AvL TECHNOLOGIES

Model 878 Mobile VSAT
85cm Motorized Transportable
Vehicle-Mount Antenna

Unique Features
- 85cm (90 x 80 cm) AvL Engineered Composite Reflector
- Zero Backlash AvL Cable Drive
- Compact Elevation-over Azimuth Drive Geometry
- Optional Rotary Joint on Pol Axis with Flex W/G to BUC
- "One-Button" Auto-Acquisition

Standard Rx/Tx Feed
- 2-Port Ku-Band Precision (standard Cross-Pol comp.)

Polarization Adjustment
- Motorized Worm Gear Drive

Standard Colorization
- AvL Metallic Gray (optional colors available)

Mechanical

Az/El Drive	Motorized AvL Zero Backlash Cable Drive (Patent Pending)
Polarization Drive System	Motorized Worm Gear Drive
Reflector Construction	85cm (90 x 80cm) Single Piece AvL Engineered Composite
Axis Travel	
Azimuth	400° (±200°)
Elevation	0-90° antenna boresight (true elevation readout from calibrated inclinometer)
Polarization	±95°
Az/El Speed	
Slewing/Deploying (typical)	2°/second Az
Peaking (typical)	0.2°/second
Motors	24 VDC Variable Speed, Constant Torque
RF Interface	
BUC/HPA Mounting	Feed Boom (maximum weight 15 lbs (6.8 kg))
Max dimensions for BUC mounting on Feed Boom	15 L x 11.5 W x 6 H inches (38 L x 29 W x 15 H cm)
Feed Tx	WR75 Flat Flange; Optional Polarization Rotary Joint w/flex waveguide from feed, WR75
Coax	Two Type F connectors on panel at antenna base
Electrical Interface	One 25 ft. (8 m) cable with connector from base connector panel to controller
Manual/Emergency Drive	Handcrank input on Az, El and Pol axes
Weight (approximate)	90 lbs. as shown, varies depending on options selected
Stowed Dimensions	53 L x 36 W x 13½ H inches (134 L x 91 W x 38 H cm)
Time to Acquisition	Less than 15 minutes, 8 minutes typical
Mounting	Pallet for vehicle roof mounting

Environmental

Wind – Survival	Deployed: 75 mph (120 kph); Stowed: 100 mph (161 kph)
Wind - Operational	45 mph (72 kph)
Pointing Loss in Wind (Ku RX):	
20 mph (32 kph)	0.2 dB typical
30 mph gusting to 45 mph (48 kph gusting to 56 kph)	0.5 dB typical
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	
RF Parameter ▼	**Receive**	**Transmit**
Frequency Range (GHz)	10.95 - 12.75	13.75 - 14.50
Polarization Configuration	Linear Orthogonal	
Gain (mid-band) (dBi)	38.5	40.0
Beamwidth -3dB (Degrees)	2.1	1.7
-10 dB (Degrees)	3.8	3.2
Radiation Pattern Compliance	FCC §25.209, ITU-R S.580-6	
Antenna Noise Temperature	55° K @ 20° elevation, 11.85 GHz	
Allowable Input Power Density		FCC: -14 dBw/4 kHz ITU: -0 dBw/4 kHz
VSWR	1.30:1	1.30:1
Cross-Polarization Isolation (dB)		
On Axis (minimum)	30	35
Off Axis (within pointing cone)	28	30
Feed Port Isolation	35	80

Controller

Standard Controller	
Standard Features	One button auto-acquisition of selected satellites, including peaking and optimization of cross pol. Internal movement detector and automatic stow. Includes a hand-held control and separate power supply. Certified for auto-commissioning on most satellite services.
Size	10 x 9 x 2.5 inch power supply
Input Power	100 - 240 VAC 50/60 Hz 4 A peak, 190 W Antenna running with max load

Available Options, Upgrades & Services

- Roof mounting kit (designed with interface for standard Thule Bar Kits: www.thule.com)
- Upgrade to embedded controller with optional Ethernet remote interface and GUI. Consult Sales for details and optional features.
- Add BUC/HPA Mounting (NOTE: minimum elevation may be restricted by these options)
- Rotary Joint on Pol Axis with Flex W/G to BUC
- Upgrade to Custom RF/IF I/O cabling configurations available
- Custom Colorization (contact factory for available colors)
- Add Custom Logo on Reflector Face (1- or 2-Color; per AvL Logo Policy)
- Spare Parts Kit
- Lightweight antenna cowling

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