

**GEORGIA TECH RESEARCH
INSTITUTE**

**ELECTROMAGNETIC
TEST FACILITY**



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GEORGIA INSTITUTE OF TECHNOLOGY

ANNOUNCING

**THE GTRI ELECTROMAGNETIC TEST FACILITY
AT THE GEORGIA TECH RESEARCH FACILITY
COBB COUNTY, GEORGIA**

**A STATE-OF-THE-ART MEASUREMENT / TEST COMPLEX
FOR
PRECISION ANTENNA MEASUREMENTS
RADAR CROSS SECTION MEASUREMENTS
SIGNATURE MEASUREMENTS
PROPAGATION STUDIES**

INQUIRIES INVITED



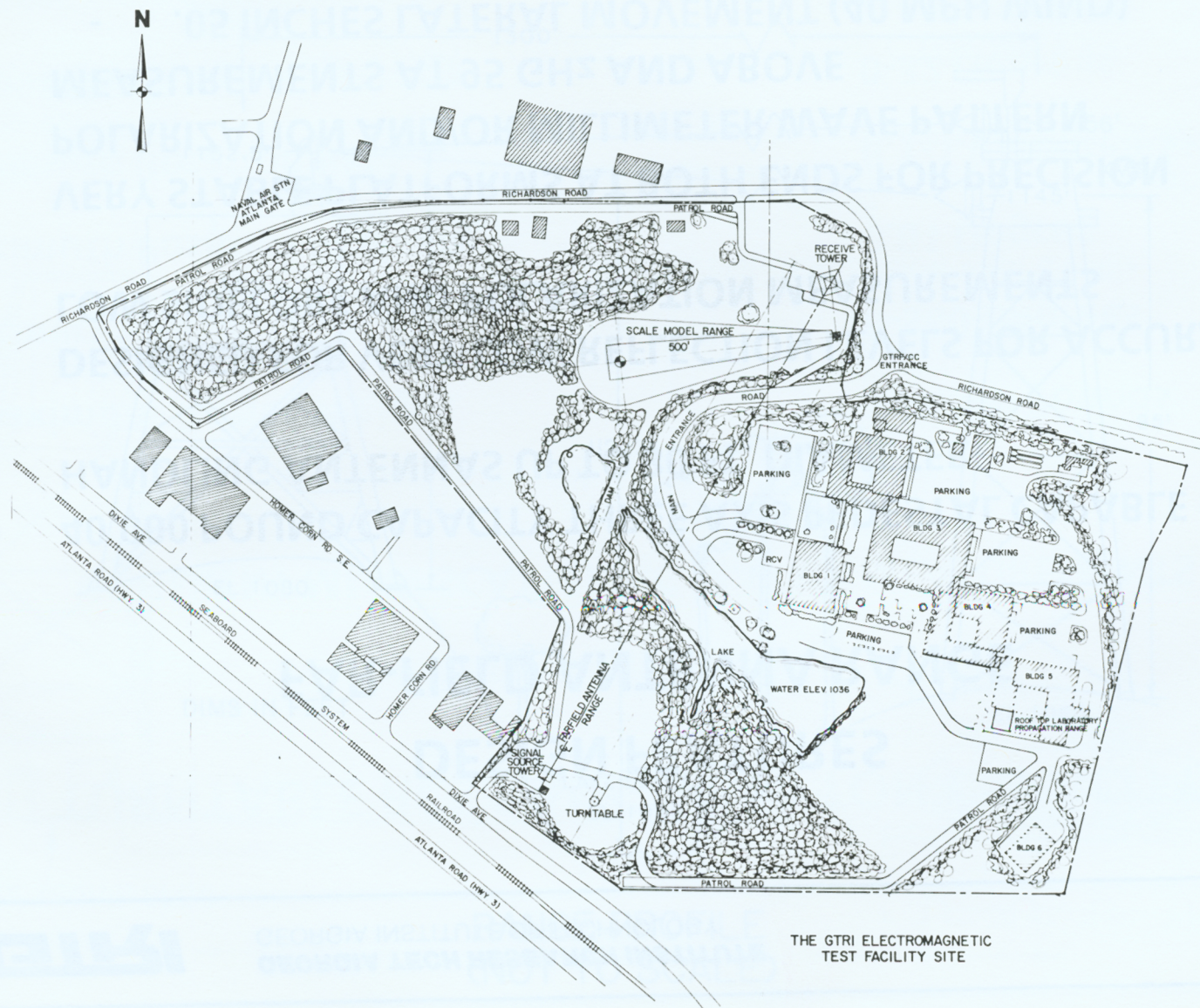
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THE GTRI ELECTROMAGNETIC TEST FACILITY AT THE GEORGIA TECH RESEARCH FACILITY IN COBB COUNTY

- **Far-Field Antenna Range**
- **Turntable RCS Range (100 Ton Capacity)**
- **Scale Model RCS Range**
- **Roof Top Laboratory - Propagation Range**
- **Full-Scale Ground Plane Range**



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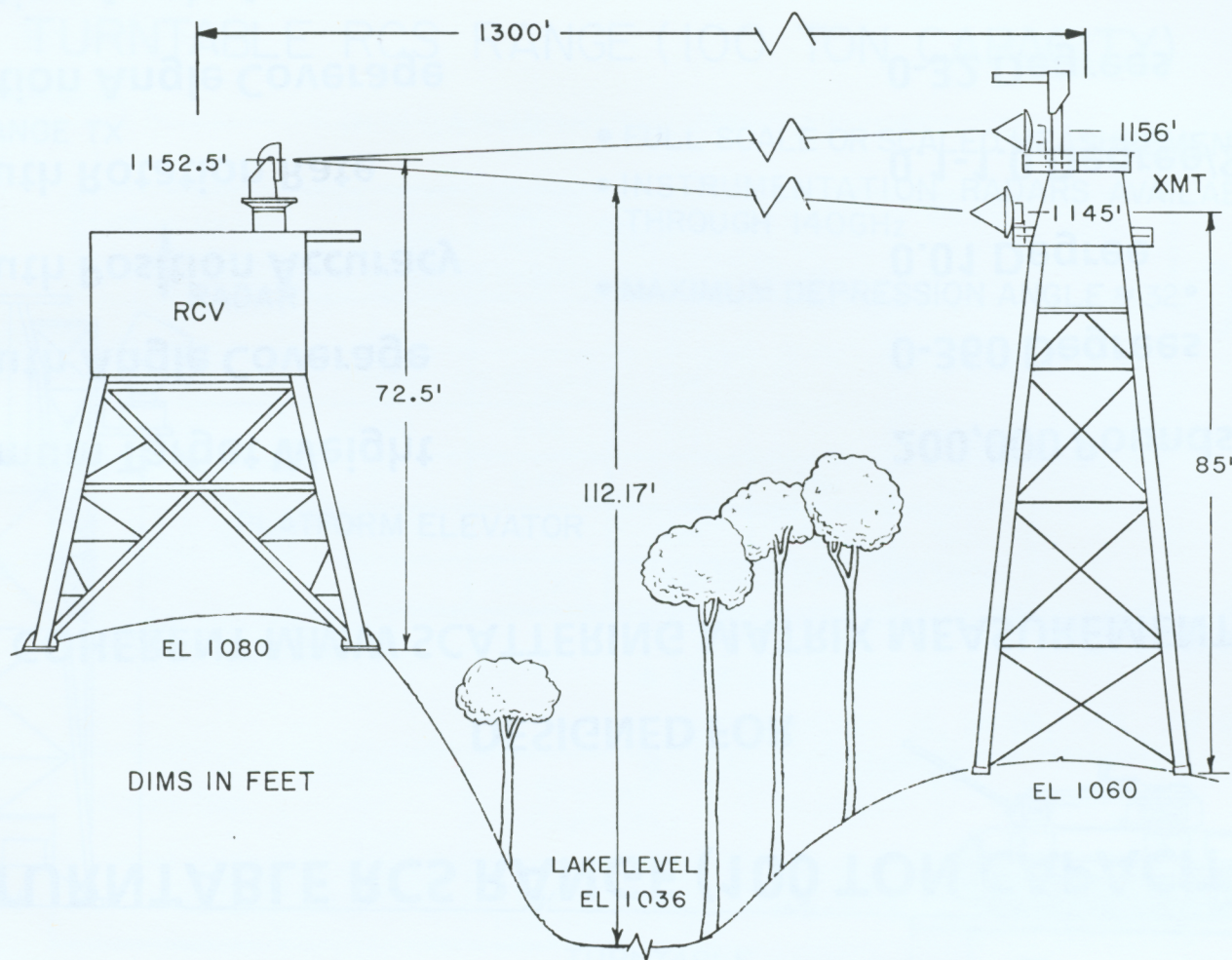


THE GTRI ELECTROMAGNETIC
TEST FACILITY SITE

DESIGN FEATURES

FAR-FIELD ANTENNA RANGE

- **40,000 POUND CAPACITY THREE AXIS PEDESTAL CAPABLE OF HANDLING ANTENNAS UP TO 30 FT. DIAMETER**
- **DESIGNED FOR VERY LOW REFLECTION LEVELS FOR ACCURATE LOW SIDELobe AND POLARIZATION MEASUREMENTS**
- **VERY STABLE PLATFORMS AT BOTH ENDS FOR PRECISION POLARIZATION AND/OR MILLIMETER WAVE PATTERN MEASUREMENTS AT 95 GHz AND ABOVE**
 - **.05 INCHES LATERAL MOVEMENT (40 MPH WIND)**
 - **0.1 MILLIRADIAN TORSION (40 MPH WIND)**



**RANGE PROFILE
(NOT TO SCALE)**



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TURNTABLE RCS RANGE (100 TON CAPACITY)

DESIGNED FOR

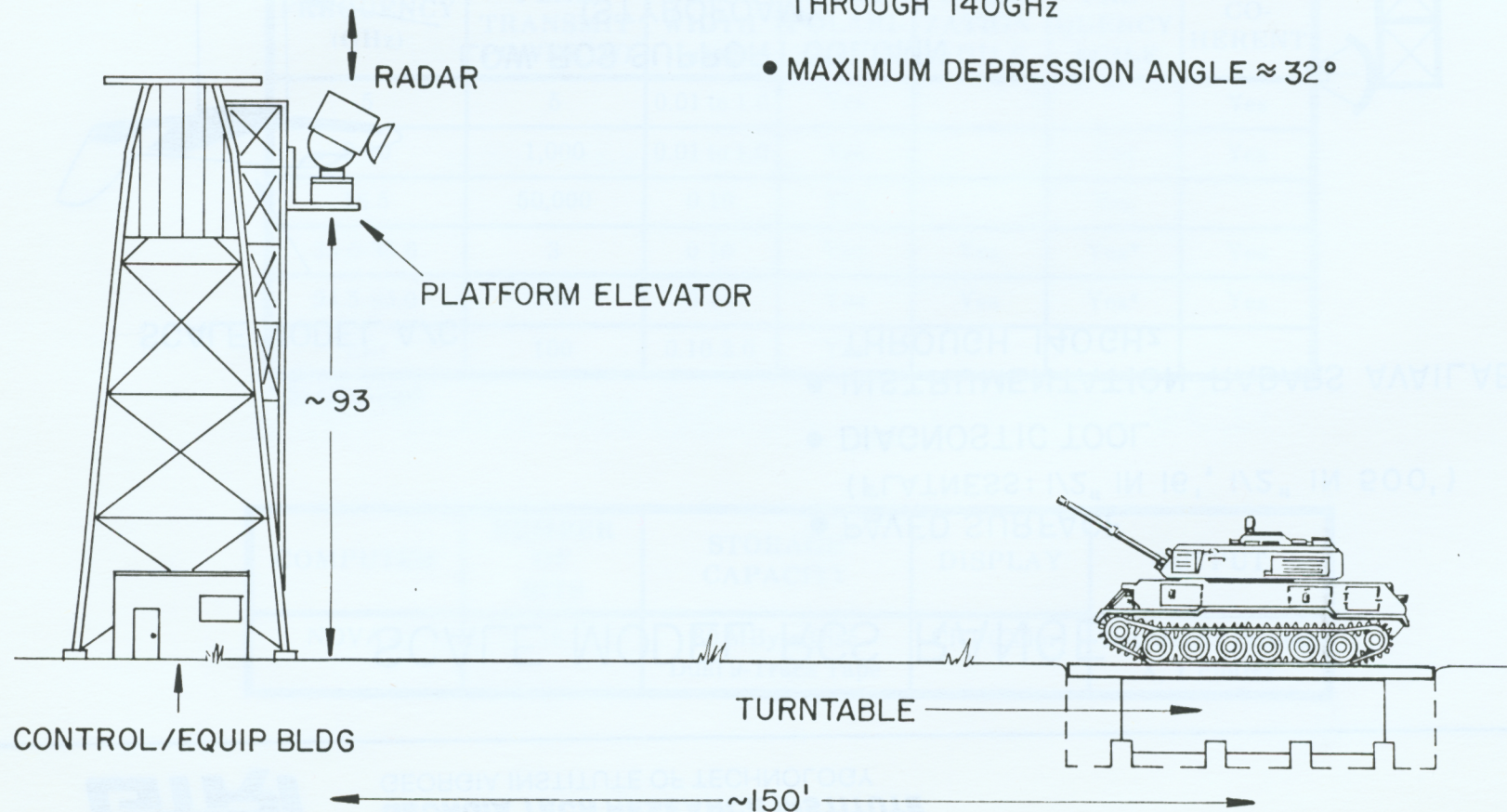
COHERENT MMW SCATTERING MATRIX MEASUREMENTS

Maximum Target Weight	200,000 Pounds
Azimuth Angle Coverage	0-360 Degrees
Azimuth Position Accuracy	0.01 Degree
Azimuth Rotation Rate	0.1-1.0 Degree/Second
Elevation Angle Coverage	0-32 Degrees
Elevation Angle Accuracy	± 0.1 Degree
Phase Measurement Accuracy (Vibration)	± 18 Degrees (MAX)

TURNTABLE RCS RANGE (100 TON CAPACITY)

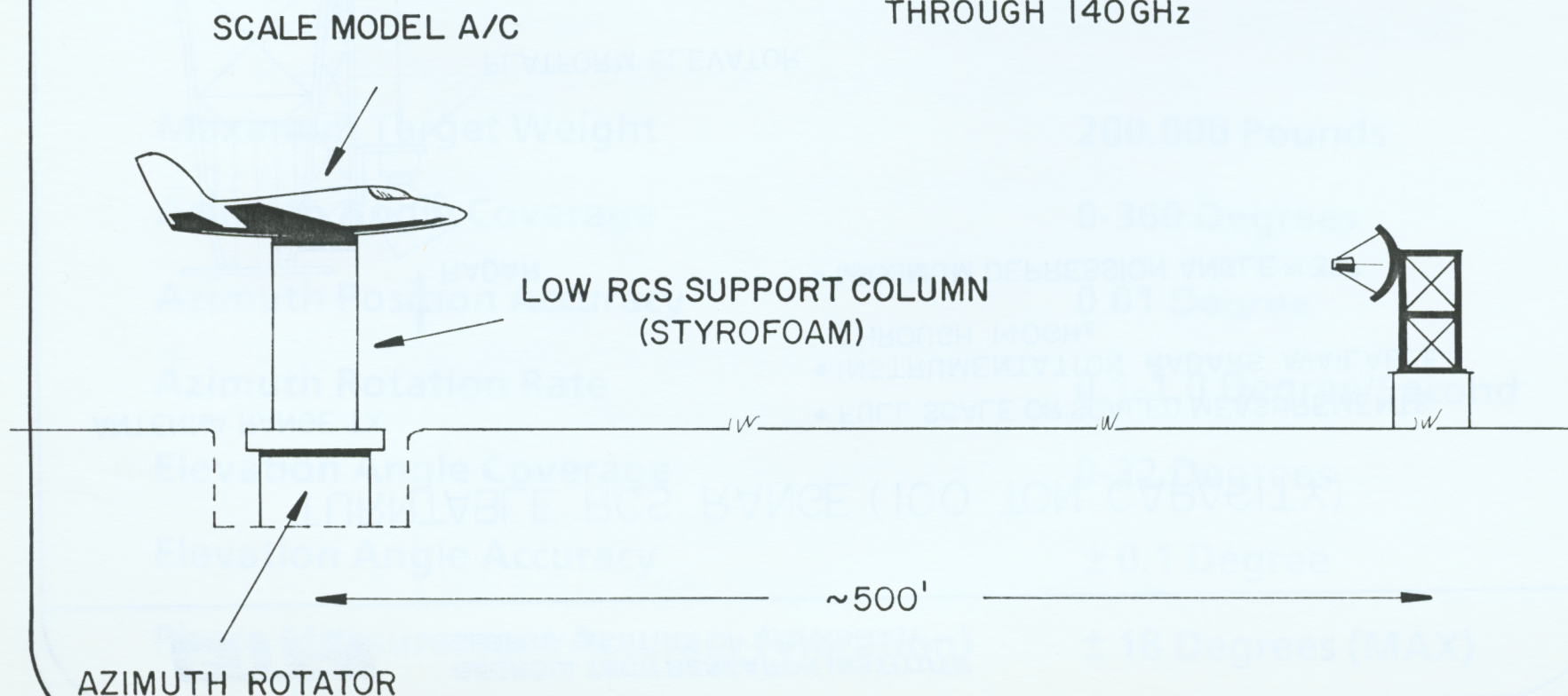
ANTENNA RANGE TX

- FULL SCALE OR SCALED MEASUREMENTS
- INSTRUMENTATION RADARS AVAILABLE THROUGH 140GHz
- MAXIMUM DEPRESSION ANGLE $\approx 32^\circ$



SCALE MODEL RCS RANGE

- PAVED SURFACE
(FLATNESS: 1/2" IN 16', 1/2" IN 500')
- DIAGNOSTIC TOOL
- INSTRUMENTATION RADARS AVAILABLE
THROUGH 140GHz





RCS RANGE INSTRUMENTATION

FREQUENCY (GHz)	PEAK TRANSMIT POWER (W)	PULSE WIDTH (μ sec)	DUAL POLARI- ZATION	POLARI- ZATION AGILE	FRE- QUENCY AGILE	CO- HERENT
5	5	0.01 to 1.0	Yes			Yes
9-10	1,000	0.01 to 1.0	Yes		Yes	Yes
16.5	50,000	0.10	Yes		Yes	
35.0-35.6	3	0.10	Yes	Yes	Yes*	Yes
94.5-95.0	100	0.10	Yes	Yes	Yes*	Yes
140	100	0.10-2.0	Yes			

* Synthesized

COMPUTER	NUMBER OF BITS	STORAGE CAPACITY	DISPLAY	OUTPUT
NOVA 4	16	80 MByte Disc Dual 9-Track Tape	CRT (Color)	Dot Matrix Printer X, Y Plotter



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