Antenna Measurement System
Features and Specifications

DAMS 5000
DC to 6 GHz Frequency Range
System Features

**Wide Frequency Ranges**
Capable of measuring frequencies ranging from DC to 6 GHz.

**Dual-Axis Movement**
360° continuous or sweeping horizontal movement with up to ± 45° vertical tilt.

**High Resolution**
Capable of .125° steps azimuth and .10° steps elevation.

**Weight Capacity**
Able to carry a payload of up to 20 lbs.

**Precision Rotary Joint**
The rotary joint is constructed from carbon-based material suited for noiseless measurements of up to 6 GHz.

**Deluxe Measurement Software**
Comes with DAMS Measurement Studio, featuring special plots and functions.

**Complete Warranty**
Comes complete with our 1-year warranty covering all parts, labor and technical support.

**Calibrated SMA Cables**
System includes two 10’ low-loss precision SMA measurement cables.

**Precision Drive Train**
Equipped with a precision stepper motor, and Kevlar® belt transmission.

**Advanced Measurement Calculator**
Enables users to perform detailed and complex mathematical computations.
Positioner Specifications

Platform Operating Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Ranges</td>
<td>DC to 6 GHz</td>
</tr>
<tr>
<td>Platform Movement</td>
<td>Horizontal 1.8 degree precision stepper motor with low-noise belts</td>
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<tr>
<td></td>
<td>Up to .125° azimuth resolution</td>
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<tr>
<td></td>
<td>360° continuous azimuth range</td>
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<td></td>
<td>± 45° elevation range at .10° per step</td>
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<td></td>
<td>Vertical precision hybrid linear actuator</td>
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<tr>
<td>Platform Max Speed</td>
<td>30 R.P.M. azimuth</td>
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<tr>
<td></td>
<td>120° per minute elevation</td>
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<tr>
<td>Platform Mounting</td>
<td>Velbon® tripod with fluid pan head</td>
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<td></td>
<td>Standard 1/4-20 tripod threads (horizontal or vertical)</td>
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Platform Operating Specifications (continued)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
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<tbody>
<tr>
<td>Platform Composition</td>
<td>85% acrylic / Delrin® construction for limited reflection</td>
</tr>
<tr>
<td>Weight Capacity</td>
<td>10 lbs. maximum at level position (or 20 lbs. with thrust plate; capacity decreases with angle)</td>
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<tr>
<td>Drivetrain</td>
<td>Azimuth: stepper motor with belt transmission</td>
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<tr>
<td></td>
<td>Elevation: stepper hybrid non-captive lead screw</td>
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<tr>
<td>Cable Interface</td>
<td>Low-loss cables with SMA connectors</td>
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<tr>
<td></td>
<td>Ultra-precision, ultra-low noise rotary joint with SMA (female)</td>
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<tr>
<td>Special Options</td>
<td>Acrylic or aluminum thrust plate (additional cost may apply)</td>
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<td></td>
<td>Digital level for precise setup</td>
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<tr>
<td></td>
<td>Ultra-high resolution option</td>
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<td></td>
<td>Positioning laser for long range alignment</td>
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<td></td>
<td>Vertical alignment tool</td>
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<td></td>
<td>± 90° pivot for spherical measurements</td>
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<tr>
<td>DAMS Software Studio Pro</td>
<td>Advanced processing module</td>
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<tr>
<td>Up to 3-year warranty</td>
<td>on parts and labor</td>
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<tr>
<td>Technical support</td>
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</table>
Controller Operating Specifications

Control Methods: DAMS Antenna Measurement Software (or any software with serial communication*) (* requires Platform Development Kit)

Interface: Hybrid USB/serial

Input Power: 24V 1.6A switched power supply

Analyzer Interface: GPIB controller card (not included)

Physical Properties

Width: 12” (30.5 cm) without tripod

Height: 5" (12.5 cm) without vertical movement assembly or tripod

35” (35.6 cm) minimum

72" (182.88 cm) with vertical movement assembly and tripod

Weight: 3 lbs. (without tripod and vertical assembly)

7 lbs. (with tripod and vertical assembly)

Positioner Composition: Acrylic 87%

Stainless steel 5%

Aluminum 5%

Misc. plastics/metals 3%

Tripod Composition: Aluminum and plastic

Environmental Specifications

Operating Temp: 0º C to 45º C (32º F to 104º F) (with no condensation)

Transport Temp: -40º C to 60º C (-40º F to 140º F) (no condensation within 72 hours)
Overview of Software Features

**Multi-Trace Plots (Polar/Amplitude)**
- Compare multiple antennas
- Dual marker function
- Selectable linear or log (dB)
- Instant delta dB/angle marker readout
- Selectable scale
- Export option

**3D and Spherical Plots**
- Full 3D interface
- Map data onto a sphere
- Plot data at any frequency
- Multiple overlay and display features
- Support for power meters, voltmeters, spectrum analyzers and VNA/PNA’s
- Continuous rotation or swept measurements
- Export data with variable formatting
- Measure up to 1600 frequency points per increment
- Variable speed
- Move to max signal position
- Vertical/horizontal scan measurements
- CW/CCW antenna rotation

**Other Features**
- Calibrated horn table import
- Path loss calculator
- Complete data manipulation
- Multiple storage registers for convenience
- Link commander (link simulator)
- Complex data calculator

**Optional Extras**
- Antenna Network & Measurement Simulator