

## **Model 2103 Three-Axis Positioning and Rate Table System**

### **STANDARD FEATURES**

- Position Accuracy:  $\pm 1$  arc min (all axes)
- Rate Accuracy:
  - 0.1%  $\pm$  0.01 deg/sec (outer axis)
  - 0.5%  $\pm$  0.1 deg/sec (inner and middle axes)
- Direct-drive, DC brush-type servo system
- Precision-ground anodized aluminum tabletop
- 24 or 34 inch diameter tabletop
- AERO 832 Digital Controller
- Local and remote operation
- User-friendly Ideal Aerosmith Table Language (ATL)
- Front panel display of status and data
- Fail-safe brakes
- Trapezoidal velocity profiles with programmable velocity and acceleration
- Sinusoidal motion profiles with programmable amplitude and frequency
- Position Profile and Velocity Profile Modes for simulating complex motion profiles
- Analog Input/Output
- Limited Rotation Wire Wrap design for a limited rotation system

### **DESCRIPTION**

The Model 2103 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 2103 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 interfaces. This test table system is designed for ease of operation and is programmed with the Ideal Aerosmith Table Language (ATL) for remote operation.

### **OPTIONS**

- Various slinging packages or wire wrap configurations
- Vacuum Chamber System
- 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*

<b>Performance Specifications</b>			
	<b>Outer Axis</b>	<b>Middle Axis</b>	<b>Inner Axis</b>
<b>Rotational Freedom</b>	± 720 deg or unlimited	± 35 deg	± 25 deg
<b>Position</b>			
• Accuracy, arc sec	60	60	60
• Resolution, deg	0.0005	0.0005	0.0005
• Repeatability, arc sec	30	30	30
<b>Rate, deg/sec</b>			
• Maximum	100	65	65
• Minimum	0.001	0.001	0.001
• Resolution	0.001	0.001	0.001
• Accuracy (measured over rotational limits)	0.1% ± 0.01	0.5% ± 0.1	0.5% ± 0.1
<b>Acceleration (with 34 inch dia. tabletop)</b>	20 deg/sec <sup>2</sup>	45 deg/sec <sup>2</sup>	45 deg/sec <sup>2</sup>

<b>System Physical Configuration</b>	
<b>Table Surface Characteristics</b>	
• Diameter	14 inches (356 mm) to 34 inches (864 mm)
• Hole Pattern	1/4-20 threaded holes on a two-inch (50 mm) grid pattern (Other interface patterns available on request)
• Face Flatness	0.005 inches (.127 mm) TIR (for 14 inch diameter tabletop)
• Material	Aluminum
• Surface Finish	32 RMS
<b>Test Load Capacity</b>	100 lbs (46 Kg) balanced (CG must be less than 8 inches above tabletop)
<b>Electrical Access to the UUT</b>	None (Cable wraps available on all axes as an option)
<b>Table Configuration</b>	
• Dimensions, inches	34 Wide x 34 Deep x 46.5 High
• Weight	550 lbs. (250 Kg)
Note: Dimensions and Weights of optional vacuum chambers available upon request.	
<b>Axis Lock</b>	Fail-Safe Electrical Brake (all axes)
<b>Leveling</b>	
• Range	± 1 degree
<b>Controller</b>	
• Type	AERO 832 Three-Axis Test Table Controller
• Configuration	19 inch Rack-Mountable Chassis
• Communication Interface	IEEE-488, RS-232
<b>Operating Environment</b>	
• Temperature	50 to 95° F (10 to 35° C)
• Relative Humidity	20% to 85% non-condensing
<b>Power Requirements</b>	Standard: 115 VAC, 50/60 Hz, 15 A Standard Receptacle

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

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