

CURVILINEAR X-Y DUAL TARGET MOTION SIMULATOR (TMS)

STANDARD FEATURES

- Front & Rear Payload: 40 Kg each
- Pointing Accuracy: 0.05 deg
- Maximum Velocity: 20 deg/sec
- Track Radius: Front 10M; Rear 11.6M
- Axis Travel: Front ± 30 deg; Rear ± 25 deg
- Axis Acceleration: $40^\circ/s^2$
- Position Bandwidth: 5 Hz
- Rack-mounted AERO 4000 Digital Controller
 - Front panel display of status and data
 - Local and remote operation
 - Trapezoidal velocity profiles (in rate mode) with programmable velocity and acceleration
 - Sinusoidal motion generator, with programmable amplitude and frequency
 - Profile mode for position, velocity, and flight (PVA) commands
 - Programmable analog inputs and outputs

DESCRIPTION

The TMS is designated as a Model 244SE-10. All four axes (front elevation, front azimuth, rear elevation, rear azimuth) are electrically actuated.

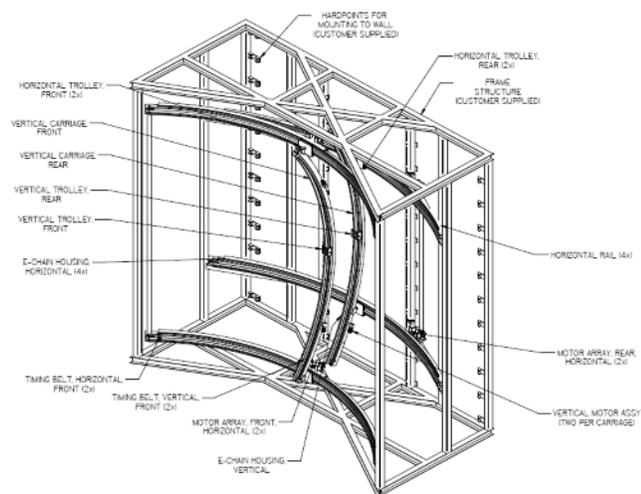
The TMS is housed in an anechoic RF chamber and anchored to a rigid wall or equivalent structure. An Ideal FMS is mounted on a track assembly at the opposite end of the chamber so that FMS can be withdrawn from the chamber port for setup and servicing.

The TMS moves a front payload (RF source, target) through a spherically-curved locus of 10 m radius centered on the FMS axis intersection such that the payload remains pointed at this intersection. The TMS independently moves a rear payload through a similarly oriented spherically-curved locus of 11.6 m radius.

The FMS and TMS are controlled by separate Ideal Aerosmith AERO 4000 controllers that are interfaced to a customer provided computer for hardware-in-the-loop (HWIL) simulations. The FMS can also be re-mounted horizontally and augmented with a conventional two-axis gimbal target system for stand-alone IR sensor testing.

OPTIONS

- Custom target payload interfaces
- Axis Travels and Track Radii designed to meet specific test requirements
- Hydraulic or electric motor drive assemblies
- SCRAMNet or VMIC shared-memory interfaces
- Various wire-wrap configurations for cables
- Custom dynamic performance characteristics



Rev B