

AvL TECHNOLOGIES

Model 1.2m 1050 FA SNG/Military Tri-Band Motorized Transportable FlyAway Antenna

- Unique Features**
- 1.2m Segmented 4-Piece AvL Carbon Fiber Reflector
 - Case-based Positioner
 - 15-Minute Setup; One-Button Auto-Acquisition
 - Offset Prime Focus
 - 2-Port Ku Precision (standard Cross-Pol comp.)
 - 2-Port Ku Mode-Match (enhanced Cross-Pol comp.)
 - 2-Port Ka
 - 2-Port X
 - Rotation of Feed
- Highly Efficient Optics
Standard Rx/Tx Feed
Optional Rx/Tx Feeds**
- MIL-STD-188-164A Compliant
 - White, OD Green or Desert Tan (optional colors available)
- Polarization Adjustment
Military Standard
Standard Colorization**



Mechanical

Az/EI Drive	Motorized AvL Zero Backlash Cable Drive (Patent Pending)
Polarization Drive System	Motorized Rotation of Feed
Reflector Construction	1.2m Segmented 4-piece Carbon Fiber
Axis Travel	±200°
	Elevation (operational)
	5°-100° of reflector bore sight from calibrated inclinometer (EI range may vary depending upon CFE)
	Polarization (Ku only)
	±95°
Az/EI Speed	2°/second Az; 1°/second EI
	Peaking
	0.2°/second
Motor	24V DC variable speed, constant torque
Interfaces	BUC Mounting
	RF
	Electrical
Manual/Emergency Drive	Hand crank for Az and EI, Knob on Pol axis
Configuration	Two rugged, weather-resistant plastic cases, total weight 260 lbs. (typical)
	Positioner
	Outriggers/Feed Boom/Reflector
	Additional Feeds
Set-up Time	Less than 15 minutes

Environmental

Wind – Survival (anchored)	80 mph in zenith position
Wind – Operational	Without Anchoring
	With Anchoring
	Gusts to 30 mph
	30 mph gusting to 40 mph
Pointing Loss	Ku-Band
	0.1 dB typical, 0.5 dB max
	Ka-Band
	0.3 dB typical, 1.0 dB max
	X-Band
	0.1 dB typical, 0.2 dB max
Temperature:	Operational
	Survival
	-22° to 125° F (-30° to 52° C)
	-40° to 140° F (-40° to 60° C)

RF/Electrical

Feed Type ▶	Std. 2-Port Ku (1.2m Reflector)		Opt. 2-Port Ka (1.2m Reflector)		Opt. 2-Port X (Military/WGS) (1.4m Reflector)	
	Receive	Transmit	Receive	Receive	Receive	Transmit
RF Parameter ▼						
Frequency Range (GHz)	10.95 - 12.75	13.75 - 14.5	20.2 - 21.2 (MIL)	30.0 - 31.0 (MIL)	7.25 - 7.75	7.90 - 8.40
Polarization Configuration	Linear orthogonal standard		Circular or Linear		RHCP or LHCP	
Gain (mid-band)	41.6 dBi	43.1 dBi	46.2 dBi	49.5 dBi	37.6 dBi	38.1 dBi
Radiation Pattern Compliance	FCC 25.209, ITU-R S.580-6, IESS 208		FCC 25.209, MIL-STD-188-164A		MIL-STD-188-164A	
VSWR	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1
Beam width (-3 dB)	1.5°	1.2°	0.8°	0.6°	2.3°	2.1°
Antenna Noise Temp. (mid-band, 20° el)	54° K		107° K		52° K	
Power Handling Capability		500 watts per port		250 watts per port		1000 watts per port
G/T with LNB, Midband	21.3 dB/° K (with 50°K LNB)		23.0 dB/K with 100°K LNB		17.3 dB/°K with 55°K LNB	
Axial Ratio: CP only, within pointing cone			1.5 dB		1.21 dB	
Cross-Pol Isolation	On-axis	35 dB	35 dB	1.0 dB		2.0 dB
	Within pointing cone	Std: 28 dB MM: 25 dB	Std: 30 dB MM: 35 dB			
Feed Port Isolation – Tx to Rx	35 dB	80 dB (with filter)	30 dB	80 dB (with filter)	115 (incl. opt. filter)	115 (incl. opt. filter)

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

- Standard Configuration: Case-Based
- Optional Configuration: Tripod
- BUC/HPA mounting
- Stabilization leg options
- Waveguide interconnect options
- Beacon Receiver and Inclined Orbit Tracking Mode
- Ku-band Mode Matched Feed (Eutelsat)
- Ku-band Co-pol Kit
- DBS, Commercial Ka Feeds (future)

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