20141 PELORIS

2.0 Meter Vehicle-Mount LEO/MEO/Geo Antenna

- ***Elevation over Azimuth over Train Axis High Speed Precision Positioner***
- ***Multi-Band C, X, Ku or Ka band Frequencies***
- ***Multiple Integration Options***
- ***Integrated High Performance Servo Controller with Tracking Options***
- ***Carbon Fiber Reflector with Precision Aluminum Backbeam Structure***
- ***Excellent Reliability***
- ***Minimal Maintenance***

The Sat-Lite Technologies Model 20141 vehicle-mount antenna is a robust and light-weight precision antenna designed for LEO, MEO, or GEO tracking applications. The antenna features a high performance servo tracking system in conjunction with a precision 3 axis tracking positioner for multiple applications. The positioner is designed as an elevation over azimuth over train axis for full coverage of low earth, medium earth, or geostationary satellites. It also utilizes a carbon fiber composite reflector for exceptional RF performance in a lightweight package.

Multiple feed and RF configurations are available for 2 port, 3 port, and 4 port applications. Ample room is provided on the boom to provide space for amplifier mounting and multi-band options.

SAT-LITE technologies

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TECHNICAL SPECIFICATIONS

2.0 Meter RF Specifications	2 Port Cross-Pol C Band Extended Linear Feed		2 Port Cross-Pol C Band Circular Feed		2 Port X Band Circular Polarization		2 Port Cross-Pol Ku Band Linear / Mode Matched Feed		2 Port Ka Band Circular Polarization	
	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx
Frequency (GHz)	3.40 - 4.20	5.85 - 6.725	3.625 - 4.2	5.85 - 6.425	7.25 - 7.75	7.9 - 8.4	10.95 - 12.75	13.75 - 14.5	20.2 - 21.2	30.0 - 31.0
Gain (Midband, dBi)	36.6	40.5	36.5	40.5	42.0	42.6	46.1	47.8	50.5	53.7
Noise Temperature (K)										
10 deg El	52		55		68		53		144	
20 deg El	45		49		64		48		120	
Cross Pol										
On Axis	-30 dB	-30 dB	-20 dB	-27 dB	-30 dB	-30 dB	-35 dB	-35 dB	-21.3 dB	-24.8 dB
in 1 dB BW	-26 dB	-26 dB	-20 dB	-27 dB	-30 dB	-30 dB	-25 dB	-35 dB	-21.3 dB	-24.8 dB
Axial Ratio			1.6 dB	0.75 dB	0.5 dB	0.5 dB			1.5 dB	1 dB
Sidelobe Compliances	Meets ITU 580 Beyond Mainbeam		Meets ITU 580 Beyond Mainbeam		Mil-Std 188-164			ITU, FCC Eutelsat	Mil-Std 188-164	
VSWR	1.40:1	1.30:1	1.35:1	1.30:1	1.30:1	1.30:1	1.35:1	1.30:1	1.35:1	1.30:1
Isolation										
Tx/Rx	-85 dB	0 dB input	-85 dB	0 dB input	-110 dB	0 dB input	-85 dB	0 dB input	-85 dB	0 dB input
Rx/Tx	0 dB input	-35 dB	0 dB input	-50 dB	0 dB input	-110 dB	0 dB input	-30 dB	0 dB input	-30 dB

Mechanical/Environmental Specifications	
Reflector	2.0 meters (78.75 in) - Carbon Fiber
Reflector Offset Angle (deg)	17.8
Antenna Travel	
Azimuth	± 195° continuous
Elevation	0 - 90° of reflector boresight
Train	± 195° continuous
Polarization	±- 90°
Antenna Drive Rate	
Azimuth	11°/sec
Elevation	4°/sec
Train	11°/sec
Polarization	2°/sec
Temperature	
Operational	-30 to 60°C (-22 - 140°F)
Survival	-40 to 70°C (-40 - 158°F)
Tracking Loss (operational winds)*	3dB peak (Ku-band Rx)
Winds[1]	
Operational	45 mph Gusting to 60 mph (72 kph G 96 kph)
Survival	70 mph (112 kph) any position
	90 mph (145 kph) stowed
Antenna Stowed Dimensions	Length: 103 7/8" (2639mm) Width: 79" (2006 mm) Height: 30 1/8 in (765 mm)
Weight	425 lb (193 kg) - without integration
Rain	
Operational	4 in/h (10 cm/h)
Survival	6 in/h (15 cm/h)
Relative Humidity	0 - 100%
Solar Radiation	360 btu/h/ft^2 (1000 Kcal/h/m^2)
Radial Ice (survival)	1 in (25.4 mm)
Corrosive Atmosphere	As encountered in coastal and/or industrial areas

* Using appropriate tracking controller ** Contact Factory
1 Dependent on vehicle capabilities
2 Dependent on mounting position relative to elevation axis
Note: Specifications subject to change without notice

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