

AvL TECHNOLOGIES

Model 1.2m 1050 FA SNG/Military Tri-Band Motorized Transportable FlyAway Antenna

- Unique Features**
- 1.2m Segmented 4-Piece AvL Carbon Fiber Reflector
 - Case-based Positioner
 - 15-Minute Setup; One-Button Auto-Acquisition
 - Offset Prime Focus
 - 2-Port Ku Precision (standard Cross-Pol comp.)
 - 2-Port Ku Mode-Match (enhanced Cross-Pol comp.)
 - 2-Port Ka
 - 2-Port X
 - Rotation of Feed
- Highly Efficient Optics
Standard Rx/Tx Feed
Optional Rx/Tx Feeds**
- MIL-STD-188-164A Compliant
 - White, OD Green or Desert Tan (optional colors available)
- Polarization Adjustment
Military Standard
Standard Colorization**



Mechanical

| | |
|---------------------------|---|
| Az/EI Drive | Motorized AvL Zero Backlash Cable Drive (Patent Pending) |
| Polarization Drive System | Motorized Rotation of Feed |
| Reflector Construction | 1.2m Segmented 4-piece Carbon Fiber |
| Axis Travel | ±200° |
| | Elevation (operational) |
| | 5°-100° of reflector bore sight from calibrated inclinometer (EI range may vary depending upon CFE) |
| | Polarization (Ku only) |
| | ±95° |
| Az/EI Speed | 2°/second Az; 1°/second EI |
| | Peaking |
| | 0.2°/second |
| Motor | 24V DC variable speed, constant torque |
| Interfaces | BUC Mounting |
| | RF |
| | Electrical |
| Manual/Emergency Drive | Hand crank for Az and EI, Knob on Pol axis |
| Configuration | Two rugged, weather-resistant plastic cases, total weight 260 lbs. (typical) |
| | Positioner |
| | Outriggers/Feed Boom/Reflector |
| | Additional Feeds |
| Set-up Time | Less than 15 minutes |

Environmental

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|----------------------------|--------------------------------|
| Wind – Survival (anchored) | 80 mph in zenith position |
| Wind – Operational | Without Anchoring |
| | With Anchoring |
| | Gusts to 30 mph |
| | 30 mph gusting to 40 mph |
| Pointing Loss | Ku-Band |
| | 0.1 dB typical, 0.5 dB max |
| | Ka-Band |
| | 0.3 dB typical, 1.0 dB max |
| | X-Band |
| | 0.1 dB typical, 0.2 dB max |
| Temperature: | Operational |
| | Survival |
| | -22° to 125° F (-30° to 52° C) |
| | -40° to 140° F (-40° to 60° C) |

RF/Electrical

| Feed Type ▶ | Std. 2-Port Ku (1.2m Reflector) | | Opt. 2-Port Ka (1.2m Reflector) | | Opt. 2-Port X (Military/WGS) (1.4m Reflector) | |
|--|-------------------------------------|-------------------------|------------------------------------|---------------------|--|-------------------------|
| | Receive | Transmit | Receive | Receive | Receive | Transmit |
| RF Parameter ▼ | | | | | | |
| Frequency Range (GHz) | 10.95 - 12.75 | 13.75 - 14.5 | 20.2 - 21.2 (MIL) | 30.0 - 31.0 (MIL) | 7.25 - 7.75 | 7.90 - 8.40 |
| Polarization Configuration | Linear orthogonal standard | | Circular or Linear | | RHCP or LHCP | |
| Gain (mid-band) | 41.6 dBi | 43.1 dBi | 46.2 dBi | 49.5 dBi | 37.6 dBi | 38.1 dBi |
| Radiation Pattern Compliance | FCC 25.209, ITU-R S.580-6, IESS 208 | | FCC 25.209, MIL-STD-188-164A | | MIL-STD-188-164A | |
| VSWR | 1.30:1 | 1.30:1 | 1.30:1 | 1.30:1 | 1.30:1 | 1.30:1 |
| Beam width (-3 dB) | 1.5° | 1.2° | 0.8° | 0.6° | 2.3° | 2.1° |
| Antenna Noise Temp. (mid-band, 20° el) | 54° K | | 107° K | | 52° K | |
| Power Handling Capability | | 500 watts per port | | 250 watts per port | | 1000 watts per port |
| G/T with LNB, Midband | 21.3 dB/° K (with 50°K LNB) | | 23.0 dB/K with 100°K LNB | | 17.3 dB/°K with 55°K LNB | |
| Axial Ratio: CP only, within pointing cone | | | 1.5 dB | | 1.21 dB | 2.0 dB |
| Cross-Pol Isolation | On-axis | 35 dB | 35 dB | 1.0 dB | | |
| | Within pointing cone | Std: 28 dB MM: 25 dB | Std: 30 dB MM: 35 dB | | | |
| Feed Port Isolation – Tx to Rx | 35 dB | 80 dB (with filter) | 30 dB | 80 dB (with filter) | 115 (incl. opt. filter) | 115 (incl. opt. filter) |

Controller

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|-----------------|--|
| 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

- Standard Configuration: Case-Based
- Optional Configuration: Tripod
- BUC/HPA mounting
- Stabilization leg options
- Waveguide interconnect options
- Beacon Receiver and Inclined Orbit Tracking Mode
- Ku-band Mode Matched Feed (Eutelsat)
- Ku-band Co-pol Kit
- DBS, Commercial Ka Feeds (future)