

# Image Intelligence in Real-Time



Troll's MT Series tactical tracking antennas maximize the range and reliability of air-to-ground video and data for manned and unmanned air, ground and marine vehicles. MT antennas are soldier friendly, and easy to operate, automatically locating RF signals and tracking them effortlessly. The system features an extremely accurate high-gain antenna that provides exceptional long-range performance which was recently demonstrated tracking a jet aircraft flying at 27,000 feet to a range of more than 260mi / 420km\*.

The modular design of the MT makes it easy to deploy, requiring no tools for setup or tear down. Troll's MT Series mobile antennas automate tracking using a variety of methodologies, including telemetry, RF and spectrum tracking. The system locates airborne or ground transmission assets and maintains radio frequency links with them using one or more of these tracking methods.

MT series antennas are designed to automatically locate and track virtually any tactical or commercial radio waveform; CDLs, TCDL, DVB-T COFDM, OFDM or MIMO. Bidirectional encoding, decoding encryption and distribution can be controlled via local or remote control and generally connects to the network over secure Ethernet. WiFi and LTE modems can also be included to provide encrypted broadband connectivity.

## Dual-GPS and Embedded INS

The MT-300 utilizes a high performance INS that incorporates the latest solid-state sensor technology, combining three-axis accelerometers, gyros, magnetometers, a barometric pressure sensor, two GNSS (Global Navigation Satellite System) receivers, and a low-power micro-processor. In static and dynamic situations the INS relies on multiple sensor types and DGPS to determine its location and orientation in three-dimensions. Self-optimizing and extraordinarily accurate, MT antennas continuously establish the orientation of the antenna automatically. Any errors caused by the mechanical gear train or mechanical flexure are normalized out of the feedback loop during tracking.

The MT supports multiple bands, UHF, L, S, C, X and Ku, and are available in single, to quad-band configurations. The antenna is radio-agnostic and will track any analog or digital waveform. The antenna will receive and transmit energy in narrow beams, improving signal integrity while minimizing the influence of interference or jamming signals.

Air-to-Ground Ethernet Connectivity

## MT-300 Tactical Tracking Antenna UHF to Ku

Auto-Acquisition and RF Tracking  
Available in Single to Quad-Band Configurations



- Tested to over 420km
- Auto-acquisition feature
- Single to quad-band configurations
- Heavy-duty continuous rotating, pan and tilt
- Built-in INS/DGPS allows for auto-calibration
- Power 110 to 240 VAC
- Supports RF, telemetry and spectrum tracking
- Intuitive touchscreen GUI controller
- KLV601/ROVER/NEMA data
- ITAR free

# RF Tracking in up to Four Frequency Bands Simultaneously

# MT-300

## SPECIFICATIONS

Specifications subject to change without notice.

### MT300 Tactical Tracking Antenna

Antenna Type:	Elliptical reflector 52" x 27" (effective area equal to 36" parabolic)
Feed:	Offset feed, quad-band, L, S, C, Ku, optional UHF
Pedestal	
Az:	Speed 15° per second - continuous accuracy: ± .5° (subject to INS)
El:	Speed 5° per second accuracy: ± .5° (subject to INS)
El. Range	+ 60° to -15°
Interface:	Single 100' cable on spool providing secure Ethernet communications, encryption control and power
Power:	100 - 240 VAC 50/60Hz, Typical 100W, MAX 500W with antenna, modem and SSPA
Communications:	Isolated 10/100 Ethernet
Control:	Computer application via Ethernet
Physical Dimensions	
Size:	42" H x 42.5" L x 53"W (106 cm x 108 cm x 135 cm) Effective swept volume: 94 cubic feet Weight 265 lbs (120.2 kg) L3 modem & SSPA not included
Environmental	
Temperature:	Operational -40°C to 60°C with humidity up to 80% RH (MIL-STD 810G)
Rain:	No water intrusion
Wind:	30 mph operational, 60 mph survivable (anchored)
Transportation:	5 wheeled cases between 54 lbs and 104 lbs (24.5 to 47.2 kg) per case Meets USAF guidelines for a two-man lift.
Storage:	To 35,000 ft.



Frequency	UHF Optional	L1 Band	L2 Band	S Band	C Band	Ku Band
	3300 - 900 MHz	0.9 GHz - 1.35 GHz	1.7 - 1.9 GHz	2.0 - 2.5 GHz	4.4 - 5.9 GHz	14 - 15 GHz
Gain (mid-band)	13 dBi	13 dBi	21.0 dBi	24.0 dBi	30.0 dBi	36.0 dBi
HPBW (EL)°	± 18°	± 18°	± 8°	± 6.5°	± 2.9°	± 0.79°
HPBW (AZ)°	± 11°	± 11°	± 4°	± 3.5°	± 1.8°	± 0.57°
Polarization	Vertical	Vertical	Vertical	Vertical	Vertical	RHCP

MT Series Antennas feature a modular design that enables rapid deployment. They include a heavy duty, continuous rotation pan & tilt motor with -15° to +60° elevation. All electronics are housed onboard, including the radio/modem. Once power and Ethernet are connected the system auto-calibrates using its onboard INS/DGPS. MT Series antennas disassemble into three pieces without tools and comes with form-fitted cases for easy transportation.

- Low transportation costs
- Easy setup
- Automatic calibration and tracking
- Operate at long distances
- Network managed
- Minimize operator workload
- Daylight readable GUI controller



The Data Link Experts

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