

Antenna Technologies



Overview

For over 50 years, CPI Antenna Technologies' experienced engineering staff has been developing high-precision, economical satellite tracking and control systems. As the world's leading manufacturer of satellite and ground based products and services, our systems are designed using cutting edge technology. Our control systems can be used with almost any antenna and support a wide range of applications. The systems feature an easy-to-use, modern ethernet interface, and are software upgradeable to protect your investment. All control systems come with an end-to-end warranty and are supported 24/7/365 days a year by our technical customer support team.

System

Our Model 940A, offers excellent satellite tracking and control. It is ideally suited for fixed antennas with single AC motor per axis and includes an Antenna Control Unit (ACU), Internal Tracking Receiver (TRU) and a Power Drive Unit (PDU). The Model 940A is the replacement for our long-standing Model 7200 Antenna Controller, is backwards compatible with our reliable Model 7150 Power Drive Units, and therefore supports inexpensive upgrades.

Tracking Accuracy-Optrack

Normally better than 5% of the receive beamwidth in winds of 30 mph gusting to 45 mph, satellite inclination of up to 15° and signal scintillation up to 2 dB.

Pointing Accuracy

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

FEATURES:

- Precision satellite tracking and control
- Ethernet interface
- Full software upgradeability
- 7150 drive cabinet compatible
- Tracking, pointing, and acquisition modes
- Ideal for single AC motor (per axis) antennas
- Stable to 15° inclined GEO targets
- Dual speed Axis drives

BENEFITS:

- High performance tracking with inverter control
- Model 7200 compatible replacement

APPLICATIONS:

- Communications, data transfer, broadcast

Operational Modes			
Tracking	Pointing	Acquisition	Other
Optrack Steptrack	Intelsat 11 Preset Designate NORAD	Box Scan	Maintenance Manual Stop Polarization Stow



Antenna Control Unit

The Antenna Control Unit (ACU) is the primary control and monitor interface point for the entire system, featuring a friendly touch screen interface.

FEATURES:

- Easy touch screen operation
- Informative display with color readouts
- Extensive diagnostic monitoring and test capabilities
- Supervisory control link (Ethernet; TCP/IP), SNMP
- Fully software field upgradable
- Supports various legacy encoders
- HTML5 Web GUI
- Three axis control



Portable Maintenance Unit

The Portable Maintenance Unit (PMU) provides manually commanded, bi-directional control of all axes.

FEATURES:

- Hand held ruggedized unit with a pendant cable for convenient local operation at the antenna
- Backup means of moving antenna and is ACU independent
- Modes include position jog & hi/lo speed
- Optional weather proof access junction boxes at convenient antenna locations

System Options

- Extended low temperature operation
- Extended warranty
- PDU configurable for various motor sizes and polarization controls
- E-Stops in panel mount or J-Box



Transducers

- 1:1 Resolver (standard)
- 0.0055° Resolution
- 0.05° Accuracy
- Standard 16 Bit



Position encoder (optional)

- 0.0001° Resolution
- 0.0055° Accuracy
- 25 bit Optical

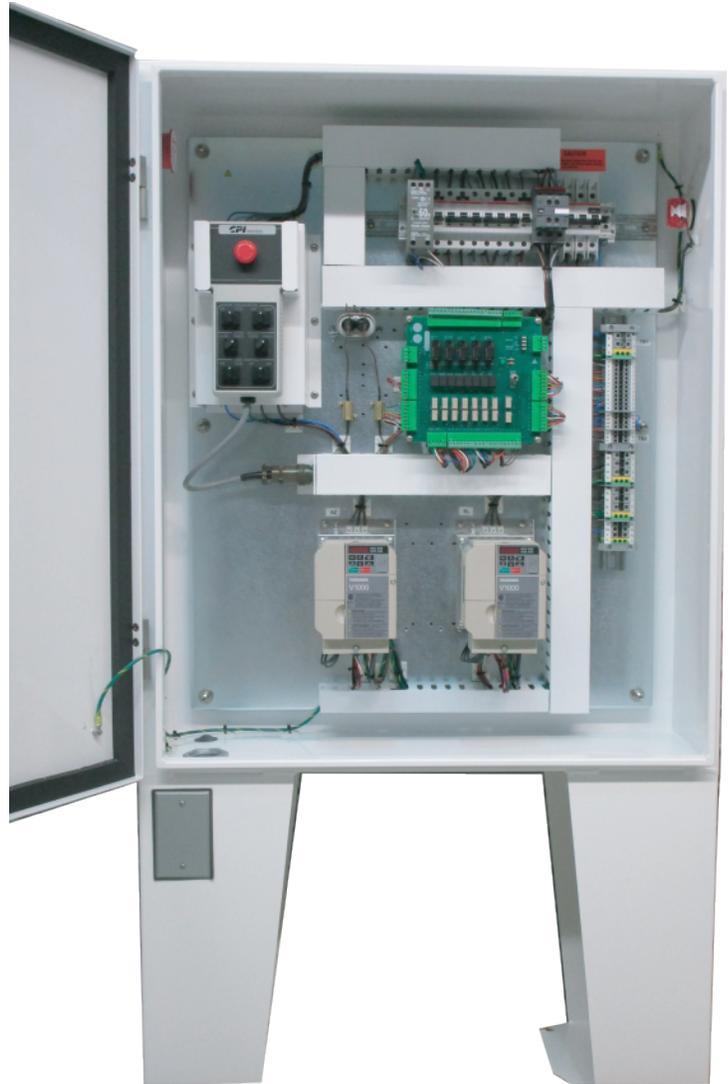
Tracking Receiver Units

- Optional internal receiver with analog output
- Supports native control and configuration of external Model 520 and 550 CPI receivers
- Supports analog tracking signal inputs for other external receiver options
- Supports legacy DTR beacon select

Two Speed Inverter PDU

The Model 7150 Power Drive Unit (PDU) provides digital control to the AC drive motors. It also provides controlled acceleration and deceleration profile and speed regulation range of up to 15:1 with conventional inverter rated AC motor (antenna system dependant).

The inverter PDU's are free-standing, housed in an NEMA 4 (IP66 equivalent) aluminum enclosure & contains the electrical/mechanical components necessary to move the antenna. The PDU has an optional thermostat controlled, internal heater for cold weather operations. A lockable handle secures the access door while the system is operating.



AC Motor Support

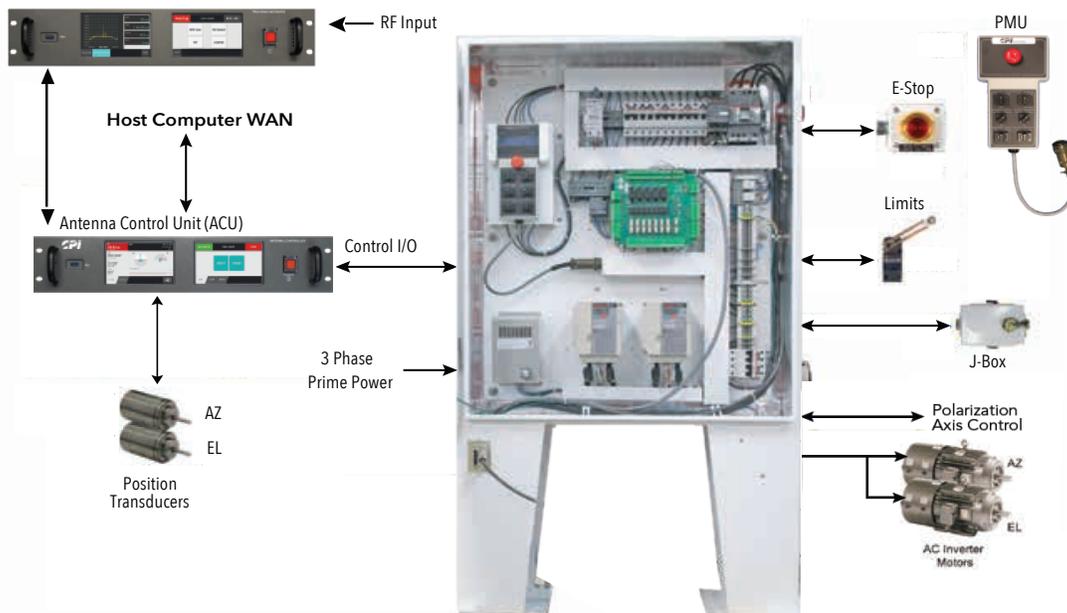
- Single inverter duty windings
- 208-480v 3 phase voltage windings available
- Up to 3 HP standard, larger upon request



Antenna Control System

Model 940A

CPI 940A Antenna Control System



SPECIFICATIONS

- Tracking accuracy $\leq 5\%$ of Beamwidth
- Total system results are antenna (mechanically) dependent
- Pointing accuracy $\leq 0.05^\circ$ RMS
- CE, FCC Class A compliant, REACH

UNIT	SIZE	WEIGHT	POWER
ACU- 2RU rack mount chassis with slides	3.5" H x 19" W x 20" D	15 lbs	Single phase, 100-240 VAC~ 150 VA
PDU- AC Inverter	36" H x 30" W x 10" D (54" H Including Floor Stand)	100 - 150 lbs	208/380/415 VAC~, 3 ϕ , WYE KVA motor dependent Three Phase 200-240 VAC~, 5 HP max Three Phase 380-480 VAC~, 5 HP max
ENVIRONMENTAL	TEMPERATURE	HUMIDITY	
Indoor Equipment	0° to 50° C (Operating) -20° to 70° C (Storage)	95% Non-Condensing	
Outdoor Equipment	-10° to 50° C (Operating) -40° to 40° C (Optional Extended) -20° to 70° C (Storage)	100% Condensing	

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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For more detailed information, please refer to the corresponding CPI technical description if one has been published, or contact CPI. Specifications may change without notice as a result of additional data or product refinement. Please contact CPI before using this information for system design. © 2022 Communications & Power Industries LLC. Company proprietary; use and reproduction is strictly prohibited without written authorization from CPI.

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