

Antenna Test Facility - Positioners & Scanners

CAPABILITY SHEET - SPHERICAL AND PLANAR NEAR-FIELD SYSTEMS - COMPACT-RANGE AND CHAMBER STRUCTURES

THE SYSTEM

WHAT	The mechanical layer of antenna pattern measurement - positioners, near-field scanners, compact-range structures, fixtures, chamber and absorber.
OUR ROLE	Positioners and drives, scanner and reflector structures, fixtures, shielding and absorber integration, cable wrap, alignment and metrology.
STATUS	Engineered to order; quoted across compact-range, planar and spherical near-field range requirements. No delivered range is claimed.

THE GOVERNING IDEA

THE ANTENNA IS ELECTRICAL	Part of the range is mechanical over lambda - hundreds of metres - so the range measures close and computes far.
PHASE IS POSITION	The transform trusts the geometry: a fiftieth to a hundredth of a wavelength is 150 down to 75 microns at 40 GHz, over metres, for hours.
MAP, THEN CORRECT	No fabricated structure is flat to a hundredth of a wavelength unaided - laser-tracker mapping and error correction are the method.

THE MACHINE

THE POSITIONER IS THE INSTRUMENT	Intersecting in tenths of a millimetre, stiffness before torque, drives preloaded against backlash, encoders at the axis.
THE WRAP IS A PHASE PROBLEM	Cable changes phase when it flexes, so rotation must flex it identically every time - or wrap ripple reads as antenna ripple.
THE ROOM AROUND THE MACHINE	Welded panels, RF-tight doors, cutoff penetrations, filtered power - and absorber mounted fire-consciously, walkable where people work.

DISTINCT & HONEST

AN IRREPLACEABLE ARTICLE	A flight-standard antenna or whole spacecraft may rotate - so the ground-support rules apply: slow, reversible, self-locking, proven.
GEOMETRY IS THE ONLY PROOF	Nobody can see RF - laser-tracker reports at handover and on a re-verification schedule keep the range believable for life.
ENGAGEMENT	Send the frequency band, the largest article and the range type to sales@neometrixgroup.com for a compliance matrix in two working days.

DEFENCE PROGRAMMES DESK

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