

AVL TECHNOLOGIES
MODEL 960K AvSAT
96 cm MOTORIZED VEHICULAR ANTENNA



Reflector	96 cm - Channel Master
Optics	Offset, Prime Focus
Drive System	Patented Roto-Lok®
Mount Geometry	Elevation over Azimuth
Polarization Adjustment	Rotation of Reflector/Feed about Boresight
Controller	TracStar One-button Auto-acquisition

Electrical RF

Receive

Transmit

Frequency	10.70 - 12.75 Ghz	13.75 - 14.5 Ghz
Gain (Midband)	39.7 dBi	41.2 dBi
VSWR	1.30:1	1.30:1
Beamwidth on Orbital Arc (degrees)		
-3 dB	1.8	1.5
-10 dB	3.2	2.8
First Sidelobe Level (Typical)	-23 dB	-23 dB
Radiation Pattern Compliance	FCC §25.209, ITU-R S.528.5	
Antenna Noise Temperature	32° K at 30° Elevation	
Polarization	Linear Orthogonal	
Allowable Power	-14dBw/4kHz per FCC, -0dBw/4kHz per ITU	
Cross-Pol Isolation		
On-Axis (minimum)	30 dB	35 dB
Off-Axis (within 1 dB BW)	28 dB	30 dB
Feed Port Isolation - TX to RX	70 dB	
Satellite system Compliance	Intelsat, PanAmSat etc.	

Controller

Type	Fully Automatic Satellite Acquisition, Peaking and Cross-Pol Adjustment using GPS, Compass, and Level Sensor Inputs with Entry of Desired Satellite, Certified for Auto-Commissioning on select services
Positioning Accuracy	≤±0.1 degree
Size	
Standard	Two Cases 6 x 6 x 3.5 in (15 x 15 x 9 cm)
Optional Rack Mounted Config.	1 RU Chassis 8 in (20 cm) deep, Weight 3.75 lbs. (1.7 kg)
Input Power	110/240 VAC, 1 ph, 50/60 Hz, 5 amps peak, 1 amp cont.

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	Motorized ±75° Manual H/V
Speed	
Slewing/Deploying	10°/sec. Azimuth, 5°/sec. Elevation, 5°/sec. Polarization
Peaking	0.2°/second
Motors	24V DC Variable Speed
BUC Mounting	
Model 960K	Up to 4 watts on Feed
Model 960KLR Low Rider	Up to 4 watts on Feed
Model 960KTB Twin Boom	Up to 16 watts on Feed Boom
RF Interface	
Coax	Tx and Rx L-band with Type-F at Base of Antenna
Electrical Interface	15 ft. (5 m) Cable with Connector for Controller
Weight	125 lbs. (45 kg) with Standard RF Electronics
Stowed Dimensions	
Model 960K	68½ L x 39 W x 17 H inches (174 L x 99 W x 43 H cm)
Model 960KLR Low Rider	68½ L x 39 W x 15 H inches (174 L x 99 W x 36 H cm)
Model 960KTB Twin Boom	68½ L x 39 W x 16-17 H inches (174 L x 99 W x 36-43 H cm)

Environmental

Wind	
Survival	
Deployed	80 mph (129 kmph)
Stowed	140 mph (225 kmph)
Operational	45 mph (72 kmph), Gusts to 60 mph (97 kmph)
Pointing Loss in Wind	
20 mph (32 kmph)	0.2 dB Typical
30 Gusting to 45 mph (48 to 72 kmph)	0.5 dB Typical
Temperature	
Operational	±5° to 125°F (-15° to 52° C)
Survival	-40° to 125°F (-40° to 52° C)