

Hot **NEW** *for* **Products** 2011

BY THE EDITORS OF
SKY & TELESCOPE

Our 13th annual roundup of Hot Products highlights the most intriguing new astronomy gear in the worldwide market.

LIKE THE SUN, there are definite cycles of activity for new products entering the astronomical marketplace. Every other year seems to produce a bumper crop of gadgets for us to consider in our annual roundup of the most intriguing new products. So it isn't surprising that after last year's unprecedented burst of activity (see the January 2010 issue, page 36), this year would produce a more typical assortment of items for us to review. Indeed, our "short list" this year was half the size of last year's. But that didn't make the candidates any less exciting.

Following recent trends, the cost of imaging gear keeps dropping. In the following pages you'll find cameras, image-ready telescopes, quality equatorial mounts, and astrophotography accessories that offer some of the best-ever bangs for the buck. There are also products for visual observers, whether their interests involve the Sun, Moon, planets, or deep-sky objects (or all of the above).

As in the past, just because something is new doesn't mean we consider it "hot." For that we need to see an item offering a new technology, providing a simple solution to an old problem, or delivering a remarkable price-to-performance ratio. And that last qualification played a major role again this year. Whether or not you agree with our picks, we hope you'll enjoy reading about the products that intrigued us the most.



S&T: DENNIS DI CICCIO (2)

◀ MEGAPIXEL IMAGING

For more than 20 years the folks at Santa Barbara Instrument Group have specialized in developing cutting-edge imaging products for the amateur community. That trend continues with the release of the ST-8300 CCD camera, based on the highly popular Kodak KAF-8300 chip, which has an impressive 8.3-megapixel array of 5.4-micron pixels, making it ideal for short-focus telescopes. With a \$1,995 price tag, the ST-8300 set a new benchmark for low-cost megapixel imaging with a dedicated astronomical CCD camera. Our in-depth review of the ST-8300 appears in last October's issue, page 38.



ST-8300 CCD camera

U.S. price: \$1,995

Santa Barbara Instrument Group

www.sbig.com



S&T: DENNIS DI CICCIO

BIGGER IS BETTER

When it comes to eyeballing deep-sky objects, there's no substitute for telescope aperture. The trio of Monster Dobsonians from Orion Telescopes & Binoculars culminates with a 50-inch model that is the largest commercial reflector ever marketed for visual observing. That's not to say, however, that we think anyone will find the views offered by the 36-inch (pictured) and 40-inch versions ho hum.

Monster Dobsonians
U.S. price: from \$55,600
Orion Telescopes & Binoculars
www.oriontelescopes.com



◀ WIDEST VIEW YET

Long a leader in designing and manufacturing astronomical eyepieces with precedent-setting wide apparent fields of view, Tele Vue attained a new milestone with its 3.7-millimeter Ethos-SX. The one-of-a-kind eyepiece delivers a whopping 110° apparent field, which is so large that many people have to roll their eye around to see its entirety. The Ethos-SX also stands as a tribute to

Al Nagler, Tele Vue's founder, for his work during the 1960s designing the 110° optics in the spacecraft simulator used to train Apollo astronauts for the Moon landings.

Ethos-SX eyepiece
U.S. price: \$595
Tele Vue
www.televue.com



SKY SWEEPER ▶

If there are people who don't like to observe the night sky with binoculars, we've never met them. Certainly the most popular binoculars for astronomical observing are 7× and 10× models with 50-mm objectives. Vixen's new Ascot 10×50 binocular is billed as "super wide," and with an 8.5° field of view, they drink in 2° more field diameter than typical 10×50 glasses. Their light 2-pound weight makes them easy to hold for extended periods.



Ascot 10×50 binocular
U.S. price: \$159
Vixen Optics
www.vixenoptics.com

LARGE-APERTURE H α SCOPE

Solar activity is picking up, and so is amateur interest in observing the Sun at the deep-red hydrogen-alpha wavelength that highlights our star's dramatic activity. With its 152-mm objective, the LS 152 from Lunt Solar Systems is currently the largest dedicated hydrogen-alpha telescope on the market. Furthermore, the scope is a Hot Product twofer, since last year we honored Lunt Solar Systems for its pressure-tuning method that allows you to rapidly scan the scope's sub-angstrom passband over the hydrogen-alpha wavelength.



LS 152 Solar Telescope
U.S. price: \$7,495
Lunt Solar Systems
www.luntsolarsystems.com



Paracorr Type 2
U.S. price: \$460
Tele Vue
www.televue.com

◀ DEALING WITH COMA

You don't have to look very far to find amateur astronomers singing the praises of fast-focal-ratio Newtonian telescopes. Observers love their compact size, while astrophotographers covet their bright images of deep-sky objects. But fast Newtonians are limited by coma, the optical aberration that transforms stars away from the center of the field into seagull shapes. Coma correctors have been around for years, but Tele Vue's new Paracorr Type 2 is designed for visual and photographic applications with amazingly fast Newtonians, giving an f/3 mirror the performance of an uncorrected f/12 system. Except for specialized photographic correctors, previous commercial coma correctors worked best with mirrors only as fast as f/4.5.

DEALING WITH COMA, TAKE TWO ▼

Starlight Instruments, makers of the highly acclaimed Feather Touch focusers, has joined forces with Tele Vue and created a 2-inch focuser with a built-in Paracorr Type 2. Called SIPS for Starlight Integrated Paracorr System, the unit is designed to automatically place any eyepiece the correct distance from the corrector when it is brought to focus. SIPS is available as a complete unit or as a \$650 retrofit for those who already own a Feather Touch focuser.

Starlight Integrated Paracorr System
U.S. price: \$935
Starlight Instruments
www.starlightinstruments.com



STARLIGHT INSTRUMENTS

BETTER CONTRAST

Since its introduction in 2004, Coronado's P.S.T. (short for Personal Solar Telescope) has been recognized as the most cost-effective way to view the Sun in hydrogen-alpha light. But the view gets even better when you "stack" a second etalon filter in front of the P.S.T.'s objective, narrowing the passband to approximately 0.5 angstrom. The only H-alpha views we've seen that are better are with telescopes costing significantly more money. That puts the double-stack P.S.T. in a class by itself, and that, in our opinion, makes it a Hot Product.

Double-Stack P.S.T.
U.S. price: \$999
Coronado
www.meade.com



S&T: DENNIS DI CICCIO

◀ DIGITAL TREASURE CHEST

Okay, maybe the jury was biased, but did anyone really think we wouldn't select our DVD archive as a Hot Product? It has, after all, been the one item that readers have most requested for more than a dozen years. *The Complete Sky & Telescope: Seven Decade Collection* includes a detailed picture and computer-searchable text of all of the nearly 70,000 pages of the magazine published between November 1941 and December 2009. If it appeared in *Sky & Telescope*, you can

now view it on your computer. Think of it as a way to replace an 11-foot stack of magazines weighing 384 pounds with a 2-pound boxed set of DVDs.

The Complete Sky & Telescope
U.S. price: \$249
Sky & Telescope Media, LLC
www.SkyandTelescope.com



S&T: DENNIS DI CICCIO

ANOTHER BIG BARGAIN ►

During the last decade, Ritchey-Chrétien telescopes migrated from their lofty status at professional observatories to become the darlings of many elite amateur astrophotographers. For three years in a row, Astro-Tech has released Ritchey-Chrétien astrographs with such precedent-setting prices that we deemed them worthy of Hot Product status. In 2009 it was a 6-inch f/9 (that's now priced at \$299), then last year it was bargain-priced 8- and 10-inch f/8 models, and for 2011 it's a 12-inch f/8 version equipped with a Feather Touch Focuser. Although not finalized at press time, we're told that if the estimated \$4,495 price changes, it will be downward. We can't complain about that.

12-inch Ritchey-Chrétien astrograph

U.S. price: \$4,495 (anticipated)

Astro-Tech

www.astronomics.com



Refractor Flattener

Price: 249 Euros

(about \$345)

Teleskop-Service

www.teleskop-express.de

◀ FLATTER FIELD

The increasing popularity of small refractors for astrophotography has spawned the development of several "universal" field flatteners suited for focal ratios from about f/5 to f/8. The TsFlat2 from Germany's Teleskop-Service stands out from its competition because of its larger 45-mm clear aperture and longer 100-mm back focus, making room for accessories such as off-axis guiders. The company also offers a full range of telescope adapters for the 2-inch TsFlat2.

ONE-STOP SHOPPING ►

In the field of astronomical imaging, Orion Telescopes & Binoculars distinguishes itself as a single manufacturer of everything you need, from telescopes to equatorial mounts to filter wheels to CCD cameras and autoguiders. The company's new Parsec 8300 CCD camera, based on the Kodak KAF-8300 chip, is the crown jewel in its imaging lineup. And the camera's \$1,999.95 price makes it one of the market's best values in high-performance astronomical imaging.



Parsec 8300 CCD Camera

U.S. price: \$1,999.95

Orion Telescopes & Binoculars

www.oriontelescopes.com

OBSERVATORIES TO GO

While we can't bring dark skies to our telescopes, we do have the option of taking our telescopes to dark skies. For that reason, some enterprising amateurs have built trailer-mounted observatories, but Pier-Tech is the first to offer a commercial unit. The Star Traveler is available in a range of sizes and with options to fit most observers' needs.

Star Traveler Mobile Observatory

U.S. price: from \$14,000

Pier-Tech

www.pier-tech.com



LEAVE THE LAPTOP HOME ►

Vixen's new heavy-duty AXD German equatorial mount (70-pound load capacity) comes with the Star Book Ten, the most sophisticated stand-alone hand controller yet made for a Go To telescope. The controller is quite simply a dedicated computer with a high-resolution color screen that makes navigating the sky a "see-to" experience before you push the Go To button. Detailed star charts and images of many deep-sky objects are just a few of the things you can display on the 5-inch screen.

AXD mount and Star Book Ten

U.S. price: \$9,999

Vixen Optics

www.vixenoptics.com



S&T: DENNIS DI CICCIO



VIXEN OPTICS



ASTRO-TECH

◀ MORE BIG BARGAINS

Few amateurs would argue that Newtonian reflectors aren't the hands-down winners when it comes to offering deep-sky astrophotographers the biggest bang for the buck. So we suspect there will be a lot of interest in the new 10- and 12-inch f/4 Imaging Newtonians from Astro-Tech. Both feature a 3.3-inch, dual-speed Crayford-style focuser, a primary-mirror cooling fan, a finder, and a pair of tube-mounting rings — very substantial packages at very attractive prices.

f/4 Imaging Newtonians

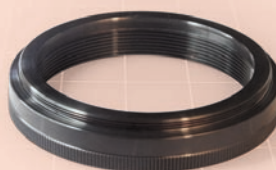
U.S. price: \$599 (10-inch); \$749 (12-inch)

Astro-Tech

www.astronomics.com

CUSTOM ADAPTERS

With almost no design standardization for astronomical CCD cameras, there's an ever-increasing need for custom adapters that will accurately connect cameras to telescopes and optical accessories. PreciseParts maintains an extensive database of telescope and camera specifications, which coupled with the company's new online program, lets you design unique adapters with just a few mouse clicks. Within days the custom-machined part will be in your hands.



Build Your Own Adapter

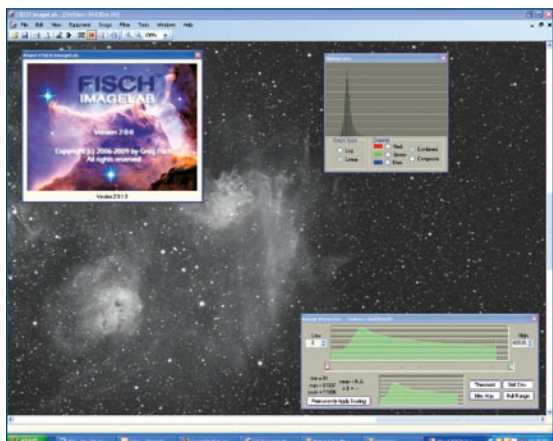
U.S. price: available via online estimator

PreciseParts

www.preciseparts.com



PRECISEPARTS (2)



MORE THAN CAMERA CONTROL

Today's astrophotographers who are also PC users will enjoy this software program for camera control and image processing that won't break the bank. *Fisch ImageLab* features simultaneous control of imaging and autoguiding cameras while you're out under the stars making exposures, as well as a host of sophisticated image-processing techniques specifically tailored to astronomy. Included are automatic routines for calibrating images and post-processing tools for creating dramatic color views from individual exposures made through color filters. The program runs under Windows XP, Vista, and Windows 7.

Fisch ImageLab

U.S. price: \$249

Explore Scientific

www.explorescientific.com

PORTABLE PARAMOUNT

For nearly a decade, Software Bisque's heavyweight Paramount ME has been a powerhouse among astrophotographers with permanent setups. The mount was also a leader in the field of robotic imaging, and it played a major roll in the growth of automated remote observatories. Now the company is introducing a smaller version called the Paramount MX. It offers the same level of performance for telescopes weighing up to 90 pounds (40 kg). But unlike its bigger brother, the Paramount MX is designed for observers who favor portable equipment that can be quickly set up and polar aligned in the field.

Paramount MX

U.S. price: \$8,500 (introductory)

Software Bisque

www.bisque.com

TWICE THE VIEW

Most everyone agrees that their first view through a binocular telescope was an "Oh-Wow!" experience. But sharing that view generally required finicky adjustments to get the inter-eye spacing of the eyepieces and focus set just right for each individual's needs. That will be a lot easier with the RBX Reverse Binocular Telescopes from JMI, since the motorized adjustment for the inter-eye spacing is now accomplished without affecting the focus. A styling update adds a 21st-century appearance to the new 8- and 12-inch RBX models.

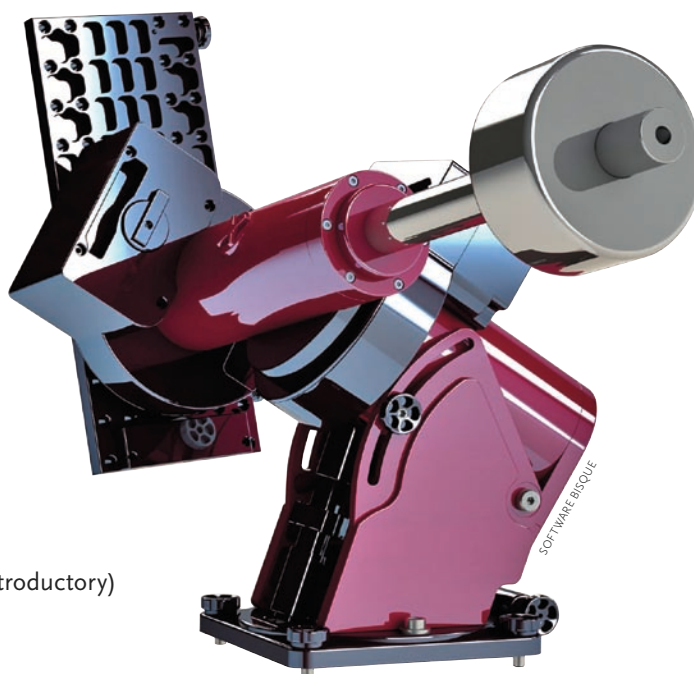


RBX Reverse Binocular Telescopes

U.S. price: RBX8 \$4,995; RBX12 \$8,995

JMI Telescopes

www.jimsmobile.com



LIGHTWEIGHT GO TO MOUNT

Celestron now offers its full range of Go To telescope mounts as stand-alone products. The company's medium- and heavyweight CGEM and CGE Pro German equatorial models were Hot Product picks for 2010. But it's the lightweight LCM Computerized Mount that caught our eye for 2011. It offers a low-cost way to add altazimuth Go To pointing and tracking to small telescopes weighing 5 pounds (2.3 kg) or less.

LCM Computerized Mount

U.S. price: \$199.95

Celestron

www.celestron.com



ORION TELESCOPES & BINOCULARS

SkyQuest XTg Dobs

U.S. price: 8-inch \$849.95;

10-inch \$1,099.95

Orion Telescopes & Binoculars

www.oriontelescopes.com

DOBS ON THE GO ▲

Go To technology has infiltrated just about every corner of the telescope market except for low-cost Dobsonians — until now. The new SkyQuest XT8g and XT10g Go To Dobsonian Telescopes are the first to offer motorized Go To pointing and tracking on moderately priced Newtonian reflectors under 12-inch aperture. In our eyes, bringing together the observing potential of 8- and 10-inch reflectors with the push-button ease of computerized pointing is a winning combination.



TRACKING STARS

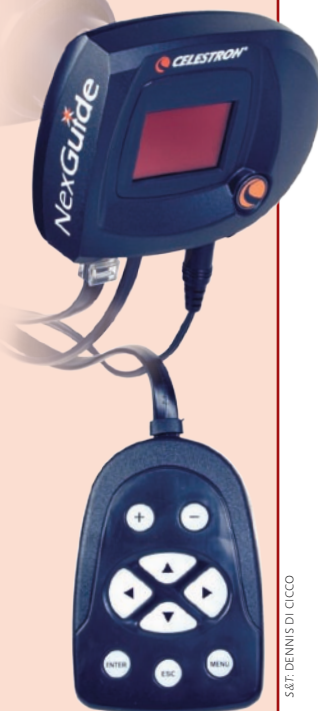
Celestron's NexGuide is a self-contained autoguider that requires no external computer and can run for days powered by a battery pack with four D cells. The built-in LCD screen aids in system setup, focusing, and monitoring the guiding accuracy during long exposures. Watch for our review of the NexGuide in the coming months, but we can tell you now that our initial tests are very encouraging.

NexGuide

U.S. price: \$299.95

Celestron

www.celestron.com



S&T: DENNIS DI CICCIO

iEQ45 mount

U.S. price: \$1,599

iOptron

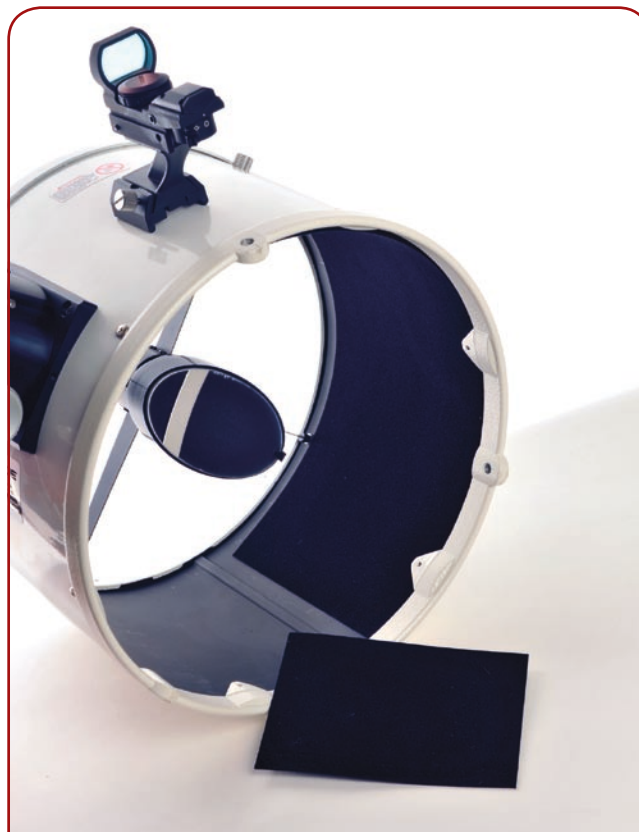
www.ioptron.com



S&T: DENNIS DI CICCIO

PORTABLE GEM ▲

Given its relatively light 25-pound (11-kg) weight, the new iEQ45 German equatorial mount from iOptron is noteworthy for its 45-pound load capacity. Features such as storage of the counterweight shaft within the declination axis add to the portability of this Go To mount, which comes complete with a stainless-steel tripod and adapter plates for Losmandy- and Vixen-style dovetails.



S&T: DENNIS DI CICCIO

A DARKER VIEW

There's no shortage of ways to blacken the inside of telescope tubes, but one of the easiest-to-use products we've seen is the new

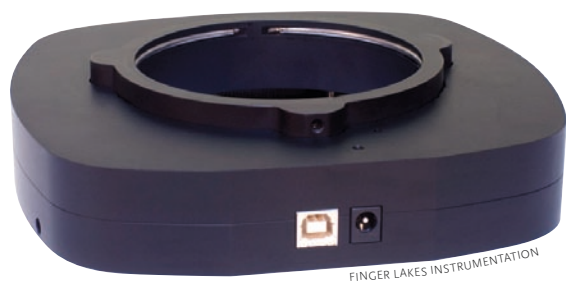
FlockBoard

U.S. price: 24-inch-wide rolls cost \$0.65 per linear inch

ProtoStar

www.fpi-protostar.com

FlockBoard from ProtoStar. An ultra-light-absorbing textured material is bonded to a stiff 0.03-inch (0.75-mm) thick plastic backing. The material, which is made in 24-inch-wide rolls, is springy enough to expand and conform to the inside of telescope tubes, eliminating the need for messy adhesives.



Atlas Large Payload Focuser

U.S. price: \$2,295

Finger Lakes Instrumentation

www.flicamera.com

◀ FOCUSING HEAVYWEIGHT

Experienced astrophotographers know the challenges that go with achieving critical telescope focus, especially when their imaging setups involve heavy CCD cameras, filter wheels, and off-axis guiding equipment. One of the finest solutions we've seen is the Atlas Large Payload Focuser from Finger Lakes Instrumentation, which is rated for loads up to 25 pounds. It has a clear aperture of $3\frac{3}{4}$ inches and a maximum travel of 0.35 inch in remarkably small 100-nanometer increments. Its USB 2.0 computer interface is ASCOM compliant for use with most auto-focusing software.