

1450 13.5-METER ANTENNA SYSTEM

Multi-band, multi-mission capability

The 13.5-meter antenna system provides a platform for remote sensing, satellite communications (SATCOM) and telemetry tracking and control.

FULL HEMISPHERIC COVERAGE

The Datron 1450 features a positioner capable of full hemispheric coverage for tracking LEO, MEO or GEO satellites. The three-axis positioner includes a tilt axis making it possible to track direct overhead passes without the loss of signal. Each axis is equipped with dual counter-torque drives with zero backlash for optimal pointing accuracy. The positioner design accommodates mounting of RF high power amplifiers and converters near or on the reflector for efficient Radio Frequency (RF) performance.

The highly efficient split feed design allows the antenna to be configured to support transmit and receive within multiple bands of operation in a single 13.5-meter aperture. For the highest precision tracking, a monopulse feed can be provided on any of the receive bands of interest.

INTEGRATED RF SUBSYSTEM/ CONTROLLER

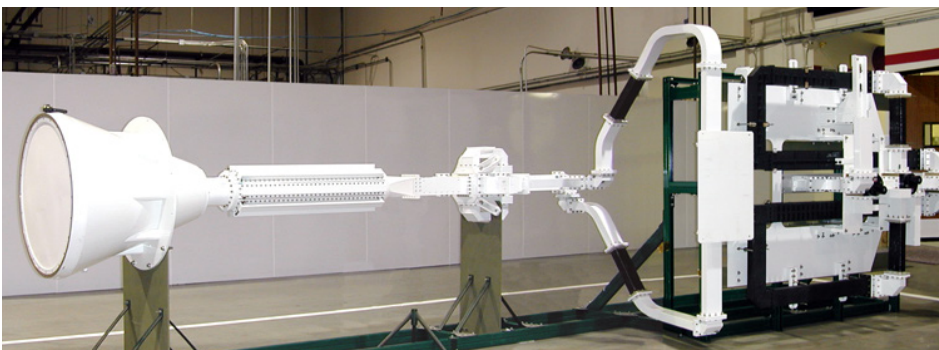
Antenna systems include a fully integrated RF subsystem and receive/transmit electronics to interface to the IF communications equipment. The antenna mounted RF subsystems and receive/transmit electronics interface with the IF communications and include low noise amplifiers (LNAs) and RF/IF converters to interface with customer provided base-band modems.

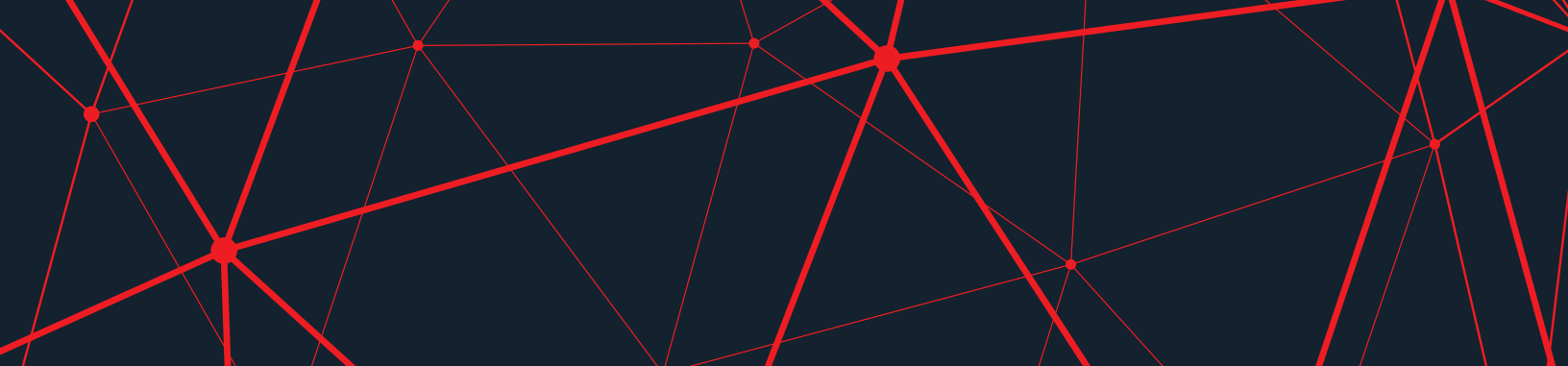
The Antenna System Controller (ASC) is the user's primary control and monitor interface to the antenna. It features an embedded graphical user interface (GUI) and is equipped with an industry standard network interface (SNMP v3 over Ethernet) that provides real-time command and control of all critical devices on the antenna. The ASC is accessed locally or remotely by any modern web browser to perform all scheduling, command/control, monitoring functions and maintenance activities – regardless of the computer's operating system. The ASC also features a suite of industrial modules to perform most system monitor and control functions.



BENEFITS

- > Three axis positioner designed to provide full hemispheric coverage for low earth orbiting (LEO) space vehicles and targets of interest
- > Monopulse in all RF bands provides efficient and robust tracking
- > Efficient antenna optics provide optimal G/T in any band of interest
- > Split feed system allows the user to operate in multiple bands
- > Positioner is designed to accommodate close proximity mounting of amplifiers and converters for efficient RF performance
- > The 13.5M antenna system can be configured to support transmit and receive in multiple bands of operation eliminating the need for multiple systems
- > The Antenna Control System (ASC) features an embedded Graphical User Interface (GUI) to provide real-time command and control locally or remotely through a modern web browser





1450 PERFORMANCE CHARACTERISTICS

Frequency range	User defined feeds available for: L/S/X-/Ku-/Ka-/Q band
Reflector aperture	13.5 m
Antenna height	9 m (above grade)
Wind (operational, steady state)	65 mph (105 kph)
Wind (drive to stow)	68 mph (109 kph)
Wind (survival, stowed)	125 mph (200 kph)
Velocity	Elevation = 10°/sec, Azimuth = 15°/sec
Acceleration	Elevation = 10°/sec, Azimuth = 10°/sec
Elevation travel	-5° to 185°
Azimuth travel	±410°
Pointing accuracy (non-wind)	0.010°, 22-bit encoder (0.000085° resolution)
Backlash	Zero (dual counter-torque drives in each axis)
Humidity	Outdoor equipment 100% condensing
Rain	4 in. per hour
Ice survival	0.5 in. max. radial
Power requirements	120/208VAC, 3 PH, 50/60 Hz, 75 kVA nominal



OPTIONS INCLUDE

- > Simultaneous L/S/X/Ka-band operation
- > Feed options up to Q-band operation
- > STIG compliant ASC software information assurance maintenance program
- > High wind structure
- > High power 10kW L/S-band feed for SGLS and USB operation
- > SCN RBC control interface
- > Turnkey system engineering and integration
- > Site installation and test services
- > Optical interface for IF and ASC

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Nonexport-controlled Information

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