AvL TECHNOLOGIES

MODEL 1610K AvL Carbon Fiber
1.6 METER MOTORIZED VEHICULAR SNG ANTENNA

Reflector	1.6 meter AvL Carbon-Fiber
Feed	Standard Precision Feed
Optics	Offset, Prime Focus, .8 f/d
Az/El Drive System	**AvL** Cable Drive Positioner
Mount Geometry	Elevation over Azimuth
Polarization Adjustment	Rotation of Feed

Electrical RF	**Receive**	**Transmit**
Frequency	10.95-12.75 GHz	13.75-14.5 GHz
Gain (Midband)		
R/T	43.7 dBi	46.0 dBi Typical, 45.5 dBi Min
4-port	43.6 dBi	45.4 dBi
VSWR	1.30:1	1.30:1
Beamwidth (degrees)		
-3 dB	1.0	1.0
-10 dB	1.8	1.6
First Sidelobe Level (Typical)	-26 dB	-30 dB
Radiation Pattern Compliance	6 dB Typ better than FCC §25.209, ITU-R S.528.5	
Antenna Noise Temperature	40° K at 30° Elevation	
Polarization	Linear Orthogonal standard, Optional Co-pol	
Power Handling Allowed		1000w at TX Port
Cross-Pol Isolation		
On-Axis (minimum)	35 dB	35 dB
Off-Axis (within 1 dB BW)	28 dB	30 dB
Feed Port Isolation – TX to RX	35 dB	80 dB (includes filter)
Satellite system Compliance	FCC, Intelsat	

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	2 Rack Units (complete electronics) or 1 RU (with antenna mounted electronics) Options
Input Power	110/240 VAC, 1 ph, 50/60 Hz, 8/4A peak, 1A continuous

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Mechanical

Az/El Drive System	**AvL** 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 boresight (no cowling or boom mounted BUC)
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	
Waveguide	WR 75 Cover Flange at Interface Point
HPA Mounting	Feed Boom, Rear of reflector, or Inside Vehicle Options
Axis Transition	Rotary Joints for Azimuth, Elevation, Flex in Pol (R/J Option)
Waveguide	WR 75 Cover Flanges at Feed (or Optional Waveguide Integration)
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, Hand knob on Pol
Weight	230 lbs (105 kg)
Stowed Dimensions	88 L x 62 W x 17.7 H inches (224 L x 157 W x 45 H cm)

Environmental

Wind	
Survival, Deployed	80 mph (129 kmph)
Survival, Stowed	100 mph (161 kmph)
Operational	45 mph (72 kmph), Gusts to 60 mph (97 kmph)
Pointing Loss in Wind	
20 mph (32 kmph)	0.1 dB
30 Gusting to 45 mph (48 to 72 kmph)	0.3 dB Typical, 1 dB Maximum
Temperature	
Operational	+5° to 125°F (-15° to 52°C)
Survival	-40° to 140°F (-40° to 60°C)

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