

# MODEL-20 SERVO PAN & TILT GIMBAL

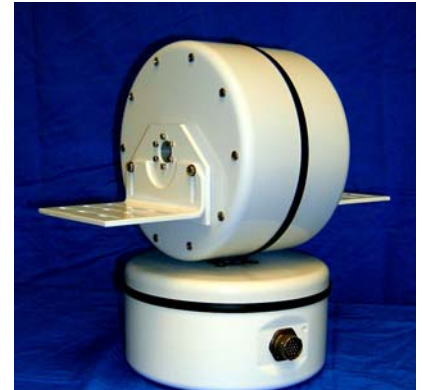
IDEAL FOR CAMERA, ANTENNA OR INSTRUMENT POSITIONING

The Model-20 Servo Pan & Tilt Gimbal features Sagebrush's Roto-Lok® rotary drive to provide freedom from backlash, ultra-smooth motion, high resolution control, and reliability that cannot be achieved with competitive gear driven Pan & Tilt gimbals.

This model gimbal utilizes an on-board microprocessor for closed-loop control of servo motors. Positioning information is obtained from encoders on the motor shafts and is transmitted to and from the gimbal via a serial interface. On-the-fly speed and direction changes are supported by the Model-20 Servo. Motion commands to a defined position are accomplished by automatic vectoring of the Pan & Tilt axes, or by individual speed and direction control of each axis. Optionally, the gimbal software supports multiple communication protocols. Direct joystick control (no PC required) is also available.

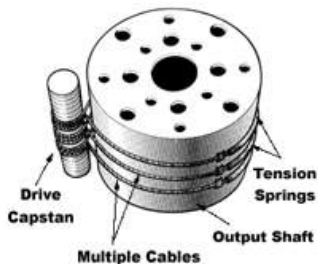
Power and payload controls are available for a variety of applications. For camera applications, the Model 20 supports a fully integrated lens control module, which provides programmable zoom and focus position settings. Two auxiliary serial ports are available for additional payload control options.

The Model 20 Servo Pan & Tilt gimbal provides precision performance, reliability, flexibility, and the ability to operate in harsh environments.



## SPECIFICATIONS FOR MODEL 20 SERVO PAN & TILT GIMBAL

*We reserve the right to change these specifications at any time.*



**ROTO-LOK®**

### FEATURES

- **20 lb Payload Capacity**
- **Dual Payload Shelves**
- **0.004° Positioning Resolution**
- **Zero Backlash**
- **Wide Angular Coverage**
- **No Maintenance Required**
- **Quiet Operation**
- **120°/Sec Slew Rates**
- **32 Programmable Presets**
- **Several Mounting Options**
- **RS-232/422 Communications**
- **Balanced Payload**
- **Weather Resistant**
- **24 Volt DC**

Height	_____	13" (330 mm)
Width	_____	8.8" (223.5 mm)
Depth	_____	8.4" (213.4 mm)
Weight	_____	13 lbs (5.9 Kg)
Payload Capacity	_____	20 lbs (9 Kg) (balanced on CG)
Max Inertia	_____	Pan <547 lb-in <sup>2</sup> (<0.16 Kg-m <sup>2</sup> ), Tilt <547 lb-in <sup>2</sup> (<0.16 Kg-m <sup>2</sup> )
Travel Range (Azimuth)	_____	360° non-continuous (+/-180°)
Travel Range (Elevation)	_____	+95° to -35° from horizontal
Travel Rate (Max)	_____	120°/sec
Positional Resolution	_____	0.004°
Input Power	_____	24VDC
Power Usage	_____	140 Watts, 8 Watts nominal
Power & Data Connector	_____	MIL-C-5015 Connector (mating connector supplied)
Controller Interface	_____	PC (standard serial interface)
Payload Power	_____	2 amps @ 12 VDC
Payload Wiring	_____	Internal from base connector thru both axes to payload
Payload Shelves	_____	Adjustable to balance payload CG
Color	_____	White Powder Coat; other colors available
Motor Type	_____	24 V DC with Integral Encoder
Motor Controller	_____	32-bit microprocessor on-board the gimbal
Communication	_____	RS-232 or RS-422 (specify with order)
Communication Ports	_____	Two additional RS-232 comm ports included
Lens Control	_____	Internal programmable controller for zoom and focus
Manuals	_____	Installation, Operating and Maintenance
Routine Maintenance	_____	None required
Warranty Period	_____	One year (if operated according to instructions)
Operating Temperature	_____	-20°F (-30°C) to +158°F (70°C)

### OPTIONS

Payload Cable Installed	_____	Factory Installed power, communication, and/or video
Heavy Duty Pan Axis Bearing	_____	Added durability for shock/vibration environments
Optional Finish Color	_____	Specify desired color in paint or powder coat



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