

# AvL TECHNOLOGIES

## Model 2.0m 2020 FA SNG/Military Quad-Band Motorized Transportable FlyAway Antenna

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| <b>Unique Features</b>                           | <ul style="list-style-type: none"> <li>• 2.0m Segmented 9-piece Carbon Fiber Reflector</li> <li>• Rugged/Heavy Duty Case-Based Positioner</li> <li>• 15-Minute Setup; One-Button Auto-Acquisition</li> </ul> |
| <b>Standard Rx/Tx Feed</b>                       | <ul style="list-style-type: none"> <li>• 2-Port Ku Precision (standard Cross-Pol comp.)</li> </ul>   |
| <b>Optional Rx/Tx Feeds</b>                      | <ul style="list-style-type: none"> <li>• 2-Port Ku Mode-Match (enhanced Cross-Pol comp.)</li> <li>• 2-Port C</li> <li>• 2-Port X with Optional Rx/Tx Reject Filter Kit</li> <li>• 2-Port Ka</li> </ul>       |
| <b>Military Standard Polarization Adjustment</b> | <ul style="list-style-type: none"> <li>• MIL-STD-188-164A</li> </ul>   |
| <b>Standard Colorization</b>                     | <ul style="list-style-type: none"> <li>• Motorized Rotation of Feed</li> <li>• White, OD Green, Desert Tan (optional colors available)</li> </ul>  |



### Mechanical

Az/EI Drive	Motorized AvL Low Backlash Cable Drive System (Patent Pending)
Polarization Drive System	Motorized Rotation of Feed
Reflector Construction	2.0m Segmented 9-piece Carbon Fiber
Axis Travel	
Azimuth	±200°
Elevation (operational)	0° to 90° of reflector bore sight from calibrated inclinometer
Polarization	±95° Adjustable within <1°
Az/EI Speed	
Slewing/Deploying (typical)	2°/second Az; 1°/second EI
Peaking (typical)	0.2°/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	Hand crank for Az and EI, knob on Pol axis
Configuration	Three rugged, weather-resistant plastic cases, total weight: 450 lbs.
2020 Motorized Positioner	26" x 24" x 30", 170 lbs.
Outriggers/Feed Boom/Ku or Ka Feed	71" x 18" x 19", 110 lbs. (includes Ku or Ka feed)
Reflector Panels	38" x 38" x 22", 170 lbs.
Additional Feeds	43" x 27" x 20", 70 lbs. typical, dependent on feed options selected (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	0.1 dB typical, 0.5 dB max
Ka-band Rx	1.0 dB typical, 2 dB max
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 <i>DBS bands available upon request</i>		Opt. 2-Port Ka		Opt. 2-Port X (Military/WGS)		Opt. 2-Port C – Std.		Opt. 2-Port C - INSAT	
	Receive	Transmit	Receive	Transmit	Receive	Transmit	Receive	Transmit	Receive	Transmit
RF Parameter ▼										
Frequency Range (GHz)	10.95-12.75	13.75-14.5	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	7.9 - 8.4	3.625-4.20	5.85 - 6.425	4.50 - 4.80	6.725 - 7.025
Polarization Configuration	Orthogonal Linear, Optional Co-pol Linear		Circular or Linear		Circular RHCP or LHCP		Linear or circular options			
Gain (mid-band, dBi)	46.0	47.6	50.6	53.8	42.0	42.8	36.4	40.3	37.9	41.3
VSWR	1.30:1		1.30:1		1.30:1		1.30:1			
-3dB Beam width (mid-band)	0.9°	0.7°	0.5°	0.3°	1.2°	1.1°	2.7°	1.7°	2.3°	1.5°
Radiation Pattern Compliance	FCC 25.209, ITU-R S.580-6, IESS 208		FCC 25.209, MIL-STD-188-164A		MIL-STD-188-164A		FCC (outside of main beam), IESS, ITU		ITU-R S.580-6	
Antenna Noise Temp. (mid-band, 20° el)	57° K		106° K		50° K		49° K		48° K	
Power Handling Capability		500 watts per port		250 watts per port		1000 watts per port		1000 watts per port		1000 w per port
G/T with LNB, Midband	25.7 dB/° K (with 50°K LNB)		27.5 dB/° K (with 100°K LNB)		21.7 dB/° K (with 55°K LNB)		17.9 dB/° K (with 20°K LNB)			
Axial Ratios										
Axial Ratio within Tracking Cone (CP only)			1.5 dB	1.0 dB	1.21 dB	2.0 dB	2.3 dB	1.3 dB		
Cross-Pol Isolation (LP only)										
On-axis	35 dB	35 dB	35 dB	35 dB			35 dB	35 dB	35 dB	35 dB
Off-Axis (within Pointing Cone)	Std: 28 dB MM opt: 25 dB	Std: 30 dB MM opt: 35 dB	30 dB	30 dB			30 dB	30 dB	30 dB	30 dB
Feed Port Isolation – TX to RX (dB)	35	80 (includes filter)	30	80 (includes filter)	115 (includes filter)	115 (includes filter)	65	105 (includes filter)	35	70

### 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