

Periscope Testing

Two Axis Motion Simulator Model AC2277

Modes of Operation

- Absolute Positioning: 0.00001 deg. resolution
- Rate – absolute and relative, excellent instantaneous rate stability
- Tracking Mode – for real time simulation of motion profiles
- Synthesized mode – Sinusoidal motion, command amplitude and frequency
- Local or remote control via touch sensitive operator panel or digital interface
- Analog readout and command with 16 bit resolution



Feature

The AC2277 is designed to accommodate stabilized sights or periscopes. The inner axis (azimuth) table top supports the payload or Unit Under Test (UUT). The inner axis is driven by a direct drive brushless motor. To keep the test article optical gimbal or sensor focal point at the axis intersection a large offset is necessary. The outer axis (elevation) is driven by two direct drive brushless motors.

The elevation axis is equipped with a stow lock to facilitate the installation of the UUT.

Electrical access to the UUT is performed through slipping assemblies which enable continuous rotation. A wide variety of slipping capsule designs and wiring schematics are available.

The ACUTROL® Model ACT3000 controls the table. The digital controller has a touch sensitive operator interface and scalable analog input/output interface. Programmable Event Pulses can be used for calibration and synchronization with external computers or test equipment. Optionally, real time interfaces can be added to the standard digital interfaces; Ethernet (TCP/IP) and IEEE-488 (GPIB).

Options

- ACUTROL® Model ACT3000 - Versions
- Real time interfaces: SCRAMNet, or VMIC
- RS232 Serial Interface
- Special UUT adapters/Interfaces

Dimensions	Height, max	2310mm
	Height of outer axis	1310mm
	Width across outer axis	2110mm
	Base dimensions	2300mm x 900mm
	Table top dimensions	Max 700mm (Diameter) Standard 600mm (Diameter)
	Table top offset	510mm
Unit Under Test (UUT)	Payload weight	nominal 80kg (UUT A) max. 150kg (UUT B)
	Payload Inertia	UUT A: $J_x \approx 5.7\text{kgm}^2$, $J_y \approx 1.8\text{kgm}^2$ UUT B: $J_x \approx 12\text{kgm}^2$, $J_y \approx 5\text{kgm}^2$
	Clearance envelope	700 x 480 x 400mm (HxDxW)

	Azimuth, inner axis	Elevation, outer axis
Mech. specifications		
Orthogonality	+/-5"	
Wobble (peak)	10"	10"
Axis intersection	1mm sphere	
Static and dynamic performances		
Angular freedom	+/-180° (unlimited)	+/-180° (unlimited)
Positioning accuracy	5 arcsec p-p	5 arcsec p-p
Rate range	+/-1000°/s	+/-500°/s
Acceleration, with nominal load	2000°/s ² (UUT A) 750°/s ² (UUT B)	1000°/s ² (UUT A) 750°/s ² (UUT B)

