

Tactical Tracker 1650

The Tactical Tracker 1650 is a compact tracking antenna, designed to be modular, enabling resilient communications in any orbit, constellation, or band. Optimized for the modern warfighter, it provides secure, critical data connectivity. Its rapid deployment and proven reliability ensure command at the tactical edge in demanding operational environments.



Multi-Orbit, Multi-Band Performance

Supports GEO, MEO, LEO, HEO, and future constellations with RF options for S, C, X, Ku, and Ka-bands.

Rapid Deployment

From case to “on the air” in as little as 20 minutes with a user-friendly, tool-free assembly process.

Industry-Leading Retrace Speed

An advanced controller and drive system deliver an industry-leading retrace capability, enabling single-antenna NGSO operation without dropping modem encryption.

Rugged & Reliable

Designed for the rigorous duty cycle of LEO tracking and built to comply with rigorous DISA standards for secure communications at the edge.

Modular & Mission-Ready

Field-swappable RF packages and feeds allow for seamless adaptation to virtually any frequency band or mission set.

Precision Tracking

A high-precision carbon fiber reflector and sophisticated, time-tested pointing algorithms ensure superior tracking accuracy and full hemispheric coverage with no keyhole.

Control Interface

- Controller is embedded into pedestal
- OpenAMIP and closed loop mode compatible
- Enhanced GUI for ease of setup and operation
- Advanced software tracks the best signal available
- Support for TLE as well as CLI protocols

Options

- RF kits available: Ka, Ku, X Bands available
- BUC options with mounting kits available
- Anchoring kit options available
- Spare Parts kit available
- Custom packaging configurations available

Mechanical Specifications	
Drive	Motorized X over Y Positioner
Polarization	Circular Ka, X, Linear Ku
Reflector	Segmented 10-Piece Carbon Fiber
Retrace Speed	30 Degrees per second
Power Supply	110/220 V 50/60 Hz

Packaging Specifications (4 Cases)	
Reflector Case	26.5 in x 26.5 in x 15.6 in - 70 lbs
Positioner Case	37.5 in x 27.5 in x 14.5 in - 90 lbs
Pedestal/Controller Case	44.9 in x 25.3 in x 16.5 in - 115 lbs
RF Case <i>(Varies per configuration)</i>	26.5 in x 26.5 in 15.6 in - 60 lbs

Environmental Specifications		
Wind - Operational <i>(When anchored per specification)</i>	30 MPH gusting to 45 MPH	(48 KPH gusting to 72 KPH)
Wind - Survival <i>(When anchored per specification)</i>	60 MPH	(96 KPH)
Temperature Operational	-22° to 140° Fahrenheit	(-30° to 60° Celsius)
Temperature Survival	-40° to 158° Fahrenheit	(-40° to 70° Celsius)

RF / Electrical	Ka Band Military		Ka Band Commercial		Ku Band		X Band	
RF Parameters	Receive	Transmit	Receive	Transmit	Receive	Transmit	Receive	Transmit
Frequency	20.2-21.2 GHz	30.0-31.0 GHz	17.7-20.2 GHz	27.5-30.0 GHz	10.7-12.75 GHz	13.75-14.5 GHz	7.25-7.75 GHz	7.9-8.4 GHz
Polarization	Circular Xpol	Circular Xpol	Circular Xpol	Circular Xpol	Linear Xpol	Linear Xpol	Circular Xpol	Circular Xpol
Gain @ Mid Band (dBi)	48.6 dBi	51.1 dBi	48.1 dBi	50.9 dBi	43.9 dBi	45.2 dBi	40.1 dBi	40.5 dBi
VSWR	1.3: 1 Typical	1.3: 1 Typical	1.3: 1 Typical	1.3: 1 Typical	1.3: 1 Typical	1.3: 1 Typical	1.3: 1 Typical	1.3: 1 Typical
Radiation Pattern Compliance	Mil-STD-188-164A	Mil-STD-188-164A	FCC 25.209, Mil-STD-188-164A	FCC 25.209, Mil-STD-188-164A	FCC 25.209, ITU-R S.580-6	FCC 25.209, ITU-R S.580-6	Mil-STD-188-164A	Mil-STD-188-164A
Power Handling Capability	NA	250 Watts	NA	250 Watts	NA	400 Watts	NA	500 Watts
G/T @ Mid-Band	26.1 dB/K	NA	25.8 dB/K	NA	23.9 dB/K	NA	20.6 dB/K	NA
Axial Ratio	1.5	1.0	1.5	1.0	NA	NA	1.2	2.0
Cross Pol Isolation	>22 dB Typical	>25 dB Typical	>22 dB Typical	>25 dB Typical	>30 dB	>30 dB	>23 dB Typical	>20 dB Typical
Feed Port Isolation	> 35 dB	> 80 dB	> 35 dB	> 80 dB	> 35 dB	> 80 dB	> 110 dB	> 110 dB

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