



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

Paramount Apollo™ 600/800 Specifications



Pictured PlaneWave Instruments' CDK20 telescope sold separately

When speed and accuracy matter, you'll love this altazimuth mount.

- What makes the Paramount Apollo™ so extraordinary is its control software. ProTPoint™ (integrated with TheSky™) provides extreme pointing accuracy — it's relied upon by many of the world's very largest optical, infrared, and radio observatories. Apollo's telescope control system utilizes TPoint's Telescope Control System Pointing Kernel (TCSpk™) to provide unparalleled pointing and tracking performance.
- Designed and manufactured at our state-of-the-art factory in Golden, Colorado.

Model	Price	Maximum Instrument Capacity	OTA Aperture
Paramount Apollo™ 600	\$59,500	400 pounds (180 kg)	Up to 24 inch (0.6 meter)
Paramount Apollo™ 800	\$79,500	800 pounds (360 kg)	Up to 32 inch (0.8 meter)

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Software and Hardware Specifications

Specification	Description	Apollo 600	Apollo 800
Astronomy Software	TheSky™ Space edition controls the telescope, imaging devices, and dome. Advanced satellite tracking capabilities are also included — all nicely integrated and sporting a consistent look and feel.	✓	✓
Cross Platform Support	TheSky™ Space edition is compatible with macOS, Windows, and Linux (ARM32, ARM64, and x86_64) operating systems. All platforms are included.	✓	✓
Direct Software Control	The Apollo can be directly controlled through its Ethernet connection (TCP/IP) by scripting TheSky™ Space edition, or using third-party tools based on Microsoft .NET®, C/C++ source code, Microsoft COM®, and MathWorks MATLAB®. Contact Software Bisque for details.	✓	✓
Motor Controller	A three-axis industrial direct drive motor controller (10-20A, 20 KHz control algorithm rate) and power supply unit resides inside base of the mount. A separate control unit is not required.	✓	✓
Connection	Ethernet (TCP/IP communication protocol)	✓	✓
On Axis Absolute Encoders	5.9 in (15 cm), 26-bit on-axis absolute encoders on azimuth, altitude, and rotator axis.	✓	✓
Components	320 lb. (145 kg) total weight disassembles into four components: <ul style="list-style-type: none"> • Base: 115 lb. (52 kg) • Fork center: 50 lb. (14 kg) • Drive tine: 88 lb. (40 kg) • Support tine: 62 lb. (28 kg) 	✓	✓
Drive Tine	Primary bearing: Secondary bearing:	8-in. (20 cm) 5-in. (12.5 cm)	8-in. (20 cm) 5-in. (12.5 cm)
Motor Torque Constant		8.7 Nm/Arms	13.1 Nm/Arms
Support Tine	3.9-in. (12.5 cm) self-aligning bearing, multi-axis OTA stress relief mechanism.	✓	✓
Azimuth Axis	Primary bearing: Secondary bearing:	8 in. (20 cm) 5 in. (12.5 cm)	10 in. (25.4 cm) 6 in. (15 cm)
Telescope/OTA Attachment	Intelligent Apollo™ “drop-in” telescope plate mounting system.	✓	✓
Azimuth Axis Travel	540 degrees (“soft” stops at end of travel).	✓	✓
Altitude Axis Travel	0 – 90 degrees (“soft” stops at end of travel).	✓	✓
Maximum Slew Speeds	Configurable. 30 degrees per second is a reasonable maximum limit with typical telescope loads.	✓	✓
Slew Speed Range	Double-precision speed specification, driven by TheSky Space™ edition and TPoint’s TCSpk™ pointing kernel.	✓	✓
Cabling	All cables for operation, and controller, are enclosed within the Apollo™ housing. A large access conduit is present through each fork to accommodate custom instrument cables.	✓	✓
Cable Covers	Easy access to internal cabling by removing cable covers.	✓	✓
Rotator Control	The third axis on the direct drive motor controller; the rotator’s motor and encoder plug in to the motor drive tine.	✓	✓

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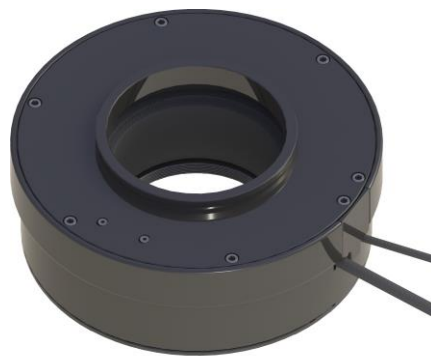
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Specification	Description	Apollo 600	Apollo 800
Fork Adjustment	A high-compression clamping mechanism each tine allows the fork's width to be adjusted to precisely match the payload.	✓	✓
Locking Pins	Altitude and azimuth axes can be locked in place to prevent rotation while mounting a telescope or other instrumentation.	✓	✓
Assembly	Mount shipped in four separate, straightforward-to-assemble components	✓	✓
Internal Brake	A brake is integrated into the altitude axis motor tine. The azimuth axis does not have a brake but employs spring-dampened rotation limit stops.	✓	✓
Motor Torque		65 Nm continuous torque in both alt and az axes.	103 Nm continuous torque in both alt and az axes.
Fork Width		24 in. (60 cm)*	24-28 in. (60-75 cm)*
Fork Height		28 in. (70 cm)*	28-34 in. (75-86 cm)*

*Custom height and width fork arms for non-standard OTAs are available for an additional fee.



The included direct-drive instrument rotator incorporates large diameter internal bearings that permit a 3.5 in. (8.9 cm) clear aperture.



If the Apollo's off-the-shelf specifications do not meet your needs, please email systems@bisque.com so that our engineers can help design a system to satisfy your project's requirements.



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