

MODEL-2 Gimbal for Unmanned Aerial Vehicle (UAV) or other Airborne Application

IDEAL FOR PHASED ARRAY ANTENNA OR INSTRUMENT POSITIONING

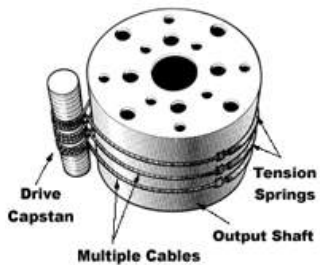
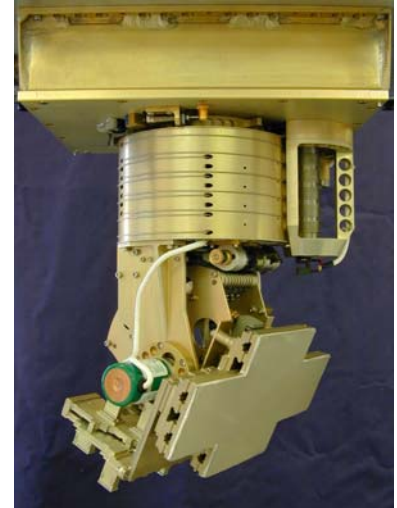
The Model 2 Gimbal features Sagebrush's Roto-Lok[®] rotary drive to provide a low backlash design, ultra-smooth motion, high-resolution control, and reliability that cannot be achieved with competitive gear driven gimbals. The elevation drive can be adapted to accommodate a variety of antenna, camera, and sensor payloads.

The gimbal utilizes an advanced on-board microprocessor and servo motors for precise motion and position control. Positioning information is transmitted to and from the gimbal via a serial interface that can support a variety of communication protocol formats.

The Model 2 supports on-the-fly speed and direction changes at data rates up to 100 Hz. Motion commands to a defined position are accomplished by automatic vectoring of the Azimuth and Elevation axes, or by individual speed and direction control of each axis. The design incorporates an encoder on each axis and a tachometer on each motor.

The Model 2 gimbal is designed to provide precision, reliability, and flexibility in airborne environments.

Field demonstrated aboard the Hunter TUAV and deployed by the U.S. Army. All specifications have been demonstrated to stringent field testing environment.



ROTO-LOK[®]

FEATURES

- **2 lb Payload Capacity**
- **0.05° Positioning Resolution**
- **Zero Backlash**
- **Wide Angular Coverage**
- **No Maintenance Required**
- **Quiet Operation**
- **30°/Sec Azimuth Positioning Rate**
- **20°/Sec Elevation Positioning Rate**
- **Several Mounting Options**
- **Mates to PC Controller**
- **RS-232/422 Communications**
- **Balanced Payload**
- **28 Volt DC**

SPECIFICATIONS FOR MODEL 2 PAN & TILT GIMBAL

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

Height _____	10.5" (266.7 mm), nominal
Width _____	9.2" (223.7 mm), nominal
Depth _____	Nominal 7.7" (195.6 mm)
Weight _____	8.3 lbs (3.76 Kg)
Payload Capacity _____	1.34 lbs (0.6 Kg) nominal; 2 pounds maximum balanced payload
Payload Max Inertia _____	Pan <7.8 lb-in ² (<0.0023 Kg-m ²), Tilt <4.9 lb-in ² (<0.0015 Kg-m ²)
Travel Range (Azimuth) _____	400° Non-continuous (+/-200°)
Travel Range (Elevation) _____	+15° to -70° from horizontal
Travel Rate (Operational) _____	30°/sec AZ, 20°/sec EL
Travel Rate (Max) _____	600°/sec AZ, 100°/sec EL
Acceleration (Max) _____	10 rad/sec ² AZ, 2 rad/sec ² EL
Positional Resolution _____	0.05°
Input Power _____	28 VDC
Power Usage _____	52-Watts Peak, <20-Watts nominal
Power Connector _____	MIL-C-38999 (mating connector supplied)
Controller _____	PC Interface (standard serial)
Controller Connector _____	MIL-C-38999 (mating connector supplied)
Color _____	Gold Alodine; (anodize available)
Motor Type _____	12 VDC Servo motor
Motor Controller _____	32-bit microprocessor on-board the gimbal
Communication _____	RS-232 or RS-422 (specify with order)
Communication Ports _____	Two additional RS-232 ports included
Maximum Data Rate _____	Up to 115,000 Baud
Manuals _____	Installation, operating, maintenance instructions
Routine Maintenance _____	None required
Warranty Period _____	One year (if operated according to instructions)
Operating Temperature _____	-40°F (-40°C) to +120°F (55°C)

OPTIONS

Rotary Joints _____ Kevlin 21232 on each axis



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