

# Range Design and Relocation Services

## Range Design Service

Antenna range design is a complex business. You must consider numerous factors when planning a new facility. The electromagnetic qualities of the intended test articles must be considered as well as their mechanical features and system requirements. Environmental and economic constraints, test objectives, and accuracy requirements also must be carefully analyzed.

MI Technologies helped define the concept of range measurements more than 50 years ago. We remain the leader in range design services. When you are ready to explore a new range design, call MI Technologies' Customer Support Center.

## Site Survey and Selection Service

Performing a professional site survey and selection process is critically important to a new range installation, whether indoors or in the field. MI Technologies performs this service using complex simulation and analysis tools, regional demographics and topographic information, and extensive experience with real world electromagnetic propagation. We can find the optimal location or verify the validity of another design consultant's opinion. We provide this service quickly and economically.

## Installation and Commissioning Service

MI Technologies provides turnkey installations managed by a quality project management process. Our service can include complete setup and commissioning the equipment through detailed electromagnetic and system level testing. We can also provide onsite training and certifications to your measurement staff.

## Range Relocation Service

You may need to move your test range to a new location at some point during its lifecycle. Whether you move your range because of rapid growth, reorganization, or the purchase of another company's assets, the sensitive nature of the range equipment quickly rules out the use of a commercial moving company.

You need a relocation service that understands every aspect of your individual test range to ensure that all of the equipment survives the move and performs to your satisfaction at the new location.

MI Technologies is the leader in range relocation services. We have relocated more range types and configurations than anyone in the industry.



## Turnkey and A-La-Carte Options

We offer both turnkey and "a-la-carte" service to fit your individual relocation requirements. We can perform specific tasks associated with the move, or we can manage the entire project from start to finish. We specialize in turnkey relocation project management, including site preparation and construction.

If you prefer to handle the move yourself, we can provide guidance and the direction necessary for proper disassembly, crating, uncrating, reassembly, or any other aspect of the project.

## Trusted Care and Dedication

During a range move, our primary concerns are care of your range equipment, safety, and the accurate performance of the relocated range. Our experienced project managers and skilled technicians are fully dedicated to each move. MI Technologies will relocate the range efficiently, install the equipment at its new site, and demonstrate performance that meets or exceeds that of the existing range.



## The Baseline

The key to a successful range move is a careful baseline effort. Probing for amplitude and phase to characterize the electromagnetic performance of the range establishes both a baseline for the measurement system and the minimum requirements for installation at the new site. To enrich the baseline, we can perform pattern tests and any other system mechanical, electrical or electromagnetic tests as required.



## Project Experts

We understand that conditions for a range move are rarely ideal. Staging and storage areas for relocated equipment are not always available. MI Technologies pays particular attention to the timing of the dismantling process and to the packaging and inventory of equipment to ensure that all equipment is carefully removed, packed, crated, and prepared for safe shipment to the new site. Whether the move is across the country or across the street, MI Technologies carefully coordinates trucks, cranes, fork lifts, and man lifts to deliver the range at the new site on time for a smooth installation.

When the shipment arrives, we reassemble and set up the range in the reverse order of disassembly. After installation, we focus

and align the range and perform electromagnetic probe and pattern tests in the designated frequency bands. We can perform any other special tests you may require, such as "gold-standard" antenna tests necessary for government or industry certification laboratories. If requested, we can perform additional tests to characterize any individual errors contributing to overall measurement errors. Such tests include leakage tests, VSWR measurements of a near-field probe, DUT, signal generator, and dynamic range and linearity measurements of the receiver. We can further test the impact of cable flex, probe alignment, or any other aspect that you deem important.

## Off-site Testing During the Move

We know that there is never a good time to interrupt your operations to relocate a range. If you have important testing that must be performed during your range move, consider MI Technologies' Range Test Services. We can make our state-of-the-art compact range available to your organization, minimizing the impact of the move on your testing schedule.

### Typical Move Sequence:

- Baseline measurements
- Disassembly and inventory
- Packing and crating
- Shipping and tracking
- Storage
- Staging
- Site preparation and construction
- Unpacking and placement
- Assembly and installation
- Focusing and alignments
- Post-move baseline verification tests



### Optional Move Tasks:

- New range design service
- Precision alignments
- Precision characterizations
- System upgrades
- System changes
- Equipment refurbishments
- Training & certifications
- Special baseline tests
- Special post-move tests
- Range test service

*For more information, contact MI Technologies' Customer Support Service Center.*

