

UNIHDRON

Introduces New SQM-LU Sky Quality Meter

In its quest to help amateur astronomers find out how good their viewing conditions really are, Unihedron has introduced its latest product, the SQM-LU, a USB enabled sky quality meter for night-time sky brightness monitoring.

The SQM-LU is an affordable meter for continuous, computer-connected measurement of sky brightness for astronomers and dark-sky enthusiasts. Like its predecessors, the SQM-LU reports the brightness of the night sky in magnitudes per square arcsecond. The unit is similar to the Ethernet-enabled SQM-LE model in that it allows access to raw measurement data and calibration settings as well as in-place firmware updates.

Software is included for obtaining readings from computers using *Windows*, *Mac OS X*, and *Linux* operating systems. Full specifications for the communications protocol are provided, and example software interface allows for user-customizations.

The SQM-LU is compact at only 3.6-inches x 2.6-inches x 1.1 inches and provides precision readings at even the darkest sites. The maximum light sampling time is 80 seconds and the minimum light sampling time is 1 second. As mentioned earlier, sky brightness is reported in visual magnitudes per square arcsecond and the infrared blocking filter restricts measurement to visual bandpass.

The SQM product line provides a host of opportunities for owners. This includes the ability to compare the sky brightness at different sites quantitatively and determine which nights show the greatest promise for finding the 'faintest fuzzies'. Users can document the evolution of light pollution in an area by monitoring sky brightness through the night, night-to-night, and year-to-year. The SQM can be used to calibrate the effect of sky brightness on qualitative measures such as the Bortle Scale as well as to investigate how sky brightness correlates with the solar cycle and month-to-month sunspot activity. Users can also set plane-

tarium dome illumination to mimic the skies people are likely to experience elsewhere in the city. CCD images can make a correlation between the SQM readings and when the background reaches a specific ADC level.

Included with the SQM-LU is a user's manual, CD with PDF manual and example software, 15-foot USB cable, and a calibration sheet that indicates the unit's USB serial number, and calibration values. The SQM-LU is priced at \$189.99US.

There is a host of more information about the SQM-LU available on the Unihedron website at www.unihedron.com.



Denkmeier Goes Solar

DENKMEIER

www.denkmeier.com

Photo by Greg Pizpol

DEEP SKY INSTRUMENTS

Accepting Pre-Orders for RC14C Ritchey-Chrétien Astrograph

Deep Sky Instruments first introduced its RC10 and RC10C Ritchey-Chrétien Astrographs in 2008 as the first in its TrueRC astrograph series featuring optics by Paul Jones of Star Instruments. It is now taking pre-orders for its second TrueRC astrograph, the RC14C.

The RC14C is based on the design of RC10 which utilizes a 10-inch primary mirror that provides Ritchey-Chrétien performance free from coma, spherical aberration and first-order astigmatism. The RC10C adds a corrector/field flattener to remove third-order astigmatism and flatten the field for excellent star images on even the largest CCD cameras.

The RC14C offers a larger 14.625-inch primary mirror which delivers 14.25-inches of

usable aperture, roughly twice that of the RC10C. Back focus is increased to 12-inches (8.5-inches usable behind the back plate) for more flexibility with rotators and other accessories. A carbon fiber tube with integral dovetail plates increases rigidity and thermal stability.

For more information on ordering the RC14C please visit www.deepskyinstruments.com.



M82, M27, M51 and M16 – Single, unprocessed 14 second frames taken by Johnny Hardwick at the Joshua Tree Video Astronomy Fest using his 15" Obsession

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MALLINCAM

Introduces the Mallincam VSS Color (Variable Shutter System)

Rock Mallin has gained quite a reputation for his video CCD cameras and why not, each Mallincam is hand crafted by Rock himself. During assembly, every step is tested and retested to deliver high performance results from each and every camera made in his shop.

Having such a close relationship with his products and customers has kept Rock keen on continuously improving the cameras which has resulted in several significant improvements in the new VSS Mallincam.

As Jack Huerkamp, the US distributor for Mallincam products told us, "Instead of having fixed exposure times (7, 14, 28 and 56 seconds in the HYPER PLUS), the VSS has continuously variable exposures from 3.3 to 56 seconds using the knob on the side of the camera, and exposures up to 112 seconds using the menu to double the exposure set on the knob. Also, instead of the new computerized Peltier cooler being either on or off, it works by detecting dark current noise. Once noise is detected, it turns the cooler on for a preset time period (10, 30 or 60 seconds) to reduce the noise. It can also be turned off if desired."

He continued, "For those wanting to set up the VSS in an observatory and observe inside (due to mosquitoes in the summer or cold in the winter), the camera can be controlled via a cable and freeware. Cables up to 50-feet in length are available for a nominal cost and longer ones can be made if desired. All menu functions can be adjusted from a PC as well as three exposure times. The variable exposure time function is not available remotely; however for most users, having the ability to select short, intermediate and long exposures remotely is all they will need."

The new VSS utilizes a new third generation hyper circuit to allowing users the choice of variable shutter and also has a fully integrated on screen menu which simplifies operating the camera. The new VSS utilizes class 1 CCD sensors (grade A) which are hand picked and a Class 0 CCD Sensor is available as an option.

The VSS offers full shutter speed ranging from Off, 1/100, 1/120, 1/180, 1/250, 1/350, 1/500, 1/750, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/8000, 1/12000

seconds or the choice of fully variable adjustment making it possible to view planets, lunar, and solar with appropriate H Alpha or White Light Filters. It features a full integration mode of 2X, 4X, 6X, 8X, 12X, 16X (1/4 sec. exposure) 24X, 32X (1/2 sec. exposure) 48X, 64X (full one second integration) 96X, 128X (full 2.1 seconds integration) and new hyper mode of 3.3 seconds to under 2 minutes exposure mode with full automatic refresh.

The on board title generator allows for writing of the object being viewed which is excellent for group viewing at museums, planetariums, and star parties.

The VSS Mallincam features a programmable back light compensation mode (BLC), full AGC adjustment in auto mode, manual mode (deep sky targets) and off (deep sky targets, lunar, planetary, solar mode). The full white balance control (W/B) allows for the user's choice of fully automatic white balance control, auto trace white balance control, or manual white balance control including presets for 5600K, 3200K (infrared) or user defined blue and red color.

Other included features are two full independent outputs, high resolution S-VHS output, and 75 ohm composite output. The four programmable mask function provides for electronic cross hair or other manual guiding



functions. Also included are positive and negative image selection, horizontal image inversion (mirror effect), vertical image inversion (mirror effect), freeze image function and sensitivity priority function.

Included with the Mallincam VSS system is the camera, regulated power supply 120 volts to 12 volts d/c adapter (the PAL export version comes with 220 volts to 12 volts d/c adapter), a 25-foot (8 meters) high grade dual shielded video/power cable combination, a high precision 1.25-inch eyepiece adapter/heat transfer, a BNC male to RCA female adapter, owners manual and a quick start sheet.

The Mallincam VSS is available in Canada from Lire la Nature/Astronomie Plus (www.lirelanature.com) and Khan Scope Centre (www.khanscope.com). It is available in the US and overseas from Jack's Astro



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- Dennis di Cicco
May 2009 Sky & Telescope





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iOPTRON

Introduces Versa 108 ED APO Doublet Refractor and MAK 152mm



Image 1

iOptron continues to build upon its impressive product line with the introduction of two new telescopes.

The Versa 108 ED APO *f*/6.1 Air-spaced Doublet Refractor is an apochromatic OTA with a 660mm focal length that recently received a 2010 S&T Hot Products designation. This double air-spaced 108mm refractor offers a versatile platform that delivers exceptional performance for

both visual observing and astrophotography. With outstanding color correction and crisp imaging, owners will be able to view beautiful images through an eyepiece, CCD camera, or DSLR camera.

The telescope (**Image 1**) is attractively designed with precision CNC machined all-metal construction and high quality power painted finish. Included in the Versa package is a Crayford dual speed 2-inch 360 degree rotatable focuser, 114-mm tube ring, 1.25-inch adapter, high quality aluminum case, brass compression ring, and retractable dew shield. And to make the package complete for the

astrophotographer, a standard field flattener is also included.

The field flattener is made with high accuracy machining and features an external anodized gloss finish and internal surface matte finish for reduced glare. It features a fully multi-coated two element lens,



Image 2

T-ring thread for 35mm cameras and is suitable for a 2-inch filter.

Also introduced is the new iOptron Rumak-type 152mm Maksutov-Cassegrain which is designed for the serious amateur astronomer who wants apochromatic refractor-type performance at an affordable price.

The precision design and engineering of the optics produces images you would not expect in such a light tube. The MAK 152mm (**Image 2**) from iOptron comes with a dual speed focuser. Also included is an attachable twist-lock aluminum dew shield—rare for a MAK—for better performance in cold temperatures.

The tube length is 21 3/4-inch without dew shield and 27 1/8-inch with dew shield. The tube weight is 13.4 lbs. and the gross weight is 20.2 lbs. The visual adaptor is 2-inch to 1 1/4-inch and a T-ring adapter is included for attaching a camera. Also included is an 8x50 finder scope with finder ring and a light reducing lens cover.

Both scopes are available through iOptron dealers and more information is available at www.ioptron.com.

New From Denkmeier Optical
The Spectrum 60 Upgrade for the P.S.T.

Add Some "Flare" To Your Solar Observations

www.denkmeier.com
 Photo by Greg Pappalardo

Spectrum 60™ made by Denkmeier Optical, Inc. is shown attached to a Coronado PST™ by Meade Instruments Corporation. Denkmeier Optical is not affiliated with Meade Instruments.

VIXEN OPTICS

New AXD Mount and High Definition Star Book Ten



Known for offering products that excel in both performance and great looks, Vixen has stepped up the bar with its AXD Mount which offers a sleek design and innovative gearing for superior performance. The new mount will be available this spring.

Controlled by Vixen's new Star

Book 10, the AXD combines all the features that owners come to expect from a Vixen mount. Features include Permanent PEC, Night Vision Mode, and a 270,000 Database. The mount offers a 70lb load capacity, 70 tooth (135mm dia.) RA wheelgear, 216 tooth (108mm dia.) DEC wheelgear, stepping motors with 21 bearings, and a heavy duty tripod.

Coupled with the Star Book 10, users don't need a computer. Popular objects appear on the high definition screen and the AXD "see to" technology shows users the sky before the GO-TO sends them there. It offers a 5-inch color HD LCD screen, 32 bit, 324 MHz CPU, Lunar, Solar, Planet, Comet and Satellite tracking modes, registration of user defined objects, PC connection with LAN port, auto guider port, and

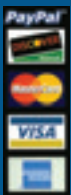
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ORION TELESCOPES & BINOCULARS

Continues to Release a Multitude of New Products

Orion continues to show that it is a leader in introducing new products to the astronomy industry and this issue certainly proves that point. In fact there are so many new Orion products, we had to use several pages to include them all!

10x42 Monocular

Good viewing opportunities don't usually come with advance warnings. When an exciting event occurs, and you need to be able to see it up close quickly, a monocular



is a nice option. Orion's 10x42 Monocular is small, light, easy to use, and gives brilliant views through fully multi-coated optics. Being able to make objects 10x bigger is just the beginning. It's rugged, rubber-coated shock-absorbing design can take a beating and it includes a removable carrying strap. At just 6-inches long, it will suit anyone looking for convenience and portable performance in any weather and its price of \$49.95US is perfect for any budget.



8-inch f/4 Newtonian Astrograph Reflector

The new 8-inch f/4 Newtonian Astrograph Reflector offers wide field, deep-space imaging performance designed to allow users to capture faint galaxies and nebulas with short photographic exposure, all at a very affordable cost.

The reflector is perfect for beginning

and intermediate imagers, and is a great second telescope for more advanced imagers who want more portability, without sacrificing features and quality. That means bright, detailed images for APS-C sized CCD or DSLR cameras. As with any fast Newtonian reflector, an optional coma corrector is recommended to achieve the

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the innovative RS (Reflection Suppression) technology LRGB filters specifically designed to address the problem of internal reflections common in filtered CCD images.



IDAS RS filter set



Competing interference filter set

- Reduces surface reflections to less than 4% of conventional dichroic filters such as the IDAS Type II LRGB set.
- Gentle overlapping bandpasses match the response of the human eye more closely, simplifying accurate color balancing.
- Minimizes spreading of light from point sources, resulting in tighter stars in astrophotos.

*Both images were taken with the same optical system and exposure setting. Post-processing was applied in the same manner and background levels were matched for comparison.

Astro Hutech

877-BUY-BORG

www.astrohutech.com

sharpest images. With an optional eyepiece, this telescope doubles as a fine visual instrument.

At only 16 lbs. and just 28-inches long, the scope is easily supported on a mid-sized mount. The 200-mm aperture parabolic primary mirror is made from high-quality BK-7 optical glass. Enhanced aluminum mirror coatings with greater than 91% reflectivity deliver more light to the focuser. A cooling accelerator fan is included, mounted on the back of the primary mirror cell for rapid equilibration to ambient temperature.

Included is a modified, all-machined 2-inch dual-speed Crayford focuser that incorporates a special linear-track bearing. This advanced focuser design provides superior camera support and eliminates the drawtube flexure inherent in some Crayford focusers. The dual-speed feature allows both coarse and very fine (10:1) focusing precision. Other standard accessories include a pair of hinged tube rings and an 8x50 finder scope. It comes with a one year limited warranty and is priced at \$449.95US.

**VersaGo II HD
Altazimuth Mount**

The new VersaGo II HD Altazimuth Mount is an ultra-stable, easy-to-operate altazimuth “grab-and-go” tripod for small to medium sized telescopes up to 6-inches in aperture. It offers a 15 lb. load capacity with a beefy tripod featuring chromed steel tubular legs of 1.75-inch diameter for maximum stability with heavier instruments in field conditions. The sturdy die-cast aluminum head features a dovetail saddle for quick telescope attachment and removal and its slanted arm design allows an instrument to be pointed to zenith, and the lateral arm offset puts load directly over the center of the tripod for maximum stability. It is available for \$249.95US.

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SteadyStar Adaptive Optics Guider

Orion’s SteadyStar Adaptive Optics Guider (AO) makes any imaging-capable mount, even if a modest one, perform more effectively. Precise tracking is one of the most critical facets of astrophotography and tracking is limited to the accuracy of the mount, plus external factors like wind and atmospheric seeing conditions. The SteadyStar AO Guider overcomes these limitations and challenges and takes control with super fast and accurate guiding.

The SteadyStar AO Guider can easily make several tracking corrections in one second without lugging the weight and inertia of the whole telescope. Rather than move all that weight, the Guider moves a

small on-board lens, allowing for quick and precise movements several times faster than traditional autoguiders. This refractive correction is capable of making extremely fast movements to overcome even the most severe tracking errors. The SteadyStar AO Guider is capable of correcting motion more than 40 times per second, depending on guide star brightness and computer speed. This means users will overcome a mount’s periodic error, wind, and even compensate for some of the negative effects of turbulent seeing conditions.

With the Guider attached, even a modestly priced mount can perform like a high-end expensive mount. The SteadyStar’s broad compatibility with imaging cameras and autoguiders makes it even more attractive. It works with any Orion CCD camera and autoguider, as well as other popular imaging cameras including DSLRs.

The SteadyStar AO Guider was designed to fit right in with other gear, requiring only 90-mm of inward focus travel when used with Orion imaging cameras. In fact, users can add up to 30-mm worth of accessories, such as a filter wheel, to the SteadyStar without adding to the total backfocus.



continued on next page

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NEW! RS-Spectroscope

Attaches to an eyepiece to spreadlight from stars and nebulae into a rainbow of colors, colors that provide a whole new way to enjoy astronomy. Works with most digital cameras.

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QuikFinder

Compact reflex sight. One tenth the size and weight of the other “reflex” sight, makes aiming your telescope easy with its wide-open right-side-up view. Projects 1/2 and 2 degree red circles, Pulsed or continuous illumination of reticle.

\$39.95



Orion New Products Continued From Previous Page

The 40-mm diameter on board lens supports APS-C format sensors including DSLRs and amply sized CCD cameras. SteadyStar software is included for full guiding control to both the mount and the AO Guider, and it can communicate with *Maxim DL* to enable advanced imaging features as exposure sequences and dithering. It is *Windows XP, Vista 32/64 bit Windows 7* and *ASCOM* compatible.

A hard carry case is included as well as a 10-foot USB cable, 10-inch autoguiding cable, and 12 volt DC power cable. the SteadyStar AO Guider is priced at \$1,799.95US and comes with a one-year limited warranty.

The SteadyStar AO is also available with a built-in Field Rotator which allows user to move the SteadyStar's off-axis prism to locate a guide star, or to change the imaging camera orientation. It also enables long exposure imaging with motorized altitude-azimuth mounts. And with the fast adaptive optics guiding, it turns any image capable mount (Alt-Az or EQ) into a more effective one, yielding better tracking.

The SteadyStar AO Guider with Field Rotator not only makes rapid and accurate tracking corrections to deliver pinpoint stars, it also allows users to rotate the camera and off-axis guider without disturbing the focus. That makes finding a guide star much easier. Additionally, the SteadyStar AO Guider with Field Rotator is an ideal

solution for imagers with fork altitude-azimuth mounts, including those used with popular catadioptric telescopes. Since Alt-Az mounts cannot move in arcs to match the apparent movement of the sky, the field rotator will do that for you. There is no need to purchase a heavy equatorial wedge for your fork mount.

The SteadyStar is available for \$2,499.95US.

Parsec Astronomical Imaging Cameras

Orion has introduced its next generation of premium CCD imagers, the Parsec Astronomical Imaging Cameras featuring



a full-frame 8.3 megapixel (8.5 effective) Kodak CCD chip. The cameras offer amazing results and the highest resolution, all for a modest investment.

The Parsec provides all the cutting

edge technology and features that today's CCD imager demands, such as regulated dual-stage cooling, internal shutter, internal full-frame 32 megabyte memory buffer, and more. Its compact size (4x4-inch wide, 3-inch long) provides a sleek fit for virtually any imaging telescope configuration. The high performance Parsec is built around the CCD chip's square 5.4 micron x 5.4 micron pixel size for superior resolution using Kodak's microlens technology for maximum sensitivity. Regulated dual-stage thermoelectric cooling (TEC) and adjustable fan dramatically reduces thermal noise. Accurate dark frames can be taken automatically. And thanks to the internal shutter there's no need to cover the telescope. The internal full-frame memory buffer ensures reliable image downloads every time, through a USB-2.0 connection. A 10-foot USB cable and 10-foot power cable compatible with 12 volt DC cigarette lighter sockets is included.

The Parsec 8300M features a monochrome imaging CCD chip and the Parsec 8300C features a color imaging CCD chip. Both feature standard T-threads on the camera body, removable 2-inch nose-piece threaded for filters, an included custom hard carrying case, and a free full version 30-day trial of *Maxim DL Pro* software for camera control and image processing. Parsec cameras feature 16 bit A/D conversion and are *Windows XP, 7* and *Vista 32 bit* and *64 bit* compatible and are *ASCOM* compatible. The Parsec is a small package (32 oz.) that packs a big imaging wallop.

.085x Reducer-Flattener

Orion has made it easier to get better images from its Orion 80mm ED Apo Refractor telescope with its new .085x Reducer-Flattener which reduces the effective focal length to create shorter exposure times that result in better, brighter images.

Designed exclusively for use with the 80mm ED (not compatible with the EON 80ED) and optimized for photography

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with DSLR cameras, the reducer-flattener features three-element optical assembly and is fully multicoated. It reduces the scope's effective focal length from 600mm



to 510mm (f/7.5 to f/6.3) and can be used with DSLR cameras with chips as large as 36mm x 24mm. It offers fully multi-coated optics (all air-to-glass surfaces are multi-layer coated) and T-threads on camera side for attachment of a camera T-ring. It threads onto the focuser drawtube for a highly secure fit and provides critical 55mm distance from optics to sensor. It is priced at \$199.95US.

And for astro-photographers seeking even better performance from their Orion 100mm ED Refractor Telescope, Orion has introduced a new 0.85x Reducer-Corrector for that scope as well. Designed specifically for use with this telescope and a DSLR camera, it reduces the scope's effective focal length to produce a faster system, which allows shorter exposure times. It reduces the focal length from 900mm to 765mm (f/9.0 to f/7.65), producing a faster system for improved astrophotography. It is also offered at \$199.95US.

For owners of the Orion 120mm ED refractors there is a new 0.85x Reducer-Corrector for them as well. It is designed for use with either the EON 120ED or the original 120ED refractors, since both have the same focal length which is shortened from 900mm to 765mm (f/7.5 to f/6.38). It is offered at \$199.95US.

2-inch Extra-Narrowband Oxygen-III, Sulfur-II, and Hydrogen Alpha Filter

For users of monochrome CCD cameras, Orion has introduced a specialized line of filters which are the perfect complement for producing striking, high-contrast color CCD astrophotography of emission nebulae.

Orion's new 2-inch Extra-Narrowband Oxygen-III Filter is one of a set of three filters designed to bring you bright and beautiful images of emission nebulae in mono-



chrome astrophotography. Orion's new Oxygen-III filter has a full-width half maximum (FWHM) bandpass of just 7nm, ensuring high-contrast images, even in heavily light-polluted or brightly moonlit skies. It offers bright, bold views highlighting blue/green Oxygen-III wavelength features of emission nebulae and transmits 90% of light at 500.7nm wavelength.

The new 2-inch Extra-Narrowband Sulfur-II Imaging Filter also has a full-width half maximum (FWHM) bandpass of just

7nm, ensuring high-contrast images. It highlights deep red sulfur II wavelength features of emission nebulae and transmits 90% of light at 672.4nm wavelength.

Rounding out the filter line is the 2-inch Hydrogen-Alpha Filter which isolates the Hydrogen-Alpha Spectrum for superior contrast CCD astrophotos. It transmits 90% of light at 656.3nm wavelength (H-alpha) and its full width half-maximum (FWHM) bandpass is 6.7nm or less.

Each of these filters can be used separately or in combination with a filter wheel for advanced tri-color imaging of emission nebulae. Each includes a protective plastic case, a one-year limited warranty, and is priced at \$359.95US and pricing for the set is \$969.95US.

LaserMate Pro Heavy Duty Collimation Kit

Orion's LaserMate Pro Heavy Duty Collimation Kit was designed for the fumble fingers in all of us. Dropped it into your bag, don't worry. Accidentally bang it? No problem. The "hardened" design helps



ensure the alignment of the collimating laser for a lifetime.

Achieve quick collimation with laser precision in a simple two-step process.

continued on next page

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Orion New Products Continued From Previous Page

First, insert the LaserMate Pro into a standard 1.25-inch eyepiece holder and adjust the secondary to center the red laser dot on the primary mirror. For 2-inch eyepiece holders, use a 1.25-inch to 2-inch expansion adaptor or Orion's Precision Centering Adapter for greatest accuracy. Then, use the included Cheshire eyepiece for final collimation by tilting the reflector's primary mirror. Illustrated instructions and centering dots are included. The LaserMate Pro is built of durable metal in gunmetal grey and has a lifetime guarantee and is priced at \$99.95US.

Monster Series of Dobs

Finally, and no this is not a misprint, Orion has introduced its "Monster" series of Dobsonian telescopes including a 36-inch, 40-inch, and 50-inch model all with full GOTO and tracking functionality. The folks at Orion must have really been bitten by the "bigger is better" bug!

Let's start with the 36-inch version. The Orion 36 swallows over 1,000 square inches of light at a time and weighs in at just under 400 pounds. It can be disassembled for transport to dark sky locales and at home, it uses removable wheels to get it outside and back from a garage or storage shed. If you plan on parking a car you'll need at least a two-car garage, because the 36-inch Monster Dob takes up an entire parking space when assembled.

The fast f /ratio of $f/4$ produces an impressive 144-inches of focal length. The hand-figured optical system starts with a honeycomb low-expansion glass mirror blank, which allows fast cool-down and maintenance of thermal equilibrium. This maintains great image quality all night long at the eyepiece, which will be a little over 12 feet above ground at zenith. You'll need a good ladder!

The premium optics have a quality that rivals any other commercial Dobsonian - 1/8 wave or better, diffraction limited, star-tested optics, razor sharp and hand figured in North America by Master Optician Normand Fullum.

The huge mirror uses a sturdy eight-point waffle-tree edge flotation to support the edge of the primary mirror, which is supported by a 27-point flotation mirror cell. Primary and secondary mirror coatings are 96% enhanced aluminum (dielectric coatings available as an option on the secondary) which make the most of the monstrous light grasp.

The sleek Mount is lightweight but strong and stiff. The rocker box, azimuth bearings, and ground board are constructed of premium furniture-quality Russian Birch and laminated with aluminum plate to make a super strong, yet lightweight composite structure. The hardware is stainless steel and the struts are strong and light carbon graphite.

Included standard are ServoCAT Tracking and GoTo and Argo-Navis digital settings circles that automatically locate and track more than 29,000 targets. The GoTo system can be run from a laptop planetarium program.

The second member of Orion's Monster Dob family is a 40-inch giant that offers almost 25% more light than it's little (if you can call it that) 36-inch brother. The Orion 40-inch shares the same advanced design, features and components as the other members of the Monster Dob family - the honeycomb mirrors are low-expansion borosilicate glass hand figured by Normand Fullum and the scope also features the same flotation as the 36-inch. Enhanced optical coatings on the primary and secondary mirrors and ServoCAT Tracking and GoTo and Argo-Navis digital settings circles are also standard. When pointing straight up, the huge 160-inch focal length puts the telescope's eyepiece about

14 feet off the ground; and the fast $f/4$ optics deliver bright, crisp images.

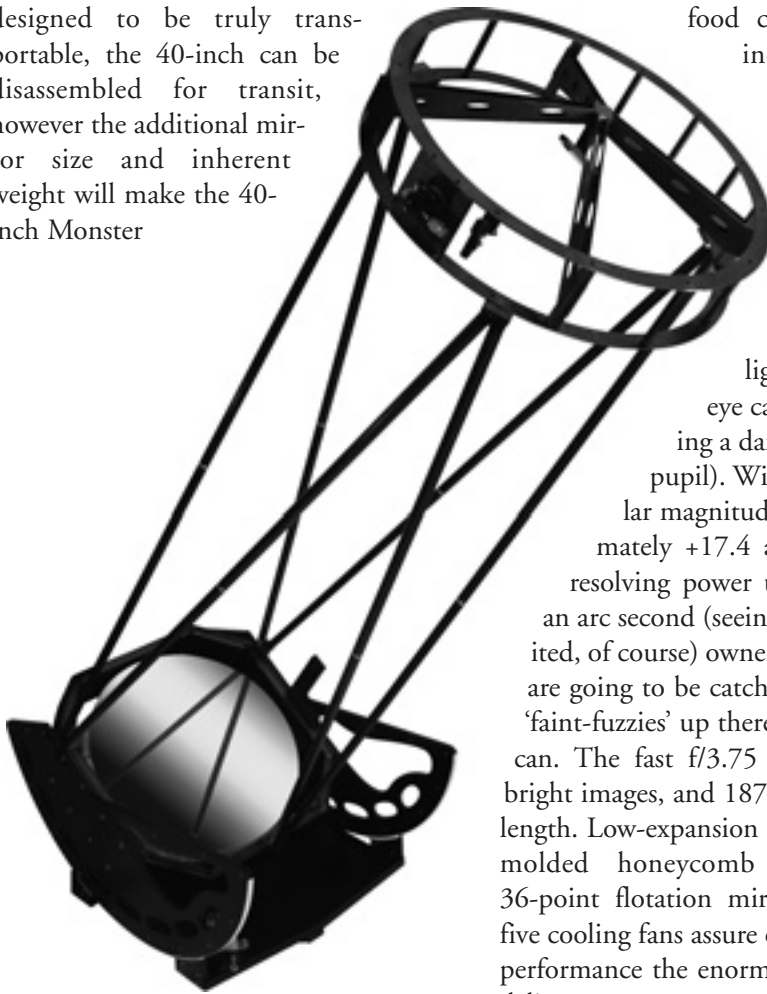
The advanced structural components and lightweight mirror keep the size and mass of the scope surprisingly small and provide a robust, yet compact and stable platform to study the sky. While Orion's 36-inch model is designed to be truly transportable, the 40-inch can be disassembled for transit, however the additional mirror size and inherent weight will make the 40-inch Monster

a more sedentary creature. Orion recommends you plan on creating a backyard observatory, and at the very least, plan to wheel it in and out of your garage. The included pneumatic wheels are meant to be used on level pavement, not cross-country.

At the top of the Orion Dob food chain is the 50-inch Monster. It features almost 2,000 square inches of light-gathering power which is almost 33,000 times more light than what the eye can gather (assuming a dark adapted 7-mm pupil). With a limiting stellar magnitude that is approximately +17.4 and a theoretical resolving power under a tenth of an arc second (seeing conditions limited, of course) owners of this monster are going to be catching details in the 'faint-fuzzies' up there that no one else can. The fast $f/3.75$ focal ratio gives bright images, and 187.5-inches of focal length. Low-expansion borosilicate glass, molded honeycomb mirror blank, 36-point flotation mirror support and five cooling fans assure owners get all the performance the enormous aperture can deliver.

The telescope is designed to be light for its size and very stiff - so that collimation is maintained as you sweep across the sky. The top cage is aluminum with carbon graphite spacers between the top and bottom rings. The main struts are also carbon graphite with Moonlite connectors for easy disassembly, should you want to transport it. The scope is engineered to be light, yet strong using incredibly robust 1.5-inch diameter carbon graphite truss poles and composite structural components. As with the other Monster Dobs, the side bearings, rocker box and ground board are constructed of an engineered composite of Russian Birch with aircraft-grade aluminum epoxy bonded to both sides of the birch core, making exceptionally strong but surprisingly light structural components. Premium components and exceptional attention to detail are used throughout the construction of the scope, including all stainless steel fasteners, a Moonlite dual-speed, fine adjustment 2-inch focuser and custom secondary cage light baffle.

The 36-inch retails for \$55,600US, the 40-inch for \$80,000US and the 50-inch is \$123,000US. Some customization options and installation services are available at an additional expense. An Orion Sales Representative can provide additional information. See the Orion web site, www.telescope.com, for special terms and conditions and special order information.



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Several New Product Offerings

ScopeStuff continues to be a leader in offering all of the accessories you need to support your astro gear arsenal. For example, their new Wireless Goto Connection for Meade LX200 ACF, LX200 GPS & Classic, RCX400, Celestron and ServoCat gives control of a telescope wirelessly from computer. The Bluetooth wireless adapter is easy to install for a reliable link between a PC and goto telescope. No batteries are required for the wireless adapter, it derives power from a scope's external power source of 11 to 18 volts DC and draws less than 100 ma. The wireless adapter requires no additional drivers or software on the PC, and each adapter has a unique PIN number so there's no interference from others on the field.



Just plug the adapter into a scope's power and RS232 jacks, and plug the scope power supply into the adapter. ScopeStuff pre-configures the adapter for a scope type, so installation at the scope is a snap. The power and data cables are 20-feet long so the adapter can be mounted on a tripod leg, pier, scope base, etc with supplied velcro and cable clips.

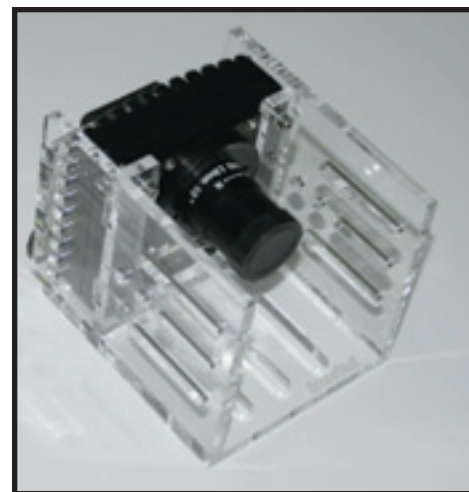
The Dual Finder Mounting Plate with Base Feet is designed for mounting two finders on a single finder shoe. This black anodized aluminum dual finder mounting plate comes with a reversible bottom rail that has both an Orion/Synta/Vixen



type foot and an Antares type foot. The top of the plate accepts either Orion/Synta/Vixen type shoes or Antares type shoes at either end. By reversing the base foot rail

and/or the plate, the finders can be shifted forward and back for balancing or preference. It weighs .47 lbs, is 6-inches wide and the plate is 1/4-inch thick. Black anodized aluminum.

ScopeStuff's Mounting Adapter For Meade DSI Camera holds the DSI securely in piggyback and stand-alone installations and allows the use of a cooling fan. It is great for autoguider and wide-angle applications that can be difficult due to the lack of any mounting method, other than hanging them by the T-threads. Made from strong but light weight 1/4-inch solvent-welded laser cut acrylic the mounting holes and slots accept M6 or 1/4-inch mounting hardware. The camera and 40-mm fan attach to the mounting adapter with sup-



plied stainless steel hardware. The optional ball-bearing 40-mm fan is quiet and has a 5.5/2.1mm power connector.

ScopeStuff continues to add all kinds of accessories and its website is continuously updated. For more information visit www.scopestuff.com.

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