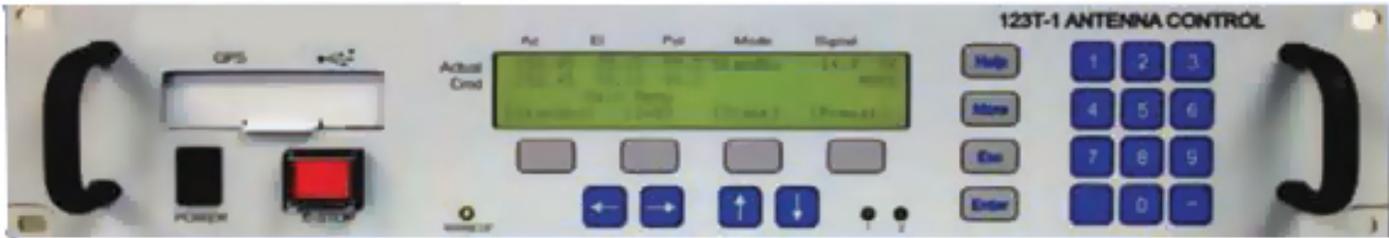## Satcom & Antenna Technologies Division

Overview

For over 50 years, CPI Satcom & Antenna Technologies Inc. (CPI SAT) experienced engineering staff has been developing high-precision, economical satellite tracking and control systems. The Model 123T-1 Antenna Control System provides precision satellite tracking for mobile, transportable and flyaway antennas. The Antenna Control Unit (ACU) is the operator interface point for the system, and features operator-friendly function menus. The Power Drive Unit (PDU) provides all motor and antenna connections.

Internal Tracking Receiver Option
The Model 250 receiver is available with L-Band or 70 MHz input. L-Band frequency range is 950-2150 MHz and the tracking C/No is 40 dB-Hz.

Tracking Accuracy - Optrack
Optrack provides high performance tracking of stable or inclined orbit satellites with an adaptive self-learning ephemeris modeling mode. The Control System accuracy (excluding non-repeatable mechanical errors) is normally better than 5% RMS (0.03 dB) of the receive beamwidth in winds of 30 mph gusting to 45 mph, satellite inclination of up to 15°, and signal scintillation of up to 2 dB.

Pointing Accuracy
Normally better than 0.07° RMS (0.05° optional) in winds of 30 mph gusting to 45 mph. This includes all drive train errors, but excludes structural errors between the transducers and RF beam.

FEATURES:
- Designed for transportable, mobile, and flyaway antennas
- Optrack, steptrack & pointing modes
- LCD display with full alphanumeric readouts
- Simplified operation
- GPS, heading sensor, inclinometer interface
- L, S, C, X, Ku, Ka-Band operation including multi-band
- Operator interface point for the system
- Supports XY antenna positioners

BENEFITS:
- Simplified, high performance transportable satellite tracking

APPLICATIONS:
- Tactical, Satellite News Gathering, vehicle/trailer mounted antennas with full DC servo loop performance

Operational Modes			
Tracking	**Pointing**	**Acquisition**	**Other**
Optrack Steptrack	Intelsat NORAD* Preset Position Manual Jog	Smart Scan	Maintenance Standby Deploy Stow Calibrate

* Optional

CPI Antenna Control System - Model 123T-1
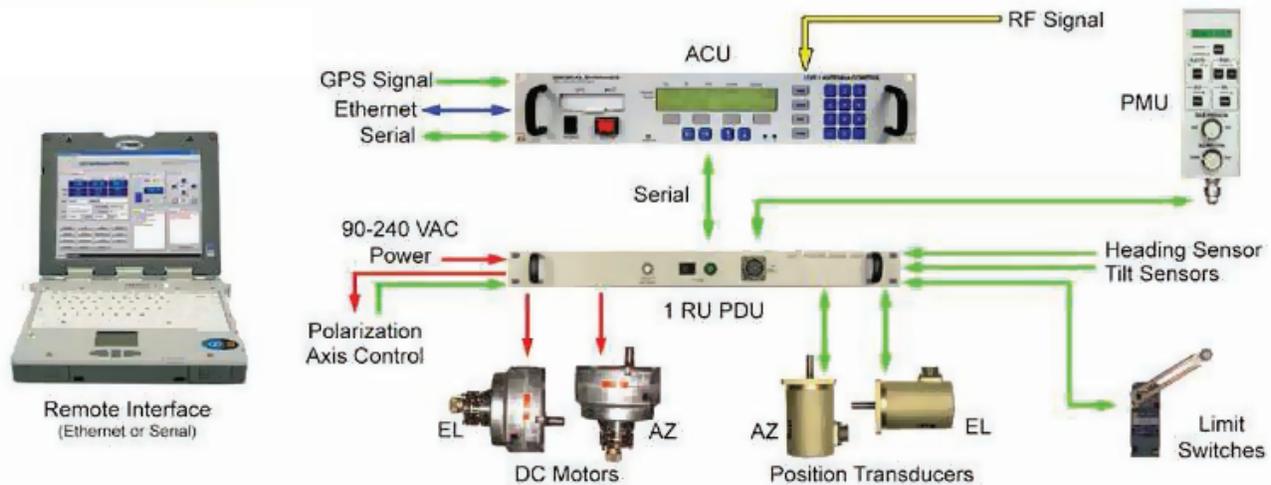
- Handheld jog controller (PMU)
- Internal L-Band or 70 MHz tracking receiver
- Ethernet, RS422, or RS232 supervisory computer interface

A variety of operational modes are available for quick target acquisition, pointing, and tracking

SPECIFICATIONS

- CE, REACH, FCC
- Vibration: MIL-STD-810F, M514.5-P1-CAT4-CII (Wheeled Trailer)
- Passed DISA Tracking Stability Test

- Auto Calibrate, Auto Deploy, Auto Stow
- Single RS 422 Cable for ACU to PDU link
- EL current detect circuit used during stow to produce known antenna "clamp down" torque

ACU	SIZE	WEIGHT	POWER
2RU rack mount chassis with sides	3.5" H x 19" W x 16.38" D	16 lbs	100-240 VAC~ 50/60 Hz, 60 W

PDU*	SIZE	WEIGHT	POWER
2RU rack mount chassis with sides	3.5" H x 19" W x 17.13" D	21 lbs	100-240 VAC~50/60 Hz, 1200 W Peak
1RU rack mount chassis with sides	1.75" H x 19" W x 17.13" D	18 lbs	100-240 VAC~50/60 Hz, 1200 W Peak

ANTENNA INTERFACE

- AZ/EL/POL DC Motor amplifiers available for 24 - 36V motors. Potentiometer or Resolver Position Feedback supported.
- EL velocity limit and AZ centered switch inputs available.

ENVIRONMENTAL	TEMPERTURE	HUMIDITY
Operating	0° to 50°C	95% Non-Condensing
Storage	-40° to 70°C	95% Non-Condensing

* The PDU model varies. Contact CPI for details.

Contact us at CustomerCareSAT@cpii.com or call us at +1 770-689-2040

The data should be used for basic information only.
Formal, controlled specifications may be obtained from CPI for use in equipment design.

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