AvL TECHNOLOGIES

Models 880KVH / 1080KVH / 1280 KVH
Ka-Band Mobile VSAT IP Broadband Antenna Systems

Key Features	• **Highly Efficient Motorized Antennas** • **Zero Backlash AvL Cable Drive** • **Auto-Acquisition Controller**
Standard Feed	**Commercial Ka-Band**
Reflector Sizes	**85cm, 1.0m or 1.2m**
Configurations	• **Vehicle-Mount** • **Fly&Drive** • **FlyAway – Case-Based or Tripod**
Market Solutions	• **Mobile Broadband Internet Access** • **Satellite News Gathering** • **Disaster Relief** • **Oil & Gas Data Backhaul** • **Defense & Homeland Security**
Operates With	• **Avanti / HYLAS** • **Eutelsat / Tooway** • **ViaSat / Exede**

Mechanical

Az/El Drive		Motorized AvL Zero Backlash Cable Drive (Patent Pending)		
Polarization		RHCP/LHCP Pol Select Option Available		
Reflector Construction		Single Piece Carbon Fiber		
Axis Travel	Azimuth	400° (±200°)		
	Elevation	0-90° antenna bore sight (true elevation from calibrated inclinometer)		
Az/El Speed	Slewing/Deploying	Typical: Elevation 0.1°/second, Azimuth 2º/second		
Motors		24 VDC Variable Speed, Constant Torque		
Interface		Type F connector(s) at antenna base or 25 ft. (7.6m) Coax from Base		
Electrical Interface		One 25 ft. (7.6m) cable with connector from base connector panel to controller		
Manual/Emergency Drive		Hand crank for az and el axes		
Time to Acquisition		Less than 15 minutes; 8 minutes typical		
		85cm Antenna	1.0m Antenna	1.2m Antenna
Stowed Dimensions		53 L x 36 W x 13.5 H inches (135 L x 91 W x 34 H cm)	61.5 L x 40 W x 13.5 H inches (156 L x 102 W x 34 H cm)	68.5 L x 48 W x 16.8 H inches (174 L x 122 W x 43 H cm)
Weight (approximate – depends on options selected)		90 lbs. (41 kg) typical	111 lbs. (50 kg) typical	130 lbs. (59 kg) typical

Environmental

		85cm Antenna	1.0m Antenna	1.2m Antenna
Wind – Survival	Deployed	80 mph (129 kph)	80 mph (129 kph)	80 mph (129 kph)
	Stowed	100 mph (161 kph)	100 mph (161 kph)	100 mph (161 kph)
Wind – Operational		45 mph (72 kph)	45 mph (72 kph)	45 mph (72 kph)
Pointing Loss in Wind - Ka (Rx) 30 mph gusting to 45 mph (48 kph gusting to 72 kph)		1.0 dB typical	1.0 dB typical	1.0 dB typical
Temperature:	Operational	-25° to 125° F (-32° to 52° C)	-25° to 125° F (-32° to 52° C)	+5° to 125° F (-15° to 52° C)
	Survival	-40° to 140° F (-40° to 60° C)	-40° to 140° F (-40° to 60° C)	-40° to 140° F (-40° to 60° C)

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RF/Electrical

Reflector Size ►	85 cm		1.0m		1.2m	
RF Parameter ▼	**Receive**	**Transmit**	**Receive**	**Transmit**	**Receive**	**Transmit**
Frequency Range (GHz)	19.7 - 20.20	29.5 - 30.0	19.7 - 20.20	29.5 - 30.0	19.7 - 20.20	29.5 - 30.0
Polarization Configuration	RHCP or LHCP		RHCP or LHCP		RHCP or LHCP	
Gain (mid-band) @ Horn Interface (dBi)	43.1	46.6	44.5	48.0	46.1	49.6
G/T (mid-band, clear horizon) assuming 100 K LNB (dB/K)	19.8		21.2		22.8	
Beam width (degrees) -3 dB	1.2	0.8	1.1	0.7	0.9	0.6
-10 dB	2.3	1.5	1.9	1.3	1.6	1.1
Radiation Pattern Compliance	ITU-R S.580.6		ITU-R S.580.6		FCC 25.209, ITU-R S.580.6	
Antenna Noise Temperature (midband)	109 K		107 K		107 K	
Power Handling Capability		50W		50W		50W
VSWR @ Horn Interface	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1
Reflector Optics	0.7 f/D		0.8 f/D		0.8 f/D	
Feed Type	Integral Feed/ Polarizer/OMT/Transceiver		Integral Feed/ Polarizer/OMT/Transceiver		Integral Feed/ Polarizer/OMT/Transceiver	
Axial Ratio	Feed Dependent		Feed Dependent		Feed Dependent	
Cross-Polarization Isolation	Feed Dependent		Feed Dependent		Feed Dependent	
Feed Port Isolation – Tx to Rx	Feed Dependent		Feed Dependent		Feed Dependent	

Controller

Controller ►	AvL AAQ
Features	AvL one button auto-acquisition of selected satellites, including peaking and optimization of cross pol. Internal movement detector and automatic stow. Optional hand-held control and separate power supply. Certified for auto-commissioning on most satellite services.
Size	Embedded ACU with separate 1 Rack Unit Controller Interface Panel (CIP) power supply with LCD and keypad. 250 W and 500 W (1.6m and larger antennas) versions available.
CIP Input Power	120/240 VAC 60/50 Hz, 6/3 A Max. Power consumption is antenna size dependent: During acquisition 150 W or 300 W is typical, ~ 50 W Idle.

Available Options, Upgrades & Services

- Optional 2-Port Ku-band Precision (standard Cross-Pol comp.) or Mode-Matched (enhanced Cross-Pol comp.) Feed
- Optional Ku-Band BUC mounting
- Optional controller upgrade to 1RU with display
- Upgrade to Custom RF/IF I/O cabling configurations available
- Custom Colorization (contact factory for available colors)
- Add Custom Logo on Reflector Face (1- or 2-Color; per AvL Logo Policy)
- Optional aerodynamic cowling
- Spare Parts Kit

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