MEADE® INSTRUMENTS

Innovative products for curious minds | *since 1972*

LX850™.
RE-ENGINEERED.
REFINED.
REMARKABLE.

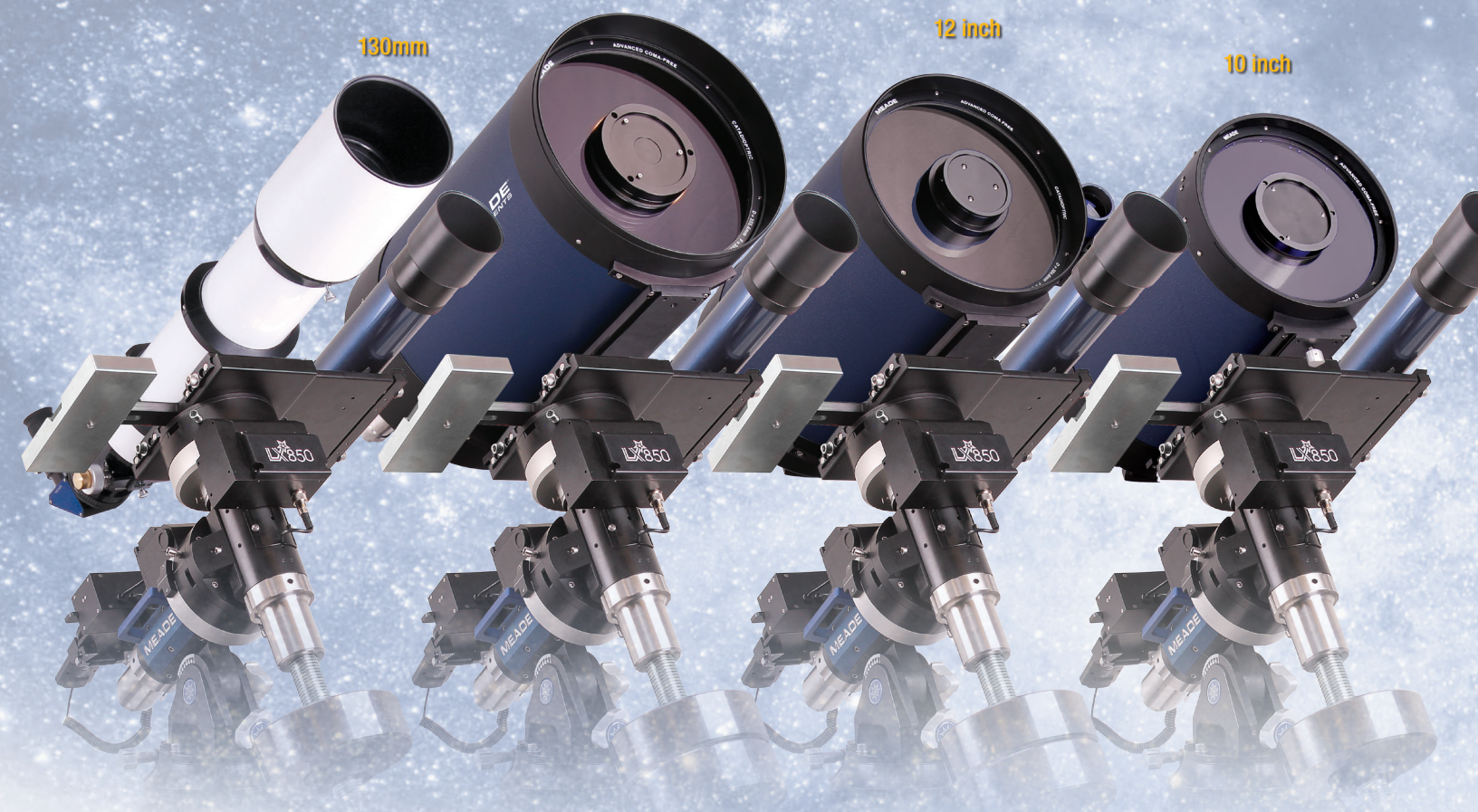
The portable astro-imaging system that can be set up, aligned and imaging in less than thirty minutes.

LX850™

OPTICAL TUBES AVAILABLE WITH THE LX850

Series 6000 ED Triplet APO Refractor

LX850 f/8 Advanced Coma-Free



Building on the foundation of the technologically revolutionary LX800, Meade engineers have taken the next step in astrophotographic evolution. We've kept the same innovative concepts like Starlock™ full-time automatic guiding and high-precision pointing, f/8 ACF OTAs with internal Crayford-style two-speed focuser and a portable precision German equatorial mount, but re-engineered it to deliver more performance with less user effort.

Here is a brief list of a few of the changes and new features made to create the new LX850:

NEW polished bronze worms in both RA and DEC drives that deliver smooth motion with low periodic error

NEW larger roller bearings in both RA and DEC axes to better handle large loads

NEW roller bearings in the RA and DEC clutch assemblies to allow freer motion with the clutches loosened for easier balancing

NEW one-piece 1-inch thick saddle plate with improved dove tail clamps, thicker OTA dovetail rail and radius blocks to reduce flexure between the OTA and mount

NEW alterative Starlock mounting position on ACF OTAs for virtually no flexure between StarLock and the primary optics

NEW StarLock software improvements to guide star selection, tracking/guiding accuracy, Ultra High Precision Pointing, and Drift Alignment

NEW StarLock automatic guide rate calibration which analyzes the sky conditions and sets the best possible guide rates for both RA and DEC

What's more is that all of this technology and engineering delivers a portable astro-imaging system that can be set up, aligned and imaging in less than 30 minutes.

Prices starting at just $5,999

LX850 SERIES FEATURES

Meade Instruments' new LX850 series of imaging/visual telescopes uses exciting advanced technologies in optics, electronics and mechanics to bring you a superior system for imaging and visual observations. Here are some of the exciting features of the LX850 line.

① **Fast f/8 Advanced Coma-Free (ACF) optical systems** on the 10, 12 and 14 inch OTAs. These optics produce wider, flatter fields with no coma for pinpoint stars out to the edge of larger imaging sensors or extreme wide angle eyepieces.
OR:
130mm 3-element, air-spaced apochromatic f/7 refractor with 3 inch Crayford-style 10:1 focuser. Beautifully machined and finished with case. Optional 3 inch field flattener available.

② **StarLock full-time automatic integrated guider** provides computer-assisted drift alignment for refining polar alignment, finds and centers targets and then automatically locks onto a field star as faint as 11th magnitude for guiding. No separate computer, no guide star selection, no guide scope focus. Just set up your camera and image.

③ **Internal Crayford-style primary mirror focusing system** with a dual speed 7:1 focus control. Precise focus is a snap.

④ **German Equatorial Mount** made from machined aluminum and stainless steel with large bearing surfaces and roller bearings in both axes for an extremely solid and stable platform.

⑤ **Precision machined 5.8 inch main gears** with 225 teeth in both R.A. and DEC. with .68" polished bronze worms for very accurate movements and tracking.

⑥ **1.75 inch diameter threaded stainless steel counterweight shaft** with 26 pound threaded stainless steel counterweights for easy and safe adjustments to telescope balance.

⑦ **Sophisticated built-in computer** for the most accurate control of the StarLock and other telescope systems.

⑧ **AutoStar II computer controller** with over 144,000 object database to take you to almost any object imaginable at the push of the GoTo button. AutoStar II allows the user to setup and operate the LX850 in just the way you want.

⑨ **Precise altitude and azimuth controls** for mount polar alignment.

⑩ **Ultra-stable adjustable height tripod**. Three inch diameter legs fold up for easy transport.

⑪ **Internal cabling** to prevent snags and tangles.

⑫ **Accessories include** 8x50 viewfinder, Series 5000 2 inch enhanced 99% reflective diagonal, 25mm HD-60 premium eyepiece and anti-vibration pads.

⑬ **Zero image-shift microfocuser** for exacting electronic control of focus.

	10 inch Advanced Coma-Free	12 inch Advanced Coma-Free	14 inch Advanced Coma-Free	130mm APO
Product number	1008-85-01	1208-85-01	1408-85-01	0130-85-01
UPC	7 09942 60061 2	7 09942 60062 9	7 09942 60063 6	7 09942 60064 3
Optical design	Advanced Coma-Free			Apochromatic Refractor
Clear aperture	10 inches	12 inches	14 inches	130mm
Focal length focal ratio	2032mm, f/8	2438mm, f/8	2845mm, f/8	910mm, f/7
Optical coatings	UHTC			Fully Multi-Coated
Resolving power (Dawes limit)	.46 arcseconds	.38 arcseconds	.325 arcseconds	.89 arcseconds
Secondary obstruction (%)	20.95	16.86	13.28	NA
Viewfinder	8x50 refractor with cross hairs			
Eyepiece	HD-60 25mm long eye relief premium eyepiece			
Diagonal	Series 5000 2 inch with enhanced 99% reflectivity			
Field flattener (optional)	NA			3 inch diameter, 2 element, fully multi-coated field flattener
Focus system	Internal Crayford-style, zero image-shift primary mirror focus with dual speed 7:1 control			Crayford-style 3 inch zero image shift focuser with dual speed 10:1 control
OTA mounting	Losmandy®-style mounting plate			Vixen®-style mounting plate
Electronic zero image-shift microfocuser	Included			NA
Auxiliary equipment mounting system	Series 5000 Auxiliary Equipment Mounting System (optional)			NA
Materials				
Primary mirror	Low-expansion borosilicate glass			NA
Secondary mirror	Individually figured hyperbolic with primary mirror for maximum correction. Low-expansion borosilicate glass			NA
Correcting plate/lens	Aspheric high-spectral transmission Borofloat glass from Schott AG Germany			NA
Optical tube	Aluminum			
Weights and dimensions				
Total net OTA weight	33 lb	56 lb	63 lb	25 lb
U.S. retail with mount, tripod, StarLock and OTA	$7,999	$8,999	$9,999	$9,999

German Equatorial Mount	
Product number	37-0850-00
UPC	7 09942 60060 5
Mount body	Machined from 6061-T6 Aircraft grade Aluminium and stainless steel
Finish	Anodized Aluminium and stainless steel
Main gear - R.A. & Dec.	5.8 inch under cut 225 tooth aluminum
Worm gear - R.A. & Dec.	.68 inch diameter precision machined polished bronze
Bearing size	3.15 inch (outer diameter)
Counterweight shaft	1.75 inch diameter, 12 inch long threaded stainless steel
Counterweights	26 lb. (optional 10 lb.) threaded stainless steel. Quantity: 10 inch - two (2) 26 lb.; 12 inch - two (2) 26 lb.; 14 inch - three (3) 26 lb.; 130mm APO - one (1) 26 lb.; Mount only - one (1) 26 lb.
Drive motors	DC servo motors with encoders, both axes
Mechanical alignment	Fine adjustment altitude and azimuth controls
Tracking distance past meridian	Up to 20 degrees
OTA mounting system	Losmandy®-style dovetail
Instrument payload capacity	90.0 lbs (40.80 kg)
Latitude range	10° to 70°
Tripod	Giant folding adjustable height tripod with 3 inch diameter aluminum legs. Height from 29 inches to 45 inches.
Mount body weight	60 lb.
Counterweight shaft weight	17.8 lb
Counterweights	26 lb (10 lb optional wieghts available)
Tripod weight	36 lb
Control panel	12v DC in, 12v DC out, Power, Focuser, Reticle, Handbox port, 1 computer connection port (RS232), 1 StarLock port, 1 Aux guide port
Computer control	AutoStar II GoTo system
Database	Over 144,000 Objects, Catalogs included: Index catalog (5,386); NGC catalog (7,840); Partial Caldwell catalog (109); Messier catalog (110); Earth orbiting satellites (26); Planets (9); Uppsala galaxy catalog (12,940); Morphological catalog of galaxies (12,939); General catalog of variable stars (29,364); SAO and Hipparcos star catalogs (42,277); Draper star catalog (21,160); Yale bright star catalog (8,977); Large Bright Quasars Survey (1,055); Named objects (4,313); Herschel catalog (400); Abell catalog of galaxy clusters (2,712); Arp catalog of irregular galaxies (635); Lunar features (1,754); Asteroids and comets (120); Constellations (88); Solar/Lunar eclipses, meteor showers (492).
Computer hand control	Double line, 16 character Liquid Crystal Display; 20 backlit LED buttons.
GPS	Yes
Home sensors	Both RA and Dec axes
Internal clock	Yes
Internal cabling	Yes
Slew speed	3 degrees/second
Tracking rates	.01x to 1x, 2x, 8x, 16x, 1/4°, 1/2°, 1°, 3°.
Tracking modes	EQ North and EQ South
Alignment procedures	2-Star Align, 1 Star Polar Align, StarLock assisted drift align
StarLock	
Wide-field camera	25mm x 26mm f/1.04 optic with 1/2 inch format CMOS sensor gives field of 14.72 x 11.78 degrees.
Narrow-field camera	80mm x 400mm f/5 optic with 1/2 inch format CMOS sensor gives field of 57.2 x 45.8 arcminutes (2.68 arcseconds/pixel)
High-precision pointing	+/- 1 arcminute
High-precision guiding	+/- 1 arcsecond (with good seeing. 1-4 second correction update rate depending on star magnitude. Faintest guide star 11th mag.
High-precision alignment	Semi-automatic drift align procedure for ultra-precise polar alignment
Weight	2.9 lbs (1.3 kg)
Power supply	12v DC 5A using supplied Meade Universal Power Supply
U.S. retail	$5,999 (mount, tripod and StarLock only)

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