

AVL TECHNOLOGIES
MODEL 1214K ERA
1.2 METER MOTORIZED VEHICULAR ANTENNA



Reflector	1.2 meter ERA Carbon-Fiber
Feed	Mode-matched
Optics	Offset, Prime Focus, .8 f/d
Drive System	Patented Roto-Lok® 3-axis Positioner
Mount Geometry	Elevation over Azimuth
Polarization Adjustment	Rotation of Reflector and Feed Assembly

Electrical RF

	<u>Receive</u>	<u>Transmit</u>
Frequency	10.95-12.75 Ghz	13.75-14.5 Ghz
Gain (Midband)		
2-port	42.2 dBi	43.6 dBi
VSWR	1.30:1	1.30:1
Beamwidth (degrees)		
-3 dB	1.3	1.1
-10 dB	2.2	1.9
First Sidelobe Level (Typical)	-30 dB	-30 dB
Radiation Pattern Compliance	>6 dB better than FCC §25.209, ITU-R .528.5	
Antenna Noise Temperature	40° K at 30° Elevation	
Polarization	Orthogonal standard, Optional Co-pol	
Power Handling Capability		1.0KW per port
Cross-Pol Isolation		
On-Axis (minimum)	35 dB	40 dB
Off-Axis (within 1 dB BW)	25 dB	35 dB
Off-Axis (peak)	20 dB	30 dB
Feed Port Isolation - TX to RX	90 dB	
Satellite System Compliance	Eutelsat, Intelsat, Asiasat, PanAmSat etc.	
Type Approval	Eutelsat EA-A1017	

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 select 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, 6/3A peak, 1A continuous

Mechanical

Az/EI Drive System	Patented Roto-Lok® Cable Drive System
Polarization Drive System	Patented Roto-Lok® Cable Drive System
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	0.2°/second
Motors	24V DC Variable Speed, Constant Torque
RF Interface	
HPA Mounting	Inside Vehicle
Axis Transition	Rotary Joints for Azimuth, Elevation, & Polarization
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 EI Axii, Leads from 12V DC Pol Motor
Weight	110 lbs. (50 kg)
Stowed Dimensions	74 L x 59 W x 22 H inches (188 L x 150 W x 55 H cm)

Environmental

Wind	
Survival	
Deployed	75 mph (121 kmph)
Stowed	100 mph (161 kmph)
Operational	45 mph (72 kmph), Gusts to 60 mph (97 kmph)
Pointing Loss in Wind	
20 mph (32 kmph)	0.2 dB, 0.15 degrees Typical
30 Gusting to 45 mph (48 to 72 kmph)	0.8 dB, 0.30 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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