

AVL TECHNOLOGIES

MODEL 1510K VRSI

1.5 METER MOTORIZED VEHICULAR SNG ANTENNA



Reflector	1.5 meter VRSI Carbon-Fiber
Feed	Wide Band or Mode-Matched
Optics	Offset, Prime Focus, 0.88 f/d
Az/EI Drive System	Patented Roto-Lok® 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)		
2-Port	43.6 dBi	45.6 dBi
4-Port	43.0 dBi	45.0 dBi
VSWR	1.35:1	1.30:1
Beamwidth (degrees)		
-3 dB	1.0	0.9
-10 dB	1.8	1.6
First Sidelobe Level (Typical)	-22 dB	-25 dB
Radiation Pattern Compliance	>3 dB better than FCC §25.209, ITU-R S.528.5	
Antenna Noise Temperature	51° K at 20° 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	30 dB, 35 with Mode-Matched
Off-Axis (peak)	25 dB	26 dB, 30 with Mode-Matched
Feed Port Isolation - TX to RX	85 dB	
Type Approvals	Intelsat - IA063A00, Eutelsat - EA-A016 Asiasat - T05/26 - 11 - 99/002	

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, 1ph, 50/60 Hz, 8/4A peak, 1A continuous

Mechanical

Az/EI Drive System	Patented Roto-Lok® Cable Drive System
Polarization Drive System	Chain Drive
Travel	
Azimuth	270° Standard 400° Optional
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 Truck
Axis Transition	Twist-Flex or Rotary Joints
Waveguide	WR 75 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 EI Axii, Leads from 12V DC Pol Motor
Weight	220 lbs (100 kg)
Stowed Dimensions	86 L x 66.5 W x 18.5 H inches (218 L x 169 W x 47 H cm)

Environmental

Wind	
Survival	
Deployed	80 mph (128 kmph)
Stowed	125 mph (192 kmph)
Operational	45 mph (72 kmph) Gusting to 60 mph (97 kmph)
Pointing Loss in Winds	
20 mph (32 kmph)	0.1 dB RMS, 0.08 degrees Typical
30 Gusting to 45 mph (48 to 72 kmph)	0.4 dB RMS, 0.16 degrees Typical
Temperature	
Operational	±5° to 122°F (-15° to 50°C)
Survival	-22° to 140°F (-30° to 60°C)