

FLIR Testing

Two Axis Motion Simulator Model AC2257-HV

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 AC2257-HV is designed to accommodate airborne gyro-stabilized optical pods such as FLIRs, target designators or camera systems. The large inner axis (elevation) platform supports the payload or Unit Under Test (UUT). To keep the test article optical gimbal or sensor focal point at the axis intersection a large offset is necessary. This produces a large turning moment on the inner axis which is countered by using a low backlash Harmonic Drive gearbox. The Harmonic drive is chosen for its low backlash, high gear ratio and compact size. The outer axis (azimuth) is driven by a direct drive brushless motor.

Electrical access to the UUT is performed through twist cables. Optionally, slipping assemblies can be used in the elevation and azimuth axes which would 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
- Removable roll axis mounted to elevation axis
- Special UUT adapters/Interfaces

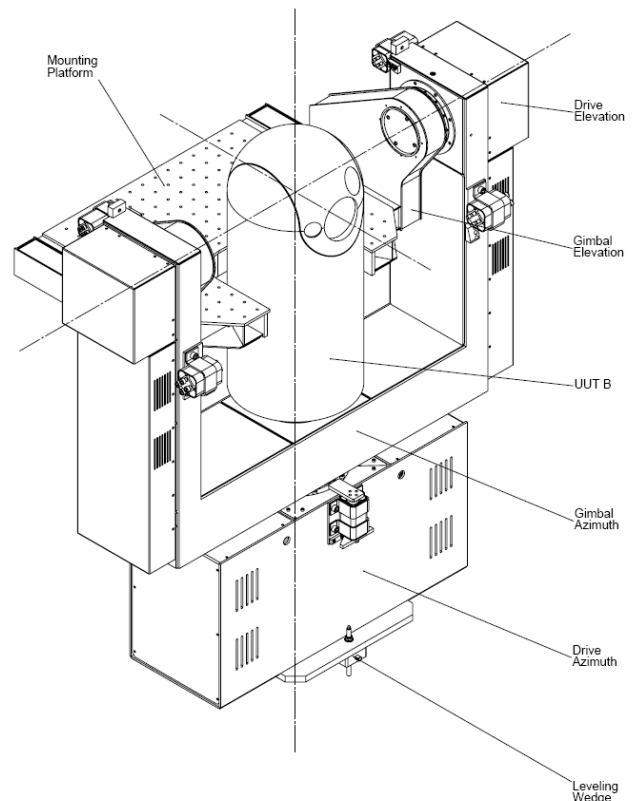
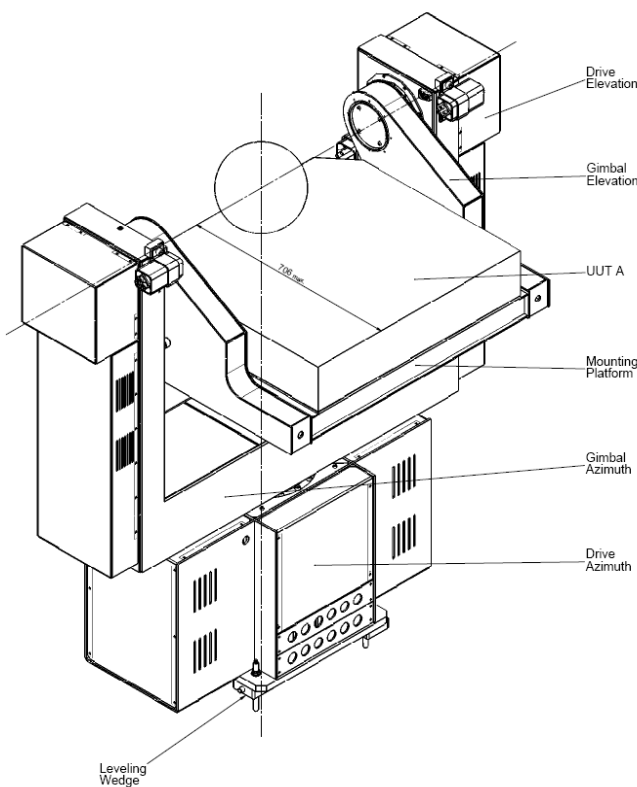
Dimensions

Height, max	1890mm
Height of outer axis	1635mm
Width across outer axis	1555mm
Base dimensions	500mm x 500mm
Table top dimensions	820mm (W)x 760mm (D)
Table top offset	250mm (upper side) 342mm (bottom side)

Unit Under Test (UUT)

Payload, nominal (peak)	50kg (80kg)
Clearance envelope	(WxDxH) Cuboid 775mm x 706mm x 350mm (Diam.xH) Cylinder 380mm x 840mm

	Elevation, inner axis	Azimuth, middle axis
Mech. specifications		
Orthogonality	+/-20"	
Wobble (peak)	20"	20"
Static and dynamic performances		
Angular freedom	+/-60°	+/-70°
Field of View	+/-60°	+/-70°
Positioning accuracy	18 arcsec p-p	18 arcsec p-p
Rate range	+/-100°/s	+/-100°/s
Acceleration, with nominal load	200°/s ² (load 8.7kgm ⁻²)	100°/s ² (load 8.7kgm ⁻²)



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