AvL TECHNOLOGIES

Model 1.0m 1098FA
Mobile VSAT FlyAway Ku-Band
Motorized Transportable Antenna

Unique Features	• 1.0m Single Piece AvL Engineered Composite Reflector • Optional 1.0m 2-Piece Reflector • Compact Elevation-over-Azimuth Cable Drive Positioner • Case-Based System; 2 Case Configuration • 10-Minute Setup; "One-Button" Auto-Acquisition
Standard Rx/Tx Feed	• 2-Port Ku-Band Precision
Optional Integration Support	• Custom BUC Integration • Universal BUC Tray
Polarization Adjustment	• Compact/Rugged Gear Drive
Standard Colorization	• AvL Metallic Grey (optional colors available)

Mechanical

Az/El Drive	Motorized AvL Zero Backlash Cable Drive System (Patent Pending)
Polarization Drive System	Motorized Worm Gear
Reflector Construction	1.0m Single Piece AvL Engineered Composite
Axis Travel	
Azimuth	400° (±200°)
Elevation (reflector boresight)	0°-90° antenna boresight (true elevation readout from calibrated inclinometer)
Polarization	± 95°
Az/El Speed	
Slewing/Deploying (typical)	2°/second azimuth; 2°/second elevation; 2°/second polarization
Peaking	0.2°/second
Motors	24V DC variable speed, constant torque
Standard Integration Interfaces	
Tx Input @ Feed	Ku: WR 75 Cover Flange at Feed Tx Port; Type F coax from BUC to base
Rx Input (AvL-supplied coax)	Type F coax from LNB to base
BUC (& other CFE) Mounting	Feed boom (maximum weight 16 lbs. (7.3 kg))
Controller Interface	One 30-ft. (9.1m) cable with connector from base connector panel to controller
Manual/Emergency Drive	Common handcrank for azimuth, elevation and polarization axes
Size/Weight – Std. Positioner Case	21.4 H x 23 W x 22.5 L inches (54 H x 58 W x 57 L cm), weighs approx. 95 lbs. (43 kg)
Size/Weight	
Std. Reflector Case	12 H x 42.5 W x 44.5 L inches (30.5 H x 108 W x 113 L cm), weighs approx. 146 lbs. (66 kg)
Opt. 3-Piece Reflector Case	13.5 H x 29 W x 46 L inches (34 H x 74 W x 117 L cm), weighs approx. 146 lbs. (66 kg)

Environmental

Wind – Survival	Anchored: deployed: 60 mph (97 kph), stowed (Fly&Drive only): 100 mph (161 kph)
Wind - Operational	Anchored: 45 mph (72 kph)
Pointing Loss in Wind (Ku RX):	
20 mph (32 kph)	0.3 dB typical
30 gusting 45 mph (48/72kph)	0.8 dB typical
Temperature:	
Operational	-22°F to 125°F (-30°C to 52°C)
Survival	-40°F to 140°F (-40°C to 60°C)

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RF/Electrical

Feed Type ►	Std. 2-Port Precision Ku	
RF Parameter ▼	**Receive**	**Transmit**
Frequency Range (GHz)	10.95 - 12.75	13.75 - 14.50
Polarization Configuration	Linear – orthogonal (H/V)	
Gain (mid-band)	39.9 dBi	41.4 dBi
-3dB Beamwidth (Degrees)	1.8°	1.5°
-10dB Beamwidth (Degrees)	3.2°	2.8°
Radiation Pattern Compliance	FCC 25.209 and ITU-RS-580-6 Eutelsat	
Antenna Noise Temp. (mid-band, 20° el)	55K	--
Maximum Feed Transmit (Tx) Power	--	FCC: -14 dBw/4 kHz ITU: -0 dBw/4 kHz
VSWR	1.30:1	1.30:1
Axial Ratio (Ka and X only, within pointing cone)	--	--
Cross-Polarization Isolation		
On Axis (minimum)	30 dB	35 dB
Off Axis (within 1 dB BW)	28 dB	30 dB
Feed Port Isolation (Tx to Rx)	35 dB	80 dB

Controller

Controller Type ►	Standard: TracStar	Optional: AvL AAQ
Feature▼	**Auto-Acquire with Opt. Ethernet IP Interface**	**Enhanced Auto-Acquire with Std. Ethernet IP Interface**
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

Optional Configurations, Upgrades & Services

Reflector configurations	Standard: 1.0m solid (one piece)	Upgrade: 1.0m 2 piece segmented
Standard Feed	Standard: 2-Port Precision Ku-band	
Mechanical upgrades		Upgrade: BUC/HPA Mounting (minimum elevation may be restricted)
RF/Electrical upgrades		Upgrade: Custom RF/IF I/O cabling configurations
Control System upgrades	Standard: TracStar Auto-Acquire	Upgrade: AvL AAQ
Customization options	Standard colorization: AvL Metallic Grey	Upgrade: custom colorization and/or custom logo on reflector
Additional options & services		Power Supply for AAQ Controller
		Spare Parts Kit
		Factory Training
Pack-up configurations	Standard: 2 Case Foam Pack-Up	Upgrade: Hard Mount 2 Case Pack-Up

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