

3841 PELORIS

3.8 Meter Motorized Vehicle-Mount Antenna



The Sat-Lite Technologies Model 3841 vehicle-mount 3.8 M antenna is a high performance compact multi-band antenna designed for the most demanding environments. This antenna features a carbon fiber composite reflector and aluminum backbeam structure designed to provide exceptional performance along with a custom-designed elevation-over-azimuth cable drive pedestal to reduce vehicle mounting space.

The antenna is designed to meet international performance specifications for commercial or military applications and is available in S, C, X, Ku, and Ka band frequencies. Multiple feed configurations and integration options are available. Also included is a high-performance servo control system capable of precision TLE tracking, step tracking, auto stowing, jog control and auto locating of satellites using GPS/Compass or dual GPS options.

- **Intelsat / Eutelsat Compliant (with Appropriate Feed)**
- **Multi-Band S, C, X, Ku or Ka Frequencies. Optional bands available including multi-band simultaneous and Low PIM**
- **Multiple Integration Options**
- **Integrated Controller with Tracking Options Available**
- **Carbon Fiber Reinforced Reflector Polymer Structure**
- **Low Profile and Space-Optimizing Stow Position**
- **Cable Drive Positioning System**
- **Superior Stability in Wind**
- **Excellent Reliability**
- **Minimal Maintenance**
- **Segmented Reflector for Transportability, available with manual and motorized wings.**



TECHNICAL SPECIFICATIONS



Standard Electrical Specifications	2 Port C Band Extended Linear Feed		4 Port C Band Std. Circular Feed		2 Port X Band Circular Polarization		4 Port Ku Band Linear Mode Matched Feed		4 Port Ku Wide Band Linear Polarized Feed		4 Port Ka Band Circular Polarization	
	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx
Frequency (GHz)	3.4 - 4.2	5.85 - 6.725	3.625 - 4.2	5.85 - 6.725	7.25-7.75	7.9-8.4	10.7 - 12.75	13.75 - 14.5	10.7 - 12.0	12.75 - 14.5	17.7 - 21.2	27.5 - 31
Gain (midband, dBi)	41.8	46.2	42.0	46.1	47.3	47.9	51.2	52.9	51.0	52.2	55.5	58.9
(Includes Filter Losses)												
Noise Temperature (K) (Includes Insertion Loss)	5 deg El	56	61	75	85	88	196					
	10 deg El	51	55	62	72	74	164					
	20 deg El	45	50	56	62	67	127					
	40 deg El	42	46	53	57	60	103					
Cross Pol												
On Axis	-30 dB	-35 dB	-21.3 dB	-27.3 dB	-21.3 dB	-21.3 dB	-35 dB	-35 dB	-35 dB	-35 dB	-27.3 dB	-30 dB
in 1 dB BW	-28 dB	-28 dB	-21.3 dB	-27.3 dB	-21.3 dB	-21.3 dB	-25 dB	-35 dB	-28 dB	-28 dB	-27.3 dB	-30 dB
Axial Ratio			1.5 dB	0.75 dB	1.5 dB	1.5 dB					< 0.75 dB	< 0.5 dB
Sidelobe Compliances	Meets ITU 580-6 Or IESS (Intelsat)		Meets ITU 580-6 Or IESS (Intelsat)		Meets ITU 580-6 or Mil STD 188-164A		Meets ITU, FCC 25.209, Eutelsat		Meets ITU 580		Meets ITU 580	
VSWR	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.40:1	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	-115 dB	0 dB input	-85 dB	0 dB input	-85 dB	0 dB input	-85 dB	0 dB input
Rx/Tx	0 dB input	-85 dB	0 dB input	-85 dB	0 dB input	-115 dB	0 dB input	-85 dB	0 dB input	-85 dB	0 dB input	-85 dB
Max Power Handling (Continuous)		1.0 kW		1.0 kW		1.0 kW		1.0 kW		1.0 kW CW		400 W
WG Interface	CPR-229	CPRG-137	CPR-229	CPRG-137	WR112	WR112	WR75-Cover	WR75-Cover	WR75-Cover	WR75-Cover	WR42	WR34

Mechanical/Environmental Specifications	
Reflector	3.8 meters (150 in) - Carbon Fiber
Antenna Travel	
Azimuth	300° continuous (+/- 150°)
Elevation	0 - 90° of reflector boresight
Polarization	± 95°
Antenna Drive Rate	
Azimuth (Brushless Servo Motor)	up to 1°/sec (Higher Speeds Optional)
Elevation (Brushless Servo Motor)	up to 0.5°/sec (Higher Speeds Optional)
Polarization (24 VDC Motor)	up to 2°/sec (Higher Speeds Optional)
Temperature	
Operational	-30 to 60°C (-22 - 140°F)
Survival	-40 to 70°C (-40 - 158°F)
Pointing Loss (operational winds)*	2 dB Typical (Ka-band Rx)
Winds ¹	
Operational	30 mph Gusting to 45 mph (48 kph G 72 kph)
Operational with Servo Control	45 mph Gusting to 60 mph (72 kph G 96 kph)
Survival	70 mph (112 kph) any position
	125 mph (200 kph) stowed
Antenna Dimensions	
Stowed	Length: 194" (493 cm) Width: 90" (229 cm) Height: 48 in (122 cm)
Deployed	Width 150" (380 cm) Deployed
Weight	2900 lb (1318 kg) - without feed/integration
Integration	
Feedboom Mounted ²	225 lbs (102 kg)
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)
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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