

AvL TECHNOLOGIES

Model 1278FD Mobile VSAT 1.2m Motorized Fly&Drive Transportable Antenna

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|------------------------------|---|
| Unique Features | <ul style="list-style-type: none"> • 1.2m AvL Engineered Composite 3-Piece Reflector • Motorized AvL Compact Cable Drive • Motorized Low-Backlash Worm Gear • El-over-Az Positioner • Offset, Prime Focus Optics, 0.8 f/D • One-Case Solution |
| Standard Rx/Tx Feed | <ul style="list-style-type: none"> • 2-Port Ku "Precision" (standard Cross-Pol comp.) |
| Optional Rx/Tx Feeds | <ul style="list-style-type: none"> • 2-Port Ku "Mode-Match" (enhanced Cross-Pol comp.) |
| TX/BUC Interface | <ul style="list-style-type: none"> • Rotary Joint on Pol Axis w/Flex W/G |
| Standard Colorization | <ul style="list-style-type: none"> • AvL Metallic Gray (optional colors) |



Mechanical

Az/El Drive	Motorized AvL Zero Backlash Cable Drive (Patent Pending)
Polarization Drive System	Motorized Worm Gear Drive
Reflector Construction	1.2m 3-Piece AvL Engineered Composite
Axis Travel	
Azimuth	400° (± 200°)
Elevation	5°-90° (reflector bore sight from calibrated inclinometer)
Polarization	± 95°
Az/El Speed	
Slewing/Deploying (typical)	2°/second az (typical); 1°/second el (typical)
Peaking	0.2°/second (typical)
Motors	24V DC variable speed, constant torque
RF Interface	
Feed Tx Input	AvL-Supplied 90° WR75 Waveguide Rotary Joint @ Feed TX Input (Square Flange)
Coax	Rx and Tx: Type F (75-ohm) connectors on panel at antenna base
BUC Mounting (Optional)	Feed boom (maximum weight 16 lb.)
Controller Interface	One 30-ft. cable with connector from base connector panel to controller
Manual/Emergency Drive	Common handcrank for az, el, and pol axes
Case Weight	Approximately 285 lbs. (standard configuration, including case lid)
Case Transport Dimensions	33.4"W x 28"H x 77.5"L (85W x 72H x 197L cm)
Time to Acquisition	Less than 15 minutes, 8 minutes typical

Environmental

Wind – Survival	Deployed/Anchored: 65 mph (105 kph) Stowed/Anchored: 80 mph (128 kph)
Wind - Operational	Without Anchoring: Gusts to 30 mph (48 kph) With Anchoring: 30 gusting to 45 mph (48g72 kph)
Pointing Loss in Wind (Ku RX):	
20 mph (32 kph)	0.5 dB (typical)
30 mph gusting to 45 mph (48 kph gusting to 72 kph)	1.0 dB (typical)
Temperature:	
Operational	-22°F to 125°F (-30° to 52°C)
Survival	-40°F 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 GHz	13.75-14.50 GHz
Gain (mid-band)	42.0 dBi	43.2 dBi
VSWR	1.30:1	1.30:1
Beam width		
-3 dB	1.4°	1.2°
-10 dB	2.5°	2.1°
Radiation Pattern Compliance	FCC § 25.209, ITU-R S.580-6	
Antenna Noise Temp.	54K at 20° elevation, 11.85 GHz	n/a
G/T (50° LNB, midband, clear horizon)	21.5 dB/° K	n/a
Polarization Type	Linear orthogonal	
Allowable Power		
FCC	n/a	-14 dBw / 4 kHz
ITU	n/a	-0 dBw / 4 kHz
Cross-Polarization Isolation		
On Axis (minimum)	30 dB	35 dB
Off Axis (within 1 dB BW)	28 dB	30 dB
Feed Port Isolation	35 dB	80 dB

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

- Co-polarization Kit (configures Rx and Tx to same polarization)
- Extended Tx Ku-Band (13.2 GHz to 14.5 GHz)
- BUC/HPA Mounting (NOTE: minimum elevation may be restricted by these options)
- Roof Mounting Kit (designed to interface with most commercial factory and after-market roof rack systems)
- Custom RF/IF I/O cabling configurations available
- Custom Colorization (contact factory for available colors)
- Customized Logo on Reflector Face (1- or 2-Color; per AvL Logo Policy)
- Recommended Spare Parts Kit
- Extended Warranty

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