# AvL TECHNOLOGIES

## Model 1078 Mobile VSAT
## 1.0m Motorized Transportable
## Vehicle-Mount Antenna

**Unique Features**
- 1.0m AvL Engineered Composite Reflector
- Zero Backlash AvL Cable Drive
- Compact/Rugged Pol Gear Drive
- 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 | 1.0m 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/El Speed | |
| Slewing/Deploying (typical) | 2°/second Az |
| Peaking (typical) | 0.2°/second |
| Motors | 28 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, El and Pol axes |
| Weight (approximate) | 110 lbs. as shown, varies depending on options selected |
| Stowed Dimensions | 61.5 L x 40 W x 13.5 H inches (156 L x 102 W x 34 H cm) |
| Time to Acquisition | Less than 15 minutes, 8 minutes typical |
| Mounting | Pallet for vehicle roof mounting |

## Environmental

| | |
|---|---|
| Wind – Survival | Deployed: 60 mph (97 kph); Stowed: 100 mph (161 kph) |
| Wind - Operational | 45 mph (72 kph) |
| Pointing Loss in Wind (Ku RX): | |
| 20 mph (32 kph) | 0.3 dB typical |
| 30 mph gusting to 45 mph (48 kph gusting to 56 kph) | 0.8 dB typical |
| Temperature: | |
| Operational | -22° to 125° F (-30° to 52° C) |
| Survival | -40° to 140° F (-40° to 60° C) |

**15 North Merrimon Avenue • Asheville, NC 28804 • 828.250.9950 • FAX 828.250.9938 • www.avltech.com**

**All specifications subject to change without notice.**

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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) | 39.9 | 41.4 |
| Beam width -3dB (Degrees) | 1.8 | 1.5 |
| -10 dB (Degrees) | 3.2 | 2.8 |
| 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<br>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

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