

# ASTRONOMY 2010-2011

TELESCOPES ■ ACCESSORIES



CGEM 1100 HD

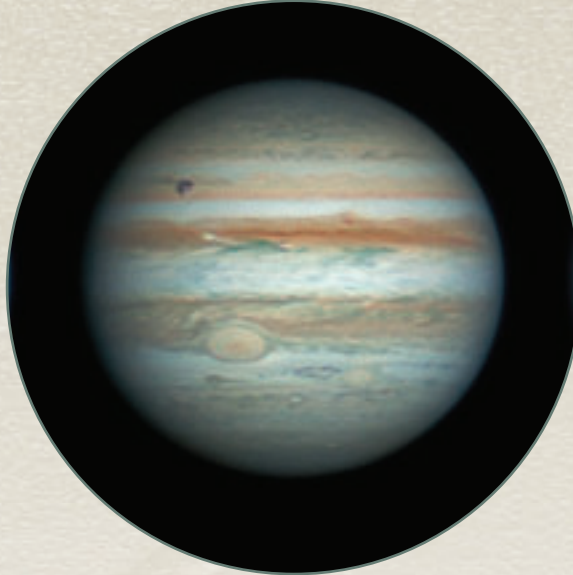
 **CELESTRON**<sup>®</sup>



Welcome to Celestron

NGC 6992 - C8E MOUNT ■ By Doris Thibeault

JUPITER



C14 ■ By Sebastian Voltmer

*THROUGHOUT THE WORLD, CELESTRON IS THE  
"TELESCOPE OF CHOICE" FOR THE CONSUMER  
WITH DISCRIMINATING STANDARDS.*

M52 BUBBLE NEBULA



C8E800 ■ By John Buonomo



ETA CARINA



102 REFRACTOR ■ By Francisco Mendez Fuentes

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VISIT US AT [WWW.CELESTRON.COM](http://WWW.CELESTRON.COM)

FOR MORE INFORMATION ON ALL CELESTRON PRODUCTS!



# History of Celestron

In 1609, world-renowned Italian scientist, Galileo Galilei, introduced an elementary telescope to the growing astronomy community which sparked interest into the mysterious night sky for centuries to come. His glimpse into the past led to secular fascination which furthered the exploration of our spectacular universe. With over four centuries of technological innovations, the thriving market for telescopes has expanded more than ever for every experience level and age.

Today, Southern California based Celestron has earned the worldwide reputation as the leader in designing, manufacturing and importing of high-quality optical products, including GoTo computerized and non-computerized telescopes, binoculars, spotting scopes, microscopes and quality Celestron accessories. Celestron is recognized worldwide for its superior optics, outstanding design and innovative technologies. Our vision is to give our customers access to objects millions of light-years away, with the touch of a button.

Founded in the 1950's as Valor Electronics from an aerospace electronics firm by Tom Johnson, Johnson decided to build a 6-inch reflecting telescope from scratch. Johnson's hobby soon flourished into a full-time business, offering Schmidt-Cassegrain telescopes in various models. By 1970, Celestron designers and engineers announced a revolutionary method of producing Schmidt-Cassegrain telescopes in large quantities at affordable prices. Incorporating this method in the first Celestron C8, the popularity of the C8 led to the C5 and the larger versions, including 11-inch and 14-inch telescopes. Today Celestron's product line features state of the art GoTo computerized GPS telescopes as well as simple designs, all fully equipped with high quality optics.

In 2002, three of Celestron's senior management team purchased the assets and developed an advanced era for Celestron, launching the observatory-class CGE Series of computerized equatorial telescopes. In 2005 the SW Technology Corporation acquired the company and provided Celestron access to a supply chain network with state-of-the-art technology, backed with over 40 years of experience.

Celestron is now able to concentrate its resources towards the highest level of customer satisfaction and a wide range of spectacular products to the optical community.

With Celestron's solid and irrefutable reputation in the scientific community, NASA selected Celestron's C5 telescope as the telescope to embark on several space shuttle research missions. Celestron's newest innovative product, SkyScout, introduced in 2006, quickly turns the vastly unknown night sky into your own personal planetarium. SkyScout was named the "Best of Innovations" in the personal electronics category for the annual showcase of new products at the Consumer Electronics Show, and named the Official Product of the 2009 International Year of Astronomy. In addition, SkyScout was among the Top 10 Winners of the 2008 'Best Summer Tech Products' awards showcasing innovative tech gadgets for an active summer lifestyle, given by AmazingTechProducts.com.

Today, Celestron's innovative products are available worldwide through a wide variety of specialty retail outlets and international distributors. A privately owned company, with corporate offices and manufacturing facilities in Torrance, CA, Celestron brings the ever expanding universe to your fingertips. Explore the universe with us! For a list of dealers that carry our products, visit us at [www.celestron.com](http://www.celestron.com).





CELESTRON INTRODUCED THE FIRST COMMERCIALY AVAILABLE SCHMIDT-CASSEGRAIN TELESCOPE, FOREVER ALTERING THE PATH OF AMATEUR ASTRONOMY.  
CELESTRON TAKES PRIDE IN ITS REPUTATION FOR INNOVATION AND TECHNOLOGICAL ADVANCES.

LISTED BELOW ARE SOME OF THE MOST SUCCESSFUL ACCOMPLISHMENTS CELESTRON HAS INTRODUCED THROUGHOUT ITS HISTORY.

- 1966 – Introduced the first commercially available Schmidt-Cassegrain telescopes.
- 1969 – First to offer an entire line of the award winning Schmidt-Cassegrain telescopes; currently famous C6, C8, C10, C12, C16, and C22.
- First to offer commercially available Observatory Class Telescopes; the C16 and C22.
- Late 1960's – First to offer commercially available Schmidt Cameras.
- Popularized the Cold Camera in the early 1970's.
- Popularized piggyback photography.
- 1979 – Popularized the Maksutov-Cassegrain optical design in astronomy with the introduction of the C90 Astro for only \$495.
- Popularized Maksutov-Cassegrains as spotting scopes with the introduction of the C90 Spotter.
- Popularized the eyepiece projection with the introduction of tele-extendors for Celestron's line of highly recognized Schmidt-Cassegrain telescopes.
- Popularized off-axis guiders for long exposure photography.
- 1983 – First to offer enhanced reflectivity and transmission coatings with the introduction of StarBright® coatings.
- First to offer a telescope drive system that utilized 9V batteries.
- 1987 – First to introduce the Compustar 14, a mass-produced fully-integrated computerized GoTo observatory class telescope.
- 1996 – First to offer the Ultima 2000, a computerized telescope that utilized AA batteries as a power source.
- First to introduce a commercially available reducer/corrector for Schmidt-Cassegrain telescopes.
- First and still currently the only commercial telescope manufacturer to offer true hand-figured and matched optics in Schmidt-Cassegrain telescopes.
- First to offer a commercially available 8" fork mounted Schmidt-Cassegrain for under \$1,000 with the introduction of the Celestar.
- 2001 – First to offer a commercially available Schmidt-Cassegrain telescope capable of f/2 CCD imaging with the introduction of the Fastar® Systems.



- 2001 – Introduced the first commercially available Schmidt-Cassegrain telescope with a carbon fiber optical tube, the NexStar® 11 GPS.
- First to offer a commercially available fully computerized GoTo telescope with integrated GPS and compass with the introduction of the NexStar 11 GPS.
- 2002 – Introduced the NexStar 5i and 8i, the first commercially available telescopes to be GPS compatible.
- Introduced the CN16 GPS, a commercially available GPS accessory with an integrated compass that provides GPS functions to the Celestron GPS-compatible computerized telescopes.
- 2003 – Celestron reinvents their StarBright coating by introducing its improved maximum throughput StarBright XLT® coating.
- 2005 – Celestron takes the guesswork out of aligning its computer automated telescopes with the invention of SkyAlign™ three-object alignment process.
- 2006 – Introduced the award winning SkyScout® Personal Planetarium®. The first handheld device to utilize advanced GPS technology to identify thousands of stars, planets, and constellations, all at the click of a button.
- 2009 – Unveils All-Star Polar Alignment Technology.
- 2009 – Edge HD Aplanatic optical design, CGEM Mount and CGE Pro Mount introduced.

WE ARE MORE  
EXCITED  
THAN EVER ABOUT THE  
FUTURE AND GROWING  
INTEREST IN  
AMATEUR ASTRONOMY!



NEXSTAR 8 GPS  
By Patrick Smith



M42  
C4 REFRACTOR  
By Ido Bareket

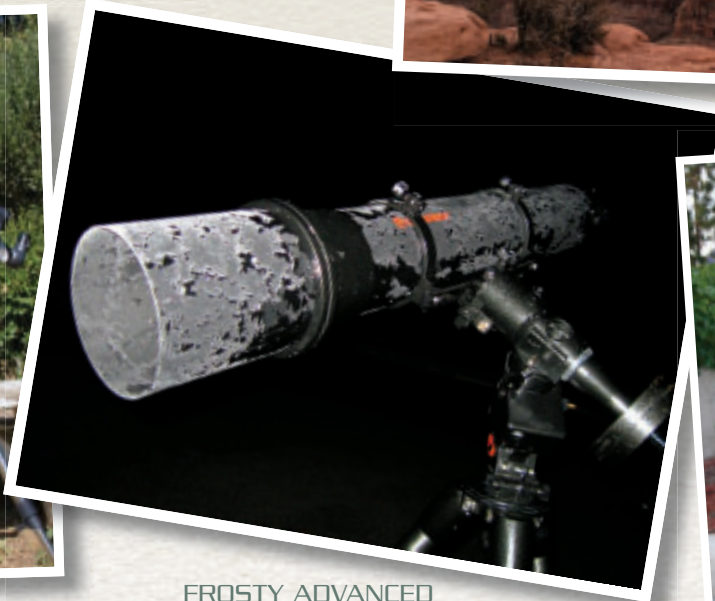


ADVANCED  
SERIES 6T  
COMPUTERIZED  
TELESCOPE 9.25  
By Mick Hyde

MOONRISE  
AT TUWEEP  
By Patrick Smith



JULIAN STAR PARTY  
ASTROMASTER 90EQ



FROSTY ADVANCED  
By Milan Gucic



NEXSTAR 6GPS  
By Vittal Badithe

MB - DNYX 80 EDF ■ By Dave Trapani





CELEBRATING 50 YEARS OF  
TELESCOPE INNOVATION IN 2010



CLASSIC CELESTRON C11

PHOTOKINA 2008  
CGEM



TELESCOPES  
By Eddie Ballard



LINED UP AND  
READY TO GO

REPO GAZER OBSERVATORY –  
SIERRA VISTA, ARIZONA  
By Keith Mullen



CGE PRO 1100 HD WITH HYPERSTAR  
By Jason Fournier



ASTRONIGHT OBSERVATORY  
By John Buonomo



SkyScout® Personal Planetarium®

SkyScout Personal Planetarium



SkyScout Speaker



Astronomy for Beginners Expansion Card



All About the Stars Expansion Card



SkyScout Scope 90

THE SKY WILL NEVER LOOK THE SAME

**IDENTIFY:** Simply point the SkyScout at any object in the sky and click the “Target” button and the SkyScout will quickly tell you what object you are looking at.

**LOCATE:** Locating stars and planets is a no-brainer with the SkyScout Personal Planetarium. Simply select the object’s name from the menu and follow the directional arrows through the viewfinder. SkyScout tells you when you are on target. It’s that easy!

**LEARN:** After targeting an object, the real fun begins! SkyScout provides entertaining and educational audio and text information, including facts, trivia, history and mythology regarding our most popular celestial objects. Who ever thought learning would be so fun!

The SkyScout Personal Planetarium is a fun, educational tool for all ages and experience levels. SkyScout puts the knowledge of an expert astronomer in the palm of your hand!

SKYSCOUT FEATURES

- Equipped with advanced GPS technology to identify over 6,000 celestial objects with the click of a button (over 50,000 objects available with free firmware upgrade via the internet)
- Locate thousands of stars, planets, constellations and much more
- Simple for all ages – power it up and SkyScout is ready to use
- Includes “Tonight’s Highlights”, a customized list of the 20 best objects to view for your exact date, time and location anywhere in the world
- Features audio and in-depth text descriptions that provide fun facts about history, mythology and other information for the most popular objects
- Let SkyScout take you on a guided tour through all 88 constellations and even see crisp, on screen constellation maps
- Conveniently built-in Field Guide which includes a six-part audio lesson on astronomy, bios about history’s greatest and most fascinating astronomers, a glossary of popular astronomy terms, information on comets, man-made space objects, extra-solar planets and much more
- Bring your personal planetarium with you everywhere – the durable, compact and lightweight design makes it easy to carry around
- Database can be updated with new objects, comets etc. for the most up-to-date informational facts free for life
- Includes: vinyl carrying case, earphones, battery sleeves, USB cable and CD-ROM with user manual and tutorial

MODEL	ITEM #
SkyScout Personal Planetarium	93970
SkyScout Scope 90*	21068
SkyScout Connect*	93980
Astronomy for Beginners Expansion Card*	93991
All About the Stars Expansion Card*	93992
SkyScout Speaker*	93985

\*For more information on all SkyScout Accessories please visit [www.celestron.com](http://www.celestron.com)

C14 – NEE 104 ■ By Sebastian Voltmer

LET THE SKYSCOUT BRING THE NIGHT SKY TO LIFE! IT'S LIKE HAVING AN EXPERT ASTRONOMER IN THE PALM OF YOUR HAND.



NEXSTAR 127SLT - 17



CGE PRO 1100 HD - 3E



NEXGUIDE - 36



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A fresh design approach to our entry level telescopes. Refractor and Newtonian telescope designs available on Altazimuth or German Equatorial mount.	
OMNI XLT® SERIES	12-13
Premium optical system with the finest StarBright XLT® coatings mounted on the CG-4 German Equatorial mount.	
LCM™ COMPUTERIZED TELESCOPE SERIES	14-15
Automatically locates the wonders of the universe with its motorized system and on board computer.	
NEXSTAR SLT® SERIES	16-17
Innovative entry to mid-level computerized telescopes. Features the revolutionary SkyAlign™ Alignment Technology and other advanced designs for an easy, enjoyable observing experience.	
NEXSTAR® SE SERIES	18-19
Since the introduction of the award-winning SE Series, Celestron continues on our mission to make astronomy as simple and fun as possible. The computerized SE Series features Schmidt-Cassegrain and Maksutov optical designs along with premium StarBright XLT coatings.	
CPC® GPS SERIES	20-21
Designed from the ground up, the CPC Series is an observatory class optical system featuring our world renowned Schmidt-Cassegrain optical tubes, StarBright XLT coatings and the extremely stable double fork arm mount.	
ADVANCED SERIES™	24-25
A medley of optical designs sit on our Advanced GT mount. Precision engineered for pristine stability, the Advanced GT mount comes equipped with features that enhance viewing the latest celestial events or capturing them via astrophotography.	
CGEM® SERIES	26-27
Uniquely positioned between the Advanced Series and the CGE Pro Series, the CGEM Series has the features serious astrophotographers are looking for, while remaining portable.	
CGE® PRO SERIES	28-29
Now we're getting serious! The CGE Pro Series is an observatory class optical system featuring our famous Schmidt-Cassegrain optical tubes, StarBright XLT coatings and the super beefy CGE mount.	
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Aplanatic Schmidt telescopes designed to produce aberration-free images across a wide visual and photographic field of view.	
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These telescopes are designed especially for terrestrial viewing but are also capable of casual astronomical observing.	
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Identical to the Schmidt-Cassegrain optical tubes featured on Celestron's high-end telescopes.	
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Looking to freshen up your mount and tripod? Upgrade with one of our superior CG-5 Computerized German Equatorial mounts or our improved CGE mount.	
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All Celestron telescopes are designed and intended for those 13 years of age and older.



## TELESCOPES AND HOW THEY WORK

A telescope's main task is to collect light to form the brightest possible optical image of the object it is focused on. This is accomplished by the primary optical element, called the "primary" or "objective" inside the telescope's optical tube; "primary" usually refers to the mirror in a reflecting telescope, while "objective" refers to the main lens of a refracting telescope. The image formed by the primary mirror is magnified by an easily removable component called an eyepiece. By using different eyepieces, you can easily change the magnification and the field of view of the image through your telescope.

There are several individual characteristics to help identify their differences, the most common differences are: Light Gathering Power, Limiting Magnitude, Resolution and Magnification. These crucial characteristics provide the most valuable information to help you easily determine what you can expect to see through a telescope.

### LIGHT GATHERING POWER

The most important characteristic of a telescope is its ability to gather light, which is determined by the diameter (or aperture); the larger the aperture, the more light it collects. Objects too faint, such as nebulae and galaxies, may not be seen by smaller aperture telescopes no matter how much it is magnified. A telescope's light gathering power is directly related to the diameter of its lens (mirror). As the diameter increases, the light gathering power increases by the square of the diameter. If you double the diameter of the primary lens, the light gathering ability increases by four times!

### LIMITING MAGNITUDE

Astronomers use "magnitudes" to indicate the brightness of a stellar object which determines what

can be detectable by the instrument. The larger the magnitude number the fainter the object is and each magnitude is a difference in brightness by a factor of 2.51 times. For example, a star that is considered 5th magnitude is 100x fainter than Vega, a 0 magnitude star ( $2.51^5$ ). With your own unaided eyes, the faintest star you could see is about 6th magnitude (from dark skies), whereas the brightest stars are magnitude zero or even a negative number. The faintest star you can see with a telescope (under excellent seeing conditions) is referred to as the "limiting magnitude." The limiting magnitude of a telescope is directly related to its aperture.



Newtonian Reflector Telescope

### RESOLUTION

The ability of a telescope to render fine detail; higher resolution gives you more detail on the surface of a planet or separate stars that are close together. Resolution is measured in terms of degrees, minutes of arc (arcminutes), and seconds of arc (arcseconds). Thus, something that spans one degree is also 60 arcminutes, or 3600 arcseconds (60x60). So, something that is one arcsecond is very small – only 1/3600th of a degree.

### MAGNIFICATION

Frequently referred to as "power" and is a function of the telescope's focal length and the eyepiece's focal length. The focal length is the distance from the primary lens to the point where the image is formed; the eyepiece magnifies the image. The highest magnification you can achieve with a telescope is determined by the size and light gathering ability of the primary lens. The practical limit is about 60x the diameter of the primary lens (in inches). Since many astronomical objects are relatively large but faint, medium magnification and a larger diameter primary lens to gather light is the best combination. When looking at stars, high power is of little use, with the exception of Binary Stars, since they always look like pinpoints and cannot be resolved as anything else.

### MAGNIFICATION FORMULA:

Magnification = Focal Length of Primary in mm / Focal Length of Eyepiece in mm

So, a telescope with a focal length of 2000 mm, using a 25 mm eyepiece:

Magnification =  $2000/25 = 80x$  the power of the unaided eye.



Refractor Telescope



# Celestron Technologies

## CELESTRON'S REVOLUTIONARY SKYALIGN™

Aligning your telescope is easier and faster than ever! Simply input your date, time and location (GPS models obtain this information automatically) and then direct the telescope at any three bright stars or objects of your choice. With Celestron's revolutionary SkyAlign you do not need to know the names of the stars and you can even use the Moon or bright planets! NexStar's advanced computer system will figure out which stars (or objects) were chosen and automatically align the telescope. SkyAlign is standard with NexStar SLT®, NexStar® SE and CPC® computerized telescopes.

Forget pointing the telescope north or leveling the optical tube! Pick three stars, any stars and start observing! The initial position of the telescope is irrelevant, giving you a fast and easy method for aligning telescopes.

**WELL HOW DOES IT WORK?** The NexStar software with SkyAlign simply calculates the angles measured between the objects and compares them to the known angles between objects. Using this method, the telescope determines what objects were chosen and will display which three objects were aligned for conformation.



## STARBRIGHT XLT® – AN OPTICAL SYSTEM BREAKTHROUGH



One of the most important factors in the evaluation of a Schmidt-Cassegrain telescope's optical system performance is its transmission – the percentage of incoming light that reaches the focal plane. The advanced breakthrough design of the XLT System accomplishes two crucial objectives – 1. To develop a coating system that is optimized for visual use and, 2. To optimize the coating system and optics for CCD/Photographic imaging.

The StarBright XLT High Performance Optical System design consists of:

- 1. UNIQUE ENHANCED MULTI-LAYER MIRROR COATINGS** Our mirror coatings are made from the most precise layers of Aluminum (Al), SiO<sub>2</sub> (Quartz) and TiO<sub>2</sub> (Titanium Dioxide). Reflectivity is fairly flat across the spectrum, optimizing it for both CCD imaging and visual use.
- 2. MULTI-LAYER ANTI-REFLECTIVE COATINGS** Made from precise layers of MgF<sub>2</sub> (Magnesium Fluoride), and HfO<sub>2</sub> (Hafnium Dioxide), which costs nearly \$2,000 per kilogram. Hafnium results in a wider band pass than Titanium, used in competitive coatings.
- 3. HIGH TRANSMISSION WATER WHITE GLASS** Our Schmidt-Cassegrain optical systems with StarBright XLT coatings use Water White glass instead of Soda Lime glass for the corrector lens. Water White glass transmits about 90.5% without anti-reflective coatings which results in 3.5% better transmission than uncoated Soda Lime glass. When Water White glass is used in conjunction with StarBright XLT anti-reflective coatings, the average transmission reaches a high 97.4% – an 8% improvement.

These three premium components of our breakthrough StarBright XLT coatings result in one of the finest most pristine coatings available worldwide. The peak transmission for the system is 89% at 520 nm and the overall system transmission is 83.5% averaged over the spectrum, from 400 to 750 nm.

## NEXREMOTE® REMOTE CONTROL SOFTWARE

Celestron has been in the forefront of computerized telescope technology for over two decades! We have taken this expertise one step further by introducing the NexRemote Telescope Remote Control Software. NexRemote allows the user to control their Celestron computerized telescope from a personal computer. Every function that can be done using the telescope's hand control can now be easily duplicated remotely from a PC or laptop. This software was developed for Celestron's telescopes that use the NexStar control system. These include the NexStar SLT Series, Advanced Series™, CPC Series and CGEM™ Series (NexRemote ships standard with CPC and CGEM Series and CGE Pro Mount).

# NexRemote

NexRemote provides full emulation of every aspect of the Celestron Computerized Hand Control, plus these additional powerful features:

- NexRemote voice output – conveniently allows you to keep your eyes on the stars instead of the LCD, by enabling speech support.
- Select the objects you want to see and the order in which you want to see them.
- Create and save custom tours using the NexTour feature.
- Reduce the effect of your bright laptop screen illumination on your eyes using Night Vision Mode.
- Wireless control of the telescope with optional game pad support.
- Use your own personal GPS device to interface with NexRemote using NexGPS.
- You can even download the latest NexRemote updates online!

## EDGE HD OPTICS

EdgeHD optics produce a focal plane more than three-times flatter than a standard Schmidt Cassegrain telescope and dramatically flatter than other competing coma-free designs. This guarantees you visibly sharp stars across some of the largest CCD chips available today. See page 30 for more information.

## ALL-STAR POLAR ALIGNMENT TECHNOLOGY

Select Celestron mounts can utilize a new innovative Polar alignment procedure called All-Star™. All-Star allows users to choose any bright star from the hand control, while the software calculates and assists with polar alignment.





# AstroMaster® Series



MOON - C&E 1100 ■ By Doris Thibault



AstroMaster 76EQ

Once again, Celestron offers an exceptional value! The AstroMaster Series features a compact and portable design with ample optical performance to excite any newcomer to the intriguing world of amateur astronomy.

### FIND THE ASTROMASTER MODEL THAT BEST SUITS YOUR NEEDS.

Looking for a dual-purpose telescope appropriate for both terrestrial and celestial viewing? Then the AstroMaster Series is just for you! Each AstroMaster model is capable of giving correct views of land and sky. The AstroMaster Series produces bright, clear images of the Moon and planets. Easily observe the belts and moons of Jupiter and the rings of Saturn with every one of these fine instruments. For breathtaking views of brighter deep space objects like galaxies and nebulae, we recommend the larger aperture and light-gathering ability of the Newtonian Reflectors.

Whether you're interested in watching whales, spotting birds, viewing nature, or observing your favorite star or planet, the Altazimuth-mounted models are ideal.

Alt-Az models come conveniently equipped with a pan handle and built-in clutch for easy targeting and smooth motion. Models featuring the German Equatorial mounts are perfect for viewing stars, nebulae, star clusters, and planets. The built-in setting circles aid in locating these magnificent objects.



AstroMaster 130EQ

**Every instrument features precision optical elements as well as smooth operating steel tripod mountings and manual motion controls. All models feature premium coated optics for enhanced image brightness and clarity.**

### ASTROMASTER SERIES FEATURES

- Quick and easy no-tool setup
- Permanently mounted StarPointer for convenience
- Erect image optics are ideal for terrestrial and astronomical use
- Quick release dovetail attachment for a quick, no-tool setup
- Pan handle Alt-Az control with clutch for smooth and accurate pointing (21061 and 21063)
- German Equatorial Mount equipped with setting circles to accurately locate and track sky objects (21062, 31035, 21064, 31042, 31045 and 31051)
- Rugged pre-assembled tripod with 1.25" steel tube legs provides a rigid and stable platform
- All coated glass optics for clear, crisp images
- Deluxe accessory tray for convenient and accessible storage of accessories
- TheSkyX astronomy software fully loaded with a 10,000 object database as well as enhanced images

PERFECTLY DESIGNED FOR THE FIRST TIME BUYER



THOUGHTFUL DESIGN MAKES THE ASTROMASTER SERIES  
 EASY TO SET-UP AND USE, PERFECT FOR THE NOVICE USER!



Alt-Az models come equipped with a convenient pan handle and built-in clutch for easy targeting and smooth motion. This mount design is best for viewing nature and celestial objects.



The German Equatorial mount is a great choice for viewing stars, nebulae, star clusters, and planets. Includes built-in setting circles to aid in accurately locating and tracking celestial objects.



Easily locate and identify thousands of celestial objects on your own personal laptop or PC with TheSkyX planetarium software, included FREE with every AstroMaster model.

MODEL	ITEM #	APERTURE	TYPE	FOCAL LENGTH	EYEPIECES	MOUNT	COATING	WEIGHT
AstroMaster 70AZ	21061	70 mm (2.8")	Refractor	900 mm f/13	20 mm (45x), 10 mm (90x)	Altazimuth	Fully Coated	18 lbs
AstroMaster 70EQ	21062	70 mm (2.8")	Refractor	900 mm f/13	20 mm (45x), 10 mm (90x)	CG-2 Equatorial	Fully Coated	18 lbs
AstroMaster 76EQ	31035	76 mm (3")	Reflector	700 mm f/9	20 mm (35x), 10 mm (70x)	CG-2 Equatorial	Aluminum	16 lbs
AstroMaster 90AZ	21063	90 mm (3.5")	Refractor	1000 mm f/11	20 mm (50x), 10 mm (100x)	Altazimuth	Multi-coated	20 lbs
AstroMaster 90EQ	21064	90 mm (3.5")	Refractor	1000 mm f/11	20 mm (50x), 10 mm (100x)	CG-3 Equatorial	Multi-coated	23 lbs
AstroMaster 114EQ	31042	114 mm (4.5")	Reflector	1000 mm f/9	20 mm (50x), 10 mm (100x)	CG-2 Equatorial	Aluminum	17 lbs
AstroMaster 130EQ	31045	130 mm (5")	Reflector	650 mm f/5	20 mm (33x), 10 mm (65x)	CG-3 Equatorial	Aluminum	24 lbs
AstroMaster 130EQ-MD*	31051	130 mm (5")	Reflector	650 mm f/5	20 mm (33x), 10 mm (65x)	CG-3 Equatorial	Aluminum	25 lbs

\* Includes Motor Drive

For complete specifications and product information, visit: [www.celestron.com](http://www.celestron.com)



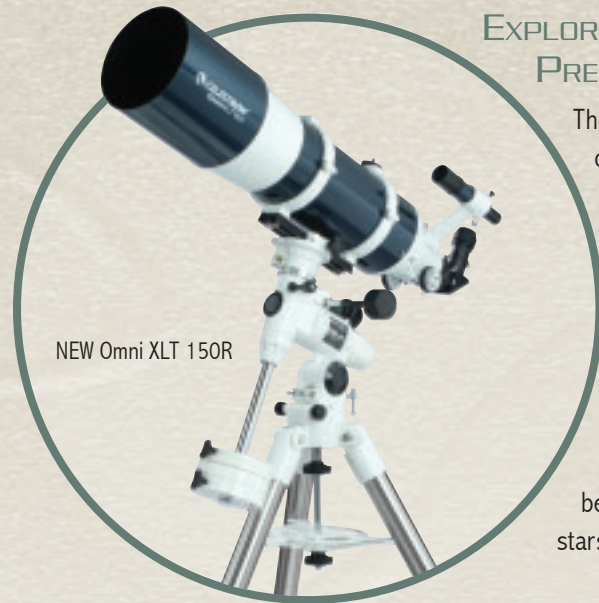
Omni XLT® Series

PERSEUS DOUBLE CLUSTER — OMNI XLT 150 — By Jamie Flores

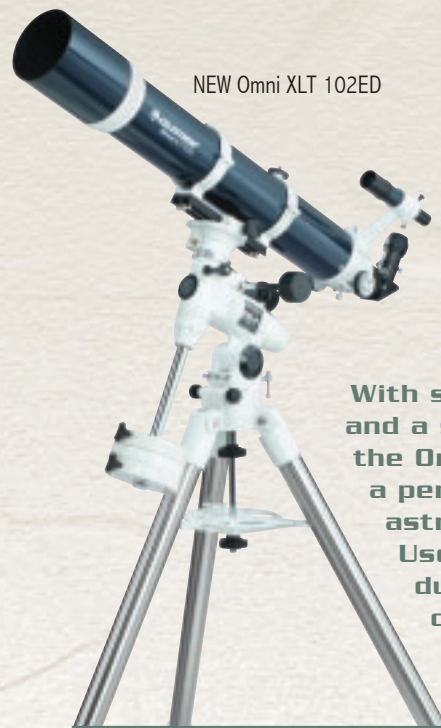
## EXPLORE THE UNIVERSE WITH YOUR OWN PERSONAL PREMIUM OPTICAL SYSTEM

The Omni XLT Series features refractor, reflector and Schmidt-Cassegrain optical designs. The base of operations for the Omni XLT Series is the CG-4 heavy-duty German Equatorial mount and sturdy tripod equipped with 1.75" stainless steel legs. The center tray adds additional rigidity and vibration dampening as well as a convenient place to store accessories.

Along with the stable platform of the CG-4 mount, the Omni XLT Series features high quality optics. Using aspheric shaping technology in conjunction with hand-figured optics, the Omni XLT presents a spectacular image with virtually no spherical aberration. We also added our famous StarBright XLT coating system to further enhance light transmission for the best image available. This optical system will have you looking forward to the stars coming out every night!



NEW Omni XLT 150R



NEW Omni XLT 102ED

**With superior optics and a stable platform the Omni XLT Series is a perfect choice for astrophotography. Use the optional dual-axis motor drive (#93522) to track objects for long exposure photography.**

### OMNI XLT SERIES FEATURES

- High quality optics with each lens and/or mirror being hand selected with the finest grade of optical glass
- Advanced StarBright XLT® coatings provide maximum light transmission
- 25 mm multi-coated eyepiece — 20 mm eye relief, 50° FOV
- 1.25" star diagonal (except #31057)
- CG-4 German Equatorial Mount with setting circles and slow motion controls — to accurately locate and track sky objects
- Ball bearings in both axis of the mount for an easy, smooth performance
- Heavy-duty pre-assembled stainless steel tripod featuring 1.75" steel legs, accessory tray and convenient bubble level
- Easy no-tool setup
- TheSkyX astronomy software with a 10,000 object database for enhanced images and learning

A PREMIUM OPTICAL SYSTEM



A TELESCOPE DESIGNED WITH HIGH QUALITY OPTICS AND A  
 STABLE PLATFORM THAT SERIOUS AMATEURS CAN APPRECIATE.



Easily locate and identify thousands of celestial objects on your own personal laptop or PC with TheSkyX astronomy software, included as a FREE BONUS with every Omni XLT model.



A tall Finderscope mount for easier viewing through the Finderscope. Machined focus knobs for fine tuning focus.



The CG-4 German Equatorial mount has a freshly refined style and provides the stability you expect from the CG mounts.

MODEL	ITEM #	APERTURE	TYPE	FOCAL LENGTH	EYEPIECES	FINDERSCOPE	COATINGS	WEIGHT
Omni XLT 102	21088	102 mm (4")	Refractor	1000 mm f/10	25 mm (40x)	6x30	StarBright XLT	43 lbs
Omni XLT 102ED	21092	102 mm (4")	Refractor	900 mm f/10	25 mm (36x)	6x30	StarBright XLT	41.5 lbs
Omni XLT 120	21090	120 mm (4.7")	Refractor	1000 mm f/8.3	25 mm (40x)	6x30	StarBright XLT	46 lbs
Omni XLT 127	11084	127 mm (5")	Schmidt-Cassegrain	1250 mm f/10	25 mm (50x)	6x30	StarBright XLT	40 lbs
Omni XLT 150	31057	150 mm (6")	Newtonian Reflector	750 mm f/5	25 mm (30x)	6x30	StarBright XLT	45.5 lbs
Omni XLT 150R	21094	150 mm (6")	Refractor	750 mm f/5	25 mm (30x)	6x30	StarBright XLT	49.5 lbs

For complete specifications and product information, visit: [www.celestron.com](http://www.celestron.com)



New! LCM Computerized Telescope Series



## NEW LCM SERIES COMPUTERIZED TELESCOPES

All glass fully coated optics reveal the depths of our solar system and the wonders of the Universe. Fully adjustable tripod features a convenient accessory tray. Easy to use computerized hand control allows user to locate objects at the touch of a button.

### LCM SERIES FEATURES

- Hand Control with 4,000+ object database with lightweight computerized mount
- Quick release mount, optical tube and accessory tray for no-tool setup
- SkyAlign Technology allows you to align on any three bright objects for a fast and easy alignment process
- Built-on StarPointer finderscope to help with alignment and accurately locating objects
- Internal battery compartment to prevent cord wrap during use
- Flash upgradeable hand control software and motor control units for downloading product updates over the Internet
- Compatible with optional NexRemote telescope control software for advanced control of your telescope via computer
- TheSkyX astronomy software with a 10,000 object database, printable sky maps and enhanced images
- 2 Year Warranty

MOTORIZED SYSTEM AND ON BOARD COMPUTER



*AUTOMATICALLY LOCATES THE WONDERS OF THE UNIVERSE* —————  
 ————— *WITH ITS MOTORIZED SYSTEM AND ONBOARD COMPUTER!*



MODEL	ITEM #	APERTURE	TYPE	FOCAL LENGTH	EYEPIECES	FINDERSCOPE	COATINGS	WEIGHT
60LCM	22050	60 mm (2")	Refractor	700 mm f/12	25 mm (28x), 9 mm (78x)	Built-on StarPointer	Fully-Coated	10 lbs
80LCM	22051	80 mm (3")	Refractor	900 mm f/11	25 mm (36x), 9 mm (100x)	Built-on StarPointer	Fully-Coated	14 lbs
114LCM	31150	114 mm (4.5")	Newtonian Reflector	1000 mm f/8.8	25 mm (40x), 9 mm (111x)	Built-on StarPointer	Fully-Coated	15 lbs

————— For complete specifications and product information, visit: [www.celestron.com](http://www.celestron.com) —————



These **Star Locating Telescopes** are designed to be affordable entry to mid-level instruments that integrate quality hardware with our revolutionary, patented SkyAlign technology. Featuring refractor and reflector optical designs, these scopes are available in the most popular sizes and are loaded with design features that any amateur astronomer will appreciate.

NexStar SLT telescopes are designed for a no-tool setup in a matter of minutes! Every model comes with a pre-assembled adjustable stainless steel tripod, a quick release fork arm mount and a pristine optical tube. This revolutionary telescope provides spectacular details of the lunar surface, Venus and its phases, Mars resolved as an orange disc, Jupiter and four of its moons, Saturn with its incredible rings and much more! Almost every NexStar SLT model can be used as a land-based spotting telescope.

### INTELLIGENT DESIGN

Powered by 8 AA user supplied batteries or an optional AC Adapter (#18778) which make this a perfect telescope for traveling. High level precision servo motors provide rigid low-vibration for the smoothest performance.

The NexStar's ergonomically-designed hand control can be easily removed from its holder for remote use or can be left cradled for a hands-free operation. With the touch of a button you can select an object from the catalog, change the slew speed, view fascinating information about an object, or simply find out if a desired object is visible in the sky.



NexStar 102SLT

### CELESTRON'S REVOLUTIONARY SKYALIGN

Celestron's patented SkyAlign allows you to simply input the date, time and location into the hand control and slew the telescope to any three bright celestial objects in the sky. Knowing the names of stars is not required. You can even pick the Moon or bright planets, making alignment easier and faster than ever!

### NEXSTAR SLT SERIES FEATURES

- Computerized hand control with a 4,000+ object database
- Quick-release fork arm mount, optical tube and accessory tray for a convenient and quick no-tool setup
- SkyAlign allows you to easily align any three bright celestial objects, for a fast and easy alignment process
- Equipped with TheSkyX astronomy software and NSOL telescope control software giving you complete control of your telescope via PC or laptop
- Internal battery compartment to prevent cord wrap during use
- Sturdy stainless steel tripod
- StarPointer Finderscope to help with alignment
- Auxiliary port for additional accessories such as a GPS accessory
- Motorized Altazimuth mount and fully computerized hand control
- U.S. and International city database to easily set your location
- Flash upgradeable hand control software and motor control units

STYLISH DESIGN AND SKYALIGN TECHNOLOGY



EQUIPPED WITH A COMPUTERIZED SINGLE FORK ARM DESIGN AND  
 AN AUXILIARY PORT FOR ADDITIONAL ACCESSORIES.

NEXSTAR 90SLT



NEXSTAR 127SLT



NEXSTAR 130SLT



REVOLUTION AND EVOLUTION COMBINE TO CREATE AN ADVANCED STAR LOCATING TELESCOPE FEATURING STYLISH DESIGNS AND STATE OF THE ART SKYALIGN TECHNOLOGY.



The NexStar SLT telescopes feature Celestron's SkyAlign technology. Simply input the date, time and your location into the hand control then point the hand control at any three bright celestial objects in the sky. What about the rest? Leave it to SkyAlign! No more guessing or knowledge of the night sky is needed. Simply point and observe!

MODEL	ITEM #	APERTURE	TYPE	FOCAL LENGTH	EYEPIECES	FINDERSCOPE	MOUNT	WEIGHT
NexStar 90SLT - New!	22087	90 mm (3.5")	Maksutov-Cassegrain	1250 mm f/14	25 mm (50x), 9 mm (139x)	StarPointer	Altazimuth	12 lbs
NexStar 127SLT - New!	22097	127 mm (5")	Maksutov-Cassegrain	1500 mm f/12	25 mm (60x), 9 mm (167x)	StarPointer	Altazimuth	18 lbs
NexStar 102SLT	22096	102 mm (4")	Refractor	660 mm f/6.5	25 mm (26x), 9 mm (73x)	StarPointer	Altazimuth	14 lbs
NexStar 130SLT	31145	130 mm (5")	Reflector	650 mm f/5	25 mm (26x), 9 mm (72x)	StarPointer	Altazimuth	18 lbs

For complete specifications and product information, visit: [www.celestron.com](http://www.celestron.com)



NexStar® SE Series



NexStar 5SE

## ASTRONOMY MADE SIMPLE

Following the tradition of Celestron's legendary orange optical tubes, the NexStar SE family combines classic telescope design with state of the art features, which include a fully computerized operating system, flash upgradeable hand control, superior StarBright XLT coatings, our revolutionary SkyAlign™ alignment software and much more.

Indecisive? Let the intelligent NexStar SE give you your own personal guided tour of the night sky! The "Tour" feature offers a customized list of the best objects in the sky to view at your exact time and location, anywhere in the world. Not only will your NexStar SE find objects, it can help you learn about them as well. Information on the most popular objects can be viewed in the LCD screen of your hand control.

Whether you are a seasoned astronomer looking for a conveniently portable telescope with advanced features, or just starting on your astronomy adventure and want an easy way to enjoy and learn about the night sky, a NexStar SE telescope will bring the universe to your fingertips.

## CELESTRON'S REVOLUTIONARY SKYALIGN™

With Celestron's patented SkyAlign simply input the date, time and your location into the hand control and point to any three bright celestial objects and your telescope will do the rest for you. Knowing the names is not necessary; you can even pick the Moon or bright planets!



NexStar 6SE

**You are in the driver's seat! Simply select an object from the menu and the telescope will find it for you. Using our NexStar technology, the SE telescopes can locate nearly 40,000 objects. Just look through the eyepiece and indulge yourself in our vast universe.**

## NEXSTAR SE SERIES FEATURES

- Set up in a matter of minutes with no extra tools required
- Computerized hand control loaded with a nearly 40,000 object database and motorized altazimuth mount
- Quick release optical tube for user convenience
- Award winning StarBright XLT® coatings for maximum light transmission and clarity
- SkyAlign™ provides simple alignment with only three bright celestial objects, for a fast and easy alignment process
- StarPointer Finderscope to aid in alignment and to accurately locate objects
- Flash upgradeable hand control; update your telescope's operating software via the internet
- Internal battery compartment to prevent cord wrap during use
- Includes NexRemote™ telescope control software, for advanced control of your telescope via PC or laptop
- TheSkyX astronomy software with a 10,000 object database, printable sky maps and enhanced images

SKYALIGN TECHNOLOGY

MERCURY TRANSIT - CG REG - By Phil Cowell



WITH THE TOUCH OF A BUTTON, THE NEXSTAR SE WILL LOCATE THOUSANDS OF  
 STARS, PLANETS, GALAXIES AND MUCH MORE!



EXCLUSIVE FEATURES OF THE NEXSTAR 4SE AND 5SE  
 Tripod features a built-in wedge for astrophotography.  
 Includes a camera control feature that allows you to remotely take  
 a series of timed exposures using your digital SLR camera.



With our revolutionary SkyAlign technology, align your telescope in  
 a matter of minutes. Enter the date, time and your location, then  
 simply pick any three bright celestial objects, the Moon and bright  
 planets included, and let your computerized telescope do the rest!  
 You do not even need to know the names of the objects!



MODEL	ITEM #	APERTURE	OPTICAL DESIGN	FOCAL LENGTH	EYEPIECES	FINDERSCOPE	MOUNT	WEIGHT
NexStar 4SE	11049	4" (102 mm)	Maksutov-Cassegrain	1325 mm f/13	25 mm (53x)	StarPointer	Altazimuth	21 lbs
NexStar 5SE	11036	5" (125 mm)	Schmidt-Cassegrain	1250 mm f/10	25 mm (50x)	StarPointer	Altazimuth	28 lbs
NexStar 6SE	11068	6" (150 mm)	Schmidt-Cassegrain	1500 mm f/10	25 mm (60x)	StarPointer	Altazimuth	30 lbs
NexStar 8SE	11069	8" (203 mm)	Schmidt-Cassegrain	2032 mm f/10	25 mm (81x)	StarPointer	Altazimuth	33 lbs

For complete specifications and product information, visit: [www.celestron.com](http://www.celestron.com)



CPC® GPS Series

NORTH AMERICAN NEBULA - CPC 800 ■ By John Buonomo

## THE TELESCOPES OF TOMORROW ARE HERE TODAY!

Advanced engineering and a bold design at a price that is out of this world! Celestron's CPC Series with revolutionary SkyAlign alignment technology re-defines everything that amateur astronomers are looking for – quick and simple alignment, GPS, unsurpassed optical quality, ease of set-up and use, ergonomics, enhanced computerization and, most important, affordability.

Internal GPS automatically downloads the date and time from orbiting satellites and pinpoints its exact location on Earth. This eliminates the need for you to manually enter the date, time, longitude and latitude.

Then use our revolutionary SkyAlign technology to align your telescope. Simply locate and manually point (slew) the telescope to three bright celestial objects. You do not need to know the names of the stars – you may even pick the moon or bright planets!

Celestron's NexStar® software technology will model the night sky to determine the position of every star, planet and celestial object above the horizon. Once aligned, the computerized hand control allows direct access to each of the celestial catalogs in its user-friendly database.



**The CPC GPS Series with revolutionary SkyAlign Alignment Technology re-defines everything that amateur astronomers are looking for.**

### CPC GPS SERIES FEATURES

- Precision drive base and drive mechanics for quiet operation; large drive gears, quick release clutch; Auxiliary ports for AutoGuider, PC; easily mounts to tripod
- Convenient hand control holder allows you to view information hands free while using the scope
- 40,000+ object database
- Flash upgradeable hand control software and motor control units
- Easy to locate over-sized clutching knobs on both axes for manual use
- Ultra-wide 9.8" bearing track drive base provides smooth stable tracking at any rate
- Permanent Periodic Error Correction (PEC)
- NexRemote® included
- Heavy-duty steel leg tripod with accessory tray/center leg support bracket for rock solid stability; spring-loaded mounting screws and recessed mounting platform for quick setup

ERGONOMICALLY DESIGNED



THE CPC SERIES IS *ERGONOMICALLY* DESIGNED FOR  
*EASY ONE PERSON TRANSPORT AND ASSEMBLY!*



Drive base and drive mechanics feature quiet operation, large drive gears, quick release clutch, auxiliary ports for expandibility and easy attachment to tripod.



The CPC Series is ergonomically designed for easy one person transport and assembly.



MODEL	ITEM #	APERTURE	TYPE	FOCAL LENGTH	EYEPIECES	FINDERSCOPE	COATINGS	WEIGHT
CPC 800 (XLT)	11073-XLT	203 mm (8")	Schmidt-Cassegrain	2032 mm f/10	40 mm (51x)	9x50	StarBright XLT	69 lbs
CPC 925 (XLT)	11074-XLT	235 mm (9.25")	Schmidt-Cassegrain	2350 mm f/10	40 mm (59x)	9x50	StarBright XLT	85 lbs
CPC 1100 (XLT)	11075-XLT	279 mm (11")	Schmidt-Cassegrain	2800 mm f/10	40 mm (70x)	9x50	StarBright XLT	92 lbs

For complete specifications and product information, visit: [www.celestron.com](http://www.celestron.com)



# ASTROPHOTOGRAPHY

HORSEHEAD NEBULA



NEXSTAR 11 GPS ■ By Lenny Shaffe

SATURN



ADVANCED CB ■ By Carmine Gargiulo

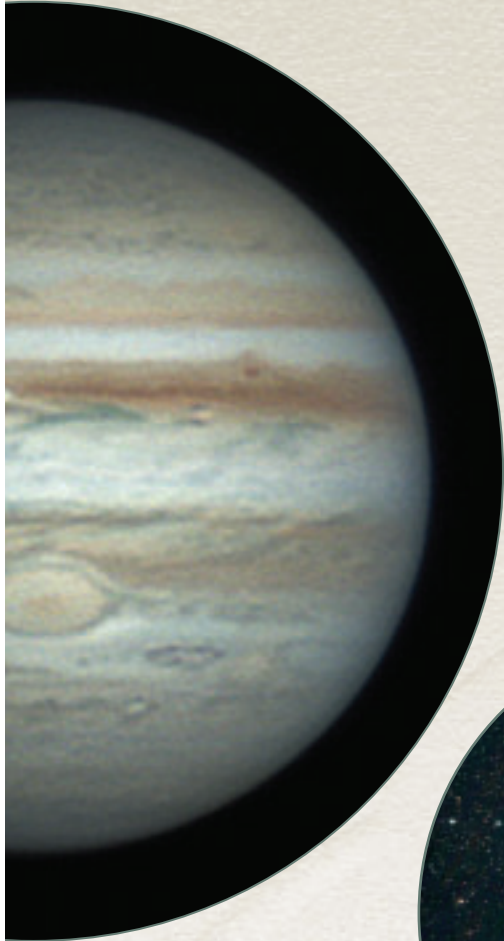
JUPIT



C14 ■ By Seba



JUPITER



By Sebastian Voltmer

IC 1396



CGE 800 ■ By John Buonomo

NGC 7000



CGE PRO 1100 HD ■ By Jason Fournier



Advanced Series™

ROSETTE NEBULA - CGE 800 ■ By John Buonomo



Advanced C10-NGT

The Advanced Series family of computerized GoTo telescopes was designed to offer the novice or more advanced user a selection of models with the features and quality that serious amateurs can appreciate.

### CG-5 MOUNT PRECISION ENGINEERED FOR STABILITY

The CG-5 German Equatorial mount has precision worm gears located on both axes for extremely smooth operation. The key component in making this system the most stable in its class is the heavy-duty tripod. Featuring larger and more substantial legs that offer excellent dampening characteristics for the most stable views. The CG-5 comes equipped with a convenient latitude scale for easier alignment and an optional polar Finderscope for the ultimate in precision alignments.

### GoTo CONVENIENCE AND GPS COMPATIBILITY FOR PRECISION ACCURACY

We proudly offer the Advanced Series on a computerized GoTo CG-5 mount. Couple this solidly-built mount with the included NexStar® computerized control system to utilize several of the same functions and features as Celestron's most advanced GoTo telescopes. The Advanced Series can be upgraded to GPS with the optional SkySync GPS Accessory (#93969). This accessory conveniently allows your telescope to pinpoint your exact location on Earth, and the date and time, to make the alignment process faster and easier than ever before! The Advanced Series also comes fully loaded with new software features and a 40,000+ object database. Capable of holding over 35 lbs of payload and slewing at 4° per second, you can quickly point to any of the celestial objects in the database. Let Celestron bring the universe to you.



Advanced C11-SGT

**All Advanced Series telescopes sit atop the heavy-duty CG-5 German Equatorial mount which features ultra-sturdy 2" stainless steel legs and center tray for superior rigidity and vibration dampening.**

### ADVANCED SERIES FEATURES

- Computerized CG-5 German Equatorial Mount
- Ultra sturdy adjustable tripod with 2" stainless steel legs
- TheSkyX astronomy software with a 40,000+ object database
- DC servo motors with encoders located on both axes
- Hand control with double line, 16 character LCD display; red night vision backlighting
- RS-232 communication port on hand control; Auxiliary Port and Autoguider port on motor drive

A MODEL TO FIT YOUR VIEWING NEEDS



THE ADVANCED SERIES FEATURES **FOUR OPTICAL DESIGN CHOICES** ———  
 ——— ON ONE **ULTRA STABLE VIEWING PLATFORM!**



The CG-5 German Equatorial mount is equipped with precision worm gears on both axes for extremely smooth operation and additional auxiliary ports for accessories such as the SkySync GPS Kit.

MODEL	ITEM #	APERTURE	TYPE	FOCAL LENGTH	EYEPIECES	FINDERSCOPE	COATINGS	WEIGHT
C6-NGT	31054	150 mm (6")	Reflector	750 mm f/5	20 mm (38x)	6x30	Aluminum	54 lbs
C6-RGT	21020	150 mm (6")	Refractor	1200 mm f/8	20 mm (60x)	9x50	Multi-coated	68 lbs
C6-SGT (XLT)	11079-XLT	150 mm (6")	Schmidt-Cassegrain	1500 mm f/10	25 mm (60x)	6x30	StarBright XLT®	54 lbs
C8-NGT	31062	200 mm (8")	Reflector	1000 mm f/5	20 mm (50x)	9x50	Aluminum	67 lbs
C8-SGT (XLT)	11026-XLT	203 mm (8")	Schmidt-Cassegrain	2032 mm f/10	25 mm (81x)	6x30	StarBright XLT	54 lbs
C9.25-SGT (XLT)	11046-XLT	235 mm (9.25")	Schmidt-Cassegrain	2350 mm f/10	25 mm (94x)	6x30	StarBright XLT	74 lbs
C10-NGT	11048	254 mm (10")	Reflector	1200 mm f/4.7	20 mm (60x)	9x50	Aluminum	93 lbs
C11-SGT (XLT)	11067-XLT	279 mm (11")	Schmidt-Cassegrain	2800 mm f/10	40 mm (70x)	9x50	StarBright XLT	91 lbs

————— For complete specifications and product information, visit: [www.celestron.com](http://www.celestron.com) —————



# CGEM™ Series



M42 - CGEM 1100 ■ By Jason Fournier



The hot CGEM mount has a fresh, attractive, bold appearance and is capable of carrying Celestron's higher-end SCT optical tubes (up to 11") securely and vibration free, which is ideal for both imaging and visual observing.

## CGEM – A FEAST FOR YOUR EYES IN MORE WAYS THAN ONE

CGEM was designed to be ergonomically friendly with large Altitude and Azimuth adjustment knobs for quick and easy polar alignment adjustment. CGEM has a new innovative Polar alignment procedure called All-Star™. All-Star allows users to choose any bright star from the hand control, while the software calculates and assists with polar alignment. Another great feature of the CGEM, sure to please astroimagers, is the Permanent Periodic Error Correction (PEC) which will allow users to train out the worm gears periodic errors, while the mount retains the PEC recordings.

For objects near the Meridian (imaginary line passing from North to South), the CGEM will track well past the Meridian for uninterrupted imaging through the most ideal part of the sky. The CGEM mount has a robust database with over 40,000 objects, 100 user defined programmable objects and enhanced information on over 200 objects.

**Also available with Edge HD Optics. See pages 30 and 31.**



**LARGE MOUNTING PLATFORM – CGE style mounting platform for secure, vibration free tube attachment.**

## CGEM SERIES FEATURES

- NEW All-Star™ Polar Alignment lets you choose any bright alignment star for a software assisted alignment of the mounts polar axis that will have you ready for imaging even if you can't see the North Star
- Permanent PEC, permanently programmable periodic error correction (PEC) corrects for periodic tracking errors inherent to all worm drives. Mount will remember its PEC compensation once trained
- Meridian Tracking, for extended tracking past the Meridian for uninterrupted imaging through the best part of the sky
- CGE style mounting platform for secure, vibration free tube attachment
- Polar alignment control knob with larger, easy to move adjustment knobs for both Altitude and Azimuth
- Improved database with 40,000+ objects, 100 user defined programmable objects and enhanced information on over 200 objects

**FRESH, ATTRACTIVE, BOLD APPEARANCE**



# THE TELESCOPES OF TOMORROW

ARE HERE TODAY!



NEW All-Star™ Polar Alignment – Choose any bright alignment star for a software assisted alignment of the mount's polar axis that will have you ready for imaging before it's even dark enough to see the North Star.



Large mounting platform – CGE style mounting platform for secure, vibration free tube attachment.



MODEL	ITEM #	FOCAL LENGTH	EYEPIECES	FINDERSCOPE	COATINGS	MOUNT	OPTICAL TUBE	WEIGHT
CGEM 800	11097	2032 mm f/10	25 mm (81x)	6x30	Starbright XLT	Equatorial	Aluminum	88 lbs
CGEM 925	11098	2350 mm f/10	25 mm (94x)	6x30	Starbright XLT	Equatorial	Aluminum	113 lbs
CGEM 1100	11099	2800 mm f/10	40 mm (70x)	9x50 with quick release bracket	Starbright XLT	Equatorial	Aluminum	120 lbs

For complete specifications and product information, visit: [www.celestron.com](http://www.celestron.com)



CGE™ Pro Series

TRIFID NEBULA — NEXSTAR II GPS — By Richard Richins



CGE Pro 1400

## CELESTRON'S NEWEST LINE OF OBSERVATORY CLASS GERMAN EQUATORIAL TELESCOPES

The CGE Pro computerized series is part of Celestron's line of observatory class German equatorial telescopes. Offered with 9.25", 11" and 14" aperture Schmidt Cassegrain optical tubes, they all come mounted on the new state of the art CGE Pro GoTo mount.

The German Equatorial mount has long been the favored choice of astronomy buffs and astrophotographers because of its stability and portability. More stable because the center of gravity is directly over the center of its base, more portable because it can be broken down into smaller component parts for easy storage and transportation.

For astrophotography, the German Equatorial mount offers easier balancing, unlimited space at the rear of the telescope tube to mount a camera, and whole sky access. Now you can enjoy all of the NexStar software and database features with the extra stability and portability of a German Equatorial mount.

**Also available with Edge HD Optics. See pages 30 and 31.**

### CGE PRO SERIES FEATURES

- Schmidt-Cassegrain optics with Starbright XLT coating
- Autoguide port, PC port and auxiliary ports located on the electronic pier
- 9 pin connector cable for secure connections
- DC Servo motors with encoders on both axes. Precision made cut-steel gears in gearbox for improved tracking precision. High quality motors with seven slot skewed armature to minimize magnetic cogging for quiet operation and long life
- Precision worm drive system - .75" pitch diameter precision made steel worm preloaded with two .87" OD ball bearings to minimize run-out (a source of periodic error). 255 teeth 6" pitch diameter precision made worm wheel with enveloping brass teeth
- Main shafts are made from 1.57" diameter steel tubing with .40" wall thickness with two preloaded 2.68" O.D. tapered roller bearings on each axis
- 4 point RA and DEC clutch system for no-slip pointing precision
- Primary mirror focusing mechanism is supported by two pre-loaded ball bearings, minimizing the "mirror flop" typical of bushing focus mechanisms
- 40,000+ object database with 100 user-defined objects
- All-Star Polar Alignment routine for both Northern and Southern Hemispheres
- Database Filter Limits, Hibernate, five alignment methods and user-defined slew limits
- Permanent programmable periodic error correction (PEC) — corrects for periodic tracking errors inherent to all worm drives
- Latitude range: 10° to 60° Northern or Southern Hemispheres
- Heavy duty stainless steel tripod adjustable from 38" to 55"
- Maximum payload: 90 lbs

ROCK SOLID OBSERVATORY CLASS GERMAN EQUATORIAL MOUNT



THE CGE PRO PROVIDES A ROCK SOLID BASE  
 FOR THE SCHMIDT-CASSEGRAIN OPTICAL DESIGN



In addition to being fully computerized with a database of over 40,000 celestial objects, the CGE Pro German Equatorial mount has been completely redesigned to offer numerous design advantages:

**INCREASED PAYLOAD CAPACITY**

Able to hold the 14" telescope more securely as well as larger optical tubes with a maximum payload of 90 lbs.

**ALL-STAR POLAR ALIGNMENT**

Choose any bright alignment star for a software assisted alignment of the mounts polar axis that will have you ready for imaging even if you can't see the North Star.

**NO-TOOL POLAR ALIGNMENT**

Larger hand knobs for both Altitude and Azimuth adjustments.

**MERIDIAN TRACKING**

Extended tracking past the Meridian of up to 20 degrees of uninterrupted imaging through the best part of the sky.

**FASTER SLEW SPEED**

Improved gearing and motors provide faster slew speeds than ever before with a maximum slew rate of over 5°/per second.

MODEL	ITEM#	FOCAL LENGTH	EYEPIECES	FINDER SCOPE	OPTICAL COATING	OPTICAL DESIGN	OPTICAL TUBE	TELESCOPE WEIGHT
CGE Pro 925	11086	2350 mm f/10	25 mm – 1.25" (94x)	6x30	Starbright XLT	9.25" Schmidt-Cassegrain	Aluminum	176 lbs
CGE Pro 1100	11087	2800 mm f/10	40 mm – 1.25" (70x)	9x50	Starbright XLT	11" Schmidt-Cassegrain	Aluminum	204 lbs
CGE Pro 1400	11088	3910 mm f/11	40 mm – 1.25" (98x)	9x50	Starbright XLT	14" Schmidt-Cassegrain	Aluminum	243 lbs
CGE Pro 1400 Fastar	11089	3910 mm f/11	40 mm – 1.25" (98x)	9x50	Starbright XLT	14" Schmidt-Cassegrain	Aluminum	243 lbs

For complete specifications and product information, visit: [www.celestron.com](http://www.celestron.com)



New! EdgeHD™ Optics

NORTH AMERICAN NEBULA — EDGE HD 11" ■ By Jason Fournier



CGE Pro 1400 HD

## TRUE ASTROGRAPH QUALITY

Many optical designs that advertise themselves as “astrograph” quality actually only produce pinpoint stars across a curved focal plane. While this may be acceptable for visual observing, stars will appear out of focus at the edge when used with a flat chip sensor of a digital camera. EdgeHD optics produce a focal plane more than three-times flatter than a standard Schmidt Cassegrain telescope and dramatically flatter than other competing coma-free designs. This guarantees you visibly sharp stars across some of the largest CCD chips available today.

## IMPROVED PERFORMANCE

Superior edge performance not only creates rounder, more pleasing stars but actually improves the resolution and limiting magnitude when compared to telescopes of equal aperture.

## STARBRIGHT XLT® COATINGS

Coupled with Celestron’s StarBright XLT coating group on every surface, EdgeHD optics gives you maximum light throughput across the widest visual and photographic spectrum.

EdgeHD is an aplanatic Schmidt telescope designed to produce aberration-free images across a wide visual and photographic field of view. The optical system was designed to reduce more than just off-axis star coma, but also to give an astrograph quality flat focal plane all the way to the edge of the field of view.

**EDGEHD  
OPTICS**

## EDGEHD TELESCOPES FEATURES

- EdgeHD Optics
- Celestron premium StarBright XLT coatings
- Mirror Clutches – Flexible tension clutches hold the mirror in place and reduce image shift when rotating the tube around the mount
- All EdgeHD optical tubes are Fastar® compatible for ultra fast f/2 wide field imaging
- Tube Vents – Cooling vents located on the rear cell allow hot air to be released from behind the primary mirror
- 9x50 finderscope with quick release bracket to help accurately find objects
- Star diagonal provides a more comfortable viewing position when observing objects that are high in the sky

SEE THE UNIVERSE IN HD!



# INTRODUCING CELESTRON'S NEW APLANATIC SCHMIDT TELESCOPE DESIGN!



INTRODUCING CELESTRON'S NEW APLANATIC SCHMIDT TELESCOPE DESIGN! • Visibly Sharper Images • Superior Performance • Enhanced Mechanical Features • Fastar® Compatible

MODEL	ITEM #	APERTURE	OPTICAL DESIGN	FOCAL LENGTH	EYEPIECES	FINDERSCOPE	COATINGS	WEIGHT
CGEM 800 HD	11080	203 mm (8")	Aplanatic Schmidt	2032 mm f/10	40 mm – 1.25" (51x)	9x50	Starbright XLT	88 lbs
CGEM 925 HD	11081	235 mm (9.25")	Aplanatic Schmidt	2350 mm f/10	23 mm Axiom – 2" (102x)	9x50	Starbright XLT	113 lbs
CGEM 1100 HD	11082	280 mm (11")	Aplanatic Schmidt	2800 mm f/10	23 mm Axiom – 2" (122x)	9x50	Starbright XLT	120 lbs
CGE PRO 925 HD	11092	235 mm (9.25")	Aplanatic Schmidt	2350 mm f/10	23 mm Axiom – 2" (102x)	9x50	Starbright XLT	196 lbs
CGE PRO 1100 HD	11093	280 mm (11")	Aplanatic Schmidt	2800 mm f/10	23 mm Axiom – 2" (122x)	9x50	Starbright XLT	204 lbs
CGE PRO 1400 HD	11094	356 mm (14")	Aplanatic Schmidt	3910 mm f/11	23 mm Axiom – 2" (170x)	9x50	Starbright XLT	243 lbs

For complete specifications and product information, visit: [www.celestron.com](http://www.celestron.com)



# Specialty Telescopes



FirstScope

## FIRSTSCOPE

- FirstScope pays tribute to the men and women who brought us one step closer to understanding the universe around us!
- High quality Dobsonian style stand with a 76 mm reflector optical tube make FirstScope an ideal entry level astronomical telescope.
- Portable and lightweight table-top design makes it easy to store, transport and setup your FirstScope Telescope.
- FirstScope is very easy to observe with, the user simply navigates the night sky by moving the tube in the direction of their desired object. Also great for terrestrial viewing.
- Stylish and decorative design makes FirstScope a wonderful keepsake for anyone interested in astronomy.



Ambassador 80AZ

## AMBASSADOR

The Ambassador Brass Refractor Telescope is an ideal decorative showpiece for the home, office, or anywhere you may want to incorporate its vintage style. Featuring a classic Altazimuth Mount and beautiful mahogany wood tripod, the Ambassador telescope is designed especially for terrestrial observing but is also capable of casual astronomical observing.

### AMBASSADOR FEATURES

- All brass optical tube, altazimuth mount, tripod hardware
- Rigid, sturdy and exquisite mahogany wood tripod
- Brass tripod accessory tray
- Erect Image Viewing through the telescope
- 2 Year Warranty



Travel Scope 70

Travel Scope 50

## TRAVEL SCOPE 50 AND 70

These telescopes were designed with traveling in mind while offering exceptional value. The Travel Scope is made of the highest quality materials to ensure stability and durability. All this adds up to a telescope that gives you a lifetime of pleasure with a minimal amount of maintenance. Featuring a compact and portable design with ample optical performance, the Travel Scope is ideal for terrestrial as well as casual astronomical observation.

### TRAVEL SCOPE FEATURES

- All coated glass optical elements for clear, crisp images
- Erect image diagonal so that your views are correctly oriented
- Smooth functioning altazimuth mount with easy pointing to located objects
- Preamsembled aluminum full size photographic tripod ensures a stable platform
- Quick and easy no-tool set up
- The telescope and tripod fit inside the custom backpack for easy traveling and storage

MODEL	ITEM #	APERTURE	FOCAL LENGTH	EYEPIECES	FINDERSCOPE	OPTICAL DESIGN	COATINGS	WEIGHT
FirstScope	21024	76 mm (3")	300 mm f/4	20 mm (15x), 4 mm (75x)	n/a	Reflector	n/a	4.3 lbs
Ambassador 50AZ	21033	50 mm (2")	360 mm f/7.2	22 mm (16x)	n/a	Refractor	Fully Coated	12.5 lbs
Ambassador 80AZ	21034	80 mm (3.1")	800 mm f/10	25 mm (32x)	6x30	Refractor	Fully Coated	28.5 lbs
Travel Scope 50	21038	50 mm (2")	360 mm f/7.2	20 mm (18x), 8 mm (45x)	2x20	Refractor	Fully Coated	2.2 lbs
Travel Scope 70	21035	70 mm (2.8")	400 mm f/5.7	20 mm (20x), 10 mm (40x)	5x24	Refractor	Fully Coated	3.3 lbs

For complete specifications and product information, visit: [www.celestron.com](http://www.celestron.com)



# Optical Tube Assemblies



## CELESTRON OPTICAL TUBE ASSEMBLIES

Celestron's Schmidt-Cassegrain Optical Tube Assemblies (OTA) are available individually for use with your favorite Celestron mount. Each OTA is made to the same exact standards as those used on all our high quality telescopes. Every optical surface is carefully coated with Celestron's high efficiency StarBright® multi-layered coating group. All tube assemblies are equipped with the same dovetail mounting bar used on the CGE and Advanced Series for easy attachment to a variety of popular mounts. Every tube assembly is quality control tested at our manufacturing facility in Torrance, CA for a telescope that is out of this world!

## OPTICAL TUBE ASSEMBLIES FEATURES

- Aluminum tube construction
- StarBright XLT® coating is standard on all models
- Two dovetail options available for each tube size, one fits our CG Mount the other fits the CGE Mount
- All EdgeHD tubes are FASTAR compatible

MODEL	ITEM #	APERTURE	TYPE	FOCAL LENGTH	EYEPIECES	FINDERSCOPE	DOVETAIL	COATINGS	WEIGHT
EdgeHD 8 - New!	91030-XLT	203 mm (8")	Aluminum	2032 mm f/10	40 mm (51x)	9x50	CGE	StarBright XLT	14 lbs
EdgeHD 9.25 - New!	91040-XLT	235 (9.25")	Aluminum	2350 mm f/10	23 mm (102x)	9x50	CGE	StarBright XLT	21 lbs
EdgeHD 11 - New!	91050-XLT	280 (11")	Aluminum	2800 mm f/10	23 mm (122x)	9x50	CGE	StarBright XLT	28 lbs
EdgeHD 14 - New!	91060-XLT	356 (14")	Aluminum	3910 mm f/11	23 mm (170x)	9x50	CGE	StarBright XLT	46 lbs
C6-A (XLT)	91010-XLT	150 mm (6")	Aluminum	1500 mm f/10	25 mm (60x)	6x30	CG-5	StarBright XLT	10 lbs
C8-A (XLT)	91024-XLT	200 mm (8")	Aluminum	2032 mm f/10	25 mm (81x)	6x30	CGE	StarBright XLT	12 lbs
C8-A (XLT)	91020-XLT	200 mm (8")	Aluminum	2032 mm f/10	25 mm (81x)	6x30	CG-5	StarBright XLT	12 lbs
C9.25-A (XLT)	91027-XLT	235 mm (9.25")	Aluminum	2350 mm f/10	25 mm (94x)	6x30	CGE	StarBright XLT	20 lbs
C9.25-A (XLT)	91025-XLT	235 mm (9.25")	Aluminum	2350 mm f/10	25 mm (94x)	6x30	CG-5	StarBright XLT	20 lbs
C11-A (XLT)	91036-XLT	279 mm (11")	Aluminum	2800 mm f/10	40 mm (70x)	9x50	CGE	StarBright XLT	27 lbs
C11-A (XLT)	91067-XLT	279 mm (11")	Aluminum	2800 mm f/10	40 mm (70x)	9x50	CG-5	StarBright XLT	27 lbs
C14-A (XLT)	91037-XLT	355 mm (14")	Aluminum	3910 mm f/11	40 mm (98x)	9x50	CGE	StarBright XLT	45 lbs
C14-A (XLT)	91038-XLT	355 mm (14")	Aluminum	3910 mm f/11	40 mm (98x)	9x50	CGE	StarBright XLT	45 lbs

For complete specifications and product information, visit: [www.celestron.com](http://www.celestron.com)



# Mounts

## CG-5 COMPUTERIZED MOUNT

The CG-5 German Equatorial mount is the most stable in its class! Equipped with precision worm gears for smooth performance and a heavy-duty tripod, with larger and more substantial legs, the mount provides excellent damping characteristics for amazingly stable views.

GoTo and GPS Compatibility – Combines the sturdy solid mount with the included NexStar computer control system and Autoguider port for magnificent photographs of long exposure deep sky astrophotography. You can even upgrade to GPS with the optional SkySync GPS Accessory (#93969) allowing your telescope to pinpoint your exact position on the earth.



## CGEM COMPUTERIZED MOUNT

The CGEM™ Mount has a fresh, attractive, bold appearance and is capable of carrying Celestron's higher-end SCT optical tubes (up to 11") securely and vibration free, which is ideal for both imaging and visual observing. Capable of holding over 40 lbs of payload and slewing at 5° per second, you will quickly reach any destination in the 40,000+ object database. Celestron's CGEM mount is the perfect fit between the CG-5 Mount and CGE Pro Mount. Offering the portability of the CG-5 and the precision of the CGE Pro.

Innovation – The CGEM series features All-Star™ (patent pending), our new polar alignment technology. All-Star allows users to choose any bright star, while the software calculates and assists with polar alignment. Another great feature of the CGEM is the Permanent Periodic Error Correction (PEC) which will allow users to train out the worm gears periodic errors, while the mount retains the PEC recordings.

Performance – The CGEM will track well past the Meridian for uninterrupted imaging through the most ideal part of the sky.

## CGE Pro COMPUTERIZED MOUNT

Portability – Set up and transportation of the CGE Pro telescopes is made easy by separating the mount into smaller, easy-to-carry components. Unlike fork arm mounted telescopes, the CGE's optical tubes can be quickly removed from their mounts making even the CGE Pro1400 easily assembled in minutes.

Stability – Recognized for superior stability, German Equatorial mounts place the center of gravity directly over the tripod legs and can be easily polar aligned without the use of an optional equatorial wedge. This proven design reduces the "tuning fork" vibration that can be associated with undersized fork mounts. An improved Super HD Tripod supports the CGE Pro mount. This fully extendable tripod is made from the finest 2.75" stainless steel and can be raised to a height of 55".

The tripod uses a dual leg support for maximum rigidity with an upper leg brace to provide an outward preload and a lower leg brace providing inward tension.

Balance – CGE Pro equatorial mounts can easily be balanced in both axes. Simply sliding the counterweight for Right Ascension and moving the optical tube along its dovetail mounting for Declination accomplish balancing the weight of camera equipment and other visual accessories. This means that no additional weight needs to be added to balance the telescope when additional accessories are added.

Clearance – CGE Pro mounts support their tubes at a single contact point allowing the tube to move freely around its polar axis without making contact with the telescope's mount. Software features allow the user to set the mounts slew limits to guaranty safe motion. This is particularly useful when adding photographic and CCD instruments that extend from the rear of the telescopes.

All CGE mounted telescopes are compatible with Celestron's SkySync GPS accessory. Combine the GPS and built-in real time clock and these telescopes will keep track and remember their exact location and time without having to enter the information into the hand control.







## OMNI CG-4 MOUNT

- German Equatorial mount and tripod as supplied with all Omni XLT Series telescopes
- Includes RA and DEC slow motion controls and setting circles
- Tripod has adjustable height 1.75" steel leg tripod with center brace/accessory tray
- Two counterweights - 7 lb and 4 lb

## NEXSTAR SE COMPUTERIZED MOUNT

- AltAz Computerized mount, 2 versions available (for NexStar 4 & 5 and 6 & 8 telescopes)
- NexStar technology with database for automatic slewing (GoTo) and tracking of 40,000 objects
- Flash upgradeable hand control with SkyAlign alignment procedure and NexStar technology
- NexRemote telescope control software ■ RS-232 cable ■ Steel tripod
- TheSkyX First Light Edition astronomy software ■ Built-in Wedge (#91204 only)
- Camera control cable (#91204 only) ■ CG5 style dovetail compatible



## NEXSTAR SLT COMPUTERIZED MOUNT

- AltAz Computerized mount as supplied with all NexStar SLT telescopes
- NexStar technology with database for automatic slewing (GoTo) and tracking of over 4,000 objects
- Flash upgradeable hand control with SkyAlign alignment procedure and NexStar technology
- NSOL telescope control software for controlling NexStar via laptop or PC
- Stainless steel tripod ■ AC/DC operation (batteries not included)
- TheSkyX First Light Edition astronomy software
- CG5 style dovetail compatible

## LCM COMPUTERIZED MOUNT

- AltAz Computerized mount, as supplied with all LCM telescopes
- NexStar technology with database for automatic slewing (GoTo) and tracking of over 4,000 objects
- Flash upgradeable hand control with SkyAlign alignment procedure



MODEL	ITEM #	DESCRIPTION	WEIGHT
Omni CG-4 Mount - New!	91509	German Equatorial mount and tripod as supplied with all Omni XLT Series telescopes	45 lbs
NexStar 4SE and 5SE Computerized - New!	91204	AltAz Computerized mount, as supplied with all NexStar 4/5 telescopes	16 lbs
NexStar 6SE and 8SE Computerized - New!	91203	AltAz Computerized mount, as supplied with all NexStar 6/8 telescopes	21 lbs
NexStar SLT Computerized Mount - New!	91205	AltAz Computerized mount as supplied with all NexStar SLT telescopes	8 lbs
LCM Computerized Mount - New!	91206	AltAz Computerized mount, as supplied with all LCM telescopes	8 lbs
CG-5 Computerized Mount	91518	With dual-axis slew motors and computerized hand control with 40,000+ object database	42 lbs
CGEM Computerized Mount	91526	High end computerized German Equatorial Mount featuring All-Star Alignment technology	75 lbs
CGE Pro Computerized Mount	91527	Observatory Class German Equatorial mount designed for the Serious Astronomer	154 lbs

For complete specifications and product information, visit: [www.celestron.com](http://www.celestron.com)



# Accessories

## POWER SUPPLIES

Whether you're in the middle of the desert or a coastal cliff, power your telescope anywhere in the world with our PowerTank portable power supply.



## SKYSYNC GPS

Links up and automatically downloads information from orbiting global positioning satellites.



## NEXIMAGE SOLAR SYSTEM IMAGER

Take magnificent images of our solar system with our NexImage™ CCD Imager.



## HEAVY DUTY WEDGE

For increased stability and breathtaking astrophotography, use our heavy duty wedge on our CPC® GPS Series telescopes.



## X-CEL LX EYEPIECES

The newly enhanced X-Cel LX eyepiece series is what you've been waiting for in a high quality eyepiece for planetary viewing. With a brand new sleek and robust design and a twist-up eye guard, these eyepieces are especially designed for comfort and ease of use.



## ULTIMA LX EYEPIECES

Whether you want to adjust the magnification or increase the image quality of your telescope, choose from a variety of our outstanding eyepiece options from Celestron.



## EYEPIECE FILTERS

Enhance even the most spectacular celestial objects with our eyepiece filters. Choose from one of our many popular filters in a variety of sets for your observing convenience.



## XLT DIAGONAL

Try our bold, new, high-end 2" diagonal for Schmidt-Cassegrain telescopes.



## NEXGUIDE

The NexGuide can guide an equatorial mount without the help of a computer. It will improve the image quality and help you achieve pinpoint stars in your long-exposure photography.



## EYEPIECE FILTER KIT

Enhance your viewing experience with a variety of Celestron eyepiece filter kits.



For complete specifications and product information, visit: [www.celestron.com](http://www.celestron.com)



# Mount and Telescope Descriptions

## THE MOUNT AND TRIPOD

To a large extent, a telescope is only as good as its tripod and mount. A telescope magnifies everything, including vibration. That's why many telescopes with good optics are rendered useless when supplied on an inexpensively made mount. Since you'll be using a mount's controls to track the slow and steady apparent movement of the stars, a suitable mount's adjustments should be smooth, yet precise.

### ALTAZIMUTH VS. EQUATORIAL

There are two basic types of mounts: Altazimuth (Alt-Azimuth) and Equatorial. Altazimuth mounts are the simplest type of mount with two motions: altitude (up and down/vertical) and azimuth (side-to-side/horizontal). Good Altazimuth mounts will have slow motion cable controls to make precise adjustments, which aid in keeping tracking motion smooth.

These types of mounts are good for terrestrial observing and for scanning the sky at lower power but are not advised for deep sky photography.

Both Altazimuth and Equatorial mounts can track the stars sufficiently for visual use, however, only equatorials can be used for long exposure astrophotography. Since Altazimuth mounts are not aligned with the Earth's axis, they must use both axes to track an object. With Altazimuth mounts you will be able to accurately track an object centered in the field of view, however, over time all the other stars in the field will appear to rotate around the center of the field. This is hardly noticeable in an eyepiece, but is obvious on film.

### ALTAZIMUTH ADVANTAGES

- Easy to set-up and use
- Least expensive type of mount
- Ideal for terrestrial observing

### ALTAZIMUTH DISADVANTAGES

- Cannot be used for long exposure photography
- Non-computerized models cannot track stars and planets

On an Equatorial mounting, the two axes are perpendicular to each other as they are on an Altazimuth mount. But on an Equatorial mounting, the left-to-right axis has been tilted so that it is parallel to the Earth's axis instead of at the horizon.

On an Equatorial mount, only the axis that is parallel to the Earth's axis needs to be rotated. On an Altazimuth mount, BOTH axes must be moved.

If you would like to do long exposure photography, the telescope must be mounted on an equatorial mount. Some Celestron telescopes that are on Altazimuth mountings can be tilted up (with the use of an equatorial wedge) to orient the azimuth axis parallel to the Earth's axis.

### EQUATORIAL ADVANTAGES

- Best for long exposure photography
- Easy to use visually because only one axis movement compensates for Earth's rotation
- Setting circles on non-computerized models help locate astronomical objects



### EQUATORIAL DISADVANTAGES

- Set-up is more extensive because of polar alignment requirements
- Not suitable for terrestrial use



## DO YOU WANT A GoTo COMPUTERIZED TELESCOPE?

Many of Celestron's telescopes are computerized "GoTo" telescopes. GoTo capability is very useful for the novice who needs assistance in finding objects in the night sky. Since there is a large database of celestial objects, it is unnecessary to refer to star charts to identify objects. Once the telescope is properly aligned and an object is selected, the telescope will automatically "go to" the object. GoTo equipped Celestron telescopes include both altazimuth and equatorial models. Even without GoTo, many Celestron equatorial scopes have manual setting circles that allow you to find objects in the sky with the help of a good star map.

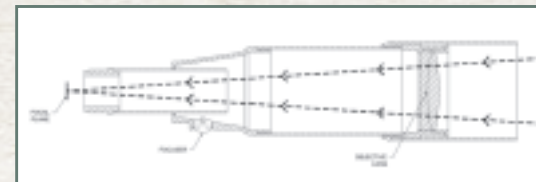
There are a number of factors to consider when selecting a particular telescope. These factors will usually depend on your individual requirements including cost, portability, versatility, usability and appearance. You should also consider how you plan to use the instrument both now and in the future. Most important, consider your budget and portability requirements, and select a telescope with the largest aperture possible.

## TYPES OF TELESCOPES

### REFRACTOR TELESCOPE

A refractor telescope uses a lens as the primary. The lens at the front of the telescope bends the light passing through it until it comes to a single point called the "focal plane".

The long, thin tubes of refractor telescopes look much the same as those Galileo used centuries ago. High quality optical glass and multi-coatings provide today's sky watchers views Galileo never dreamed of. The refractor type of telescope is very popular with individuals who want mechanical simplicity, rugged reliability and ease of use. Because the focal length is limited by the length of the tube, refractor telescopes become quite bulky and expensive beyond a four inch aperture. This limits the light gathering properties of refractor telescopes, but it is an excellent choice for beginners and those who prefer simple operation and versatility. Refractor telescopes are also a popular choice because of their unobstructed view, high contrast and good definition.





### REFRACTOR ADVANTAGES

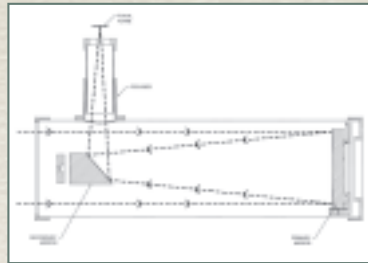
- Easy to set-up and use
- Simple and reliable design requires little or no maintenance
- Excellent for lunar, planetary and binary star observing especially in larger apertures
- Good for terrestrial viewing
- High contrast images with no secondary mirror or diagonal obstruction
- Color correction is good in achromatic designs and excellent in apochromatic and fluorite designs
- Sealed optical tube reduces image-degrading air currents and protects optics
- Objective lens is permanently mounted and aligned

### REFRACTOR DISADVANTAGES

- More expensive per inch of aperture than Newtonians or Catadioptrics
- Heavier, longer and bulkier than equivalent aperture Newtonians and Catadioptrics
- The cost and size factors limit the practical maximum size primary to smaller apertures
- Some color aberration in achromatic designs (doublet)

### NEWTONIAN REFLECTOR TELESCOPE

A Newtonian reflector uses a single concave mirror as its primary. Light enters the tube traveling to the mirror at the back end. Light is then “bent” forward in the tube to a single point, its focal plane. A flat mirror called a “diagonal” intercepts the light and points it out the side of the tube at right angles to the tube through the eyepiece. The eyepiece is placed there for easy viewing.



Newtonian Reflector telescopes replace heavy lenses with mirrors to collect and focus the light, providing much more light gathering power for the money. You can have focal lengths up to 1000 mm and still enjoy a telescope that is relatively compact and portable. Newtonian Reflector telescopes do require more care and maintenance because the primary mirror is exposed to air and dust. However, this small drawback does not hamper this type of telescope’s popularity with those who want an economical telescope that can still resolve faint, distant objects.

Newtonian reflectors produce a “right-side-up image” but the image will appear rotated based on the location of the eyepiece holder in relation to the ground. Newtonian reflectors are best for astronomical use where right-side-up does not matter.

### NEWTONIAN ADVANTAGES

- Lowest cost per inch of aperture compared to Refractors and Catadioptrics since mirrors can be produced at less cost than lenses in medium to large apertures
- Reasonably compact and portable up to focal lengths of 1000 mm
- Excellent for faint deep sky objects such as remote galaxies, nebulae and star clusters due to the generally fast focal ratios (f/4 to f/8)
- Adequate for lunar and planetary work
- Good for deep sky astrophotography (but not as convenient and more difficult to use than Catadioptrics)
- Free of color aberration due to the use of a primary mirror

### NEWTONIAN DISADVANTAGES

- Generally not suited for terrestrial applications
- Slight light loss due to secondary (diagonal) obstruction when compared with Refractors

### CATADIOPTRIC TELESCOPE

Catadioptrics use a combination of mirrors and lenses to “fold” (reflect) the light path and form an image. In a Schmidt-Cassegrain, the light enters through a thin aspheric Schmidt correcting lens. It then strikes the spherical primary mirror. It is reflected back up the tube and intercepted by a small secondary mirror which reflects the light out an opening in the rear of the instrument where the image is formed at the eyepiece. Catadioptrics are the most popular and most modern type of telescope optical design and are marketed throughout the world in 3.5” and larger apertures.



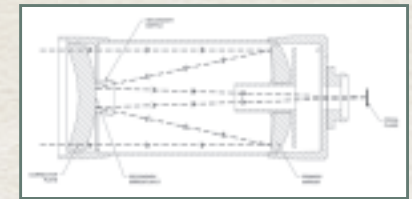
Catadioptric telescopes combine the practical advantages of lenses and mirrors while eliminating their disadvantages. They offer the clarity and contrast of refractors with the low aberration of reflectors. Catadioptrics have an average focal ratio of f/10, which is wide enough for all types of photography. They are also easier to maintain because all optical elements are solidly mounted and rigidly collimated. Catadioptric telescopes provide the best possible combination of light gathering power, long focal length, portability and affordability.

### SCHMIDT-CASSEGRAIN ADVANTAGES

- Very versatile, best all-purpose telescope design
- Combines the optical advantages of both lenses and mirrors while eliminating their disadvantages
- Excellent optics and razor sharp images over a wide field
- Excellent for deep sky observing and astrophotography as well as terrestrial viewing
- Very good for lunar, planetary and binary star observing
- Focal ratio generally around f/10, it also has the best near focus capability of any type of telescope
- Closed tube design reduces image-degrading air currents
- Extremely compact and portable
- Easy to use, durable and virtually maintenance free
- Large apertures at reasonable cost and less expensive than equivalent aperture refractors
- More accessories available than with other types of telescopes

### SCHMIDT-CASSEGRAIN DISADVANTAGES

- More expensive than Newtonians of equal aperture
- Slight light loss due to secondary mirror obstruction compared to refractors



The Maksutov-Cassegrain is similar to the Schmidt-Cassegrain with essentially the same advantages and disadvantages.

It uses a thick meniscus correcting lens with a strong curvature and a secondary mirror that is usually an aluminized spot on the corrector. The Maksutov secondary mirror is typically smaller than the Schmidt’s which gives it slightly better resolution for planetary observing.

### ADVANTAGES OF MAKSUTOV-CASSEGRAIN COMPARED TO SCHMIDT-CASSEGRAIN

- Smaller secondary obstruction results in a slight increase in planetary detail and contrast
- Less expensive to manufacture
- Longer focal lengths resulting in higher magnifications for planetary viewing

### DISADVANTAGES OF MAKSUTOV-CASSEGRAIN COMPARED TO SCHMIDT-CASSEGRAIN

- Slightly heavier because of the thick meniscus correcting lens
- Increased time to reach thermal stability in larger apertures over 90 mm
- Longer focal lengths resulting in smaller field of views



ASTROMASTER ITEM #	21061	21062	31035	21063	21064	31042	31045 / 31051 *
Model Name	AstroMaster 70AZ	AstroMaster 70EQ	AstroMaster 76EQ	AstroMaster 90AZ	AstroMaster 90EQ	AstroMaster 114EQ	AstroMaster 130EQ
Optical Design	70 mm (2.8") refractor	70 mm (2.8") refractor	76 mm (3") reflector	90 mm (3.5") refractor	90 mm (3.5") refractor	114 mm (4.5") reflector	130 mm (5") reflector
Focal Length / Focal Ratio	900 mm / f/13	900 mm / f/13	700 mm / f/9	1000 mm / f/11	1000 mm / f/11	1000 mm / f/9	650 mm / f/5
Finderscope	Built-on StarPointer	Built-on StarPointer	Built-on StarPointer	Built-on StarPointer	Built-on StarPointer	Built-on StarPointer	Built-on StarPointer
Mount	Altazimuth	CG-2 Equatorial	CG-2 Equatorial	Altazimuth	CG-3 Equatorial	CG-2 Equatorial	CG-3 Equatorial
Eyeiece	20 mm (45x)	20 mm (45x)	20 mm - Erect Image (35x)	20 mm (50x)	20 mm (50x)	20 mm - Erect Image (50x)	20 mm - Erect Image (33x)
Eyeiece	10 mm (90x)	10 mm (90x)	10 mm (70x)	10 mm (100x)	10 mm (100x)	10 mm (100x)	10 mm (65x)
Erect Image Diagonal – 1.25"	Yes	Yes	n/a	Yes	Yes	n/a	n/a
Tripod	1.25" steel tube legs	1.25" steel tube legs	1.25" steel tube legs	1.25" steel tube legs	1.25" steel tube legs	1.25" steel tube legs	1.25" steel tube legs
CD-ROM	TheSkyX	TheSkyX	TheSkyX	TheSkyX	TheSkyX	TheSkyX	TheSkyX
Highest Useful Magnification	165x	165x	180x	213x	213x	269x	306x
Limiting Stellar Magnitude	11.7	11.7	11.9	12.3	12.3	12.8	13.1
Resolution: Rayleigh	1.98 arc seconds	1.98 arc seconds	1.82 arc seconds	1.54 arc seconds	1.54 arc seconds	1.21 arc seconds	1.06 arc seconds
Dawes Limit	1.66 arc seconds	1.66 arc seconds	1.53 arc seconds	1.29 arc seconds	1.29 arc seconds	1.02 arc seconds	.89 arc seconds
Light Gathering Power	100x unaided eye	100x unaided eye	118x unaided eye	165x unaided eye	165x unaided eye	265x unaided eye	345x unaided eye
Angular Field of View: 20 mm Eyepiece	1.1°	1.1°	1.4°	1°	1°	1°	1.5°
Linear FOV (@1000 yds)	58 ft.	58 ft.	75 ft.	53 ft.	53 ft.	53 ft.	79 ft.
Secondary Mirror Obstruction	n/a	n/a	1"	n/a	n/a	1.4"	1.7"
Diameter, Area	n/a	n/a	33%, 11%	n/a	n/a	31%, 10%	34%, 12%
Optical Coatings	Fully-Coated	Fully-Coated	Aluminum	Multi-Coated	Multi-Coated	Aluminum	Aluminum
Optical Tube Length	36 inches	36 inches	26 inches	36 inches	36 inches	20 inches	24 inches
Telescope Weight	18 lbs	18 lbs	16 lbs	20 lbs	27 lbs	17 lbs	28 lbs

\*Includes Motor Drive

OMNI XLT ITEM #	21088	21092	21090	21094	31057	11084
Model Name	Omni XLT 102	Omni XLT 102ED	Omni XLT 120	Omni XLT 150 R	Omni XLT 150	Omni XLT 127
Optical Design / Aperture	Refractor / 102 mm (4")	Refractor / 102 mm (4")	Refractor / 120 mm (4.7")	Refractor / 150 mm (6")	Newtonian Reflector / 150 mm (6")	Schmidt-Cassegrain / 127 mm (5")
Optical Features	Non-Spherical Aberration	Non-Spherical Aberration	Non-Spherical Aberration	Non-Spherical Aberration	Non-Spherical Aberration	Non-Spherical Aberration
Focal Length / Focal Ratio	1000 mm / f/10	900 mm / f/9	1000 mm / f/8.3	750 mm / f/5	750 mm / f/5	1250 mm / f/10
Optical Coatings	StarBright XLT	StarBright XLT	StarBright XLT	StarBright XLT	StarBright XLT	StarBright XLT
Focuser	2" with 1-1/4" Adapter	2" with 1-1/4" Adapter	2" with 1-1/4" Adapter	2" with 1-1/4" Adapter	1-1/4"	Standard SCT
Finderscope	6x30	6x30	6x30	6x30	6x30	6x30
Star Diagonal – 1.25"	Yes	Yes	Yes	Yes	n/a	Yes
Eyeiece	25 mm LET w/multi-coating	25 mm LET w/multi-coating	25 mm LET w/multi-coating	25 mm LET w/multi-coating	25 mm LET w/multi-coating	25 mm LET w/multi-coating
CD-ROM	TheSkyX	TheSkyX	TheSkyX	TheSkyX	TheSkyX	TheSkyX
Mount Type	CG-4 German Equatorial	CG-4 German Equatorial	CG-4 German Equatorial	CG-4 German Equatorial	CG-4 German Equatorial	CG-4 German Equatorial
Tripod w/bubble level	1.75" Stainless Steel Legs	1.75" Stainless Steel Legs	1.75" Stainless Steel Legs	1.75" Stainless Steel Legs	1.75" Stainless Steel Legs	1.75" Stainless Steel Legs
Counterweights	3.2 kg and 1.8 kg	3.2 kg and 1.8 kg	3.2 kg and 1.8 kg	3.2 kg and 1.8 kg	3.2 kg and 1.8 kg	3.2 kg and 1.8 kg
Highest Useful Magnification	240x	240x	283x	360x	360x	300x
Lowest Useful Magnification	15x	15x	17x	21x	21x	18x
Limiting Stellar Magnitude	12.5	12.5	12.9	13.4	13.4	13.1
Resolution: Rayleigh	1.36 arc seconds	1.36 arc seconds	1.19 arc seconds	0.92 arc seconds	0.92 arc seconds	1.1 arc seconds
Dawes Limit	1.14 arc seconds	1.14 arc seconds	0.97 arc seconds	0.76 arc seconds	0.76 arc seconds	0.91 arc seconds
Light Gathering Power	212x unaided eye	212x unaided eye	294x unaided eye	459x unaided eye	459x unaided eye	329x unaided eye
Angular Field of View: 25 mm eyepiece	1.25°	1.4°	1.25°	1.67°	1.67°	1.0°
Linear FOV (@1000 yds)	66 ft.	74 ft.	66 ft.	88 ft.	88 ft.	53 ft.
Secondary Mirror Obstruction	n/a	n/a	n/a	n/a	1.75"	1.75"
Diameter, Area	n/a	n/a	n/a	n/a	29%, 8.5%	35%, 12%
Optical Tube Length	40 inches	37 inches	40 inches	34 inches	27 inches	11 inches
Telescope Weight	43 lbs	41.5 lbs	46 lbs	49.5 lbs	45.5 lbs	40 lbs

Specifications are subject to change without notice or obligation.



LCM Item #	22050	22051	31150
Model Name	60LCM	80LCM	114LCM
Optical Design / Aperture	Refractor / 60 mm (2")	Refractor / 80 mm (3")	Newtonian reflector / 114 mm (4.5")
Focal Length / Focal Ratio	700 mm / f/12	900 mm / f/11	1000 mm / f/8.8
Finderscope	Built-on StarPointer	Built-on StarPointer	Built-on StarPointer
Mount	Motorized Altazimuth	Motorized Altazimuth	Motorized Altazimuth
Eyepieces	25 mm (28x), 9 mm (78x)	25 mm (36x), 9 mm (100x)	25 mm (40x), 9 mm (111x)
Star Diagonal	1.25" Erect Image	1.25" Erect Image	n/a
Tripod	Aluminum	Aluminum	Aluminum
CD-ROM	TheSkyX	TheSkyX	TheSkyX
Database	4,000 Object Database	4,000 Object Database	4,000 Object Database
Slew Speeds	Nine slew speeds, 3°/sec MAX	Nine slew speeds, 3°/sec MAX	Nine slew speeds, 3°/sec MAX
Tracking Rates / Tracking Modes	Sidereal, Solar and Lunar / Alt-Az, EQ North and EQ South	Sidereal, Solar and Lunar / Alt-Az, EQ North and EQ South	Sidereal, Solar and Lunar / Alt-Az, EQ North and EQ South
Alignment Procedures	SkyAlign, Auto 2-Star Align, 1-Star Align, 2-Star Align, Solar System Align	SkyAlign, Auto 2-Star Align, 1-Star Align, 2-Star Align, Solar System Align	SkyAlign, Auto 2-Star Align, 1-Star Align, 2-Star Align, Solar System Align
Highest Useful Magnification	142x	189x	269x
Limiting Stellar Magnitude	11.4	12	12.8
Resolution: Rayleigh / Dawes Limit	2.32 arc seconds / 1.93 arc seconds	1.74 arc seconds / 1.45 arc seconds	1.22 arc seconds / 1.02 arc seconds
Light Gathering Power	73x	131x	265x
Field of View (degrees) w/ low power eyepiece	1.6°	1.6°	1.6°
Linear FOV (@1000 yds)	84 ft.	84 ft.	84 ft.
Optical Coatings	Fully-Coated	Fully-Coated	Fully-Coated
Secondary Mirror Obstruction, Diameter, Area	n/a	n/a	1.6", 36%, 13%
Telescope Weight	10 lbs	14 lbs	15 lbs

NexStar SLT Item #	22087	22097	22096	31145
Model Name	NexStar 90 SLT	NexStar 127 SLT	NexStar 102 SLT	NexStar 130 SLT
Optical Design / Aperture	Maksutov-Cassegrain / 90 mm (3.5")	Maksutov-Cassegrain / 127 mm (5")	Refractor / 102 mm (4")	Reflector / 130 mm (5.1")
Focal Length / Focal Ratio	1250 mm / f/14	1500 mm / f/12	660 mm / f/6	650 mm / f/5
Finderscope	StarPointer	StarPointer	StarPointer	StarPointer
Mount	Motorized Altazimuth	Motorized Altazimuth	Motorized Altazimuth	Motorized Altazimuth
Eyepieces / Star Diagonal	25 mm (50x), 9 mm (139x) / 1.25"	25 mm (60x), 9 mm (167x) / 1.25"	25 mm (26x), 9 mm (73x) / 1.25"	25 mm (26x), 9 mm (72x) / n/a
Tripod	Pre-assembled Steel	Pre-assembled Steel	Pre-assembled Steel	Pre-assembled Steel
CD-ROM	TheSkyX and NSOL	TheSkyX and NSOL	TheSkyX and NSOL	TheSkyX and NSOL
Telescope Control System	NexStar Computer Control System	NexStar Computer Control System	NexStar Computer Control System	NexStar Computer Control System
Database	4,000 Object Database	4,000 Object Database	4,000 Object Database	4,000 Object Database
Slew Speeds	Nine slew speeds, 3°/sec MAX	Nine slew speeds, 3°/sec MAX	Nine slew speeds, 3°/sec MAX	Nine slew speeds, 3°/sec MAX
Tracking Rates	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar
Tracking Modes	Alt-Az, EQ North and EQ South	Alt-Az, EQ North and EQ South	Alt-Az, EQ North and EQ South	Alt-Az, EQ North and EQ South
GPS Compatible	SkySync	SkySync	SkySync	SkySync
Alignment Procedures	SkyAlign, Auto 2-Star Align, 1-Star Align, 2-Star Align, Solar System Align	SkyAlign, Auto 2-Star Align, 1-Star Align, 2-Star Align, Solar System Align	SkyAlign, Auto 2-Star Align, 1-Star Align, 2-Star Align, Solar System Align	SkyAlign, Auto 2-Star Align, 1-Star Align, 2-Star Align, Solar System Align
Highest Useful Magnification	213x	300x	240x	306x
Limiting Stellar Magnitude	12.3	13	12.5	13.1
Resolution: Rayleigh / Dawes Limit	1.55 arc seconds / 1.29 arc seconds	1.1 arc seconds / .91 arc seconds	1.36 arc seconds / 1.14 arc seconds	1.06 arc seconds / .89 arc seconds
Photographic Resolution	n/a	n/a	308 lines/mm	400 line/mm
Light Gathering Power	165x unaided eye	329x unaided eye	212x unaided eye	345x unaided eye
Field of View (degrees) w/ low power eyepiece	1°	.83°	1.7°	1.7°
Linear FOV (@1000 yds)	53 ft.	44 ft.	91 ft.	91 ft.
Optical Coatings	Fully-Coated	Fully-Coated	Multi-Coated	Aluminum
Secondary Mirror Obstruction, Diameter, Area	1", 28%, 8%	1.5", 30%, 9%	n/a	1.7", 34%, 12%
Telescope Weight / Optical Tube Length	12 lbs / 11"	18 lbs / 15"	14 lbs / 23"	18 lbs / 21"

Specifications are subject to change without notice or obligation.



NexStar SE Item #	11049	11036	11068	11069
Model Name	NexStar 4 SE	NexStar 5 SE	NexStar 6 SE	NexStar 8 SE
Optical Design / Aperture	Maksutov-Cassegrain / 102 mm (4")	Schmidt-Cassegrain / 125 mm (5")	Schmidt-Cassegrain / 150 mm (6")	Schmidt-Cassegrain / 203 mm (8")
Focal Length / Focal Ratio	1325 mm / f/13	1250 mm / f/10	1500 mm / f/10	2032 mm / f/10
Optical Coatings	StarBright XLT®	StarBright XLT	StarBright XLT	StarBright XLT
Optical Tube	Aluminum, metallic orange	Aluminum, metallic orange	Aluminum, metallic orange	Aluminum, metallic orange
Mount	Single fork arm, altazimuth	Single fork arm, altazimuth	Single fork arm, altazimuth	Single fork arm, altazimuth
Dovetail	Quick release tube clamp	Quick release tube clamp	Quick release tube clamp	Quick release tube clamp
Eyepiece (mm)	25 mm E-Lux (53x)	25 mm E-Lux (50x)	25 mm E-Lux (60x)	25 mm E-Lux (81x)
Finderscope	StarPointer	StarPointer	StarPointer	StarPointer
Diagonal	Internal flip mirror for straight or 90° viewing angle	Star diagonal, 1.25"	Star diagonal, 1.25"	Star diagonal, 1.25"
Tripod	Pre-assembled steel with built-in wedge	Pre-assembled steel with built-in wedge	Pre-assembled steel	Pre-assembled steel
CD-ROM	NexRemote® and TheSkyX	NexRemote and TheSkyX	NexRemote and TheSkyX	NexRemote and TheSkyX
Software Features	Camera control	Camera control	n/a	n/a
Camera Shutter Cable	Yes	Yes	No	No
Power Supply	8-AA batteries (user supplied)	8-AA batteries (user supplied)	8-AA batteries (user supplied)	8-AA batteries (user supplied)
Highest Useful Magnification	240x	300x	354x	480x
Limiting Stellar Magnitude	12.5	13	13.4	14
Resolution: Rayleigh / Dawes Limit	1.36 arc seconds / 1.14 arc seconds	1.1 arc seconds / .91 arc seconds	.92 arc seconds / .77 arc seconds	.68 arc seconds / .57 arc seconds
Light Gathering Power	212x unaided eye	329x unaided eye	459x unaided eye	843x unaided eye
Field of View (degrees)	1°	1°	.83°	.63°
Linear FOV (@1000 yds)	52.5 ft.	52.5 ft.	43.8 ft.	33 ft.
Optical Tube Length	13.5 inches	13 inches	16 inches	17 inches
Telescope Weight / Tripod Weight	11 lbs / 10 lbs	17.6 lbs / 10 lbs	21 lbs / 9 lbs	24 lbs / 9 lbs
Database	40,000 Objects	40,000 Objects	40,000+ Objects	40,000+ Objects
Slew Speeds	Nine slew speeds, 4°/sec MAX	Nine slew speeds, 4°/sec MAX	Nine slew speeds, 5°/sec MAX	Nine slew speeds, 5°/sec MAX
Ports	RS-232, Aux, Camera Control	RS-232, Aux, Camera Control	RS-232, Aux	RS-232, Aux
Tracking Rates	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar
Tracking Modes	Alt-Az, EQ North and EQ South	Alt-Az, EQ North and EQ South	Alt-Az, EQ North and EQ South	Alt-Az, EQ North and EQ South
GPS Compatible	SkySync	SkySync	SkySync	SkySync
Alignment Procedures	SkyAlign, Auto 2-Star Align, 1-Star Align, 2-Star Align, Solar System Align	SkyAlign, Auto 2-Star Align, 1-Star Align, 2-Star Align, Solar System Align	SkyAlign, Auto 2-Star Align, 1-Star Align, 2-Star Align, Solar System Align	SkyAlign, Auto 2-Star Align, 1-Star Align, 2-Star Align, Solar System Align

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CPC GPS Item #	1073-XLT	11074-XLT	11075-XLT
Model Name	CPC 800	CPC 925	CPC 1100
Optical Design	Schmidt-Cassegrain	Schmidt-Cassegrain	Schmidt-Cassegrain
Aperture	8" (203 mm)	9.25" (235 mm)	11" (279 mm)
Focal Length / Focal Ratio	2032 mm / f/10	2350 mm / f/10	2800 mm / f/10
Finderscope	9x50	9x50	9x50
Mount	Dual Fork Arm	Dual Fork Arm	Dual Fork Arm
Optical Tube	Aluminum	Aluminum	Aluminum
Eyeiece	40 mm Plössl (51x)	40 mm Plössl (59x)	40 mm Plössl (70x)
Star Diagonal	1.25"	1.25"	1.25"
Tripod / Accessory Tray	Heavy Duty Steel Adjustable with Leg Brace and Eyepiece Holder	Heavy Duty Steel Adjustable with Leg Brace and Eyepiece Holder	Heavy Duty Steel Adjustable with Leg Brace and Eyepiece Holder
Power Supply	Car Battery Adapter	Car Battery Adapter	Car Battery Adapter
Telescope Control System	NexStar Computer Control System	NexStar Computer Control System	NexStar Computer Control System
CD-ROM	NexRemote control software w/RS232 cable	NexRemote control software w/RS232 cable	NexRemote control software w/RS232 cable
Computerized Hand Control	Double line 16 character, Liquid Crystal Display; 19 LED backlit buttons	Double line 16 character, Liquid Crystal Display; 19 LED backlit buttons	Double line 16 character, Liquid Crystal Display; 19 LED backlit buttons
Hand Control Ports	RS-232 communication port on hand control	RS-232 communication port on hand control	RS-232 communication port on hand control
Drive Base Ports	Aux Port, Autoguide Ports	Aux Port, Autoguide Ports	Aux Port, Autoguide Ports
Database	40,000 Object Database	40,000 Object Database	40,000 Object Database
GPS	Internal 16 channel	Internal 16 channel	Internal 16 channel
Motor Type	DC Servo motors with encoders, both axes	DC Servo motors with encoders, both axes	DC Servo motors with encoders, both axes
Resolution	.1406 arcsecond	.1406 arcsecond	.1406 arcsecond
Slew Speeds	Nine slew speeds, 3°/sec MAX	Nine slew speeds, 3°/sec MAX	Nine slew speeds, 3°/sec MAX
Software Precision	24bit, 0.08 arcsec calculations	24bit, 0.08 arcsec calculations	24bit, 0.08 arcsec calculations
Tracking Rates	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar
Tracking Modes	Altazimuth, EQ North and EQ South	Altazimuth, EQ North and EQ South	Altazimuth, EQ North and EQ South
Alignment Procedures	SkyAlign, Auto Two Star Align, One-Star Align, EQ Align, Solar System Align	SkyAlign, Auto Two Star Align, One-Star Align, EQ Align, Solar System Align	SkyAlign, Auto Two Star Align, One-Star Align, EQ Align, Solar System Align
Fork Arm	Dual fork arm, cast aluminum w/ detachable HC cradle	Dual fork arm, cast aluminum w/ detachable HC cradle	Dual fork arm, cast aluminum w/ detachable HC cradle
Gear	5.625" 180 tooth hard anodized aluminum gear mated w/ brass worm	5.625" 180 tooth hard anodized aluminum gear mated w/ brass worm	5.625" 180 tooth hard anodized aluminum gear mated w/ brass worm
Bearings	9.8" azimuth bearing	9.8" azimuth bearing	9.8" azimuth bearing
Periodic Error Correction	Permanently Programmable	Permanently Programmable	Permanently Programmable
Useful Magnification Highest/Lowest	480x / 29x	555x / 34x	660x / 40x
Limiting Stellar Magnitude	14	14.4	14.7
Resolution: Rayleigh	.68 arc seconds	.59 arc seconds	.50 arc seconds
Dawes Limit	.57 arc seconds	.49 arc seconds	.42 arc seconds
Light Gathering Power	843x unaided eye	1127x unaided eye	1593x unaided eye
Field of View: standard eyepiece	.8°	.7°	.6°
Linear FOV (@1000 yds)	42 ft.	38 ft.	32 ft.
Optical Coatings	StarBright XLT® Coatings	StarBright XLT Coatings	StarBright XLT Coatings
Secondary Mirror Obstruction	2.5"	3.35"	3.75"
Diameter, Area	31%, 10%	36%, 13%	34%, 12%
Optical Tube Length	17 inches	22 inches	23 inches
Telescope Weight /Tripod Weight	42 lbs / 27 lbs	58 lbs / 27 lbs	65 lbs / 27 lbs

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Advanced Item #	31054	21020	11026-XLT	31062	11046-XLT	11048	11067-XLT
Model Name	C6-NGT	C6-RGT	C8-SGT	C8-NGT	C9.25-SGT	C10-NGT	C11-SGT
Optical Design	Reflector	Refractor	Schmidt-Cassegrain	Reflector	Schmidt-Cassegrain	Reflector	Schmidt-Cassegrain
Aperture	150 mm (6")	150 mm (6")	203 mm (8")	200 mm (8")	235 mm (9.25")	254 mm (10")	279 mm (11")
Focal Length / Focal Ratio	750 mm / f/5	1200 mm / f/8	2032 mm / f/10	1000 mm / f/5	2350 mm / f/10	1200 mm / f/4.7	2800 mm / f/10
Eyeiece	20 mm (38x)	20 mm (60x)	25 mm (81x)	20 mm (50x)	25 mm (94x)	20 mm (60x)	40 mm (70x)
Finderscope	6x30	9x50	6x30	9x50	6x30	9x50	9x50
Mount	CG-5 Equatorial	CG-5 Equatorial	CG-5 Equatorial	CG-5 Equatorial	CG-5 Equatorial	CG-5 Equatorial	CG-5 Equatorial
Star Diagonal	n/a	1.25"	1.25"	n/a	1.25"	n/a	1.25"
Accessory Tray	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tripod	2" Stainless Steel	2" Stainless Steel	2" Stainless Steel	2" Stainless Steel	2" Stainless Steel	2" Stainless Steel	2" Stainless Steel
CD-ROM	TheSkyX	TheSkyX	TheSkyX	TheSkyX	TheSkyX	TheSkyX	TheSkyX
Counterweights	1-7 lbs, 1-4 lbs, 1-11 lbs	2-11 lbs	1-11 lbs	2-11 lbs	2-11 lbs	3-11 lbs	3-11 lbs
Power	Car Battery Adapter	Car Battery Adapter	Car Battery Adapter	Car Battery Adapter	Car Battery Adapter	Car Battery Adapter	Car Battery Adapter
Highest Useful Magnification	354x	354x	480x	480x	555x	600x	660x
Lowest Useful Magnification	21x	21x	29x	29x	34x	36x	40x
Limiting Stellar Magnitude	13.4	13.4	14	14	14.4	14.5	14.7
Resolution: Rayleigh	.92 arc seconds	.92 arc seconds	.68 arc seconds	.69 arc seconds	.59 arc seconds	.54 arc seconds	.50 arc seconds
Dawes Limit	.77 arc seconds	.77 arc seconds	.57 arc seconds	.58 arc seconds	.49 arc seconds	.46 arc seconds	.42 arc seconds
Light Gathering Power	459x unaided eye	459x unaided eye	843x unaided eye	843x unaided eye	1127x unaided eye	1316x unaided eye	1593x unaided eye
Field of View: standard eyepiece	1.3°	.83°	.64°	1°	.55°	.83°	.71°
Linear FOV (@1000 yds)	68 ft.	43.8 ft.	33.6 ft.	52.5 ft.	29 ft.	43.8 ft.	38 ft.
Optical Coatings	Aluminum	Multi-Coated	StarBright XLT®	Aluminum	StarBright XLT	Aluminum	StarBright XLT
Secondary Mirror Obstruction Diameter, Area	1.75" 29%, 8.5%	n/a n/a, n/a	2.7" 34%, 11%	2.2" 28%, 8%	3.35" 36%, 13%	2.3" 23%, 5%	3.75" 34%, 12%
Optical Tube Length	27 inches	50.5 inches	17 inches	37 inches	22 inches	45 inches	24 inches
Telescope Weight	54 lbs	68 lbs	54.5 lbs	67 lbs	73 lbs	93 lbs	91 lbs
Computerized Hand Control	*	*	*	*	*	*	*
Slew Speeds	Nine slew speeds, 3°/sec MAX	Nine slew speeds, 3°/sec MAX	Nine slew speeds, 3°/sec MAX	Nine slew speeds, 3°/sec MAX	Nine slew speeds, 3°/sec MAX	Nine slew speeds, 3°/sec MAX	Nine slew speeds, 3°/sec MAX
Software Precision	24bit, 0.08 arcsec calculation	24bit, 0.08 arcsec calculation	24bit, 0.08 arcsec calculation	24bit, 0.08 arcsec calculation	24bit, 0.08 arcsec calculation	24bit, 0.08 arcsec calculation	24bit, 0.08 arcsec calculation
Hand Control Ports	RS-232 communication port on hand control	RS-232 communication port on hand control	RS-232 communication port on hand control	RS-232 communication port on hand control	RS-232 communication port on hand control	RS-232 communication port on hand control	RS-232 communication port on hand control
Motor Ports	Aux Port, Autoguide Ports	Aux Port, Autoguide Ports	Aux Port, Autoguide Ports	Aux Port, Autoguide Ports	Aux Port, Autoguide Ports	Aux Port, Autoguide Ports	Aux Port, Autoguide Ports
Tracking Rates	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar
Tracking Modes	EQ North and EQ South	EQ North and EQ South	EQ North and EQ South	EQ North and EQ South	EQ North and EQ South	EQ North and EQ South	EQ North and EQ South
Alignment Procedures	AutoAlign, 2-Star Alignment, Quick Align	AutoAlign, 2-Star Alignment, Quick Align	AutoAlign, 2-Star Alignment, Quick Align	AutoAlign, 2-Star Alignment, Quick Align	AutoAlign, 2-Star Alignment, Quick Align	AutoAlign, 2-Star Alignment, Quick Align	AutoAlign, 2-Star Alignment, Quick Align
Database	*	*	*	*	*	*	*
Complete Revised NGC Catalog	7,840	7,840	7,840	7,840	7,840	7,840	7,840
Complete Messier Catalog	110	110	110	110	110	110	110
Complete IC Catalog	5,386	5,386	5,386	5,386	5,386	5,386	5,386
Complete Caldwell	109	109	109	109	109	109	109
Abell Galaxies	2,712	2,712	2,712	2,712	2,712	2,712	2,712
Solar System objects	9	9	9	9	9	9	9
Famous Asterisms	20	20	20	20	20	20	20
Selected CCD Imaging Objects	25	25	25	25	25	25	25
Selected SAO Stars	29,500	29,500	29,500	29,500	29,500	29,500	29,500
Total Object Database	45,492	45,492	45,492	45,492	45,492	45,492	45,492

\*Computerized Hand Control Double line, 16 character Liquid Crystal Display; 19 LED backlit buttons

\*Database 40,000+ objects, 100 user defined programmable objects. Enhanced information on over 200 objects.

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CGEM ITEM #	11097	11080	11098	11081	11099	11082
Model Name	CGEM 800	CGEM 800 HD	CGEM 925	CGEM 925 HD	CGEM 1100	CGEM 1100 HD
Optical Design	8" Schmidt-Cassegrain	EdgeHD Optics	9.25" Schmidt-Cassegrain	EdgeHD Optics	11" Schmidt-Cassegrain	EdgeHD Optics
Aperture	203.2 mm	203.2 mm	235 mm	235 mm	280 mm	280 mm
Focal Length / Focal Ratio	2032 mm / f10	2032 mm / f10	2350 mm / f10	2350 mm / f10	2800 mm / f10	2800 mm / f10
Finderscope	6x30	9x50	6x30	9x50	9x50	9x50
Mount	Computerized Equatorial	Computerized Equatorial	Computerized Equatorial	Computerized Equatorial	Computerized Equatorial	Computerized Equatorial
Optical Tube	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Eyepiece	25 mm (81x)	40 mm (51x)	25 mm (94x)	23 mm (102x)	40 mm (70x)	23 mm (122x)
Star Diagonal	1.25"	1.25"	1.25"	2"	1.25"	2"
Tripod / Accessory Tray	Adjustable, Stainless Steel	Adjustable, Stainless Steel	Adjustable, Stainless Steel	Adjustable, Stainless Steel	Adjustable, Stainless Steel	Adjustable, Stainless Steel
Power Supply	Car battery adapter	Car battery adapter	Car battery adapter	Car battery adapter	Car battery adapter	Car battery adapter
CD-ROM	NexRemote control software with RS232 cable	NexRemote control software with RS232 cable	NexRemote control software with RS232 cable	NexRemote control software with RS232 cable	NexRemote control software with RS232 cable	NexRemote control software with RS232 cable
Hand Control Ports	RS-232 communication port	RS-232 communication port	RS-232 communication port	RS-232 communication port	RS-232 communication port	RS-232 communication port
GPS	Optional SkySync Accessory	Optional SkySync Accessory	Optional SkySync Accessory	Optional SkySync Accessory	Optional SkySync Accessory	Optional SkySync Accessory
Motor Type	Low cog DC Servo motors with encoders, both axes	Low cog DC Servo motors with encoders, both axes	Low cog DC Servo motors with encoders, both axes	Low cog DC Servo motors with encoders, both axes	Low cog DC Servo motors with encoders, both axes	Low cog DC Servo motors with encoders, both axes
Software Precision	24bit, 0.08 calculation	24bit, 0.08 calculation	24bit, 0.08 calculation	24bit, 0.08 calculation	24bit, 0.08 calculation	24bit, 0.08 calculation
Tracking Rates	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar
Tracking Modes	EQ North and EQ South	EQ North and EQ South	EQ North and EQ South	EQ North and EQ South	EQ North and EQ South	EQ North and EQ South
Useful Magnification Highest / Lowest	480x / 29x	480x / 29x	555x / 34x	555x / 34x	661x / 40x	661x / 40x
Limiting Stellar Magnitude	14	14	14.4	14.4	14.7	14.7
Resolution: Rayleigh	0.69 arcsec	0.69 arcsec	0.59 arcsec	0.59 arcsec	0.5 arcsec	0.5 arcsec
Dawes Limit	0.57 arcsec	0.57 arcsec	0.49 arcsec	0.49 arcsec	0.41 arcsec	0.41 arcsec
Light Gathering Power	843x	843x	1127x	1127x	1600x	1600x
Field of View: standard eyepiece	0.62°	0.84°	0.53°	0.53°	0.71°	0.67°
Optical Coatings	Starbright XLT Coatings	Starbright XLT Coatings	Starbright XLT Coatings	Starbright XLT Coatings	Starbright XLT Coatings	Starbright XLT Coatings
Secondary Mirror Obstruction	2.7 in	2.7 in	3.35 in	3.35 in	3.75 in	3.75 in
Diameter, Area	33.8%, 11.4%	33.8%, 11.4%	36.2%, 13.1%	36.2%, 13.1%	34%, 11.6%	34%, 11.6%
Optical Tube Length	17 inches	17 inches	22 inches	22 inches	24 inches	24 inches
Computerized Hand Control	*	*	*	*	*	*
Database	*	*	*	*	*	*
Slew Speeds	*	*	*	*	*	*
Alignment Procedures	*	*	*	*	*	*
Gear	*	*	*	*	*	*
Internal Clock	Yes	Yes	Yes	Yes	Yes	Yes
Latitude Range	15-70°	15-70°	15-70°	15-70°	15-70°	15-70°
Telescope Weight	88 lbs	88 lbs	113 lbs	113 lbs	120 lbs	120 lbs

\*Computerized Hand Control Double line, 16 character Liquid Crystal Display; 19 fiber optic backlit LED buttons

\*Database 40,000+ objects, 100 user defined programmable objects. Enhanced information on over 200 objects.

\*Slew Speeds Nine slew speeds, 5°/sec MAX

\*Alignment Procedures 2-Star Align, Quick Align, 1-Star Align, Last Alignment, Solar System Align

\*Gear Steel worm gear and 90 mm pitch diameter brass worm wheel

Specifications are subject to change without notice or obligation.



CGE Pro Item #	11086	11092	11087	11093	11088	11094	11089
Model Name	CGE Pro 925	CGE Pro 925 HD	CGE Pro 1100	CGE Pro 1100 HD	CGE Pro 1400	CGE Pro 1400 HD	CGE Pro 1400 Fastar
Optical Design	9.25" Schmidt-Cassegrain	Edge HD Optics	11" Schmidt-Cassegrain	Edge HD Optics	14" Schmidt-Cassegrain	Edge HD Optics	14" Schmidt-Cassegrain
Aperture	235 mm (9.25")	235 mm (9.25")	280 mm (11")	280 mm (11")	356 mm (14")	356 mm (14")	356 mm (14")
Focal Length	2350 mm f/10	2350 mm f/10	2800 mm f/10	2800 mm f/10	3910 mm f/11	3910 mm f/11	3910 mm f/11
Optical Coatings	Starbright XLT	Starbright XLT	Starbright XLT	Starbright XLT	Starbright XLT	Starbright XLT	Starbright XLT
Optical Tube	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Eyepiece	25 mm - 1.25" (94x)	23 mm (102x)	40 mm - 1.25" (70x)	23 mm (122x)	40 mm 1.25" (98x)	23 mm 170x	40 mm 1.25" (98x)
Star Diagonal	1.25"	2"	1.25"	2"	2" with 1.25" adapter	2" with 1.25" adapter	2" with 1.25" adapter
Finderscope	6x30	9x50	9x50	9x50	9x50	9x50	9x50
Mount	CGE Pro Computerized Equatorial Mount	CGE Pro Computerized Equatorial Mount	CGE Pro Computerized Equatorial Mount	CGE Pro Computerized Equatorial Mount	CGE Pro Computerized Equatorial Mount	CGE Pro Computerized Equatorial Mount	CGE Pro Computerized Equatorial Mount
CD-ROM	NexRemote control software with RS232 cable	NexRemote control software with RS232 cable	NexRemote control software with RS232 cable	NexRemote control software with RS232 cable	NexRemote control software with RS232 cable	NexRemote control software with RS232 cable	NexRemote control software with RS232 cable
Power Supply	Car battery adapter	Car battery adapter	Car battery adapter	Car battery adapter	Car battery adapter	Car battery adapter	Car battery adapter
Tripod	Adjustable, Steel	Adjustable, Steel	Adjustable, Steel	Adjustable, Steel	Adjustable, Steel	Adjustable, Steel	Adjustable, Steel
Highest Useful Magnification	555x	555x	660x	660x	840x	841x	840x
Lowest Useful Magnification	34x	34x	40x	40x	51x	51x	51x
Limiting Stellar Magnitude	14.4	14.4	14.7	14.7	15.3	15.3	15.3
Resolution: Rayleigh	.59 arc seconds	.59 arc seconds	.50 arc seconds	.50 arc seconds	.39 arc seconds	.39 arc seconds	.39 arc seconds
Dawes Limit	.49 arc seconds	.49 arc seconds	.42 arc seconds	.42 arc seconds	.33 arc seconds	.33 arc seconds	.33 arc seconds
Light Gathering Power	1127x unaided eye	1127x unaided eye	1593x unaided eye	1593x unaided eye	2581x unaided eye	2586x	2581x unaided eye
Field of View: standard eyepiece	.53°	.8°	.71°	.71°	.51°	.48°	.51°
Secondary Mirror Obstruction Diameter, Area	3.35" 36%, 13%	3.35" 36%, 13%	3.75" 34%, 12%	3.75" 34%, 12%	4.5" 32%, 10%	4.5" 32%, 10%	4.5" 32%, 10%
Optical Tube Weight	20 lbs	21 lbs	27.5 lbs	27.5 lbs	45 lbs	45 lbs	45 lbs
Tracking Rates	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar	Sidereal, Solar and Lunar
Tracking Modes	EQ North & EQ South	EQ North & EQ South	EQ North & EQ South	EQ North & EQ South	EQ North & EQ South	EQ North & EQ South	EQ North & EQ South
Power Requirements	12 VDC 2.5A	12 VDC 2.5A	12 VDC 2.5A	12 VDC 2.5A	12 VDC 2.5A	12 VDC 2.5A	12 VDC 2.5A
Internal Clock	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Latitude Range	10-65°	10-65°	10-65°	10-65°	10-65°	10-65°	10-65°
GPS Compatible	SkySync	SkySync	SkySync	SkySync	SkySync	SkySync	SkySync
Database	*	*	*	*	*	*	*
Slew Speeds	*	*	*	*	*	*	*
Alignment Procedures	*	*	*	*	*	*	*

\*Database 40,000+ objects, 100 user defined programmable objects. Enhanced information on over 200 objects.

\*Slew Speeds Nine slew speeds, 5.5°/sec MAX

\*Alignment Procedures 2-Star Align, Quick Align, 1-Star Align, Last Alignment, Solar System Align

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WITH FIVE DECADES OF SUCCESSFUL TECHNOLOGICAL ADVANCEMENTS AND INNOVATIONS, CELESTRON HAS PROUDLY EARNED WORLD WIDE RECOGNITION AS THE WORLD'S LEADING DESIGNER AND MANUFACTURER OF HIGH QUALITY COMPUTERIZED AND NON-COMPUTERIZED TELESCOPES, BINOCULARS, SPOTTING SCOPES, MICROSCOPES, AND RELATED ACCESSORIES.

CELESTRON IS COMMITTED TO THE LATEST PRODUCT DESIGNS AND FRESH INNOVATIVE ENGINEERING, BACKED BY OUR LONGSTANDING ABILITY TO MANAGE AND CONTROL ALL ASPECTS OF THE DESIGN-TO-MARKET PROCESS. CELESTRON'S IN-HOUSE STAFF OF ENGINEERS, INDUSTRIAL DESIGNERS, AND OPTICAL EXPERTS ARE CONSISTENTLY CHALLENGING THEMSELVES TO IMPROVE AND REFINE OUR EXISTING PRODUCTS, AS WELL AS DEVELOP BOLD NEW PRODUCT DESIGNS THAT FEATURE THE LATEST INNOVATIONS FOR OUR CUSTOMERS.

CELESTRON'S PASSION FOR ASTRONOMY STANDS SUPERIOR TO ALL COMPETITORS AS WE STRIVE TO MAKE OUR TELESCOPES EASIER TO USE WHILE MAINTAINING THE HIGH STANDARDS WE SET FOR OUR QUALITY OPTICS. CONTINUOUS PRODUCT IMPROVEMENT, AWARD-WINNING INNOVATIONS, AND DESIGN EXCELLENCE TO ENSURE THAT ALL PRODUCTS WE SELL TO OUR CUSTOMERS ARE PACKED WITH YEARS OF ENJOYMENT, RELIABILITY, AND MOST IMPORTANT — VALUE.

