

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
 - 2-Port Ku-Band Precision (standard Cross-Pol comp.)
- Standard Rx/Tx Feed**
- Motorized Worm Gear Drive
- Polarization Adjustment**
- AvL Metallic Gray (optional colors available)
- Standard Colorization**



Mechanical

| | |
|--|---|
| Az/EI 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 bore sight (true elevation readout from calibrated inclinometer) |
| Polarization | ±95° |
| Az/EI 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 | Hand crank input on Az, EI 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 |
| Beam width -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

| 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

- 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