



# Remote Control

There are many applications where telemetry antennae may be located in far away or inconvenient locations for operators to travel. In other instances, telemetry antennae may be spread around a test range and it would be advantageous to monitor and control all of them from a central location. TCS offers Remote Control capability on all of its telemetry systems. This capability comes in several different flavors.

## Single Remote Client to Single ACU-M1 (Single Antenna)

For locations where an operator per antenna is desired, TCS offers three solutions:

- **The Remote ACU-M1** – Here a fully functional ACU-M1 is used in a Remote Client capacity. This provides the advantage of a spare ACU as well as a Remote Client.
- **The ACU-R1** – This flat panel PC approach provides remote control using a Touchscreen Panel PC-based solution. This economical approach reduces the Remote Control costs will providing most of the functionality of the Remote ACU-M1. Handwheels and Slew Switches are not present on the ACU-R1.
- **The Remote Client** – This software only solution allows for remote control from a standard PC with keyboard and mouse. No touchscreen or hardware is provided. The Remote Client is hardware locked to a network interface.

These three flavors utilize a network connection and a proprietary protocol to monitor and control the Local ACU-M1. We use the Local designation for the Controller connected directly to the antenna.

## Single Remote Client to Multiple ACU-M1 (Multiple Antennae)

For installations where a single operator wants to monitor and control multiple antennae from a single location, TCS offers the Master Antenna Control Unit (MACU).

The MACU provides a summary view where each of the antennae that are on-line displays their status on a 17" color touch screen. Pressing on any of the summary views takes the operator to a screen that emulates the front panel of that ACU, with the



remaining systems on the network displayed along the side of the screen. This allows for control of an individual antenna while still monitoring the rest of the network. The MACU can monitor and control up to 8 ACU-M1s on an Ethernet based network.

## Headless Remote Control

For the application where the antenna needs to be a node on the network, TCS offers a headless remote control system. Here the antenna controller is embedded inside of the antenna with an Outdoor Ethernet connection provided for ACU communication.

For the security conscious, we also provide this embedded option with the ACU located inside a secured location to be installed in a 19" rack. Communication with the Antenna is done over our standard multi-mode or single-mode fiber interface.

## Customer Written Software

For customers that wish to control the ACU-M1 through their own software system, the ACU-M1 can be configured for remote control operation through the Ethernet port. An Interface Control Document (ICD) will be provided to the customer that documents the packet definitions for monitor and control of the ACU-M1.

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