

AvL TECHNOLOGIES

Model 2410 Premium SNG 2.4m Auto-Acquisition Tri-Band Vehicle-Mount Antenna

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| Unique Features | <ul style="list-style-type: none"> • 2.4m AvL Carbon Fiber Single Piece Reflector • Optional three-piece carbon fiber reflector • Zero Backlash AvL Cable Drive • Compact/Rugged Pol Gear Drive • Rotary Joint on Pol Axis with opt. Flex W/G to BUC • "One-Button" Auto-Acquisition |
| Optics | Offset, Prime Focus 0.8/fD |
| Standard Rx/Tx Feed | • 2-Port Ku-Band Precision (Standard Cross-Pol comp.) |
| Optional Interchangeable Rx/Tx Feeds | <ul style="list-style-type: none"> • Optional 2-Port Ku-Band Mode-Match (enhanced off-axis Cross-pol) • Optional 4-Port Ku-Band Precision or Mode-Match • Optional 2- or 4-Port Ka-Band, LP or CP • Optional 2-Port, 3-Port or 4-Port C-Band, LP or CP • 2-Port Extended C-Band (LP) |
| Polarization Adjustment | • Motorized Worm Drive |
| Standard Colorization | • AvL White (optional colors available) |



Mechanical

Az/EI Drive	Motorized Zero Backlash AvL Cable Drive (Patent Pending)		
Polarization Drive System	Motorized Worm Gear Drive		
Reflector Construction	2.4m Single Piece AvL Carbon Fiber; Optional three-piece carbon fiber reflector with manually folding hinged wings or motorized folding hinged wings		
Axis Travel	±200° Standard; 270° with dual waveguide to vehicle, options include dual Ku, single C + single Ku. Special dual waveguide ±200° available (rotary joints protrude into vehicle further than standard)		
Azimuth	0°-90° of reflector bore sight		
Elevation	Mechanical	5° to 90° Standard limits or 5° to 65° (CE Approval)	
	Electrical	±95° for 2-port and 3-port Feeds; ±50° for 2-port Wideband and 4-port Feeds, 3-Port or 4-Port C-Band	
Polarization			
Az/EI Speed	1°/second Az, 1°/second EI		
Slewing/Deploying (typical)	0.2°/second		
Peaking (typical)			
Motors	24 VDC Variable Speed, Constant Torque		
RF Interface	Feed Boom, Rear of Reflector or Inside Truck		
HPA Mounting	Twist-flex or optional rotary joints for Ku-Band; Pol rotary joint standard for C-Band		
Axis Transition	Cover Flange at Interface Point		
Waveguide	RG59 run from feed to base plus 25 ft. (8m); Option for 50 ohm LMR-240		
Coax			
Electrical Interface	25 ft. (8m) Cable with Connectors for Controller		
Manual/Emergency Drive	Hand crank on Az, EI and Pol axes		
Time to Acquisition	Less than 15 minutes, 8 minutes typical		
Weight (approximate)	550 lbs. (250 kg) with Ku Feed and AAQ Controller		
Stowed Dimensions	123.5 L x 96.0 W x 24.2 H in (314 L x 244 W x 62 H cm) (may vary with CFE or 3-,4-port C-band)		

Environmental

Wind – Survival	Deployed: 80 mph (128 kph); Stowed: 125 mph (201 kph)		
Wind - Operational	45 mph (72 kph), gusts to 60 mph (97 kph)		
Pointing Loss in Wind (): 30 mph gusting to 45 mph (48 kph gusting to 72 kph)	<u>C-Band (Rx)</u> 0.2 dB Typical	<u>Ku-Band (Rx)</u> 0.6 dB Typical	<u>Ka-Band (Rx)</u> 1.2 dB Typical
Temperature:			
Operational	-22° to 125° F (-30° to 52° C)		
Survival	-40° to 140° F (-40° to 60° C)		
Shock and Vibration	Designed for transport via rough Roads, Rail, Sea and Air		
Corrosion Protection	For all regions from coastal to industrial, some periodic maintenance required for appearance		
Humidity, Rain, Blowing Sand	Sealed to withstand 0-100% with condensation, >4 inches/hour (102 mm/hr), blowing to 40 mph		

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RF/Electrical

Feed Type ►	2-Port Mode-Matched Ku-Band		Opt. Ka-Band		Opt. C-Band	
RF Parameter ▼	Receive	Transmit	Receive	Transmit	Receive	Transmit
Frequency Range (GHz)	10.95 - 12.75	13.75 - 14.50	19.2 - 20.2	29.0 - 30.0	3.625 - 4.2	5.850 - 6.425
Polarization Configuration	Linear Orthogonal Standard, Optional Co-Pol		Linear or Circular Pol		Linear or Circular Pol	
Gain (mid-band) (dBi) 2-Port	47.0	48.8	51.6 dBi	54.9 dBi	38.0 dBi	41.8 dBi
Beam width (Degrees) -3dB	0.7	0.6	0.5	0.3	2.2	1.4
-10dB	1.3	1.1	0.8	0.6	4.0	2.6
Radiation Pattern Compliance	FCC §25.209, ITU-R S.580.6, IESS 208		MIL-STD-188-164A		FCC §25.209, ITU-R S.580.6, IESS 207	
Antenna Noise Temperature @20° EI	61° K	-	104° K	-	49° K	-
G/T, midband, clear horizon	26.5 dB/K w/ 50°K LNB	-	28.5 dB/K w/ 100°K LNB	-	19.5 dB/K w/ 20°K LNB	-
VSWR	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1
Power Handling Capability	-	1K watts per Port	-	250 watts per Port	-	1K watts per Port
Circular Axial Ratio (within pointing cone) (dB)	-	-	1.5	1.0	2.3	1.3
Cross-Polarization Isolation, LP only (dB)	-	-	-	-	-	-
On-Axis	35	35	-	-	35	35
Off-Axis (within pointing cone)	28 (standard) 25 (opt Mode-match)	30 (standard) 35 (opt Mode-match)	-	-	30	30
Feed Port Isolation - Tx to Rx (dB)	35 dB	80 dB	85 dB	85 dB (incl. opt.filter)	65 dB	105 dB
Satellite System Compliance	FCC, Intelsat					

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 feeds: 2-Port Ku-Band Mode-Match (enhanced off-axis Cross-pol), 4-Port Ku-Band Precision or Mode-Match, 2- or 4-Port Ka-Band, LP or CP, 2-Port, 3-Port or 4-Port C-Band, LP or CP, 2-Port Extended C-Band (LP)
- Ku-band H/V switch
- Add BUC/HPA Mounting (NOTE: minimum elevation may be restricted by these options)
- Upgrade to Custom RF/IF I/O cabling configurations
- Custom Colorization (contact factory for available colors)
- Optional three-piece carbon fiber reflector with removable wings, manually folding hinged wings, or motorized folding hinged wings
- Add Custom Logo on Reflector Face (1- or 2-Color; per AvL Logo Policy)
- Spare Parts Kit