AvL TECHNOLOGIES

MODEL 1810K AvL Carbon Fiber
1.8 METER MOTORIZED VEHICULAR SNG ANTENNA

Reflector	1.8 meter AvL Carbon Fiber
Feed	Standard or Wideband
Optics	Offset, Prime Focus, .6 f/d
Az/El Drive System	Patented Roto-Lok® Positioner
Mount Geometry	Elevation over Azimuth
Polarization Adjustment	Rotation of Feed

Electrical RF	**Receive**	**Transmit**
Frequency	10.70 - 12.75 GHz	13.75 - 14.50 GHz
Gain (Midband)		
2-port	45.0 dBi	46.7 dBi
4-port	44.8 dBi	46.5 dBi
VSWR	1.30:1	1.30:1
Beamwidth (degrees)		
-3 dB	1.0	0.8
-10 dB	1.8	1.5
First Sidelobe Level (Typical)	-23 dB	-25dB
Radiation Pattern Compliance	FCC §25.209, ITU-R S.528.5	
Antenna Noise Temperature	48° K at 10° Elevation	
Polarization	Linear Orthogonal Standard, Optional Co-pol	
Power Handling Capability		1 KW at TX Port
Cross-Pol Isolation		
On-Axis (minimum)	35 dB	35 dB
Off-Axis (within 1 dB BW)	25 dB	26 dB
Off-Axis (peak)	22 dB	22 dB
Feed Port Isolation – TX to RX	85 dB	
Satellite System Compliance	FCC and PanAmSat	

Controllers

Standard	Three-axis Jog Control & Display with Auto-stow
Optional Upgrades	
Semi-automatic Operation	Drive to calculated position based on operator entered vehicle location, heading, plus satellite (longitude or listed)
Automatic Operation	Drive to calculated position based on auto GPS and Flux-Gate Compass data and satellite peaking with LNB signal
Auto-acquisition	One-button acquisition of selected satellite including peaking and optimization of cross-pol (certified for auto-commissioning on most satellite services)
Size	Two Rack Units for Semi-automatic & Automatic Controllers Single Rack Unit for Auto-acquisition
Input Power	110/240 VAC, 1 ph, 50/60 Hz, 8/4A peak, 1A continuous

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Mechanical

Az/El Drive System	Patented Roto-Lok® Cable Drive System
Polarization Drive System	Non Back-driving Worm Gear
Travel	
Azimuth	400°
Elevation	True elevation readout from calibrated inclinometer
Mechanical	0° to 90° of reflector boresight
Electrical	Standard limits at 5° to 65° (CE Approval) or 5° to 90°
Polarization	±95° for 2-port and 3-port Feeds ±50° for 2-port Wideband and 4-port feeds
Speed	
Slewing/Deploying	2°/second
Peaking	0.5°/second
Motors	24V DC Variable Speed, Constant Torque
RF Interface	
HPA Mounting	Feed Boom, Rear of Reflector, or Inside Vehicle
Axis Transition	Twist-Flex or Rotary Joints
Waveguide	WR 75 Cover Flange at Interface Point
Coax	RG59 run from feed to base plus 25 ft. (8 m)
Electrical Interface	25 ft. (8 m) Cable with Connectors for Controller
Manual Drive	Handcrank on Az and El Axii, Leads from 12VDC Pol Motor
Weight	300 lbs. (136 kgs)
Stowed Dimensions	104 L x 74 W x 22 H inches (263 L x 189 W x 56 H cm)

Environmental

Wind	
Survival	
Deployed	65 mph (128 kmph)
Stowed	100 mph (192 kmph)
Operational	45 mph (72 kmph), Gusts to 60 mph (97 kmph)
Pointing Loss in Winds	
20 mph (32 kmph)	0.1 dB RMS, 0.07 degrees Typical
30 Gusting to 45 mph (48 to 72 kmph)	0.5 dB RMS, 0.16 degrees Typical
Temperature	
Operational	+5° to 125°F (-15° to 52°C)
Survival	-40° to 140°F (-40° to 60°C)

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