

AvL TECHNOLOGIES

Model 1.2m 1248 FA Mobile VSAT Motorized Transportable FlyAway Antenna

- Unique Features**
- 1.2M segmented 4-piece AvL carbon fiber (2-piece optional)
 - Case-based positioner
 - 15-minute set-up
 - One-button auto-acquisition
 - 2-Port Ku Precision (standard cross-pol comp.)
 - 2-Port Ka
 - 2-Port Ku Mode-Match (enhanced cross-pol comp.)
 - Motorized rotation of feed
 - MIL-STD-188-164a Type E-V
 - White, OD green or desert tan (optional colors available)
- Interchangeable Rx/Tx Feeds**
- Optional Rx/Tx Feeds**
- Polarization Adjustment**
- Military Standard**
- Standard Colorization**



Mechanical

Az/EI Drive	Motorized AvL low backlash Cable Drive System (patent pending)
Polarization Drive System	Motorized rotation of feed
Reflector Construction	1.2m segmented 4-piece carbon fiber (2-piece optional)
Axis Travel	
Azimuth	±200°
Elevation (operational)	7°-90° with ±100° Az Travel
Polarization (LP feeds)	±91°, adjustable within <1°
Az/EI Speed	
Slewing/Deploying (typical)	2°/second Az; 1°/second EI
Peaking (typical)	0.2°/second
Tracking (typical)	0.1°/second
Motors	24V DC variable speed, constant torque
Interfaces	
BUC Mounting	Feed boom or behind reflector (additional CFE case or optional case required)
RF	Std. 50 ohm coax (2) at base, cover flange at feed Tx port
Electrical	30 ft. cable with connectors for controller
Manual/Emergency Drive	Handcrank for az and el, knob on pol axis
Configuration	Rugged cases
Positioner	43" x 27" x 20"; less than 165 lbs.
Outriggers/Feed Boom/ Reflector	43" x 27" x 20"; less than 110 lbs. (4-piece reflector) 62" x 27" x 30"; less than 174 lbs. (2-piece reflector)
Set-up Time	Less than 15 minutes

Environmental

Wind – Survival (anchored)	80 mph in zenith stowed position
Wind – Operational	
Without Anchoring	Gusts to 30 mph
With Anchoring	30 mph gusting to 45 mph
Pointing Loss	
Ku-band Rx	0.1 dB typical, 0.5 dB max
Ka-band Rx	1.0 dB typical, 2.0 dB max
Temperature:	
Operational	-20° to 125°F (-29° to 52°C)
Survival	-40° to 140°F (-40° to 60°C)

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RF/Electrical

Feed Type ►	Std. 2-Port Precision Ku		Opt. 2-Port Ka (Military/WGS)	
RF Parameter ▼	Receive	Transmit	Receive	Transmit
Frequency Range (GHz)	10.95 - 12.75	13.75 - 14.5	20.2 - 21.2	30.0 - 31.0
Polarization Configuration	Orthogonal linear, optional co-pol linear		Circular convertible to either RHCP or LHCP	
Gain (mid-band)	41.6 dBi	43.1 dBi	46.4 dBi	49.6 dBi
VSWR	1.30:1	1.30:1	1.30:1	1.30:1
Beamwidth	-3 dB -10 dB	1.5° 2.7°	0.9° 1.5°	0.6° 1.1°
Radiation Pattern Compliance	Better than FCC 25.209, ITU-R S.580.6		FCC, MIL-STD-188-164A	
Antenna Noise Temp. (mid-band, 30° el)	51° K, 10.95 GHz		86° K, 20GHz	
Power Handling Capability			250 watts per port	
Axial Ratio			<1.5 dB	<1.0 dB
Cross-Pol Isolation				
On-axis	35 dB	35 dB		
Off-axis (within 1 dB BW)	27 dB	28 dB standard 35 dB mode-matched		
Port-to-Port Isolation	35 dB	85 dB	35 dB	35 dB (85 dB with opt. Tx reject filter)
Satellite System Compliance	FCC, Intelsat, and PanAmSat			

Controller

Feature ▼	Controller Type ►	Std. Auto-Acquire with Opt. Ethernet IP Interface	Opt. Enhanced Auto-Acquire with Ethernet IP Interface
Standard Features		Fully-automatic satellite acquisition, with automatic azimuth, elevation and cross-polarization peaking; includes on-board, one-button deploy/acquire interface for pre-configured systems; includes on-board GPS, electronic compass, level sensors and auto-compensation; customer-configurable satellite list. <i>Note: Beacon Receiver or Modem as acquisition signal source may be required for non-commercial satellites.</i>	
Integration		Embedded w/ Handheld, incl. Shelf-Mount P/S (optional 1RU w/ front-panel keypad + integral P/S)	Embedded w/ Ethernet IP Interface (P/S optional) (optional rack-mount P/S available)
User Interface		Menu-driven display w/ keypad	Intelligent/simple GUI for on-board or remote CFE laptop
Input Power		115/230 VAC (at rack); up to 200W	28V DC (at antenna positioner); optional 115/230 VAC rack-mount power supply; up to 200W
Software Upgrades/Options		Inclined orbit tracking (using step-track or TLE track); automatic band sensing	Inclined orbit tracking (using step-track, memory track, or TLE track); automatic band sensing

Available Options, Upgrades & Services

- BUC/HPA mounting
- Optional 75 ohm coax
- Waveguide interconnect options
- Beacon receiver – inclined orbit tracking – resolvers/upgrade
- Grounding options (lightning conductor)
- Anchoring kit options
- Custom logo on reflector face (1- or 2-color; per AvL Logo Policy)
- Controller options – see above
- Spare parts kit

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