

AvL TECHNOLOGIES

Model 1212QA Premium SNG / Military 1.2m Motorized Transportable Vehicle-Mount Antenna

- Unique Features**
- High Speed Operation and Quick Acquisition
 - 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 Mode-Match (enhanced Cross-Pol comp.)
- Optional Rx/Tx Feeds**
- 2-Port Ku-Band Precision (standard Cross-Pol comp.)
 - 4-Port Ku-Band Wideband
 - 2- or 4-Port Ka-Band
- Polarization Adjustment**
- Motorized Worm Gear Drive
- Standard Colorization**
- White (optional colors available)



Mechanical

Az/EI 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°) max (controller limits typically set ±195°)
Elevation	
Mechanical	0° to 90° of Reflector Boresight (controller limit typically set +5° or depending upon CFE installed)
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/EI Speed	
Slewing/Deploying (typical)	8°/second Az typical; 3-5°/second EI (dependent upon orientation and CFE weight installed)
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)), or inside truck; optional oversized amplifier mounting (<i>NOTE: BUC mounting can impact elevation or stow height</i>)
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	Hand crank on Az, EI and Pol axes
Weight (approximate)	165-175 lbs. (75-80 kg) depending on options selected
Stowed Dimensions	69 L x 48 W x 14.8 H inches (175 L x 122 W x 38 H cm) includes mounting pallet

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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RF/Electrical

Feed Type ►	Std. 2-Port Ku-Band Mode-Match <i>DBS bands avail. upon request</i>		Optional 2-Port Ka	
RF Parameter ▼	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)
Polarization Configuration	Linear Orthogonal Standard, Optional Co-Pol		Circular or Linear	
Gain (mid-band) (dBi)	41.6	43.1	46.2 Mil	49.5 Mil
Beam width (-3 dB)	1.5°	1.2°	0.8°	0.6°
G/T, midband, clear horizon	21.4 dB/K with 50° LNB		23.0 dB/K with 100° LNB	
Antenna Noise Temperature @ 20° EI, midband	54° K		107° K	
Radiation Pattern Compliance	FCC 25.209, ITU-R S.580-6, IESS 208		FCC 25.209, MIL-STD-188-164A	
Power Handling Capability		1 KW per port		250W per port
VSWR	1.30:1	1.30:1	1.30:1	1.30:1
Axial Ratio, CP only, within Pointing Cone (dB)			1.5	1.0
Cross-Polarization Isolation (dB)				
On Axis	35	35		
Within Pointing Cone	25	35		
Feed Port Isolation – Tx to Rx (dB)	35	80 (includes filter)	80	80 (includes filter)

Controller

Controller ►	AvL AAQ
Features	AvL one button auto-acquisition of selected satellites, including peaking and optimization of cross pol. using various modems, beacon receivers, or internal RF power detector. Optional hand-held control and separate power supply.
Tilt Compensation	Up to 20 degrees inclined surface
Acquisition Time	Less than 5 minutes typical with Beacon receiver, 2 minutes typical with modem
Size	Embedded ACU with separate 1 RU power supply
Input Power	100 - 240 VAC 50/60 Hz 4 A peak, 250 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
- 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 WB feeds only) - configures Rx and Tx to same polarization sense
- Mounting Pallet (adds 2.0" (5 cm) to stow height)
- Outdoor Beacon Receiver
- 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