

ANTENNA FEATURES

- Single-panel 1.6m carbon fiber reflector
- Pallet for mounting to vehicle
- Zero-backlash azimuth/elevation cable drive positioner
- Optional rotary joint on polarization axis with flexible waveguide to block upconverter (BUC)
- AvL AAQ Controller (jog, upgradable to DVB auto-acquisition)
- Offset, prime focus, 0.8 f/D optics
- Standard Ku-Band Precision Two-Port Feed (standard cross-polarization composition)
- Optional Ku-Band Three-Port or Four-Port Feed
- Polarization adjustment of feed via rotation with motorized worm gear drive
- Metallic gray colorization (optional colors available)



MECHANICAL SPECIFICATIONS

Az/EI Drives		Motorized AvL zero-backlash cable drive
Polarization Drive System		Motorized worm gear drive
Reflector Construction		1.6m single-piece carbon fiber reflector
Axis Travel	Azimuth	400° (±200°)
	Elevation	0° to 90° of reflector boresight
	Polarization	±95°
Axis Speed	Slewing/Deploying	2°/second
	Peaking	0.2°/second
Motors		24 VDC variable speed, constant torque
RF Interface	BUC/HPA Mounting	Feed boom (maximum weight 50 lbs., or 11.3 kg)
	Maximum Dimensions for BUC Mounting	27 L x 13.8 W x 8.5 H inches (56 L x 35 W x 22 H cm)
	Feed Transmit	WR75 flat flange; optional polarization rotary joint with flexible waveguide from feed, WR75
	Coax	One Type N (transmit) and one TNC (receive)
Electrical Interface		One 32 ft. (9.75 m) cable with connectors for controller
Manual/Emergency Drive		Hand crank for azimuth/elevation/polarization axes
Weight (approximate)		230 lbs. (105 kg), depending on options selected
Stowed Dimensions		83.5 L x 61.7 W x 15.7 H inches (212 L x 157 W x 40 H cm)
Time to Acquisition		Less than 15 minutes
Mounting		Pallet for vehicle roof mounting (optional – adds two inches, or five centimeters, to stow height)

ENVIRONMENTAL SPECIFICATIONS

Wind – Survival	Deployed	65 mph (105 km/h)
	Stowed	80 mph (129 km/h)
Wind – Operational		45 mph (72 km/h) gusting to 60 mph (97 km/h)
Pointing Loss in Wind (Ku-Band Receive)	30 mph (48 km/h) gusting to 45 mph (72 km/h)	0.7 dB typical, 1.5 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 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)		43.5	45.1
Beamwidth (Degrees)	-3 dB	1.2	1.0
	-10 dB	2.1	1.8
Radiation Pattern Compliance		FCC 25.209, ITU-R S.580-6	
Antenna Noise Temperature (Midband, 20° EI)		54° K at 20° elevation	--
VSWR		1.30:1	1.30:1
Power Handling Capability		--	FCC: -14 dBw/4 KHz ITU: -0 dBw/4 KHz
Feed Port Isolation (Tx to Rx, dB)		35	80

AvL CONTROLLER

The **AAQ Antenna Controller** is a flexible, cost-effective embedded control system designed for transportable satellite antennas operating in harsh environments. Its compact pedestal-mounted architecture streamlines cabling and supports a broad range of antenna types while enabling fully automatic acquisition - including one-button deploy/acquire and automated azimuth, elevation, and cross-polarization peaking.

Integrated GPS, electronic compass, and attitude sensors with auto-compensation ensure accurate pointing, and a built-in receiver provides precise peaking on satellite beacons or live data carriers. Customer-configurable target profiles, OpenAMIP support, and both Web-based and .NET GUI control interfaces give users a flexible, modern operating environment tailored for rapid and reliable operation.

OPTIONS – UPGRADES AND SERVICES

- Add BUC/HPA mounting (not that minimum elevation may be restricted by these options)
- Rotary joint on polarization axis with flexible waveguide to BUC
- Upgrade to custom RF/IF I/O cabling configurations available
- Custom colorization (contact AvL for available colors)
- Add custom logo on reflector face (one- or two-color, as per AvL Logo Policy)
- Controller options
- Spare Parts Kit