

2.4 Meter Motorized Vehicle-Mount Antenna



Overview

The 2.4m vehicle mount SNG antenna is robust and light-weight designed for demanding high power broadband applications. This antenna features a high precision carbon fiber composite reflector and aluminum back beam structure designed to provide exceptional performance in a lightweight package. The antenna also uses an elevation-over-azimuth cable drive pedestal which offers reduced vehicle mounting space.

The antenna is designed to meet international performance specifications for commercial or military applications and is readily available in C, X, Ku and/or Ka band frequencies. Multiple feed configurations are available.

The antenna is available with multiple controller configurations that include manual jog control, auto locate with peaking options, and full tracking capabilities with beacon receiver.

Features

- Intelsat and Eutelsat Compliant (using appropriate feed)
- Multi-Band C, X, Ku or Ka band Frequencies
- Multiple Integration Options
- Integrated or Rack Mounted Controller with Tracking Options Available
- Carbon Fiber Reflector / Precision Aluminum Backbeam
- Low Profile and Space-Optimizing Stow Position
- Single or 3 Piece Reflector Option
- Motorized Folding Wing Option (3 Piece)

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Electrical Specifications

	2 Port Cross-Pol C-Band Extended Linear Feed		2 Port Cross-Pol C-Band Std. Circular Feed		2 Port X-Band Circular Polarization		2 Port Cross-Pol Ku-Band Linear Std Feed		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	Rx	Tx
Frequency (GHz)	3.4 - 4.2	5.85 - 6.725	3.625 - 4.2	5.85 - 6.425	7.25-7.75	7.9-8.4	10.70 - 12.75	13.75 - 14.5	10.95 - 12.75	13.75 - 14.5	20.2 - 21.2	30 - 31
Gain (Midband, dBi)	37.6	41.8	38.0	42.0	43.5	43.6	47.3	49.3	47.3	49.3	52.2	55.2
Noise Temperature (°K)												
5 deg EI	48		50		65		66		64		138.0	
10 deg EI	45		48		57		62		60		130.0	
20 deg EI	37		46		54		58		56		110.0	
40 deg EI	35		45		53		57		56		99.0	
Typical G/T (20 deg EI)												
35 deg LNA	18.4 db/°K		18.5 db/°K									
45 deg LNA												
55 deg LNA					23.1 db/°K							
70 deg LNA							25.9 db/°K		25.8 db/°K			
120 deg LNA											28.3 db/°K	
Cross Pol												
On Axis	-30 dB	-30 dB	-15.2 dB	-17.5 dB	-21.3 dB	-21.3 dB	-35 dB	-35 dB	-35 dB	-35 dB	-21.3 dB	-24.8 dB
in 1 dB BW	-28 dB	-28 dB	-15.2 dB	-17.5 dB	-21.3 dB	-21.3 dB	-27 dB	-27 dB	-25 dB	-25 dB	-21.3 dB	-24.8 dB
Axial Ratio			3.0 dB	2.3 dB	1.5 dB	1.5 dB					< 1.5 dB	< 1.0 dB
Sidelobe Compliances	Meets ITU 580 Beyond Mainbeam		Meets ITU 580 Beyond Mainbeam		Meets DSCS		Meets ITU, FCC 25.209		Meets ITU, FCC 25.209, Eutelsat		Meets DSCS	
VSWR	1.40:1	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.35:1	1.30:1	1.35:1	1.30:1	1.25:1	1.30:1
Isolation												
Tx/Rx	-85 dB	0 dBm input	-70 dB	0 dBm input	-110 dB	0 dBm input	-85 dB	0 dBm input	-85 dB	0 dBm input	-85 dB	0 dBm input
Rx/Tx	0 dBm input	-30 dB	0 dBm input	-30 dB	0 dBm input	-110 dB	0 dBm input	-30 dB	0 dBm input	-45 dB	0 dBm input	-70 dB
Max Power Handling (Continuous)		1.0 kW		1.0 kW		1.0 kW		1.0 kW		1.0 kW		200 W
WG Interface	CPR-229	CPRG-137	CPR-229	CPRG-137	WR112 UBR84	WR112 UBR84	WR75-Cover	WR75-Cover	WR75-Cover	WR75-Cover	WR42	WR28

Antenna Mechanical / Environmental Specifications

Reflector	2.4 meters (95 3/4in) - Carbon Fiber
Reflector Offset Angle (deg)	16
Antenna Travel	
Azimuth	+/- 200° continuous
Elevation	0 – 90° of reflector boresight
Polarization	± 90°
Antenna Drive	Drive Rate
Azimuth	up to 1°/sec
Elevation	up to 0.8°/sec
Polarization	up to 2°/sec
Resolution	0.4° Std / 0.1° Optional
Temperature	
Operational	-30 to 60°C (-22 - 140°F)
Survival	-40 to 70°C (-40 – 158°F)
Pointing Loss (operational winds)	2dB (Ku-band Rx)
Winds ¹	
Operational	45 mph Gusting to 60 mph (72 kph G 96 kph)
Survival	75 mph (128 kph) any position
Antenna Stowed Dimensions	Length: 110" (279cm) Width: 95 3/4" (243cm) Height: 23 3/4 in (60 cm)
Weight	575 lb (261 kg) - Typical with Ku Feed
Integration	
Feedboom Mounted	150 lbs (68 kg)
Positioner Mounted	325lbs (147 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/ft² (1000 Kcal/h/m²)
Radial Ice (survival)	1 in (25.4 mm)
Corrosive Atmosphere	As encountered in coastal and/or industrial areas

¹ Dependent on vehicle capabilities

Ref.: PB-2.4m-Motorized-VM-18309

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