

ANTENNA FEATURES

- 2.0m single-piece carbon fiber reflector
- Optional three-piece carbon fiber reflector with manually folding hinged wings or motorized folding hinged wings
- Zero-backlash AvL cable drive and polarization gear drive
- One-button auto-acquisition
- Offset, prime focus, 0.8 f/D
- Feeds:
 - Two-Port Ku-Band Precision Linear Polarization (LP) - standard cross-polarization composition
 - Four-Port Ku-Band Precision LP - standard cross-polarization composition
 - Two-, Three- or Four-Port Ku-Band Wideband LP
 - Three- or Four-Port Ka-Band Commercial Circular Polarization (CP)
 - Two- or Three-Port C-Band CP or LP
 - Two-Port C-Band INSAT LP
- Motorized worm gear drive
- White or metallic gray colors (additional colors available)



MECHANICAL SPECIFICATIONS

Az/EI Drives		Motorized zero-backlash AvL cable drive
Polarization Drive System		Motorized worm gear drive
Reflector Construction		2.0m single-piece carbon fiber; optional three-piece carbon fiber with manual or motorized folding hinged wings
Axis Travel	Azimuth	±200° standard; 270° with dual waveguide to vehicle; options include dual Ku-Band, single C-Band, and single Ku-Band
	Elevation	0° to 90° antenna boresight
	Electrical	5° to 90° standard limits or 5° to 65° (CE approval)
	Polarization	±95° for two-port and three-port feeds; ±50° for two-port wideband and four-port feeds
Axis Speed	Slewing/Deploying	2°/second
	Peaking	0.2°/second
Motors		24 VDC variable speed, constant torque
RF Interface	BUC/HPA Mounting	Feed boom, rear of reflector or inside truck
	Waveguide	Cover flange at interface point
	Coax	RG59 run from feed to base plus 25 ft. (8m)
Electrical Interface		25 ft. (8m) cable with connectors for controller
Manual/Emergency Drive		Hand crank on azimuth, elevation, and polarization axes
Weight (approximate)		400 lbs. (182 kg)
Stowed Dimensions		108.5 L x 78.3 W x 18.3 H in. (276 L x 202 W x 46 H cm)
Mounting		Azimuth ring bolts directly to vehicle

ENVIRONMENTAL SPECIFICATIONS

Wind – Survival	Deployed	60 mph (121 km/h)		
	Stowed	100 mph (161 km/h)		
Wind – Operational		30 mph (48 km/h), gusts to 45 mph (72 km/h)		
Pointing Loss in Wind (RX)	Band	Ku-Band	Ka-Band	C-Band
	30 mph gusting to 45 mph (48 km/h to 72 km/h)	1.7 dB	2.0 dB	0.25 dB
Temperature	Operational	-22° to 125° F (-30° to 52° C)		
	Survival	-40° to 140° F (-40° to 60° C)		

RF PARAMETERS: KU-BAND PRECISION (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)	46.0	47.6
Beamwidth (Degrees)	-3 dB	0.86
	-10 dB	1.65
Radiation Pattern Compliance	FCC §25.209, ITU-R S.580.6	
Antenna Noise Temperature (Midband, 20° EI)	57°K	--
Power Handling Capability	--	500W
Feed Port Isolation (Tx to Rx, dB)	35	80 (includes filter)
G/T, Midband, (dB/°K)	25.7 with 43°K LNB	--

RF PARAMETERS: KA-BAND (TWO-PORT)

		Receive	Transmit
Frequency Range (GHz)		17.7 – 20.2	27.5 – 30.0
Polarization Configuration		CP or LP	
Gain (dBi)		49.9	53.4
Beamwidth (Degrees)	-3 dB	0.5	0.3
	-10 dB	--	--
Radiation Pattern Compliance		FCC §25.209	
Antenna Noise Temperature (Midband, 20° EI)		106°K	--
Power Handling Capability		--	250W
Feed Port Isolation (Tx to Rx, dB)		--	--
G/T, Midband, (dB/°K)		26.7 with 100°K LNB, 20.7 GHz	
Circular Axial Ratio		1.5	1.0

RF PARAMETERS: C-BAND (TWO-PORT)

		Receive	Transmit
Frequency Range (GHz)		3.625 – 4.2	5.850 – 6.425
Polarization Configuration		CP or LP	
Gain (dBi)		36.4	40.3
Beamwidth (Degrees)	-3 dB	2.5	1.7
	-10 dB	4.8	3.2
Radiation Pattern Compliance		ITU-R S.580.6	
Antenna Noise Temperature (Midband, 20° EI)		49°K	--
Power Handling Capability		--	1000W
Feed Port Isolation (Tx to Rx, dB)		70	70
G/T, Midband, (dB/°K)		17.9 with 20°K LNB	
Circular Axial Ratio		2.3	1.3

CONTROLLER – AAQ1500

Features	AvL one-button auto-acquisition of selected satellites, including peaking and optimization of cross-polarization. Internal movement detector and automatic stow. Optional handheld control and separate power supply. Certified for auto-commissioning on most satellite services.
Size	Embedded Antenna Control Unit (ACU) with separate 1RU Controller Interface Panel (CIP) power supply with LCD and keypad. 250W and 500W (1.6m and larger) versions available.
Input Power	120/240 VAC 60/50 Hz, 6/3 A maximum. Power consumption is dependent on antenna size. During acquisition, 150W or 300W is typical; ~50W idle.
Software	AAQRemote / AAQ WebUI

OPTIONS – UPGRADES AND SERVICES

- Optional feeds:
 - Four-Port Ku-Band Precision LP
 - Two-, Three- or Four-Port Ku-Band Wideband LP,
 - Two- or Four-Port Ka-Band CP
 - Two- or Three-Port C-Band CP or LP
 - Two-Port C-Band INSAT LP
- Add co-polarization kit (for Two-Port Ku-Band feeds only) – configures receive and transmit to same polarity
- Waveguide rotary joint with flex on polarization axis for Ku-Band
- H/V switch (Ku-Band Wideband)
- Waveguide cross-axis kits
- Dual/redundant HPA high power integration
- Optional mounting pallet (adds 4.62 in. (11.8 cm) to stow height)
- Add BUC/HPA mounting (note that minimum elevation may be restricted by these options)
- Upgrade to custom RF/IF I/O cabling configurations
- Additional coax cables
- Custom colorization (contact AvL for available colors)
- Add custom logo on reflector face (one- or two-color, as per AvL Logo Policy)
- Spare parts kit