

Air-to-Ground Ethernet Connectivity

AX3000 Compact Tracking Antenna

All-Weather, Multi-Band High-Gain-Intelligent Ethernet with Automated Tracking System

The AX3000 compact, weatherized directional tracking antenna evolved as a self-contained tracking and transceiver system. It incorporates a high-performance multi-sensor inertial navigation system (INS) with dual-GPS to automatically locate and track a target source.

Its highly-accurate pan and tilt mechanism provides auto-acquisition and tracking while constantly moving. The AX3000 continuously aligns the antenna's bore-sight with sub-degree precision without operator input. Its progressive 360° azimuth and +85° to -15° elevation positioning allows complete coverage. To ensure pointing accuracy the antenna incorporates the latest solid state INS sensor technology. Comprised of three-axis accelerometers, gyros, magnetometers, a barometric pressure sensor, dual GNSS receivers, a low-power micro-processor and dual- GPS determine location and orientation in three dimensions.

Power and data for the AX3000 are provided over a single cable connection allowing either AC or DC power sources and Serial or Ethernet data connectivity. The AX3000 utilizes Troll's patented Cyclops automated asset tracking software. Radio agnostic AX antennas allow multi-band operation at frequencies from UHF to Ku-Band. Support is provided for a variety of radio waveforms including: CDL, FDD, DVB-T COFDM, OFDM and MIMO. Radio solutions can be embedded or remotely connected via RF cable lengths to 30 meters.

The antenna is configured with a fully weatherized radome suitable for extremely demanding environments including: mobile ground, coastal and marine installations. Systems operate from AC/DC power inputs: 22-32 VDC or 80-240 VAC. Environmental performance is assured through rigorous testing: salt-fog certified Mil-STD 810 H- Method 508.5. Carbon fiber design with a low coefficient of thermal expansion.



- Auto-Alignment, Calibration, Acquisition and Tracking
- Lightweight, low coefficient of thermal expansion
- CoT/KLV 601/ROVER/NEMA tracking data compatible
- RF jamming and interference resistant
- Supports high data rate links
- Highly configurable and scalable
- Ethernet and serial interfaces
- Efficient remote GUI interface
- Built-in precision Dual-GPS/INS
- Heavy-duty continuous rotating, pan and tilt
- Intuitive touchscreen GUI controller
- ITAR Free

Designed for Demanding Military and Marine Environments

- Salt-fog certified Mil-STD 810 H - Method 508.5
- Lightweight carbon fiber design w/ low CTE
- Operating Temperature: -40 °C to +55 °C

TROLL SYSTEMS
THE DATA LINK EXPERTS

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Multi-Band, Auto-Tracking Antenna
Ethernet and Serial Output

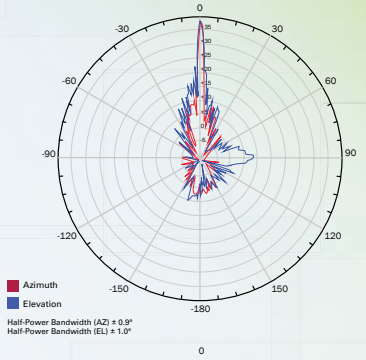
AX3000

SPECIFICATIONS

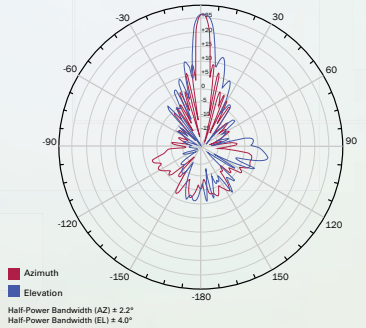
Specifications subject to change without notice.

Radio Support:	CDL/MIMO-MANET/DVB-T (COFDM)
Frequency:	L/S/C/Ku Bands
	Bands available as separate or in combination)
	Dual and Single RF rotary joint configurations available
Polarization:	Horizontal / Vertical / Circular options
Positioning:	Internal INS (Magnetometer and Dual GPS)
Azimuth:	Continuous 360° Rotation
Elevation:	+80° to -15°
Tracking:	NMEA Data/RF Tracking/Manual options available
Tracking Precision:	0.3°
Power:	24-36 VDC / 110-240 VAC
Control:	Computer Application via Ethernet
Environmental:	For demanding military and marine environments
	Lightweight, low coefficient of thermal expansion
Salt fog:	Certified Mil-STD 810 H - Method 508.5
Operating Temperature:	-40 °C to +55 °C
Storage Temperature:	-40 °C to +85 °C
Weight:	100 lbs (45 kg)

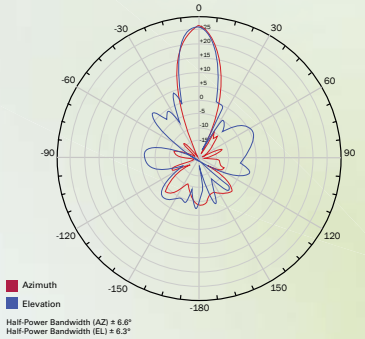
15 GHz Radiation Pattern
AZ/EL Beamwidth



5 GHz Radiation Pattern
AZ/EL Beamwidth



2.5 GHz Radiation Pattern
AZ/EL Beamwidth



Frequency	UHF Optional	L band	S band	Lower C	Upper C	X band	Ku
Range	300 - 900MHz	1-2 GHz	2 to 4 GHz	4 to 5.5 GHz	5.5 – 8 GHz	8 – 12 GHz	12- 18GHz
Mid-Band Gain	9dBi @ 600MHz	17.6dBi @ 1.7GHz	21dBi@ 2.5GHz	26.2dBi@ 4.7GHz	28.0dBi@ 5.8GHz	33.5dBi@ 10GHz	36.7dBi@ 15.55GHz
HPBW (EL)°	±35°EL@ 600MHz	±10.7°EL@ 1.7GHz	±7.0°EL@ 2.5GHz	±4.3°EL@ 4.7GHz	± 3°EL@ 5.8GHz	±3.4°EL@ 10GHz	±1.29°EL@ 15.55GHz
HPBW (AZ)°	±25°AZ@ 600MHz	± 8.4°AZ@ 1.7GHz	±6.9°AZ@ 2.5GHz	±2.3°AZ@ 4.7GHz	±2.05°AZ@ 5.8GHz	±1.0°AZ@ 10GHz	±1.0°AZ@ 15.55GHz
Polarization:	Vert/Horz	Vert/Horz	Vert/Horz	Vert/Horz	Vert/Horz	Vert/Horz	Vert/Horz
Reference Document	Estimation	E-073-0100-00	E-073-0100-00	E-073-0100-00	E-073-0076-00	Estimation	E-073-0100-00

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TROLL SYSTEMS

The Data Link Experts

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ISO 9001:2015
AS9100D