



S O F T W A R E B I S Q U E

Paramount Taurus™ 500/600/700 Specifications



Telescope sold separately


Experience uninterrupted horizon-to-horizon imaging — with direct-drive motors.

- With a Paramount Taurus™ equatorial fork mount, you'll never need to perform another meridian flip. And its dual-tined fork provides exceptional stability for your instruments.
- If you enjoy visual observing, you'll appreciate the far easier access to your eyepieces over what other mount designs provide, making it ideal for public outreach.
- The included TPoint™ technology provides extreme pointing accuracy while its ProTrack™ assisted tracking produces pinpoint stars over long exposures.
- Designed and manufactured at our state-of-the-art factory in Golden, Colorado, components are precision-machines to the highest tolerances to ensure optimal performance.

Model	Price	Maximum Instrument Capacity	Typical OTA Aperture
Paramount Taurus™ 500	\$39,500	400 pounds (180 kg)	20-inch (0.5 meter)
Paramount Taurus™ 600	\$41,500	400 pounds (180 kg)	24-inch (0.6 meter)
Paramount Taurus™ 700	\$49,500	600 pounds (270 kg)	28-inch (0.7 meter)

OTA sold separately; optional accessories are described below.

Critical Features and Performance Specifications

Category	Feature/Specification	Details
Software	<p>The Paramount Taurus™ arrives equipped with TPoint™ and ProTrack™ which provide the finest pointing and tracking accuracy.</p> <p>Its included application software (see “Details” to the right) is similarly excellent and tightly integrated.</p>	<p>It also arrives equipped with TheSky™ Imaging edition (which consists of TheSky Professional edition, TPoint, Camera & Devices, Dome Control, and Multi-OS Plus. And it runs on macOS, Windows, and Linux (ARM32, ARM64, and x86_64 architectures).</p> <div style="text-align: center;">  </div>
All-sky Pointing Accuracy	20 arcseconds or less.	With a well-behaved optical system, you will generally achieve all sky pointing of 15 arcseconds or less. Because each axis uses absolute 26-bit on-axis encoders for position feedback, you can expect consistent night-to-night performance.
Backlash	None.	The direct drive motors produce no measurable backlash.
Nightly startup	On-axis absolute encoders ensure the mount is always ready to use.	The Paramount and TPoint™ and ProTrack™, can be restarted (powered off then on) with virtually identical pointing and tracking accuracy from session to session.
Periodic error	Negligible.	With on-axis absolute encoders, periodic error is negligible.

Technical Specifications

Component	Specification	Details
Design	Equatorial Fork	The equatorial fork design offers through-the-meridian tracking.
Composition		
Body	6061- or 6063-grade Aluminum	All mechanical components are manufactured and assembled in Golden, Colorado, USA. The only external non-metal components are the access hole covers, Delrin™ washers on the altitude axis retaining knobs, and the knob on the end of the hand paddle's joystick.
Tine Counterweights	Stainless Steel	
Control System	Three-axis industrial direct drive motor controller	Configurable 10-20A, 20 KHz control algorithm rate.
Motor Torque	Direct Drive	<u>Models 500/600</u> : 65 Nm continuous torque in altitude and azimuth axes. <u>Model 700</u> : 103 Nm continuous torque in altitude and azimuth axes.
Accessories		Control system power supply, Ethernet cable, hand paddle, tine counterweight shaft and 10 pounds (4.5 kg) of tine counterweights, bubble level, imperial hex wrench set.
Through-the-mount Cabling	All the control system cabling is routed internally.	Built-in cable conduits allow additional custom cables to be easily routed through the mount and up the fork arms.

Physical Specifications

Physical Specification	Details
Equipment Capacity	Models 500/600: 400 pounds (180 kg) total instrument capacity. Model 700: 600 pounds (270 kg) total instrument capacity.
Equatorial Wedge Polar Axis	Polar axis can be adjusted from 0° to 58° using a built-in ratcheting altitude mechanism. We can manufacture custom mounting pedestals for higher latitudes.
Tracking Past Meridian	The equatorial fork design permits tracking objects up to six (6) hours beyond the meridian (effectively horizon to horizon).
Construction	<ul style="list-style-type: none">• 10 in. (25.4 cm) diameter right ascension tube.• 5 in. (13 cm) diameter right ascension shaft.
Bearings	<ul style="list-style-type: none">• 10 in. (25.4 cm) bearing on the hour angle axis.• 8 in. (20 cm) bearing on the declination axis.
Fork Tines	Machined 6061-grade aluminum with internal lightening. The fork can accommodate a single or multiple optical tube assemblies with an outer diameter of 24 in. (61 cm) up to 35 in. (89 cm). Note that 24-in. (61 cm) aperture telescopes from Officina Stellare™ and PlaneWave Instruments™ have an outer dimension with mounting plates of approximately 35 in. (89 cm).
Integrated mount base	Measures approximately 20 in. x 16 in. (51 cm x 41 cm) with 23 in. (58 cm) tall wedges.
Altitude adjustment	3/4-inch threaded adjuster with thrust bearings for smooth operation.
Azimuth adjustment	Mechanical, rotating push system with plus or minus 2.5° maximum adjustment.
Slew speeds	30 degrees per second maximum slew rates is a reasonable limit for most telescope loads.
Weight	The Taurus 500/600 models weighs about 400 lbs. (180 kgs) while the 700 model weighs about 450 lbs. (204 kgs).
On-axis absolute encoders	26-bit on-axis absolute encoders provide a resolution of 0.02 arcseconds on each axis.

Physical Specification	Details
Transport and Assembly	Design consists of five separate components, each weighing less than 100 pounds (45 kg), making it the most easily deployable mount in its class. A two-person team can fully assemble the Paramount Taurus™ in about one hour. The fork arms are precision machined from solid aluminum to provide exceptional stability and rigidity.

OTA mounting OTA mounting is aided by a built-in ratcheting system in the wedge. The OTA can be attached when the forks are horizontal, so that adjusting the fork spacing, attaching the OTA, and balancing the payload can be accomplished before raising the polar axis. The mechanical ratcheting system in the wedge allows the entire payload to be incrementally stepped up in six-degree increments. Once the mount's polar axis is approximately aligned, TheSky's Accurate Polar Alignment feature assure the mount is precisely aligned to the refracted pole.



Paramount Taurus Model 500 mount.

Optional Accessories

Accessory	Price (USD)
Paramount Apollo™ Direct-Drive Image Rotator <ul style="list-style-type: none">• 3.5-in. (8.9 cm) clear aperture.• Up to 30 degrees per second rotation.• Large internal diameter bearings with 3.5 in./8.9 cm clear aperture.• Accommodates wide variety of instruments.	\$7,500
Taurus Mounting Pier/Pedestal <p>The Paramount Taurus can be mounted directly to the floor of the observatory with the optional welded aluminum mounting pedestal.</p>	\$2,000
OTA Mounting Rails <p>Optional optical tube-assembly mounting hardware is available to accommodate telescopes from various manufacturers that include Officina Stellare, PlaneWave Instruments, and AG Optical Systems. Custom mounting hardware for other OTAs can be designed and manufactured by Software Bisque.</p>	\$850



Made in the USA

If these off-the-shelf specifications do not meet your needs, please contact us (systems@bisque.com) so that our engineers can design a system that meets your specifications.



S O F T W A R E B I S Q U E

Superior imaging solutions for discriminating astronomers.

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Rev 21.7.13