



Advanced Systems.  
Proven Solutions.

## Telemetry Systems: Design, Installation and Maintenance Services

MR Systems has developed extensive expertise in designing, installing and maintaining reliable telemetry systems for municipal water and wastewater utilities. From development of the initial design concept through onsite installation and testing, MR applies practical real world experience to make sure that your system performs reliably year after year.

After installation, MR helps maintain your telemetry system in tip top condition by performing periodic analysis of communications data and, if necessary, onsite inspections of the equipment. Our job is to make sure that all of your remote sites communicate reliably.

### Telemetry System Design

The first step in designing a telemetry system is to identify the specific location of each remote site and central monitoring station. For radio systems, we use computerized radio path propagation analysis software to determine the optimal frequency range and best system architecture for your system. If licensed frequencies are desired, we assist in obtaining frequency coordination and FCC licensing.

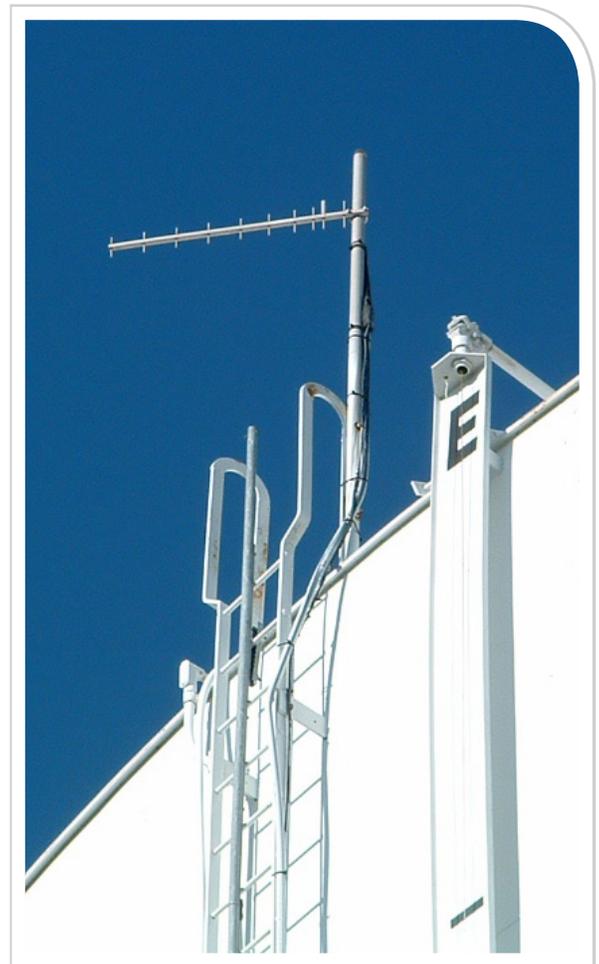
Our telemetry system designs are not only limited to radio communications. We also utilize fiber optics, cellular, cable TV, phone lines, internet, and satellite links to guarantee that all of your remote facilities are reliably monitored at the lowest possible cost.

### Onsite Inspections and Radio Path Testing

MR Systems conducts onsite inspections of remote sites to identify unanticipated terrain or structural features, types and heights of existing trees, and the concentrations of foliage present. While onsite we also evaluate physical installation conditions and requirements such as site access, AC power availability, conduit routing, and antenna pole or tower installation alternatives.

MR then performs actual on-site radio testing of each path to verify the optimum antenna height required to produce reliable radio communications. Our objective is to determine the optimal antenna height required to provide each path with a minimum of ten years of trouble free operation without the need to trim trees or raise the antenna.

***Reliable radio telemetry system design is as much an art as it is a science!***





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## Installation Services

MR Systems provides turnkey installation of towers and poles, radio antennas, coaxial cable, RF surge protectors, grounding, remote telemetry units and equipment mounting stands. We also supply and install field instrumentation, video surveillance systems, and access control systems.

## Radio System Maintenance Services

Each year MR reviews the communications performance data which our system collects for each of your radio paths. Using an assortment of sophisticated radio test equipment, we quickly distinguish between hardware and software problems. If we find that a path's communications reliability has become degraded, we make a site visit to determine the specific cause of the issue and take corrective action to eliminate the problem.

Reliable Communications + Instant Notification = Peace of Mind



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