1831 Agilis

1.8 Meter Motorized Flyaway Antenna

- ***Intelsat & Eutelsat Compliant***
- ***Multi-Band C, X, Ku and Ka Band Frequencies***
- ***Integrated Feedboom Assembly Option***
- ***Compact Packaging***
- ***Superior Stability in Wind***
- ***Excellent Reliability***
- ***Minimal Maintenance***
- ***Less than 15 min Assembly Time***

The Sat-Lite Technologies Model 1831 Agilis motorized carbon fiber flyaway antenna offers superior performance in a lightweight, portable package. This antenna features a 7 piece carbon fiber segmented reflector designed to provide high gain and low cross pol characteristics. The motorization package includes a ruggedized outdoor mounted controller with preconnectorized cables allowing for quick assembly and disassembly. The custom-designed elevation-over-azimuth tripod pedestal provides high stiffness with minimal weight. The antenna components are modular in design which also reduces assembly time and provides an improved packaging scheme requiring less time and effort to pack or unpack the antenna. The molded cases are included.

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

SAT-LITE technologies

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TECHNICAL SPECIFICATIONS

Electrical Specifications	2 Port Cross-Pol C Band Std. Linear Feed		2 Port Cross-Pol C Band Circular Feed		2 Port X Band Circular Polarization		2 Port Cross-Pol Ku Band Linear / Std Feed		2 Port Cross-Pol Ku Band Lin / Mode Matched Feed		2 Port Ka Band Circular Polarization	
	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx	Rx	Tx
Frequency (GHz)	3.625 - 4.2	5.85 - 6.425	3.625 - 4.2	5.85 - 6.425	7.25 - 7.75	7.9 - 8.4	10.70 - 12.75	13.75 - 14.5	10.7 - 12.75	13.75 - 14.5	20.2 - 21.2	30.0 - 31.0
Gain (Midband, dBi)	35.6	39.8	35.4	39.7	41.3	42.0	45.1	47.0	45.0	47.1	49.6	53.0
Noise Temperature (°K)												
10 deg El	45		55		56		56		57		145	
20 deg El	40		50		52		50		50		125	
Cross Pol												
On Axis	-30 dB	-30 dB	-15.3 dB	-17.7 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	-26 dB	-26 dB	-15.3 dB	-17.7 dB	-21.3 dB	-21.3 dB	-27 dB	-27 dB	-25 dB	-35 dB	-21.3 dB	-24.8 dB
Axial Ratio			3 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 ITU
VSWR	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.35:1	1.30:1	1.35:1	1.35:1	1.35:1	1.30:1
Isolation												
Tx/Rx	-85 dB	0 dBm input	-85 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	-30 dB	0 dBm input	-30 dB

Mechanical / Environmental Specifications	
Reflector	1.8 meters (70.87 in) Carbon Fiber
Reflector Configuration	Parabolic Single Offset, 0.8 F/D (7 pieces)
Antenna Travel	
Azimuth	+/- 180° continuous
Elevation	5 - 90° of reflector bore sight
Polarization	± 90°
Motorized Antenna Packaging (Tri-Band Configuration**)	
Case 1 - Pedestal Legs / Backbeam	44.9" x 25.3" x 16.5" (100 lbs)
Case 2 - Az Hub / Foot Pads / El Actuator / CTLR	37.5" x 27.5" x 14.5" (120 lbs)
Case 3 & 4 - (7 piece reflector)	42" x 13" x 34.5" (76 lbs ea.)
Integrated Feedboom Case with BUC (Per Band)	(Depending on Feed)
Total Weight (less feed options)	372 lbs (169 kg)
Temperature	
Operational	-20 to 60°C (-4 to 140°F)
Survival	-40 to 70°C (-48 to 158°F)
Pointing Loss (operational winds)***	2dB peak (Ku-band Rx)
Winds	
Operational	30 Gusting to 45 mph (40 kph G 72 kph) with ballast or anchors
Survival	60 mph (96 kph) with tie downs / any position
Feedboom Mounted Integration****	60 lbs (27.2 kg)
Rain	
Operational	2 in/h (5 cm/h)
Survival	4 in/h (10 cm/h)
Relative Humidity	0 - 100% (condensing)
Solar Radiation	360 btu/h/ft^2 (1000 Kcal/h/m^2)
Radial Ice (survival)	1/2 in (12.7 mm)
Corrosive Atmosphere	As encountered in coastal and/or industrial areas

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* Lower Axial Ratio Feeds Available.
** For Ka Band applications, pedestal configuration and packaging not shown.
*** Performance dependent on proper installation and ballast/anchors
**** Dependent on position of weight. Consult Engineering for details

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