

ANTENNA FEATURES

- 1.35m 12-piece AvL carbon fiber reflector
- AvL Cable Drive azimuth and elevation positioner
- Lightweight manual antenna with integral base and folding tripod; optional upgrade to motorized positioner with auto-acquire (AAQ) controller
- Deployed by one person in less than 10 minutes
- Standard feed: Two-Port Ku-Band (fits in basic case pack-up)
- Optional feeds: Two-Port Wideband Ka-Band, Two-Port X-Band
- Optional rugged Terminal Interface Unit (TIU) ODU with ARSTRAT internal frequency reference



MECHANICAL SPECIFICATIONS

Reflector Construction		Segmented 1.35m carbon fiber / aluminum
Axis Travel	Azimuth	± 95°
	Elevation	+ 5° to 95°
	Polarization	± 90°
RF Interface	BUC/HPA Mounting	Rear of reflector (10 lbs. (4.5 kg) typical) or remote
	Coax	Two connectors at amplifiers
Electrical Interface		Connectors at amplifiers
Setup Time		Less than 10 minutes
Assembled Weight		Less than 41 lbs. (19 kg) (with Ku-Band Precision Feed, minus BUC)
Case Integration		Two checkable travel cases: one for positioner, one for reflector. Less than 70 lbs. (32 kg) each. Exterior dimensions are the same for each case: 32 L x 21 W x 13 H in. (80 H x 53 W x 32 H cm)

ENVIRONMENTAL SPECIFICATIONS

Wind – Survival	Anchored	45 mph (72 km/h)
Wind – Operational	Not Anchored	15 mph (24 km/h)
	Anchored	30 mph gusting to 45 mph (48 km/h gusting to 72 km/h)
Pointing Loss in Wind (RX)	Ku-Band Receive, Operational Winds	0.4 dB typical, 0.8 dB maximum
Temperature	Operational	-22° to 125° F (-30° to 52° C)
	Survival	-40° to 140° F (-40° to 60° C)

RF PARAMETERS: KU-BAND (TWO-PORT)

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)	42.3	43.8
Beamwidth (Degrees) -3 dB	1.4°	1.1°
Radiation Pattern Compliance	FCC 25.209, ITU-R S.580-6, IESS 208	
Antenna Noise Temperature (Midband, 20° EI)	50° K	--
EIRP SSPA 33W Linear	--	58.6 dBW
Power Handling Capability	--	75 W
VSWR	1.30:1	1.30:1
Feed Port Isolation (Tx to Rx, dB)	35	80 (including filter)
G/T, Midband, Clear Horizon	22.2 dB/° K with 50° LNB	--

RF PARAMETERS: KA-BAND (TWO-PORT)

KA-BAND (TWO-PORT)	Receive	Transmit
Frequency Range (GHz)	19.2 – 21.2	29.0 – 31.0
Polarization Configuration	Circular or linear	
Gain (dBi)	46.7	50.0
Beamwidth (Degrees) -3 dB	0.8°	0.5°
Radiation Pattern Compliance	FCC 25.209, MIL-STD-188-164C	
Antenna Noise Temperature (Midband, 20° EI)	112° K	--
EIRP SSPA 15.8W Linear	--	61.0 dBW
Power Handling Capability	--	50 W
VSWR	1.30:1	1.30:1
Axial Ratio, CP Only, Within Pointing Cone (dB)	1.5	1.0
Feed Port Isolation (Tx to Rx, dB)	80	80 (including filter)
G/T, Midband, Clear Horizon	23.2 dB/° K with 100° LNB	--

RF PARAMETERS: X-BAND (TWO-PORT)

X-BAND (TWO-PORT)	Receive	Transmit
Frequency Range (GHz)	7.25 – 7.75	7.90 – 8.40
Polarization Configuration	RHCP or LHCP	
Gain (dBi) – Not Including Optional Filters	38.3	39.0
Beamwidth (Degrees)	-3 dB	2.2°
Radiation Pattern Compliance	MIL-STD-188-164C	
Antenna Noise Temperature (Midband, 20° EI)	46° K (including optional filter)	--
EIRP SSPA 50W Linear	--	56.1 dBW
Power Handling Capability	--	100 W
VSWR	1.30:1	1.30:1
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)
G/T, Midband, Clear Horizon	18.0 dB/° K with 55° LNB	--

OPTIONS – UPGRADES AND SERVICES

- Rugged Terminal Interface Unit (TIU) ODU provides simplified connectivity for external power, external modem and antenna/RF; also includes ARSTRAT internal frequency reference; embedded receiver with spectrum display and simplified (color-coded) cable harness
- Customer-furnished ODU/modem integration
- Customer-furnished BUC/LNB integration
- Computer-assisted manual pointing tools
- High stability 10MHz timing reference
- Wind anchoring options, ground stakes, sandbags
- Additional feed band cases
- Add custom logo on reflector face (one- or two-color, as per AvL logo policy)
- Spare parts kit

UPGRADE: MOTORIZED POSITIONER / CONTROLLER

Features	AvL one button auto-acquisition of selected satellites, including peaking and optimization of cross-polarization. AvL browser-based GUI. Ethernet-based with built-in broadband receiver. Acquires on modem SNR, beacon, and/or carrier signals without external beacon receiver.
Size	AAQ Controller embedded on antenna. External 24V power supply or optional 1RU chassis.
Input Power	120/240 VAC 60/50 Hz, 6/3 A maximum. 250W typical, ~50W idle.

PACKAGING CONFIGURATION

