

AvL TECHNOLOGIES

Model 85cm 1098FA Mobile VSAT FlyAway Ku-Band Motorized Transportable Antenna

- Unique Features**
- 85cm Single Piece AvL Engineered Composite Reflector
 - Optional 3-Piece Reflector
 - Compact Elevation-over-Azimuth Cable Drive Positioner
 - Case-Based System; 2 Case Configuration
 - 10-Minute Setup; "One-Button" Auto-Acquisition
- Standard Rx/Tx Feed**
- 2-Port Ku-Band Precision
- Optional Integration Support**
- Custom BUC Integration
 - Universal BUC Tray
- Polarization Adjustment**
- Compact/Rugged Gear Drive
- Standard Colorization**
- AvL Metallic Grey (optional colors available)



Photo shows 1.0m model

Mechanical

| | |
|------------------------------------|---|
| Az/EI Drive | Motorized AvL Zero Backlash Cable Drive System (Patent Pending) |
| Polarization Drive System | Motorized Worm Gear |
| Reflector Construction | 85cm Single Piece AvL Engineered Composite |
| Axis Travel | |
| Azimuth | 400° (±200°) |
| Elevation (reflector boresight) | 0°-90° antenna boresight (true elevation readout from calibrated inclinometer) |
| Polarization | ± 95° |
| Az/EI Speed | |
| Slewing/Deploying (typical) | 2°/second azimuth; 2°/second elevation; 2°/second polarization |
| Peaking | 0.2°/second |
| Motors | 24V DC variable speed, constant torque |
| Standard Integration Interfaces | |
| Tx Input @ Feed | Ku: WR 75 Cover Flange at Feed Tx Port; Type F coax from BUC to base |
| Rx Input (AvL-supplied coax) | Type F coax from LNB to base |
| BUC (& other CFE) Mounting | Feed boom (maximum weight 16 lbs.(7.3 kg)) |
| Controller Interface | One 30-ft. (9.1m) cable with connector from base connector panel to controller |
| Manual/Emergency Drive | Common handcrank for azimuth, elevation and polarization axes |
| Size/Weight – Std. Positioner Case | 21.4 H x 23 W x 22.5 L inches (54 H x 58 W x 57 L cm), weighs approx. 95 lbs. (43 kg) |
| Size/Weight – Std. Reflector Case | 13 H x 37.5 W x 40.5 L inches (33 H x 95 W x 103 L cm), weighs approx. 130 lbs. (59 kg) |
| Opt. 3 Piece Reflector Case | 14.5 H x 29.5 W x 40.5 L inches (37 H x 75 W x 103 L cm), weighs approx. 130 lbs. (59 kg) |

Environmental

| | |
|--------------------------------|---|
| Wind – Survival | Anchored: deployed: 75 mph (121 kph), stowed (Fly&Drive option only): 100 mph (161 kph) |
| Wind - Operational | Anchored: 45 mph (72 kph) |
| Pointing Loss in Wind (Ku RX): | |
| 20 mph (32 kph) | 0.2 dB typical |
| 30 gusting 45 mph (48/72kph) | 0.5 dB typical |
| Temperature: | |
| Operational | -22°F to 125°F (-30°C to 52°C) |
| Survival | -40°F to 140°F (-40°C 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 (H/V) | |
| Gain (mid-band) | 38.5 dBi | 40.0 dBi |
| -3dB Beamwidth (Degrees) | 2.1° | 1.7° |
| -10dB Beamwidth (Degrees) | 3.8° | 3.2° |
| Radiation Pattern Compliance | FCC 25.209 and ITU-RS-580-6 Eutelsat | |
| Antenna Noise Temp. (mid-band, 20° el) | 55K | -- |
| Maximum Feed Transmit (Tx) Power | -- | FCC: -14 dBW/4 kHz ITU: -0 dBW/4 kHz |
| VSWR | 1.30:1 | 1.30:1 |
| Axial Ratio (Ka and X only, within pointing cone) | -- | -- |
| Cross-Polarization Isolation | | |
| On Axis (minimum) | 30 dB | 35 dB |
| Off Axis (within 1 dB BW) | 28 dB | 30 dB |
| Feed Port Isolation (Tx to Rx) | 35 dB | 80 dB |

Controller

| Controller Type ► | Standard: TracStar | Optional: AvL AAQ |
|---------------------------|---|--|
| Feature ▼ | Auto-Acquire with Opt. Ethernet IP Interface | Enhanced Auto-Acquire with Std. Ethernet IP Interface |
| Integration | Embedded w/ Handheld, incl. Shelf-Mount P/S (optional 1RU w/ front-panel keypad + integral P/S) | Embedded w/ Ethernet IP Interface (P/S optional) (optional rack-mount P/S available) |
| User Interface | Menu-driven display w/ keypad | Intelligent/simple GUI for on-board or remote CFE laptop |
| Input Power | 115/230 VAC (at rack); up to 200W | 28V DC (at antenna positioner); optional 115/230 VAC rack-mount power supply; up to 200W |
| Software Upgrades/Options | Inclined orbit tracking (using step-track or TLE track); automatic band sensing | Inclined orbit tracking (using step-track, memory track, or TLE track); automatic band sensing |

Optional Configurations, Upgrades & Services

| | | |
|-------------------------------|--|---|
| Reflector configurations | Standard: 85cm solid (one piece) | Upgrade: 85cm 3-piece segmented |
| Standard Feed | Standard: 2-Port Precision Ku-band | |
| Mechanical upgrades | | Upgrade: BUC/HPA Mounting (minimum elevation may be restricted) |
| RF/Electrical upgrades | | Upgrade: Custom RF/IF I/O cabling configurations |
| Control System upgrades | Standard: TracStar Auto-Acquire | Upgrade: AvL AAQ |
| Customization options | Standard colorization: AvL Metallic Grey | Upgrade: custom colorization and/or custom logo on reflector |
| Additional options & services | | Power Supply for AAQ Controller |
| | | Spare Parts Kit |
| | | Factory Training |
| | | Fly and Drive Upgrade Kit |
| Pack-up configurations | Standard: 2 Case Foam Pack-Up | Upgrade: Hard Mount 2 Case Pack-Up |

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