 40mm eyepiece yields 70x — a good starting magnification for the Moon, bright planets, and deep-sky objects. If you don't have other eyepieces, you'll want to acquire additional ones.

I found the altitude and azimuth motions smooth and the clutches easy to use and engage. The controls were easy to find and use in the dark.

You must engage the CPC 1100's clutches to use the NexStar computerized

control system. The CPC 1100 obtains power either through a supplied 12-volt car-battery adapter (cigarette-lighter plug) or some other external 12-volt power source, such as an AC adapter.

At the base of the CPC, you'll find a jack to plug in the power supply, the on-off switch, and a variety of ports: one each for the NexStar hand controller, PC interface, and auto guider, and two auxiliary ports. A hand-controller holder fits onto the CPC 1100 fork arm opposite the arm with the handle; the control plugs into the base.

Planets, stars, and more

To start observing, place the telescope in one of its alignment modes. I worked with both the Auto Two-Star Align and the Solar System Align. It took only a few minutes for the receiver to acquire the GPS satellites. Once engaged, the Auto Two-Star Align worked well. The NexStar has a menu you must learn to navigate. Celestron made its go-to menu intuitive, but it still takes some getting used to.

During my last test run, I employed the Solar System Align, using a 33-percent waxing Moon and Jupiter as my two alignment objects. The go-to system worked as advertised. From Jupiter, I slewed the scope

/// SPECIFICATIONS

CELESTRON CPC 1100 GPS

Type: Schmidt-Cassegrain telescope
Diameter: 11 inches (280 millimeters)
Focal length: 2,800mm
Focal ratio: f/10
Mount: Dual-fork arm
Optical-tube construction: Aluminum
Optical-tube length: 23" (580mm)
Weight: Telescope: 65 pounds (29.5 kilograms), Tripod and mount: 19 pounds (8.6 kg)
Visual resolution: 0.5"
Limiting visual magnitude: 14.7
Optical coatings: Starbright XLT
Street price: $2,799

Contact information:
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CELESTRON'S CPC 1100 GPS comes with everything you need to observe right away, including a computer database containing 40,000 celestial objects.

ALL PHOTOS: *ASTRONOMY:* WILLIAM ZUBACK

THE MOUNT'S DUAL FORK ARMS are cast from aluminum. By using this material, Celestron can reduce the telescope's weight while maintaining stability. A carrying handle sits on the fork's right arm, and a detachable mount for the hand controller is on the left arm.

THE CPC 1100 GPS is an 11-inch f/10 Schmidt-Cassegrain telescope. Its focal length is 2,800 millimeters, which means the supplied 40mm eyepiece yields 70x. With this scope, you'll see stars as faint as magnitude 14.7; its theoretical resolving power is 0.42". All optics receive Celestron's Starbright coating, which increases light throughput.

over to the Ring Nebula (M57) in Lyra with good pointing accuracy.

The first celestial object I observed was a 34-percent waning Moon. Using the supplied 40mm eyepiece, the image was crisp. Seeing was excellent, so I increased the magnification to 200x with one of my own eyepieces and found the image was still sharp. I noticed no false color or other aberrations. Feeling lucky, I pushed the scope to 418x and was not disappointed.

Focus was easy to attain, and the CPC 1100's focuser worked smoothly, a major concern to me when I use a telescope at high powers. Even at 418x, the Moon's features were sharp and well defined.

I turned my attention to Jupiter. Seeing had deteriorated a bit by then, yet the image of Jupiter appeared as great as I expected. I ventured only to 200x due to the conditions. But again, I found a sharp focus and a pleasing image.

My next stops were stars. I like to look at bright stars because doing so helps me gauge a telescope's quality. I chose Vega, the beautiful blue-white zero-magnitude star in Lyra, and Antares, an orange 1st-magnitude star in Scorpius. The CPC 1100 produced nice images of both stars at 70x and 200x. The colors were true and, much like Jupiter, pleasing to my eye. Near Vega, I stopped by to visit my old friend the Double Double (Epsilon [ε] Lyrae). The scope easily split both pairs at all magnifications.

During my sky tour with the CPC 1100, I checked out several deep-sky objects. I was eager to see the Ring Nebula (M57), a wonderful planetary nebula. The Ring made a great sight at 88x. The night sky was still not at its best, so I ventured up to only a modest 200x. At this power, I found a faint — yet obvious — smoke ring.

I observed the Trifid Nebula (M20) and globular cluster M55 in Sagittarius, and M80, one of Scorpius' globular clusters. Throughout my tests, the CPC 1100's NexStar computer-control system worked accurately. Even at high magnifications, the CPC 1100 provided a steady finding and tracking device.

Two thumbs up

The Schmidt-Cassegrain telescope has come a long way since Celestron first introduced it. Many innovations — optical, mechanical, and electrical — have been developed during these years.

Celestron's latest entry, the CPC 1100 11-inch Schmidt-Cassegrain telescope, is a high-quality instrument that's easy to set up and use. The 11-inch aperture has enough light-gathering ability to give an inspiring view of the night sky. Usually, a large aperture means the scope is more difficult to set up and, for some observers, too heavy. But the CPC 1100 is easy to handle, attractive, and nicely engineered. But most important — to me, at least — is the fact that its images are superb.

THE HEAVY-DUTY TRIPOD supplied with the CPC 1100 GPS provides a stable, adjustable observing platform. The leg brace functions as a tray that holds eyepieces or accessories, and the strap keeps the legs together during transport.

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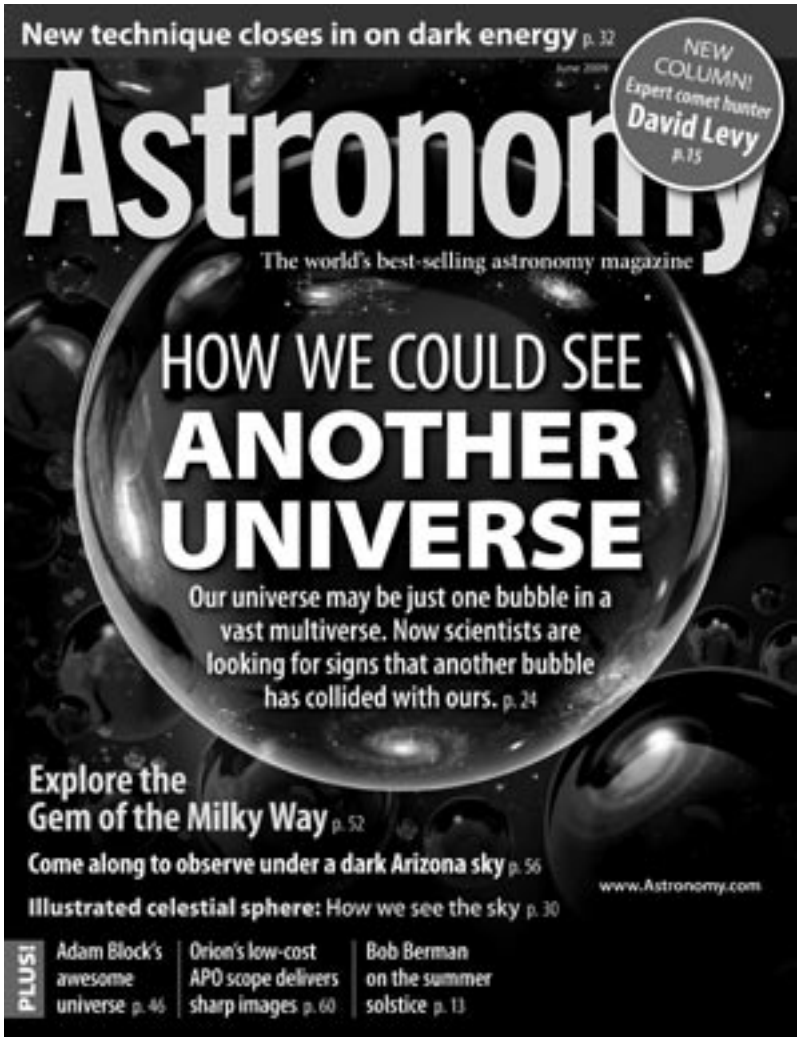

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