

16138 Orbis XY LEO MEO GEO Tracking Antenna

1.65 Meter Multiband



- **Portable Package, Ships in Cases, Sets Up in 15 Minutes.**
- **Full Motion XY Pedestal with +/- 90 Degs of Travel in Both Axes**
- **High Speed Capable – Up to 15°/Sec Each Axis**
- **Multi-Band Capable Including X, Ku, and Ka Band Frequencies**
- **Integrated High Performance Servo Control System with Precision Tracking**
- **Optional Integrated L Band Beacon Receiver with Spectrum Analyzer**
- **Precision Carbon Fiber Reflector, No Special Tools / Bolt Together Design for Ka Performance**

Options

- **Antenna & Hub mounted Integration**
- **Elevation over Azimuth Mount Head**
- **Higher Speed Drives**
- **Multi-Carrier X Band**

The Sat-Lite Technologies Model 16138 Orbis Portable X-Y antenna is designed for high performance portability in a lightweight package. The antenna features a 9-pc segmented carbon fiber composite reflector and a high-performance servo control system. Assembly time is less than 30 minutes. The X-Y Axis pedestal provides excellent high-speed performance for multiple applications, up to 15°/sec. The antenna is designed to meet international performance specifications for LEO / MEO / GEO applications with tracking requirements. The integrated servo system provides full-motion control for continuous operation.



<i>Electrical Specifications</i>	2 Port X Band Circular		2 Port Cross Pol Ku Band Circular		4 Port Cross Pol Ka Band Circular	
	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	45.4	48.9	51.6
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	1.5 dB	1.5 dB	1.0 dB
Cross Pol (std)						
On Axis	-23 dB	-18.7 dB	-21.3 dB	-21.3 dB	-21.3 dB	-24.8 dB
in 1 dB BW	-23 dB	-18.7 dB	-21.3 dB	-21.3 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	1.30:1	1.30:1
Isolation						
Tx/Tx						17 dB
Rx/Rx					17 dB	
Tx/Rx	-110 dB	0 dBm input	-85 dB	0 dBm input	-85 dB	0 dBm input
Rx/Tx	0 dBm input	-110 dB	0 dBm input	-35 dB	0 dBm input	-70 dB
Max Power Handling (Continuous)		250 W		200 W		100 W

<i>Mechanical / Environmental Specifications</i>	
Reflector	1.65 M Carbon Fiber
Reflector Configuration	9 Piece Symmetrical Ring Focus
Antenna Travel / Speed	
X-Axis	+/-90° continuous, Up to 15° / sec
Y-Axis	0 - 180°, Up to 15° / sec
Polarization	Optional
Packaging (3 Cases)	
Reflector	31 x 31 x 20" @ 100 lbs (45 Kg)
XY Positioner	33 x 24 x 19" @ 110 lbs (50 Kg)
Pedestal / Controller Components	34 x 29 x 16" @ 105 lbs (48 Kg)
Typical RF Case	27 x 21 x 15" @ 30 lbs (14 Kg)
Servo Control System	
Pedestal Mounted with Ethernet Interface	90 - 265 VAC Input Power, 500 Watts
Autolocate Features	GPS / Compass / Sun Tracking
Tracking	TLE Tracking / Memory / Orbit
On Axis Encoders	High Precision 23 Bit
Temperature	
Operational	-20 to 60°C (-4 to 140°F)
Survival	-40 to 70°C (-40 to 158°F)
Winds	
Operational (anchored)	30 mph Gusting to 45 mph (48 kph G 72 kph)
Survival (anchored, petals removed)	90 mph (144 kph)