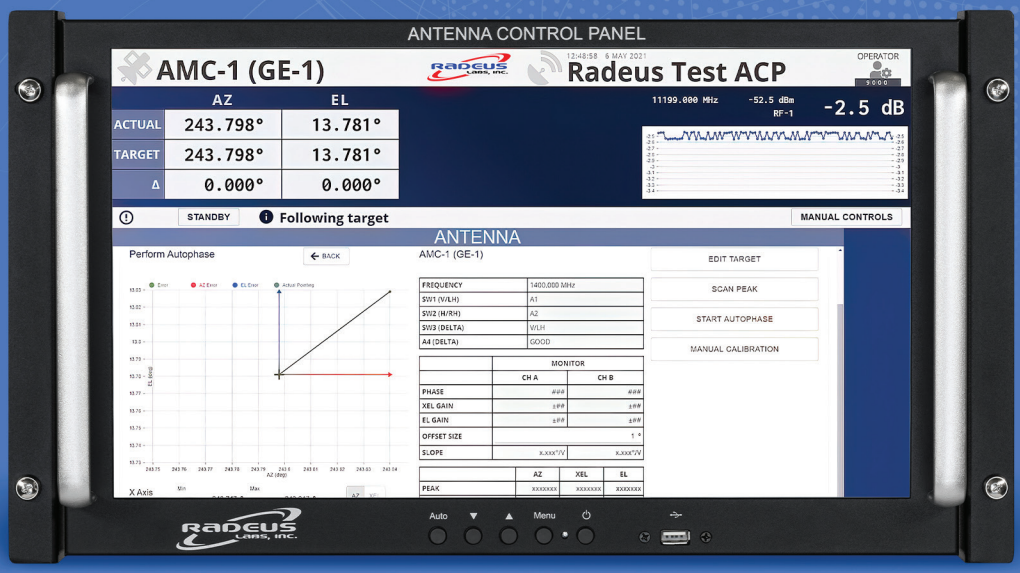
MODEL 9000™

ANTENNA CONTROL SYSTEM



The Choice for Full Motion and Monopulse Antenna Control

Performance – Whether for new antennas or retrofits, the advanced features, flexible tracking modes, intuitive menu layouts and simplified parameter sets will keep your antenna on point.

Availability – With industry-best delivery, we understand the importance of on-time delivery. As a Lean Manufacturing facility, we are better able to meet your delivery needs.

World-Class Support – You are never on your own with a Radeus Labs product. The experts at Radeus Labs are standing by if you need help.

RADEUS LABS, INC.

Modular Precise Proven

The 9000 ACS provides a flexible solution for multi-motor per axis and monopulse tracking applications. It is adaptable to multiple antenna makes for retrofits and works equally well on new antennas. The Setup Wizard, flexible position feedback options, and diagnostic logs are just a few of the features that make the 9000 ACS the best solution for your full motion antenna systems.

Features

- Touchscreen controls
- Efficient and intuitive GUI
- Up to 4 Antenna Control Panels (ACPs) supported
- Setup Wizard for easy configuration
- Noisy beacon signal compensation
- Ethernet SNMP or REST API remote interfaces
- Single, dual and multi-motor per axis configurations
- Up to 16 E-Stops supported
- Final, Pre and Velocity limit inputs
- Stow pin interlocks and actuation
- Auxiliary drive integration
- Torque biasing of multi-motor applications
- Support for synchronous AC, asynchronous AC and brushless motors

Modes of Operation

Manual — Front-panel buttons for two-speed, manual jog control.

Move to Longitude — Position to AZ and EL angles determined from the longitudinal orbital slot.

Move to Look Angles — Position to user-provided AZ, EL, and POL angles.

Steptrack — Periodic algorithm to perform an AZ-EL scan pattern to peak up signal strength.

Predictive Track — Point the satellite dish using an orbital model created from previous peak AZ and EL step-track data points.

Monopulse – Automatically acquires target, peak phase align and calibrate to begin tracking with monopulse tracking receiver. Transfers to predictive model or ephemeris tracking on loss of monopulse signal.

TLE (Two-Line Element) — Track automated positioning based on NORAD two-line element sets.

TLE with Steptrack — Steptrack incorporated with TLE to provide closed loop correction and superior pointing accuracy.

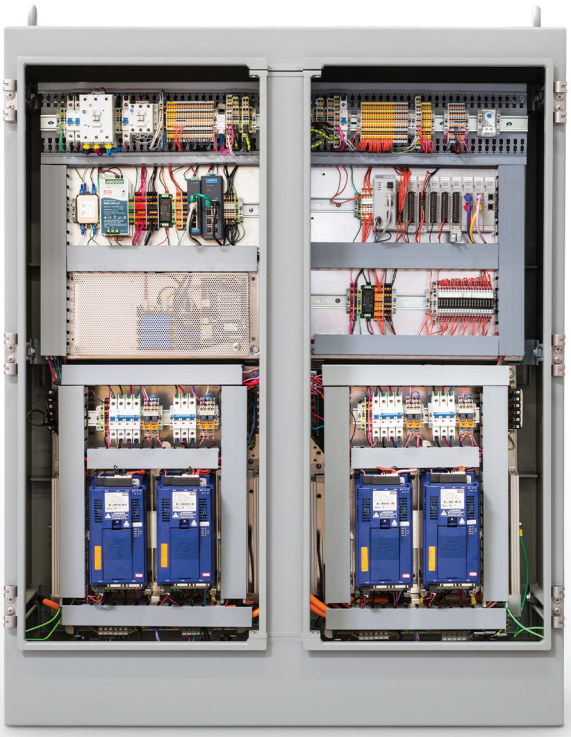
Intelsat-11 — Automated tracking to AZ and EL coordinate sets derived from Intelsat 11 parameters.

Intelsat-11 with Steptrack — Steptrack incorporated with Intelsat-11 to provide closed loop correction and superior pointing accuracy.

Celestial Body Tracking – Automated positioning to AZ and EL locations of the sun and the moon

Drive Cabinet

The Radeus Labs 9000 drive unit is available in a traditional drive cabinet form factor or may optionally be fitted into standard equipment racks. The modular design allows for the system to be scaled to your application.



Features

- Robust vector drive solution for long life
- High speed EtherCAT communications for drive management
- Supports up to 4 remote (ACU) panels in separate locations
- Options for auxiliary motor support, stow drive support
- Front mounted E-Stop with support for up to 16 remote E-Stops
- Support for multiple monopulse receivers and channel configurations
- Closed loop torque control to remove backlash

Tracking Accuracy

Position control: to within 0.0005 degrees RMS error
Step Track Accuracy: to within 10% RMS of -3dB BW
Predictive Track Accuracy: to within 5% RMS of -3dB BW
Monopulse Tracking: to within 3% RMS of -3dB beamwidth

Environment

ACP
Temperature: 0° to 50°C
Humidity: Up to 95% non-condensing

Drive Cabinet
Temperature: 0° to 50°C
Humidity: Up to 95% non-condensing

Power

ACP
88-240 VAC, 47–63 Hz; 250 W typical

Drive Cabinet
200-400 VAC, 3-Phase as standard

Mechanical

ACP
17" Touchscreen - 19"W x 10.5"H x 8"D (w/handles)
Weight: 10 lbs.

Drive Cabinet
60"H x 48"W x 16"D
Weight: 500 lbs.
Motor size: 5-20 HP standard

Interfaces

Remote: Ethernet, SNMP
Alarm: Summary output

Receiver Interface Options

- Radeus Labs 3500 Digital Beacon Receiver
- Radeus Labs 3430 Analog Beacon Receiver
- ECA TR70 Single/Dual Channel Monopulse Receiver
- Vertex Communications Digital Tracking Receiver (DTR)
- General Dynamics Model 520 Tracking Receiver
- 0-10V DC Analog Input

Drive Cabinet

- Ethernet or fiber interface

Position Feedback

This EnDAT encoder provides position feedback for azimuth, elevation, and polarization. At 25 bits of resolution, this allows a display resolution of 0.001°.
Accuracy: ±20" or ±0.005°

Warranty

Three-year warranty, parts and labor.

Contact Us

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