

ANTENNA FEATURES

- 1.55m four-piece AvL carbon fiber reflector
- Elevation jack screw over azimuth bearing drive system
- Rugged manual antenna designed to operate in high winds
- 15-minute setup
- Compact pack-up fits into 1/4 Internal Airlift / Helicopter Slingable Container Unit (ISU)
- Standard feed: Two-Port Ku-Band Mode-Matched
- Optional feeds:
 - X-Band
 - Ka-Band Wideband
 - MIL-Ka-Band
 - C-Band
 - S-Band
- Optional rugged Terminal Interface Unit (TIU) Outdoor Unit (ODU) with MIL-STD-188-164 high-stability internal frequency reference
- MIL-STD-810: certified
- MIL-STD-188-164: X-Band-, Skynet-, and Eutelsat-compliant



MECHANICAL SPECIFICATIONS

Reflector Construction		1.55m four-piece reflector; segmented carbon-fiber and aluminum
Axis Travel	Azimuth	± 90°
	Elevation	5° to 95°
	Polarization	± 95°
RF Interface	BUC Mounting	Feed boom
	Coax	At TIU
Electrical Interface		RF connectors, Ethernet M&C, power
Setup Time		15 minutes
Pack-Up Size and Weight		Fits into ¼ ISU; four cases, all weighing less than 108 lbs. (49 kg)

ENVIRONMENTAL SPECIFICATIONS

Wind – Survival	Anchored	70 mph (116 km/h)
Wind – Operational	Anchored	56 mph (90 km/h); maximum 2 dB loss
	Not Anchored	33 mph (53 km/h); maximum 1 dB loss
Temperature	Operational	-25° F to 125° F (-32° C to 52° C)
	Storage	-40° F to 140° F (-40° C to 60° C)

RF PARAMETERS: KU-BAND (TWO-PORT)

		Receive	Transmit
Frequency Range (GHz)		10.95 – 12.75	13.75 – 14.50
Polarization Configuration		Linear orthogonal standard, optional co-polarization	
Gain (dBi)		43.8	45.3
Beamwidth (Degrees)	-3 dB	1.2	1.0
Radiation Pattern Compliance		FCC 25.209, ITU-R S.580-6, IESS 208	
Power Handling Capability		--	500 W
G/T Midband (Clear Horizon, Typical)		23.5 dB/°K with 50° LNB	
Cross-Polarization Isolation (dB)	On-Axis Minimum	35	35
	Within Pointing Cone	25	35
Feed Port Isolation (Tx to Rx, dB)		35	80 (including filter)
EIRP		--	Ku-Band SSPA 34.6 W Linear: 60.4 dBW

RF PARAMETERS: KA-BAND (TWO-PORT) MILITARY

		Receive	Transmit
Frequency Range (GHz)		20.2 – 21.2	30.0 – 31.0
Polarization Configuration		Circular or Linear	
Gain (dBi)		48.4	51.7
Beamwidth (Degrees)	-3 dB	0.7°	0.5°
Radiation Pattern Compliance		FCC 25.209, MIL-STD-188-164	
Power Handling Capability		--	250 W
G/T Midband (Clear Horizon, Typical)		25.38 dB/°K with 100° LNB	
Axial Ratio (CP Only, Within Pointing Cone, dB)		1.5	1.0
Feed Port Isolation (Tx to Rx, dB)		85	85 (including filter)
EIRP		--	Ka-Band SSPA 15.8 W Linear; 62.5 dBW

RF PARAMETERS: X-BAND (TWO-PORT)

	Receive	Transmit
Frequency Range (GHz)	7.25 – 7.75	7.90 – 8.40
Polarization Configuration	RHCP or LHCP	
Gain (dBi)	39.7	40.4
Beamwidth (Degrees) -3 dB	1.8°	1.7°
Radiation Pattern Compliance	MIL-STD-188-164	
Power Handling Capability	--	200 W
G/T Midband (Clear Horizon, Typical)	19.0 dB/°K, 55° LNB	--
Axial Ratio (CP Only, Within Pointing Cone, dB)	1.21	2.0
Feed Port Isolation (Tx to Rx, dB)	115 (including optional filter)	115 (including optional filter)
EIRP	--	X-Band SSPA 50 W Linear, 59.2 dBW

RF PARAMETERS: KA-BAND (TWO-PORT) COMM.

	Receive	Transmit
Frequency Range (GHz)	19.2 – 20.2	29.0 – 30.0
Polarization Configuration	Circular or Linear	
Gain (dBi)	47.7	51.5
Beamwidth (Degrees) -3 dB	0.8°	0.5°
Radiation Pattern Compliance	FCC 25.209, MIL-STD-188-164	
Power Handling Capability	--	50 W
G/T Midband (Clear Horizon, Typical)	24.6 dB/°K, 100° LNB	--
Axial Ratio (CP Only, Within Pointing Cone, dB)	1.5	1.0
Feed Port Isolation (Tx to Rx, dB)	80	80 (including filter)
EIRP	--	EIRP Ka-Band SSPA 15.8 W Linear, 62.95 dBW

RF PARAMETERS: C-BAND (TWO-PORT)

	Receive	Transmit
Frequency Range (GHz)	3.625 – 4.2	5.85 – 6.425
Polarization Configuration	Standard Linear Polarization (LP); optional Circular Polarization (CP)	
Gain (dBi)	34.19	38.10
Beamwidth (Degrees) -3 dB	3.46	2.21
Radiation Pattern Compliance	FCC 25.209 , ITU-R S.580.6	
Power Handling Capability	--	1000W per port
G/T Midband (Clear Horizon, Typical)	16.27 dB/° K with 20° LNB	--
Axial Ratio (CP Only, Within Pointing Cone, dB)	3	2.3
Feed Port Isolation (Tx to Rx, dB)	100	

RF PARAMETERS: S-BAND (TWO-PORT)

	Receive	Transmit
Frequency Range (GHz)	2 – 2.6	2 – 2.6
Polarization Configuration	CP	
Gain (dBi)	29.6	29.6
Beamwidth (Degrees) -3 dB	5.89	5.89
Radiation Pattern Compliance	FCC 25.209, ITU-R S.580-6	
Power Handling Capability	--	500W
G/T Midband (Clear Horizon, Typical)	9.34 dB/° K with 75° LNB	--
Axial Ratio (CP Only, Within Pointing Cone, dB)	2.5	2.5
Feed Port Isolation (Tx to Rx, dB)	14	

CONTROLLER

Features	Manually operated antenna. The terminal can be configured with AvL's Terminal Interface Unit (TIU) which simplifies pointing without the use of a spectrum analyzer and includes a graphical user interface for drop down satellite selection, GPS location, and pointing instructions including elevation readout and signal strength
Size	Windows-based GUI software via Ethernet on AIU. Customizable power cable for use with NEMA 120/240V outlets.
Input Power	120/240 VAC 60/50 Hz, 6/3 A typical. 30-amp breaker recommended.

OPTIONS – UPGRADES AND SERVICES

- Upgrade to Rugged Terminal Interface Unit (TIU):
 - Features: simplified connectivity for external power, external modem and antenna/RF; also includes MIL-STD-188-164 internal frequency reference; embedded receiver with spectrum display and simplified (color-coded) cable harness
 - Size: 16 L x 12 W x 3 H inches (41 L x 30 H x 8 H cm)
 - Input power: 120/240 VAC 60/50 Hz, 6/3 A Max. 250 W typical, ~50 W idle
 - ODU/modem integration
 - BUC/LNB integration
 - Computer-assisted manual pointing tools
 - High-stability 10 MHz timing reference
 - Wind anchoring options, ground stakes, and sandbags
 - Additional feed
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PACKAGING CONFIGURATION



POSITIONER CASE



REFLECTOR CASE



FEED CASE



**HIGH WIND
KIT CASE**