AvL TECHNOLOGIES

Model 1210 Premium SNG / Military
1.2m Motorized Transportable
Vehicle-Mount Antenna

Unique Features
- 1.2m Carbon Fiber Single Piece Reflector
- Zero Backlash AvL Cable Drive
- Optional Rotary Joint on Pol Axis with opt. Flex W/G to BUC
- "One-Button" Auto-Acquisition

Optics
- Offset, Prime Focus, 0.8 f/D

Standard Rx/Tx Feed
- 2-Port Ku-Band Precision (standard Cross-Pol comp.)

Optional Rx/Tx Feeds
- 2-Port Ku-Band Mode-Match (enhanced Cross-Pol comp.)
- 4-Port Ku-Band Wideband
- 2- or 4-Port Ka-Band
- 2-Port X-Band

Polarization Adjustment
- Motorized Worm Gear Drive

Standard Colorization
- White (optional colors available)

Mechanical

Az/El Drive	Motorized AvL Zero Backlash Cable Drive (Patent Pending)
Polarization Drive System	Motorized Worm Gear Drive
Reflector Construction	1.2m Single Piece Carbon Fiber
Axis Travel	
Azimuth	400° (±200°)
Elevation	
Mechanical	0° to 90° of Reflector Boresight
Electrical	Standard Limits at 5° to 65° (CE approval) or 0° to 90°
Polarization	±95° for 2-port and 3-port Feeds; ±50° for 2-port Wideband and 4-port Feeds
Az/El Speed	
Slewing/Deploying (typical)	2°/second Az; 1°/second El
Peaking (typical)	0.2°/second
Motors	24 VDC Variable Speed, Constant Torque
RF Interface	
BUC/HPA Mounting	Feed Boom (50 lbs.; Max. BUC envelope: 22 L x 13.75 W x 8.5 H inches (55.9 L x 34.9 W x 21.6 H cm)), Rear of Reflector or Inside Vehicle
Axis Transition	Twist-Flex or Rotary Joints
Waveguide	WR75 Cover Flange at Interface Point
Coax	RG59 run from feed to base plus 25 ft (8m)
Electrical Interface	One 25 ft (8 m) Cable with Connectors for Controller
Manual/Emergency Drive	Handcrank on Az, El and Pol axes
Weight (approximate)	115 - 165 lbs. (52 – 75 kg) depending on options selected
Stowed Dimensions	69 L x 48 W x 16.3 H inches (175 L x 122 W x 41 H cm)

Environmental

Wind – Survival	Deployed: 75 mph (121 kph); Stowed: 100 mph (161 kph)
Wind - Operational	30 mph (48 kph), Gusts to 45 mph (72 kph)
Pointing Loss in Wind (Ku RX):	
20 mph (32 kph)	0.2 dB typical
30 mph gusting to 45 mph (48 kph gusting to 72 kph)	0.8 dB typical
Temperature:	
Operational	-22° to 125° F (-30° to 52° C)
Survival	-40° to 140° F (-40° to 60° C)

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Rev. 5/8/2013

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RF/Electrical

Feed Type ►	Std. 2-Port Ku-Band *DBS bands avail. upon request*		2-Port Ka		2-Port X	
RF Parameter ▼	**Receive**	**Transmit**	**Receive**	**Transmit**	**Receive**	**Transmit**
Frequency Range (GHz)	10.95 - 12.75	13.75 - 14.50	20.2 - 21.2 (military) or 17.7 - 20.2 (commercial)	30.0 - 31.0 (military) or 27.5 - 30.0 (commercial)	7.25 - 7.75	7.90 - 8.40
Polarization Configuration	Linear Orthogonal Standard, Optional Co-Pol		Circular or Linear		RHCP or LHCP	
Gain (mid-band) (dBi)	41.6	43.1	46.2 Mil	49.5 Mil	37.6	38.1
Beamwidth (-3 dB)	1.5°	1.2°	0.8°	0.6°	2.3°	2.1°
G/T, midband, clear horizon	21.4 dB/° K with 50° LNB		23.0 dB/° K with 100° LNB		17.3 dB/° K with 55° LNB	
Antenna Noise Temperature @ 20° El, midband	54° K		107° K		46° K (including optional filter)	
Radiation Pattern Compliance	FCC 25.209, ITU-R S.580-6, IESS 208		FCC 25.209, MIL-STD-188-164A		MIL-STD-188-164A	
Power Handling Capability		1 KW per port		250W per port		1 KW
VSWR	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1
Axial Ratio, CP only, within Pointing Cone (dB)			1.5	1.0	1.21	2.0
Cross-Polarization Isolation (dB)						
On Axis	35	35				
Within Pointing Cone	28 Std. Precision 25 Mode-Match	30 Std. Precision 35 Mode-Match				
Feed Port Isolation – Tx to Rx (dB)	35	80 (includes filter)	80	80 (includes filter)	115 (includes optional filter)	115 (includes optional filter)

Controller

Controller Type ►	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, 1 ph, 50/60 Hz, 6/3A peak, 1A continuous
Optional 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. Includes a hand-held control and separate power supply. Certified for auto-commissioning on most satellite services.
Size	Embedded ACU with separate1 RU power supply
Input Power	100 - 240 VAC 50/60 Hz 4 A peak, 300 W power supply

Available Options, Upgrades & Services

- Upgrade Feed to 2-Port Ku-Band Mode-Match, 4-Port Ku-Band Wideband, 2- or 4-Port Ka-Band or 2-Port X-Band
- Optional H/V switch (Ku-Band wideband)
- Optional Rotary Joint on Pol Axis with opt. Flex W/G to BUC
- Add Co-polarization Kit (for 2-port Ku feeds only) - configures Rx and Tx to same polarization sense
- Mounting Pallet (adds 2.0” (5 cm) to stow height)
- Add BUC/HPA Mounting (NOTE: minimum elevation may be restricted by these options)
- 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)
- Spare Parts Kit

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All specifications subject to change without notice. **Rev. 5/8/2013**