

# TracStar1600MB



## 1.6 Meter, Vehicle Mount Antenna System Data Specification

The most important thing we build is trust

### TracStar1600 Antenna System

The TracStar auto-deploy auto-acquire antenna system allows personnel with little or no satellite experience to operate mobile Very Small Aperture Terminal (VSAT) satellite communications equipment, enabling the user to access any broadband application over satellite.

This 1.6M antenna features:

- Light Weight—Vehicle Mount Allows Use on Smaller Vehicles
- TracStar Controller Options—Available Options include DirectPoint and inclined orbit satellite tracking
- HPA Mounting Options—Vehicle Mount Accommodates Redundant Configurations & Feed-Mounted HPA
- Solid Carbon-Fiber Reflector—High EIRP - High-Performance and Light-weight Fully-Compliant for FCC, Intelsat, Panamsat, Eutelsat, Asiasat.



- Upgradeable to Ka Band and C Band
- Reliable—Zero-Backlash Roto-Lok® Cable Drive Durability in Extreme and Harsh Conditions Unrivaled Az Range of 400°, Elevation 0-90°, Pol ±95°
- Available in Wide Boom Configuration for High Power BUCs
- Optional Load Frame Available

With TracStar antennas, users enjoy the same reliable, secure, high-speed IP based data communications they are accustomed to in the office, while mobile. Complete solutions are available for one-stop shopping with field proven and reliable critical communication solutions.

### Reflector

Reflector Type	1.6M Carbon Fiber
Optics	Offset, Prime Focus, 0.8 F/D
Feed	Standard Precision Horn
Az/EI Drive System	Patented Roto-Lok® Positioner
Mount Geometry	Elevation over Azimuth
Polarization	Motorized Rotation of Feed

### Travel

Azimuth	400°
EI - Operational	0-90° of boresight with 400° Az Travel
Polarization	±95° for 2 & 3 Port Feed

### Travel Velocity

Slewing / Deploying	2° per second
Peaking	0.2° per second
Tracking	0.1° per second

### Electrical Interface

RF	75Ω Tx/Rx Type F Connector (50Ω option)
Interfacility Link	30 ft (9.14M) Dual RG6 Coax, 1 Control Cable Optional 50' / 80' / 100' / 150' Lengths
Motors	24VDC Servo w/ Optical Encoder, Constant Torque
Controller (1U) Power Supply	50/60Hz, 110/220VAC Single Phase
Power Consumption—Motors Active	250 Watts
Power Consumption—Motors Idle	30 Watts
Emergency Drive	Handcrank on Az, EI; 12V leads on pol
BUC Mounting	Feed Boom or Rear of Reflector
Waveguide	WR 75 Groove Flange at Interface Point

Antenna Characteristics	Ku Linear	
	Receive	Transmit
Frequency (GHz)	10.95-12.75	13.75-14.5
Antenna Gain (dBi ± 0.2)	43.7	46.0
VSWR	1.3:1	1.3:1
Beamwidth (degrees)		
-3dB	1.0	1.0
-10dB	1.8	1.6
Antenna Noise Temperature (°K)		
30° Elevation	40°	
First Sidelobe Level (Typical) dB	-26	-30
Radiation Pattern Compliance	>3dB better than FCC §25.209, ITU-R S.580.6	
Polarization	Linear Orthogonal Std Optional Co-pol	
Power Handling (Watts)		1000 @ Tx Port
Cross Pol Isolation (dB) On-Axis	35	35
Cross Pol Isolation (dB) Off-Axis	28	30
Feed Port Isolation - Tx to Rx (dB)	35	80 w/filter
Satellite System Compliance	FCC, Intelsat	

Antenna Characteristics	C Linear	
	Receive	Transmit
Frequency (GHz)	3.625-4.2	5.85-6.42
Antenna Gain (dBi ± 0.2)	34.4	38.2
VSWR	1.3:1	1.3:1
Beamwidth (degrees)		
-3dB	2.9	2.0
-10dB	5.3	3.6
Antenna Noise Temperature (°K)		
10° Elevation	48°	
First Sidelobe Level (Typical) dB	-20	-23
Radiation Pattern Compliance	32-25Log Ø	29-25Log Ø
Polarization	Linear Orthogonal Std Optional Circular	
Power Handling (Watts)		1000 @ Tx Port
Isolation		
Linear Cross Pol (dB) On-Axis	35	35
Circular Cross Pol (dB) Off-Axis	19	25
Feed Port Isolation - Tx to Rx (dB)	70	
Satellite System Compliance	ITU	

### Environmental

#### Wind

Survival, Deployed	60 mph, (96.5kph)
Survival, Stowed	100 mph, (161kph)
Operational	45 mph, (72.5 kph)
	Gusts to 60 mph (96.5 kph)

#### Pointing loss in Wind

20 mph (32 kmph)	0.1 dB Typical (48 to 72 kph)
30 Gusting to 45 mph	0.3 dB Typical, 1 dB Maximum

#### Temperature

Operational	5° to 125° F (-15° to 52° C)
Survival	-40° to 140° F (-40° to 60° C)

#### Cold Weather Option

-58° to 140° F (-50° to 60° C)

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Specifications subject to change without notice.

### Mechanical

Az/EI Drive	Patented Roto-Lok®, Cable Drive System
Polarization Drive System	Motorized Rotation of Feed

### Weights & Measures

Antenna Stowed Height	21.0" (53 cm)
Antenna Stowed Length	90" (229 cm)
Antenna Deployed Height	85.1" (216.15 cm)
Antenna Width	62" (157cm)
Weight	275 lbs (125 kg)
Controller—Rack Mount (1RU)	
Weight	4.5 lbs, (2.04 kg)
Dimensions	19" x 8.0" x 1.75", (48.26 x 20.32 x 4.44 cm)

### Antenna Controller

One button operation automatic satellite acquisition and cross-pol adjustment with integrated GPS/Compass/Level Sensors and user configurable satellite selection. Optional features include GUI Interface, Inclined Orbit Tracking, High Inclined Orbit Tracking.

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