OPTICS PLANET INC

.04
FANATIC
LX90GPS™
SERIES

When you step up to the LX90GPS, you've made it. It's the first scope that could be your last scope.

Roger Jackson, *architect, Little League coach, LX90GPS owner.*

Level: *Exploring the depths.*

Mindset:
I'm hooked on Astronomy. Observing. Imaging. You name it. I'm looking for the absolute best 8" to 12" Schmidt-Cassegrain I can afford. I want the highest-quality optics and a rock-solid, computer-guided mount.

Mantra:
No clouds, please.

Priorities:
Legendary optics. High-precision tracking. Aperture. Stability. Auto alignment. GPS.

Goals:
Join the community of dedicated backyard astronomers. Treat my family and friends to the ultimate tour of the universe. Begin to take astrophotographs like a pro.

Also used by: Recruit, Hot Shot, Master. ⏩

OPTICS PLANET INC

Performance:
The ultimate all-around machine for the money.

Optical Design:
Schmidt-Cassegrain. *(See pg. 49)*

Strengths:
Industry leading optics. Precise computer driven mount.

Buzz:
Sky & Telescope wrote, "For a general-purpose telescope, this is one of the best ones I've ever tested out-of-the-box."

.01 RECRUIT

.03 HOT SHOT

.05 MASTER

.04 WELCOME TO SERIOUS ASTRONOMY. Here's your scope.

LX90GPS™
SCHMIDT-CASSEGRAIN

F. G. H.

I.

A. J.

"The computer pointing was 100% accurate (scout's honor, not one miss in hundreds of GoTo moves)."
— Sky & Telescope magazine

"An LX90GPS lets you take photos that look like they came straight from a Palomar Mountain Observatory sky survey."
— Tom King, Astrophotographer

"I was interested to see if the LX90 would live up to its (long-exposure astrophotography) claims. It certainly does. And then some."
— Sky & Telescope magazine

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The LX90GPS™ can locate over 30,000 objects including itself. Turn it on and the built-in Sony® GPS receiver immediately determines your precise date, time, and location. In just minutes, your scope is ready to give you a tour of the most spectacular sights in the universe with GPS precision. With all the features of a legendary LX90 Schmidt-Cassegrain, plus the ability to listen to and track satellites, Meade's new LX90GPS has it all.

When you consider competing methods of alignment (synchronizing your telescope's computer with the night sky), nothing is easier than Meade's AutoAlign™. Not even competing three-object alignment methods. That's because LX90GPS telescopes are smart scopes that know the night sky right out of the box (see AutoAlign pg. 15). When it comes to industry-leading American-made optics, oversized primary mirrors, depth of features, and value for your dollar, the LX90GPS is the best Schmidt-Cassegrain you can find that can find itself.

AutoAlign™ Makes Alignment Easy. Aligns your telescope for you while you watch. Allows you to fine tune alignment with two stars it finds for you automatically when you turn it on (see pg. 15). **A.**

Legendary Diffraction-Limited Optics. Only Meade individually figures their Water White glass corrector lenses and Pyrex® primary and secondary mirrors in Irvine, California for observatory-class light transmission, temperature stability, smoothness and image correction. Our optics lead the industry (see pg. 128). **B.**

Exclusive Oversized Primary Mirror. Meade primary mirrors are larger than their listed apertures (the actual diameter of the 8" LX90GPS's primary mirror is 8.25"). This extra ¼" yields a wider, fully illuminated field of view and allows you to see the light competing Schmidt-Cassegrains leave behind. **C.**

Rigid Dual-Fork Mount. Cast aluminum fork mount provides a rock-solid platform for astrophotography and visual observation. Two forks are better than one. **D.**

LX200R™-Series Tripod. The LX90GPS comes with the same sturdy and adjustable field tripod as the LX200R. For steady observing and imaging. **E.**

Smart Drive™. Provides Periodic Error Correction in the RA axis (in polar mode) over the course of one or more training periods, thereby minimizing guiding corrections during long-exposure astrophotography (see pg. 92). **F.**

9-Speed Drive Controls. Choose speeds easily with the AutoStar® controller. Rapid slew rate of 7°/second saves slewing time all night long. Slowest rate of .01x sidereal allows careful guiding for astrophotography. Includes precision adjustable guiding speeds for pinpoint astrophotography (see pg. 69). **G.**

AutoStar® Controller. The industry standard. Used by more astronomers than any other system for everything from backyard observing and imaging to observatory research. And the software is fully upgradeable. You can download firmware updates, guided tours, and timely objects like comets and new discoveries for free at Meade.com. With AutoStar Update, your telescope will grow with you for years to come (see pg. 13). **H.**

AutoStar Suite™ Software. Easy-to-use planetarium software allows you to see what's in the sky tonight. Plan observing sessions, print star charts, even control your telescope from your PC. **I.**

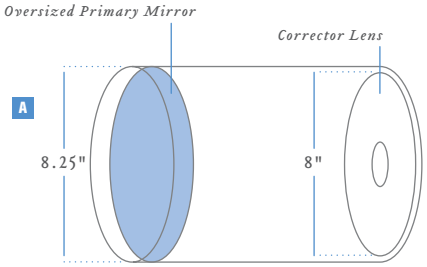
SmartFinder™ Red Dot and 8x50 Viewfinder. So you can quickly and easily locate and center objects (see pg. 15). **J.**

UHTC™. Our exotic multi-layer optical coatings optimize light transmission. Image brightness is increased by 15% over standard coatings. It's like adding up to an extra inch of aperture (depending on scope size). Objects appear dramatically brighter (see pg. 68). **K.**

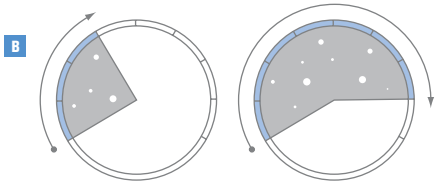
LX90GPS

LX90GPS 8" #0810-90-61	LX90GPS 10" #1010-90-61	LX90GPS 12" #1210-90-61
8" (203mm) aperture	10" (254mm) aperture	12" (305mm) aperture
Schmidt-Cassegrain	Schmidt-Cassegrain	Schmidt-Cassegrain
f/10 focal ratio (2000mm)	f/10 focal ratio (2500mm)	f/10 focal ratio (3048mm)
#497 AutoStar 30,000+ object database	#497 AutoStar 30,000+ object database	#497 AutoStar 30,000+ object database
8 x 50mm viewfinder plus SmartFinder red dot	8 x 50mm viewfinder plus SmartFinder red dot	8 x 50mm viewfinder plus SmartFinder red dot
26mm Series 4000™ Super Plössl	26mm Series 4000 Super Plössl	26mm Series 4000 Super Plössl
UHTC™ Optical Coatings included	UHTC Optical Coatings included	UHTC Optical Coatings included
52 lbs total net weight	69 lbs total net weight	79 lbs total net weight
Optical tube: 9.1" dia, 16.75" length	Optical tube: 11.75" dia, 22" length	Optical tube: 13.6" dia, 25" length
8 C batteries (user supplied)	8 C batteries (user supplied)	8 C batteries (user supplied)
Slew speed: 2x sidereal to	Slew speed: 2x sidereal to	Slew speed: 2x sidereal to
7°/sec in 9 increments	7°/sec in 9 increments	7°/sec in 9 increments
Guide Speed: 2x sidereal	Guide Speed: 2x sidereal	Guide Speed: 2x sidereal

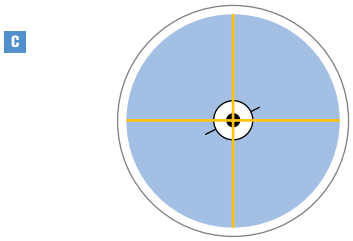
For a full list of specifications go to www.meade.com



Capture more light



Slews 3° per second *Slews 7° per second*



The easiest alignment is no alignment

LX90GPS highlights

A. Oversized Primary Mirror: *Captures the light competitive Schmidt-Cassegrains leave behind. With a primary mirror larger than the aperture of the objective or corrector lens, virtually no light gets lost on its way to the eyepiece. Enjoy brighter off-axis viewing and astrophotography with more fully illuminated fields of view.*

B. Faster Slew Speeds: *At a sleepy three degrees per second, it takes competing Schmidt-Cassegrains a full minute to move from horizon-to-horizon. The LX90GPS slews more than twice as fast as competing Schmidt-Cassegrain telescopes. Go for the speed. And see more objects all night long.*

C. Automatic Alignment: *The fastest and easiest way to align your telescope isn't by finding three bright objects. It's by finding no objects at all. You want easy? LX90GPS scopes with AutoAlign™ are smart telescopes that know the night sky right out of the box.*

Choosing the LX90GPS.™ An easy decision.

If you're considering a telescope in this price range, you may know there are other Schmidt-Cassegrains out there. Feel free to shop the market, but make no mistake; the Meade LX90GPS is the top Schmidt-Cassegrain telescope on the market today. Its accurate drive system and world-class optics annihilate competing scopes. If you don't feel like shopping forever before you buy, just decide on the LX90GPS today. Choose an aperture that suits your needs, purchase a DSI imager for astrophotography and you're good to go. If you'd rather shop the competition, here are some things to look for.

Diffraction-limited Meade Schmidt-Cassegrain optics.

Star parties all over the world are raving about Meade optics. Dr. P. Clay Sherrod of the Arkansas Sky Observatory says, "I have to say that Meade optics have reached an amazingly sophisticated and consistent level of quality these past few years. I test optics, so I've noticed. Sadly, some companies out there are cutting corners on optics." Sky & Telescope called LX90GPS optics, "diffraction-limited" giving them "high marks on the optical bench" calling them "smooth and well corrected." You're buying a real instrument here. Buy the Meade LX90GPS and you won't be sorry.

Accurate pointing and tracking.

AutoStar® is the standard among sky navigation systems. Sky & Telescope magazine called the LX90's tracking "excellent" and the pointing "100 percent accurate." Astrophotographer Steve Hamilton says his LX90 performed "flawlessly out-of-the box," adding that the "well-built mount also supports added accessories like guide scopes and counterweights without compromising the rock-solid stability required for long-exposure astrophotography."

Larger mirrors, faster motors, easier alignment.

Only Meade Schmidt-Cassegrains have oversized primary mirrors which are larger than the scope's listed aperture to capture all of the light. Further, Meade's faster slew speeds mean you'll spend more time observing and less time waiting on your telescope (not a bad benefit in sub-freezing weather). Finally, no matter what you hear about alignment, it doesn't get any easier than automatic. The LX90GPS is so smart it knows the night sky right out-of-the-box. You don't have to teach it the night sky by manually slewing to three bright objects. It finds two alignment stars for you automatically.

The UHTC™ advantage.

Meade Ultra-High Transmission Coatings (UHTC) are an amazing scientific breakthrough that increase brightness by the equivalent of nearly an inch of aperture (depending on scope size). These coatings are exclusive to Meade and make a real difference over competing scopes. Image brightness is increased by 15% over standard coatings (see pg. 68).

Adding on to your LX90GPS.

Your LX90GPS is the perfect foundation for a lifetime of exploration. See pages 116-143 for additional accessories that will help your scope grow with you for years to come.

2"

4"

6"

8"

Understanding Aperture

An astrophotograph and a look through a telescope both inspire wonder. But in different ways. Due to the natural limitations of the human eye, a long-exposure astrophotograph of the Great Orion Nebula (M42) will be infinitely more detailed and colorful than what you can possibly see through the telescope's eyepiece.

Despite this truth, no photograph can compare with the experience of standing under a clear sky and looking into the heart of a star factory 1,500 light years away with your own eyes. After all, you are witnessing creation. It's sort of like comparing a photo of the Grand Canyon to actually going there.

Depending on the steadiness of the atmosphere, the darkness of your location, and how dark-adapted your eyes are, a large scope will turn distant galaxies, star clusters, nebulas and planets into truly magnificent sights you will never forget.

The larger the aperture, the brighter and higher resolution your image.

Aperture is about gathering light. Period. The human eye can only gather as much light as can squeeze through the pupil of your eye. Not much. So the real purpose of a telescope is not magnification—it's gathering more light. The bigger the aperture, the brighter the image. You won't enjoy looking at a dim object, no matter how big you make it. That's why any experienced astronomer will tell you aperture is everything.

As a general rule, an 8-inch telescope has four times the light gathering power of a 4-inch telescope. The photo-illustrations on this page were created to simulate the view through telescopes of different apertures at the same magnification. Examine them and it's easy to see why bigger is better.

The main caveat to the "bigger is better" rule is portability. Telescopes above 10" become increasingly more difficult to transport to your favorite dark sky location (not an issue if you plan on a home observatory or roll-off shed).

But the best scope for you is the one you will actually use. Most amateurs consider an 8" scope the perfect compromise between brightness and portability.

Astrophotography: Jason Ware / M42-Great Orion Nebula / RCX400

10"

12"

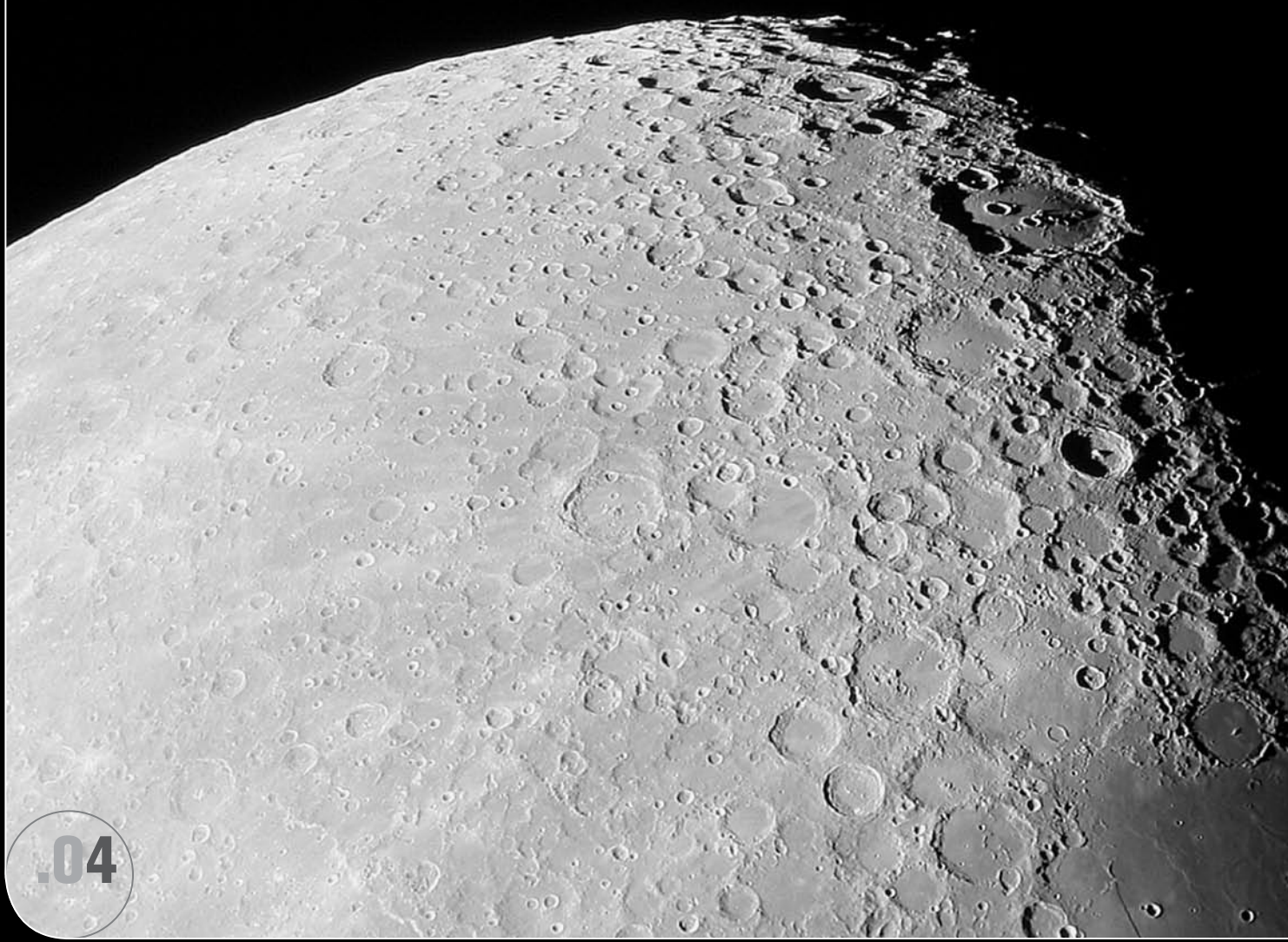
14"

16"

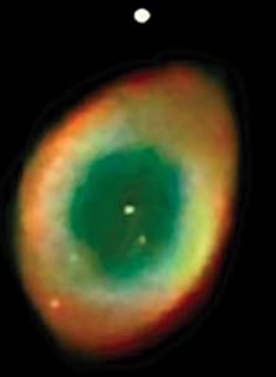
"I decided to buy the LX90 based on all of the online reviews praising it as an excellent telescope for the money. I'm now taking photos with the Meade Deep Sky Imager and exploring wonders I never dreamed possible here in the glow of the Big Apple. Night after night, AutoStar reliably starts, aligns, and locks onto objects with perfect precision. I've never experienced a single glitch."

—MIKE SABINA

ASTROPHOTOGRAPHY: KEVIN MUENZLER / MOON / LX90



ED SAMPSON / SATURN / LX90



ALEXANDER BOUQUIN / M57 – RING NEBULA / LX90

LEE ZAGAR / JUPITER / LX90 / DSI

STEVE HAMILTON is a former naval aviator and astrophotographer who moderates seven different astronomy user groups and forums with over 6500 subscribers. He and his LX90 have produced an impressive gallery of astrophotographs. You can see some of them at www.meade.com.

My love of the night sky began as a Navy pilot. I used to fly back and forth all night on airborne early warning duty. We called it "drilling holes in the sky." The night sky was amazing so I'd take along binocs and enjoy the view. At 30,000 feet over the Eastern Pacific, the Milky Way is so bright; you'd swear you were looking at clouds out your window.

But I was helped along and encouraged by all these great imagers who would go, "Nice image Steve, but try this next time..." That's fantastic. I look back at my first few months in imaging and think, "where would I have been without that?"

Now I find myself answering a lot of the same questions that I asked when I was first starting out. It's just a natural progression where you start giving back to the community by helping others. I have to say that lately, when I'm not out taking pictures, half the joy of astronomy for me is the web community and the friends I've made there.

"ON A CLEAR NIGHT OVER A CALM SEA, IT'S HARD TO TELL WHERE THE SKY ENDS AND THE SEA BEGINS. It's like you're flying into one big sky"

These days my Meade LX90 and I spend a lot of time capturing images of the same deep sky objects I used to wonder at while flying over the ocean at night.

As soon as I got into astrophotography, the first thing I did was get on the Internet (go to Google and type in "astronomy" and you'll be there for the next ten years). I found the Yahoo groups pretty quickly and soon realized their value. There are all these patient people there who are willing to say, for the hundredth time, the same thing they've said to ninety-nine other people.

Astrophotography can have a steep learning curve.

My best friend these days is a guy in Washington State who I've never met. We got to know each other through the online groups and started talking on the phone. Now we talk every day, sometimes twice a day. And I have many other friends like him.

When I was a pilot, it was my goal to be the best. But I always knew there was somebody out there who was better. It's the same with astrophotography. That's what keeps everyone learning (and humble).

ASTROPHOTOGRAPHY: STEVE HAMILTON / M100 – SOMBRERO GALAXY / LX90 / DSI PRO