

MODEL 2103HT THREE-AXIS POSITIONING AND RATE TABLE SYSTEM

FEATURES

- 10 or 14 inch diameter tabletop
- Unlimited rotation available on all axes
- Rate Accuracy:
 $0.5\% \pm 0.0005$ deg/sec (limited rotation axis)
 $0.01\% \pm 0.0005$ deg/sec (unlimited rotation axis)
- Position Accuracy: ± 30 arc sec (all axes)
- Position Repeatability: ± 5 arc sec (all axes)
- Closed loop servo control
- IEEE-488 and RS-232 Communication Interfaces
- User-friendly Ideal Aerosmith Table Language (ATL)
- Front panel display of status and data
- Precision-ground anodized aluminum tabletop
- Trapezoidal motion profiles with programmable velocity and acceleration
- Sinusoidal Motion
- Position Profile Mode for simulation of complex motions

DESCRIPTION

The Model 2103HT Three-Axis Positioning and Rate Table System is designed to provide precise position, rate, and acceleration motion for the development and/or production testing of military and/or commercial antenna stabilization systems and/or heading sensors.

Accurate and reliable motion control of the 2103HT test table is achieved with a servo-controlled system consisting of direct-drive DC



torque motors, precision optical encoders, and the Ideal Aerosmith AERO 832 microprocessor-based three-axis motion controller. Positions, rates, and accelerations are commanded locally from the front panel keypad or remotely through the standard IEEE-488 and RS-232 computer interface. This test table system is designed for ease of operation and is programmed with the Ideal Aerosmith Table Language (ATL) for remote operation.

OPTIONS

- Enhanced analog velocity output update rate (8 kHz – standard is 1 kHz)
- Rack-mount cabinet for controller
- Custom tabletop mounting hole pattern
- *For special requirements, accuracies, or custom specifications, please contact Ideal Aerosmith, Inc.*

Performance Specifications			
Rotational Freedom (standard)*	Inner Axis	Middle Axis	Outer Axis
	Unlimited	± 185 deg or Unlimited	± 370 deg or Unlimited
Position			
• Accuracy, arc sec	±30	±30	±30
• Resolution, deg	0.00025	0.00025	0.00025
• Repeatability, arc sec	±5	±5	±5
Rate			
• Maximum, deg/sec	±1000	±150 (350 for unl)*	±150 (350 for unl)*
• Minimum, deg/sec	±0.0005	±0.0005	±0.0005
• Resolution, deg/sec	0.0005	0.0005	0.0005
• Accuracy (measured over discrete angle)	0.01% ±0.0005	0.5% ±0.0005**	0.5% ±0.0005**
Peak Sinusoidal Acceleration, deg/sec² (with 10 inch diameter tabletop)	10000	1000	200

* With a limited rotation axis, the max rate may be limited by the accel. rating and range of motion, thus the max rate may not be achievable

** Rate Accuracy improves to 0.01% for unlimited rotation systems

System Physical Configuration	
Table Surface Characteristics	
• Diameter	Standard: 10 inches (254mm) Optional: 14 inches (356mm)
• Hole Pattern	10 inch table top: 1/4-20 threaded holes on a one inch (25 mm) grid pattern. 14 inch table top: 1/4-20 threaded holes on a two inch (51 mm) grid pattern. (Other interface patterns available upon request.)
• Face Flatness; Material; Finish	0.003 TIR (.076); Aluminum; 32 RMS
Test Load Capacity	15 lbs (6.8 Kg) (Centered) Height: 12.5 inches (318 mm) for 10 inch table top Height: 12 inches (305 mm) for 14 inch table top Center of Gravity: less than 6 inches (152mm) above tabletop
Electrical Access to the UUT	
• Number of User Lines	34 lines @ 2A each, 17 twisted shielded pair
Table Configuration	
• Dimensions	34 W x 28.25 D x 50.6 H inches (864 W x 718 D x 1285 H mm)
• Weight	500 lbs. (226 Kg)
Axis Lock	Fail-Safe Electric Brake (all axes)
Leveling	
• Range	± 1 degree
Controller	
• Type	AERO 832 Three-Axis Motion Controller
• Configuration	19 inch Rack-Mountable Chassis
• Communication Interface	IEEE-488 and RS-232 ports available
Operating Environment	
• Temperature	50 to 95° F (10 to 35° C)
• Relative Humidity	20% to 85% non-condensing

For special requirements or custom specifications, contact Ideal Aerosmith. Specifications subject to change without notice. Please call for pricing.

Rev C