

# **MODEL 1638 Orbis**

## **1.65 Meter Motorized Flyaway Antenna**



- ***Ships in 2 Ruggedized All-Weather Cases (Plus RF Options)***
- ***Intelsat and Eutelsat Compliant with appropriate feed***
- ***Multi-Band X, Ku, and Ka Band Configurations***
- ***9 Segment Carbon Fiber Precision Reflector***
- ***Includes High Performance Control System for Locating GEO Satellites, Beacon Tracking, TLE Tracking, other Options***
- ***Primarily Locates and Tracks GEO Satellites***
- ***Made in Texas!***

The Sat-Lite Technologies Model 1638 Orbis Motorized flyaway antenna is highly portable, compact and light-weight. The antenna features Sat-Lite's unique 9-piece segmented carbon fiber composite reflector designed for unmatched performance. Assembly time for the antenna is one person in less than 15 minutes. The elevation-over-azimuth pedestal provides excellent stiffness characteristics and convenience for the user.

In addition, the antenna is designed to meet international performance specifications for multiple applications. Multiple feed and packaging configurations can be supplied for a specific requirement that include low and high-power amplifier configurations for each frequency band. The control system includes auto-locate features for finding satellites, and tracking options such as beacon tracking and TLE tracking.



<i>Electrical Specifications</i>	2 Port X Band Circular		2 Port Cross Pol Ku Band Linear		2 Port Cross Pol Ka Band Circular Polarization		
	Rx	Tx	Rx	Tx	Rx	Tx	
	Frequency (GHz)	7.25 - 7.75	7.9 - 8.4	10.7 - 12.75	13.75 - 14.5	17.7 - 21.2	27.5 - 31.0
Gain (Midband, dBi)	39.8	40.5	44.2	45.5	48.9	51.8	
Typ. Noise Temperature (K)							
	10 deg El	74		75		150	
	20 deg El	65		65		118	
Axial Ratio	1.21 dB	2.0 dB			1.5 dB	1.0 dB	
Cross Pol (std)							
	On Axis	-23 dB	-18.7 dB	-35 dB	-35 dB	-21.3 dB	-24.8 dB
	in 1 dB BW	-23 dB	-18.7 dB	-35 dB	-35 dB	-21.3 dB	-24.8 dB
Sidelobe Compliances	188-164		ITU 580-6		ITU 580-6		
VSWR	1.30:1	1.30:1	1.30:1	1.30:1	1.35:1	1.30:1	
Isolation							
Tx/Rx	-110 dB	0 dB input	-85 dB	0 dB input	-85 dB	0 dB input	
Rx/Tx	0 dB input	-110 dB	0 dB input	-35 dB	0 dB input	-70 dB	

<i>Mechanical / Environmental Specifications</i>	
Reflector	1.65 M Carbon Fiber
Reflector Configuration	9 Piece Symmetrical
Antenna Travel	
Azimuth	+/-180° continuous
Elevation	5 - 90° of reflector bore sight
Polarization	± 90°
Drive Rates	
Azimuth	Up to 4 Deg / Sec
Elevation	Up to 1.35 Deg / Sec
Polarization (Option for LP feeds)	3.5 Deg / Sec
Packaging (2 Cases with Roller Wheels)	
Pedestal	44.9 in (114 cm) x 25.3 in (64 cm) x 16.5 in (42 cm)
Reflector	31.25 in (79.4 cm) x 31.25 in (79.4 cm) x 20.25 in (51.4 cm)
RF Case - Option	
Weight (includes case)	
Pedestal Case with Controller - packed	146 lbs (66.3 kg)
Reflector - packed	95 lbs (43 kg)
RF Case - Optional for X, Ku , Ka with Room for BUC	
Temperature	
Operational	-20 to 60°C (-4° - 140°F)
Survival	-40 to 70°C (-40 - 158°F)
Winds	
Operational (anchored)	30 mph Gusting to 45 mph (48 kph G 72 kph)
Survival (anchored, petals removed)	75 mph (120 kph)
Pointing Loss (operational winds)	2 dB peak (Ku-Band Rx)
Controller	
Power Requirement	90 - 260 VAC Input, 1 PH, 50/60 Hz, 500 Watts Max
L Band Input	Type N(f)
Rain	
Operational	4 in/h (10 cm/h)
Survival	6 in/h (15 cm/h)
Solar Radiation	360 btu/h/ft <sup>2</sup> (1000 Kcal/h/m <sup>2</sup> )
Radial Ice (survival)	1 in (25.4 mm)
Corrosive Atmosphere	As encountered in coastal and/or industrial areas