AvL TECHNOLOGIES

Model 1.2m 1050
High-Wind Pack-in-the-Box (PIB) MIL/SNG FlyAway 1.2m (Expandable to 1.4m) Segmented CF Band Configurable Antenna

Standard Features
- High Gain 1.2m, 4-piece Carbon Fiber Reflector
- Zero-Blockage, High-Efficiency 0.8 f/D Offset Optics
- Band-Configurable Feed Boom w/ Struts
- El-over-Az High-Stiffness Positioner
- Rugged, Roto-Mold Positioner Case
- Rugged, Roto-Mold Antenna/Boom/RF Case

Reflector Options
- Expansion Panels for Enhanced X-band Gain
- Custom Logo (1- or 2-Color, per AvL Logo Policy)

Available Feeds
- 2-Port Ku Precision (standard Cross-Pol comp.)
- 2-Port Mode-Match (enhanced Cross-Pol comp.)
- 2-Port Ka Commercial
- 2-Port Ka MIL (WGS)
- 2-Port X MIL (WGS) – Opt. Rx/Tx Reject Filter Kit
- 2-Port Ku/DBS

Ku Pol. Adjustment
- Motorized Rotation of Feed via Controller

Shown with X-band Feed & Expansion Panels

Mechanical

Reflector Construction	Segmented Carbon Fiber (4-Pc. Basic 1.2m; Optional Expansion Panels for Enhanced X-band)	
Travel		
Azimuth	± 200°	2°/sec nominal Deploying/Slewing; 0.2°/sec nominal peaking
Elevation	+5 to 90°	2°/sec nominal Deploying/Slewing; 0.2°/sec nominal peaking
Polarization (Ku)	± 95°	
RF Interface		
BUC Mounting LNB Mounting	Feed Boom (Contact AvL Engineering for max. weight and dimensions allowable) *Note: BUC and LNB are CFE*	
IF Interface	Coax Connectors at Upper Boom (BUC/LNB) & Positioner Base (I/O Panel)	
Set-up Time	Less than 10 minutes	
Stowed Configuration & Weights		
Positioner Case	27” x 20” x 22”, 110 lbs. max, 100 lbs. typical (includes handcrank for manual positioning)	
Antenna/Boom/RF	43” x 28” x 21”, 150 lbs. max (Includes Ku or Ka Feed), 140 lbs. typical	
Optional Additional Feeds	43” x 28” x 21”, 70 lbs typical, dependent on feed options selected	

Environmental

Wind – Survival (anchored)	80 mph in stowed position
Wind - Operational	
Without anchoring	Gusts to 45 mph
With anchoring	45 mph gusting to 60 mph
Rx Pointing Loss @ 45 mph	
X-band (w/ Exp. Panels)	0.1 dB typical, 0.3 dB max
Ku-Band	0.1 dB typical, 0.5 dB max
Ka-Band	0.3 dB typical, 1.0 dB max
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 Ku-Band		2-Port Ka-Band (Comm., MIL)		2-Port X-Band (w/o exp. Panels)	
RF Parameter ▼	**Receive**	**Transmit**	**Receive**	**Transmit**	**Receive**	**Transmit**
Frequency Range (GHz)	10.95 - 12.75	13.75 - 14.50	Mil: 20.2 - 21.2 Comm: 17.7 - 20.2	Mil: 30.0 - 31.0 Comm: 27.5 - 30.0	7.25 - 7.75	7.90 - 8.40
Polarization Configuration	Linear Orthogonal Standard, Optional Co-Pol		Circular or Linear		RHCP or LHCP	
Gain (mid-band) (dBi)	41.6	43.1	46.2 Mil	49.5 Mil	37.6	38.1
Beamwidth (-3 dB)	1.5°	1.2°	0.8°	0.6°	2.3°	2.1°
G/T, midband, clear horizon	21.3 dB/° K with 50° LNB		23.0 dB/° K with 100° LNB		17.3 dB/° K with 55° LNB	
Antenna Noise Temperature @ 20° El, midband	54° K		107° K		46° K (including optional filter)	
Radiation Pattern Compliance	FCC 25.209, ITU-R S.580-6, IESS 208		FCC 25.209, MIL-STD-188-164A		MIL-STD-188-164A	
Power Handling Capability		500W per port		250W per port		1 KW
VSWR	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1
Axial Ratio, CP only, within Pointing Cone (dB)			1.5	1.0	1.21	2.0
Cross-Polarization Isolation (dB)						
On Axis (minimum)	35	35				
Within Pointing Cone	28 Std. Precision 25 Mode-Match	30 Std. Precision 35 Mode-Match				
Feed Port Isolation – Tx to Rx (dB)	35	80 (incl.filter)	80	80 (incl.filter)	115 (includes optional filter)	115 (includes optional filter)

Controller

- Fully Automatic Satellite Acquisition, Peaking, and Cross-Pol Adjustment
- Sensors: GPS, Compass, Level compensation
- Entry of Desired Satellite
- 1 RU Power Supply/IP Interface Option
- Positioning Accuracy: ± 0.2°
- Options include:
  - Inclined orbit tracking
  - External beacon receiver
  - Ethernet interface for remote IP operation

Other Available Options, Upgrades & Services

- Customer-furnished ODU/modem integration
- Ku-band Mode-Matched feed for enhanced cross-pol performance
- 2-Port Ka Commercial feed
- 2-Port Ka MIL (WGS) feed
- 2-Port X MIL (WGS) feed (incl. Rx/Tx reject filter kit)
- 2-Port K/DBS feed
- X-band reflector expansion panels (original equipment factory upgrade only)
- Customer-furnished BUC/LNB mounting
- Waveguide interconnect options
- Wind anchoring options: ground stakes, straps, sand bags
- Optional aluminum transit case
- 2 Piece carbon fiber reflector (changes pack-up requirements)
- 1- or 2-color custom reflector logo

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