AvL TECHNOLOGIES

Model 1878 C-Band Mobile VSAT
1.8m Motorized Transportable
Vehicle-Mount Antenna

Shown with Ku-Band feed

Unique Features
- 1.8m AvL Engineered Composite Reflector
- Zero Backlash AvL Cable Drive
- Compact/Rugged Pol Gear Drive
- Pol Rotary Joint
- "One-Button" Auto-Acquisition

Standard Rx/Tx Feed
- Fixed Feed: 2-Port C-Band Standard

Optional Rx/Tx Feed
- Fixed Feed: 2-Port C-Band INSAT

Polarization Adjustment
- Rotation of Feed with 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	1.8m Single Piece AvL Engineered Composite
Axis Travel	
Azimuth	400° (±200°)
Elevation	
Mechanical	0-90° antenna boresight
Electrical	Standard limits at 5° to 65° (CE Approval) or 0° to 90°
Polarization	±95°
Az/El Speed	
Slewing/Deploying (typical)	2°/second
Peaking (typical)	0.2°/second
Motors	24 VDC Variable Speed, Constant Torque
RF Interface	
BUC Mounting	Feed boom 50 lbs. max. weight; BUC envelope 25 L x 22 W x 9 H inches (64 L x 56 W x 23 H cm)*
Feed Tx	WR 137 flat flange with Pol Rotary Joint
Coax	RG59 Rx from feed to base plus 25 ft. (8m); Tx coax as required per customer specification
Electrical Interface	One 25 ft. (7.6 m) cable with connectors to controller
Manual/Emergency Drive	Handcrank on Az, El and Pol axes
Weight	Approximately 300 lbs. (136 kg) depending on options
Stowed Dimensions	101 L x 71.5 W x 23.5 H inches (256.5 L x 181 W x 59.7 H cm)**
Time to Acquisition	Less than 15 minutes, 8 minutes typical
Mounting	Pallet for vehicle roof mounting

Environmental

Wind – Survival	Deployed: 80 mph (128 kph); Stowed: 125 mph (201 kph)
Wind - Operational	30 mph (48 kph) gusting to 45 mph (72 kph)
Pointing Loss in Wind (Ku RX):	
20 mph (32 kph)	0.1 dB typical
30 mph gusting to 45 mph (48 kph gusting to 72 kph)	0.3 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 C-Band		Opt. 2-Port C-Band INSAT	
RF Parameter ▼	**Receive**	**Transmit**	**Receive**	**Transmit**
Frequency Range (GHz)	3.625 - 4.20	5.85 - 6.425	4.50 - 4.80	6.725 - 7.025
Polarization Configuration	Linear orthogonal standard		Linear orthogonal standard	
Gain (mid-band) (dBi)	35.5	39.2	37.0	40.4
Beamwidth -3dB (Degrees)	3.0	1.9	2.5	1.7
-10 dB (Degrees)	5.4	3.5	4.6	3.1
Radiation Pattern Compliance	ITU-R S.580-6		ITU-R S.580-6	
Antenna Noise Temperature	45° K @ 10° elevation, midband		45° K @ 10° elevation, midband	
Power		75 watts per port		75 watts per port
VSWR	1.30:1	1.30:1	1.30:1	1.30:1
Cross-Polarization Isolation (dB)				
On Axis	35	35	35	35
Off Axis (within pointing cone)	27	28	27	28
Feed Port Isolation	35	80	35	70
Output Flange Interface	WR229 Flat flange	WR137 Flat flange	WR229 Flat flange	WR137 Flat flange

Controller

Standard Controller ►	Three-Axis Jog Control & Display with Auto-Stow
Optional Upgrades	
Semi-automatic Operation	Drive to calculated position based on operator entered vehicle location, heading, plus satellite (longitude or listed)
Automatic Operation	Drive to calculated position based on auto GPS and Flux-Gate Compass data and satellite peaking with LNB signal
Auto-acquisition	One-button acquisition of selected satellite including peaking and optimization of cross-pol (certified for auto- commissioning on most satellite services)
Size	Two Rack Units (2RU)
Input Power	110/240 VAC, 1 phase, 50/60 Hz, 10/5 A peak, 1 A continuous
Optional 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. Includes a hand-held control and separate power supply. Certified for auto-commissioning on most satellite services.
Size	Embedded ACU with separate1 RU power supply
Input Power	100 - 240 VAC 50/60 Hz 4 A peak, 300 W power supply

Available Options, Upgrades & Services

- Thule Bar roof mounting kit
- Without Mounting Pallet: stow height = 18.8 H inches (47.8 H cm)
- BUC/HPA Mounting (NOTE: minimum elevation may be restricted by these options)
- 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

*Minimum elevation may be restricted by these options
**With standard controller. Stow height with optional controller: 24.4 H inches (62 H cm)

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