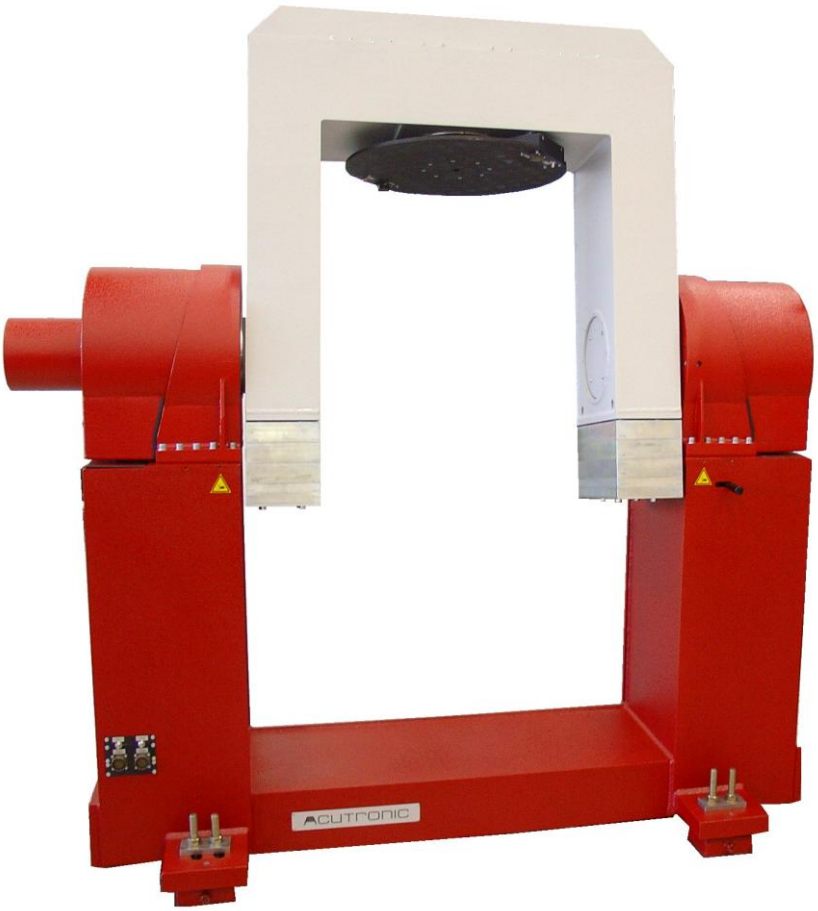
Periscope Testing

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 slipring assemblies which enable continuous rotation. A wide variety of slipring capsule designs and wiring schematics are available.

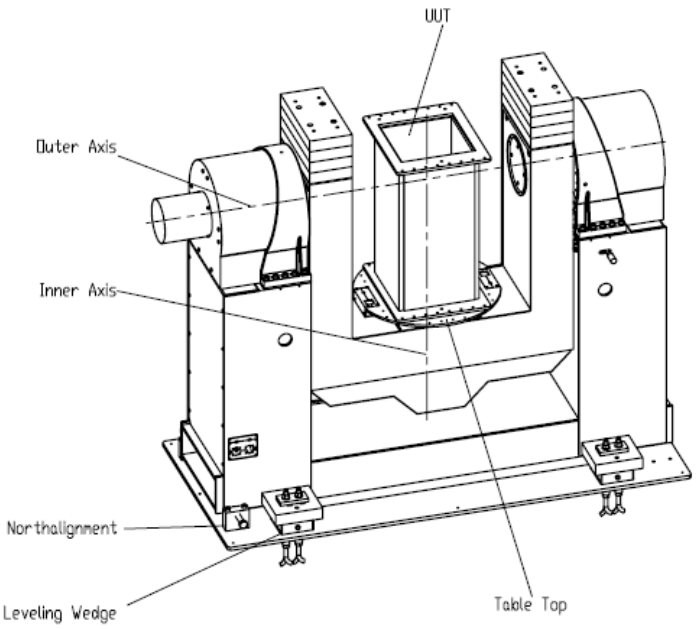
The ACUTROL®3000 controls the table. The digital controller has a touch sensitive operator interface and scalable analog input/output interface. Programmable Event Pulses can be used for calibration and synchronization with external computers or test equipment. Optionally, real time interfaces can be added to the standard digital interfaces; Ethernet (TCP/IP) and IEEE-488 (GPIB).

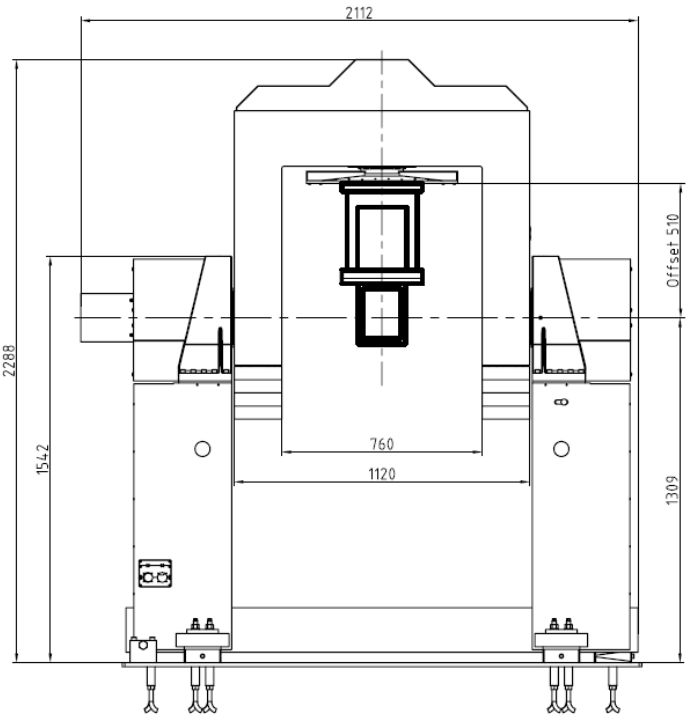
Options

- ACUTROL®3000 - Versions
- Real time interfaces: SCRAMNet, or VMIC
- RS232 Serial Interface
- Special UUT adapters/Interfaces

Dimensions	Height, max	2’310 mm
	Height of outer axis	1’310 mm
	Width across outer axis	2'110 mm
	Base dimensions	2’300 mm x 900 mm
	Table top dimensions	max 700 mm dia. standard 600 mm dia.
	Table top offset	510 mm
Unit Under Test (UUT)	Payload weight	nominal 80 kg (UUT A) max. 150 kg (UUT B)
	Payload Inertia	UUT A: $J_x \approx 5.7 kgm^2$, $J_y \approx 1.8 kgm^2$ UUT B: $J_x \approx 12 kgm^2$, $J_y \approx 5 kgm^2$
	Clearance envelope	700 x 480 x 400 mm (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 deg (unlimited)	+/-180 deg (unlimited)
Positioning accuracy	5 arc sec p-p	5 arc sec p-p
Rate range	+/-1’000 deg/sec	+/-500 deg/sec
Acceleration, with nominal load	2’000 deg/sec^2 (UUT A) 750 deg/sec^2 (UUT B)	1’000 deg/sec^2 (UUT A) 750 deg/sec^2 (UUT B)





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