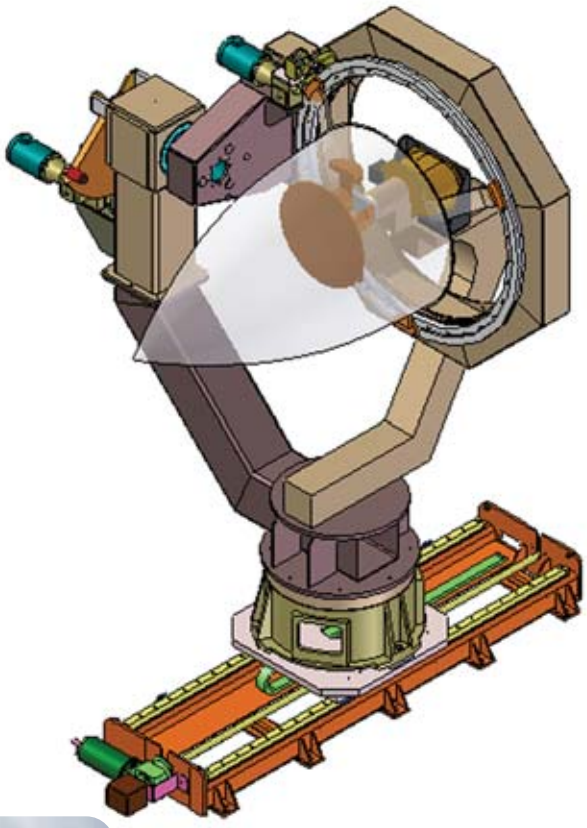
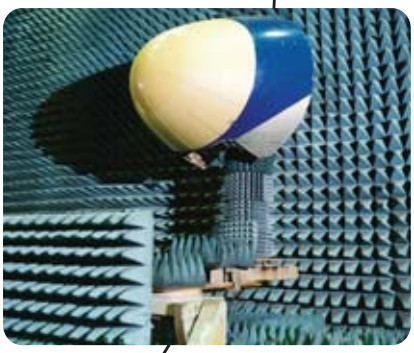
Radome Measurement Systems





Fast, efficient depot-level maintenance and on site test and measurements for military and commercial aircraft

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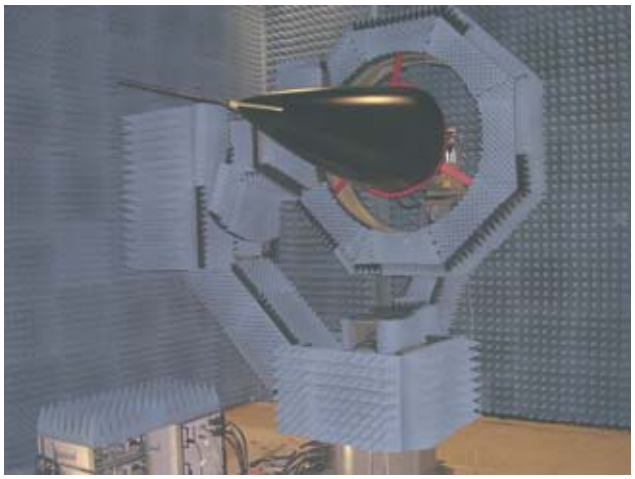
Today's aircraft carry a vast array of antennas for specialized and vital functions. Communications, navigation, weather and fire control antennas must perform as specified to meet safety and mission requirements. Radomes must conceal and protect antennas without degrading or interfering with their transmit and receive capabilities.

Antennas and radomes must be tested to exacting standards to ensure reliable performance. The successful test and measurement of antennas and radomes has been the hallmark of MI Technologies for decades.

MI Technologies has provided antenna and radome test systems for the full range of U.S. and NATO tactical aircraft and for a wide array of commercial aircraft from Boeing 717s to Cessna 421s.

MI Technologies offers a variety of solutions for test and measurement of aircraft antennas and radomes. Depending upon the application, radome measurements may be accomplished through the use of outdoor far-field installations or indoor compact ranges. All of the systems make use of Commercial-Off-The-Shelf (COTS) equipment and may be used for depot-level testing.

Each system features precision mechanical positioners that simulate the installed antenna and radome configuration.



In addition, each MI Technologies' measurement solution includes system instrumentation, workstations and software that are the most comprehensive, efficient, state-of-the-art test and measurement products available today.

The successful test and measurement of antennas and radomes has been the hallmark of MI Technologies for decades.

A More Efficient System

MI Technologies provides complete turnkey test and measurement facilities where efficient and accurate measurements can be accomplished.

Radome measurement systems are based on measuring the difference between free-space antenna characteristics and characteristics with the radome in its normal relative position to the antenna. There are two basic categories of measurement systems:

Outdoor Far-Field Ranges employing a planar X-Y positioner as a null-seeker are commonly used to measure transmission efficiency and beam deflection. In these systems, the radome is typically scanned in front of an antenna while the X-Y scanner tracks the movement of the antenna beam. Typical components of an outdoor far-field radome test system are:

- Source and Receive Towers
- Planar X-Y Positioner Used for Null-Seeking
- Radome Test Positioner
- Source and Receive Antenna
- Microwave Signal Source
- Microwave Receiver
- Automated Test and Measurement Workstation and Software

Indoor Anechoic Chambers employing a compact range are typically used to measure transmission efficiency, pattern distortion and beam deflection. Compact range systems often include an auto-tracking gimbal antenna positioning system to track the incident RF energy as the radome is scanned in front of the antenna. Typical components in an indoor compact range test system are:

- Compact Range Reflector and Feed Positioner
- Source Antennas, Feeds and Probes
- Auto-Tracking Antenna Test Positioner
- Radome Test Positioner
- Shielded Anechoic Chamber
- Absorber
- Microwave Signal Source
- Microwave Receiver
- Automated Test and Measurement Workstation and Software

The Positioning System

Each test configuration features a precise positioning system that provides the required relative movements to simulate radome and antenna operating conditions. The MI Technologies' positioners are complemented by position control systems that ensure consistent, repeatable positioning with high-resolution data displays.

The Test and Measurement System

The heart of each radome test and measurement solution is MI Technologies' MI-2097 Automated Microwave Measurement System (AMMS), the fastest fully-integrated automatic test and measurement system available today. By adding additional hardware specific to radome data acquisition and additional radome analysis software, fully automated radome measurements and data post processing can be accomplished. Custom software is available to meet unique or specific customer requirements.

The modular design of the data acquisition software and optional radome analysis software make the system easily adaptable to many radome test and measurement requirements. Specific test programs can be created and new programs easily added.

A powerful computer workstation with large monitor for 'quick look,' real time capability and a large format color printer is provided to control the system. Test engineers, system operators, antenna designers and radome testers will find the controls and requirements they need in the MI Technologies' solution to radome measurements.

Unit Test and Documentation

In each configuration, MI Technologies' radome test and measurement solutions will validate and identify problems or faults. The system may also be used to evaluate the antenna and radome quickly and efficiently. After a fault or problem has been isolated and repaired, the process confirms that the fault has been corrected.

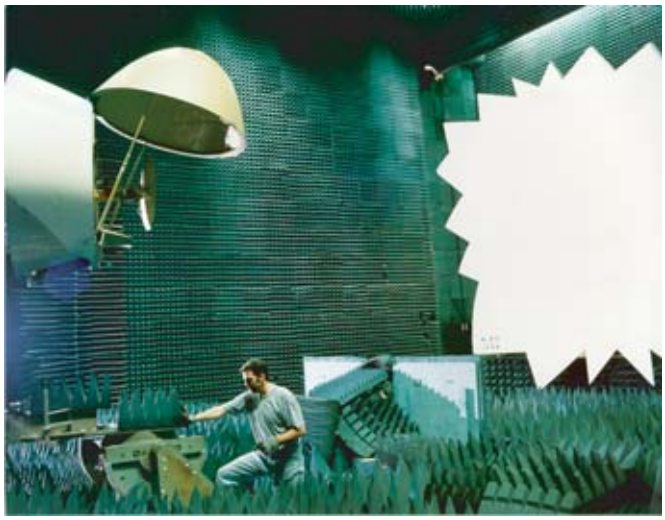
MI Technologies' test and measurement systems provide extensive data storage capabilities. The software generates individual Device Under Test (DUT) documentation that can be used for historical analysis.

On-Site Testing Available

Many customers, due to space or budget restrictions, cannot make the investment in their own antenna and radome test and measurement facilities. For these customers, MI Technologies offers a full range of test and measurement services at its test facilities in Suwanee, Georgia.

MI Technologies' test and measurement facilities feature:

- Large anechoic chamber configured as either a free-space, far-field range or compact range
- Planar near-field measurement system
- MI-2097 Automated Microwave Measurement System
- Additional Radome Analysis Software
- Full suite of RF and microwave signal sources, receivers, mixers, multipliers, positioners, position controllers and absorber
- Fully stocked machine shop for fixture modification or manufacturing



Boeing 717 Radome Undergoing Test at MI Technologies' Test Chamber

For more information, contact MI Technologies at 1-800-854-3660 or visit us online at www.mi-technologies.com.

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