

AvL TECHNOLOGIES

Model 1.6m 1220 FA SNG/Military Tri-Band Motorized Transportable FlyAway Antenna

- Unique Features**
- 1.6m Segmented 4-piece Carbon Fiber Reflector
 - Case-based positioner
 - 15-Minute Setup
 - One-Button Auto-Acquisition
- Standard Rx/Tx Feed**
- 2-Port Ku Precision (standard Cross-Pol comp.)
- Optional Rx/Tx Feeds**
- 2-Port Ku Mode-Match (enhanced Cross-Pol comp.)
 - 2-Port C
 - 2-Port X with optional Rx/Tx reject filter kit
- Military Standard Polarization Adjustment Standard Colorization**
- MIL-STD-188-164A
 - Motorized Rotation of Feed
 - White, OD Green or Desert Tan (optional colors available)



Mechanical

Az/EI Drive	Motorized AvL Low Backlash Cable Drive System (Patent Pending)
Polarization Drive System	Motorized Rotation of Feed
Reflector Construction	1.6m Segmented 4-piece Carbon Fiber
Axis Travel	
Azimuth	±200°
Elevation (operational)	0°-90° with ±200° Az Travel
Polarization (LP feeds)	±95° 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
Motor	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	Hand crank for Az and EI, knob on pol axis
Configuration	Three rugged weather-resistant plastic cases, total weight 375 lbs.
1220 Motorized Positioner	26" x 24" x 30", 150 lbs.
Outriggers/Feed Boom	71" x 18" x 17", 105 lbs. (includes Ku or Ka feed)
Reflector Panels	39" x 39" x 24", 120 lbs.
C/X/Ka Feeds (up to 3 per case)	43" x 27" 20", 70 lbs. typical (optional)
Set-up Time	Less than 15 minutes

Environmental

Wind – Survival (anchored)	80 mph in zenith stowed position
Wind – Operational	
Without Anchoring	30 mph
With Anchoring	30 mph gusting to 45 mph
Pointing Loss	
Ku-band Rx	0.4 dB typical, 0.7 dB max in operational wind
Ka-band Rx	1.0 dB typical, 1.7 dB max in operational wind
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 Precision Ku		Opt. 2-Port X (Military/WGS)		Opt. 2-Port C <i>Requires special approval by satellite operator. Not recommended for auto-acquisition.</i>	
	Receive	Transmit	Receive	Transmit	Receive	Transmit
RF Parameter ▼						
Frequency Range (GHz)	10.95-12.75 Ghz	13.75-14.5 Ghz	7.25 7.75 Ghz	7.9 - 8.4 Ghz	3.625-4.20 Ghz	5.85 -6.425 Ghz
Polarization Configuration	Orthogonal Linear, Optional Co-pol Linear		Circular RHCP or LHCP		Linear or circular options	
Gain (mid-band)	43.7 dBi	45.3 dBi	39.7 dBi	40.5 dBi	34.2 dBi	38.1 dBi
Radiation Pattern Compliance	IESS-601 Std. G and FCC 47CFR25.209		MIL-STD-188-164A		29-25 log Θ dBi , 3.5° < Θ < 36°	
Antenna Noise Temp. (mid-band, 20° el)	54° K		45° K		48° K	
Power Handling Capability		500 watts per port		1000 watts per port		1000 watts per port
G/T with LNB, Midband	23.5 dB/° K (with 50°K LNB)		19.7 dB/° K (with 55°K LNB)		15.8 dB/° K (with 20°K LNB)	
Axial Ratios						
Axial Ratio within Tracking Cone			1.21 dB	2.0 dB		
Circular Axial Ratio (within pointing cone)					2.3 dB	1.3 dB
Cross-Pol Isolation						
On-axis	35 dB	35 dB				
Within Pointing Cone	28 dB standard	30 dB standard				
Within Pointing Cone	25 dB MM option	35 dB MM option				
Linear Cross-Pol Isolation (in pointing cone)					>30 dB	>30 dB

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

- 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