



## CTI-540 Control System

### Product Description

The CTI-540 Control System can be used to precisely control a wide variety of devices including heavy-duty pan/tilt heads, tracking pedestals, satellite antennas, and other positioners. The CTI-540 is customizable to accommodate a large range of motor output voltages, position sensor types, and user interfaces.

Two parts comprise the CTI-540 System - the Antenna Control Unit (ACU), and the Graphical User Interface (GUI).

### Antenna Control Unit (ACU)

The heart of the CTI-540 Antenna Control System is the rack mounted ACU. The ACU has an embedded microprocessor to allow control of the positioner via front panel pushbuttons, a remote hand-held controller, and/or by remote commands through a serial or Ethernet port (from the GUI or other device). The ACU can drive motors on up to four axes, and monitor limit switches and position sensors to track motion.



**Figure 1: The front panel of the CTI-540 ACU**



**Figure 2: The rear panel of the CTI-540 ACU**

## Graphical User Interface (GUI)

A Graphical User Interface (GUI) connects to the CTI-540 ACU's remote port via a serial or Ethernet connection. This GUI can consist of a Touch-Panel, or a Windows application. Alternatively, message protocols can be provided so third-party software may be written to control the ACU.

The user interface typically provides the following functions: Manual control of all axes, real-time position information for the az and el axes, automated moves to preset positions, and configuration & setup of the system. Many application specific features can be included in the GUI such as scanning routines and inclined orbit tracking algorithms.

The CTI-540 Graphical User Interface can be completely customized to fit many different applications.



Figure 3: A Typical Touch-Panel GUI

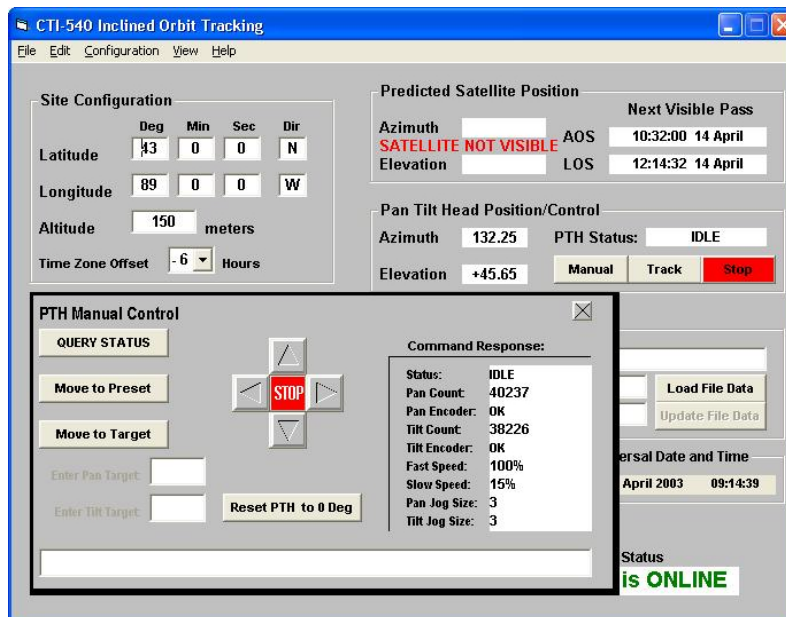
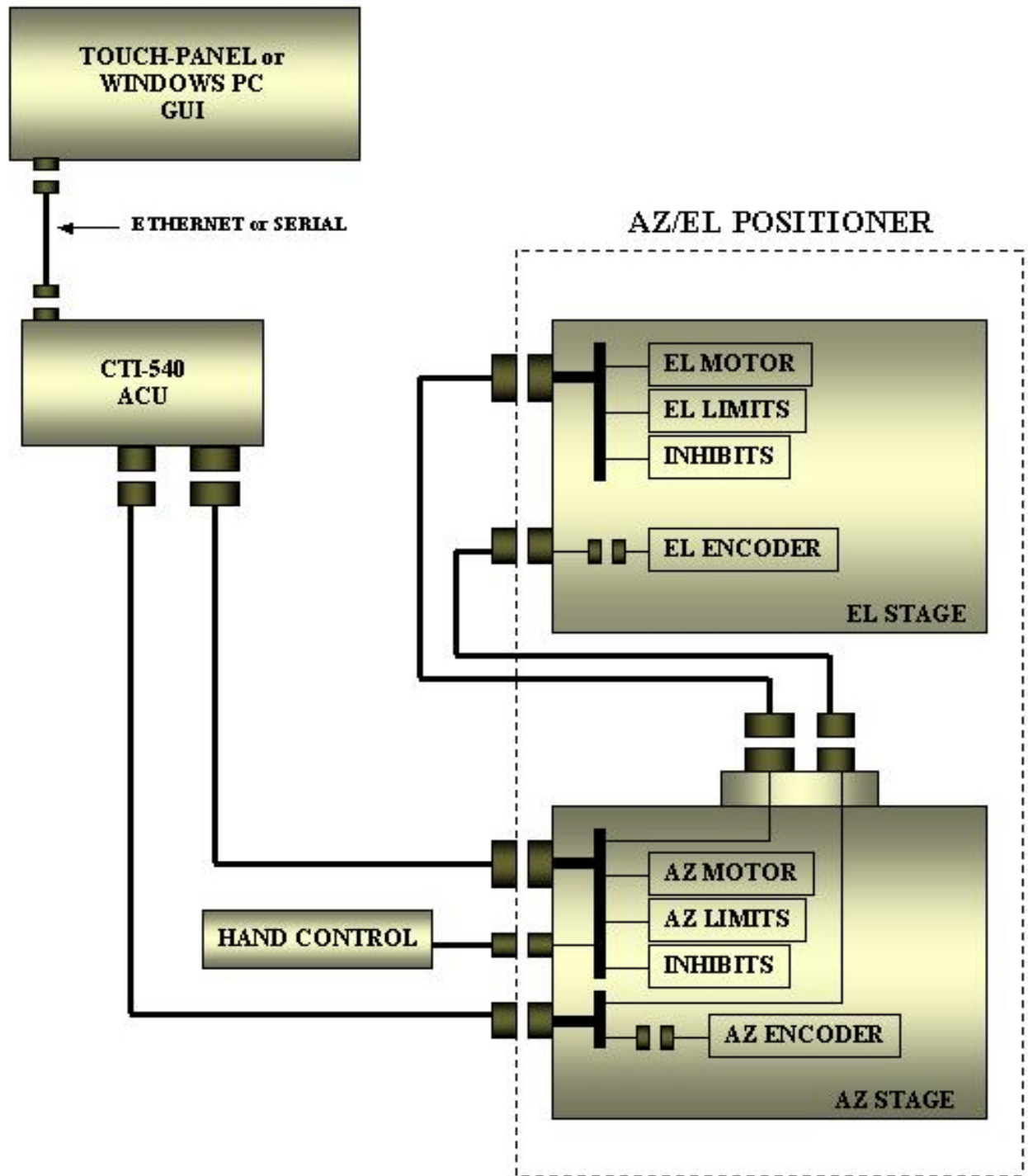


Figure 4: A Custom Windows GUI

# Block Diagram of a Typical CTI-540 System



## CTI-540 System Specifications

- Physical (ACU)
  - Width: 19 inches
  - Depth: 19 inches
  - Height: 3.5 inches
  - Weight: 18 lbs.
- Operating Temperature
  - 0° C to 70° C
- Electrical
  - Input Power, depends on unit
    - 115 vac, 60Hz for low power motors (<1HP)
    - 230 vac, 60 Hz for high power motors (>1HP)
  - Motor Control, up to 4 axes
    - Motor output rating varies by unit. Up to +/-180 VDC, 2 HP
    - Variable speed motor control
  - Position Sensing, up to 4 axes
    - 4 Potentiometer inputs, 0.1° resolution
    - 3 Optical Encoder inputs
      - 0.018° resolution standard encoders
      - 0.009° resolution hi-res encoders
  - Digital Inputs
    - Limit Switches
    - Motor Inhibits
  - Analog input for AGC signal strength (optional)
  - Hand Control – allows movement of Azimuth and Elevation
- Touch-Panel GUI
  - ¼ VGA Color Touch-Panel Monitor
  - Rack mountable or table top enclosure provided