Model 888
85cm Vehicle Mount Motorized Antenna

ANTENNA FEATURES

- 85cm carbon fiber single-piece reflector
- Zero-backlash AvL Cable Drive
- Optional rotary joint on polarization axis with optional flex waveguide to BUC
- One-button auto-acquisition enabled with controller
- Offset, prime focus, 0.72f/D optics
- Standard Ku-Band Precision Feed (Two-Port) – standard cross-polarization composition
- Optional Ku-Band Wideband or Ka-Band (Two- or Four-Port), X-Band (Two-Port), L-Band
- Motorized worm gear drive for polarization adjustment
- Standard white colorization with optional colors available

MECHANICAL SPECIFICATIONS

Az/El Drives		Motorized AvL Cable Drive with zero backlash
Polarization Drive System		Motorized worm gear drive
Reflector Construction		85cm single-piece carbon fiber
Axis Travel	**Azimuth**	400° (± 200°)
	Elevation	0° to 90° of reflector boresight; standard limits at 5° to 65° (CE approval) or 0° to 90°
	Polarization	± 95° for Two-Port and Three-Port Feeds; ± 50° for Two-Port Wideband and Four-Port Feeds
Axis Speed	**Slewing/Deploying**	2°/second azimuth, 2°/second elevation
	Peaking	0.2°/second
Motors		24 VDC variable speed, constant torque
Acquisition Time		<15 minutes
RF Interface	**BUC/HPA Mounting**	Feed boom (30 lbs. (13.6 kg). Maximum BUC envelope: 12 L x 11.5 W x 6 H inches (30 L x 29 W x 15 H cm).
	Coax	Feed to base plus 25 ft. (8m) – specify 50 ohm or 75 ohm 2x IF connections – F-types or N-types
Electrical Interface		One 25 ft. (8m) cable with connectors for controller; contains 2x RJ45s for LAN and serial port connection 1x control (IP) and power connector – multi-pin
Manual/Emergency Drive		Hand crank on azimuth, elevation, and polarization axes
Weight (approximate)		100 lbs. (45 kg)
Stowed Dimensions		53 L x 35.8 W x 13.5 H inches (135 L x 91 W x 35 H cm)

ENVIRONMENTAL SPECIFICATIONS

Wind – Survival	Deployed	75 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)	**Ku-Band**	
	20 mph (32 km/h)	0.2 dB typical
	30 mph gusting to 45 mph (48 km/h to 72 km/h)	0.7 dB typical
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 (DBS bands available upon request)		**Receive**	**Transmit**
Frequency Range (GHz)		10.95 – 12.75	13.75 – 14.50
Polarization Configuration		Linear orthogonal standard, optional co-polarization	
Gain (dBi)		38.6	40.1
Beamwidth	-3 dB	2.1°	1.7°
Radiation Pattern Compliance		FCC 25.209, ITU-R S.580-6, IESS 208	
Antenna Noise Temperature (Midband, 20° El)		54° K	--
Power Handling Capability		--	1000 W per port
VSWR		1.3:1	1.3:1
Feed Port Isolation (Tx to Rx, dB)		35	80 (including filter)

Specifications subject to change without notice.
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RF PARAMETERS: KA-BAND (TWO-PORT)

Ka-Band		Receive	Transmit
Frequency Range (GHz)		Military: 20.2 – 21.2 Commercial: 17.7 – 20.2	Military: 30.0 – 31.0 Commercial: 27.5 – 30.0
Polarization Configuration		Circular or Linear	
Gain (dBi)		43.2 (Military)	46.5 (Military)
Beamwidth	-3 dB	2.1°	1.7°
Radiation Pattern Compliance		FCC 25.209, MIL-STD-188-164C	
Antenna Noise Temperature (Midband, 20° El)		107° K	--
Power Handling Capability		--	250 W
VSWR		1.3:1	1.3:1
Feed Port Isolation (Tx to Rx, dB)		85	85 (including filter)

RF PARAMETERS: X-BAND (TWO-PORT)

X-Band		Receive	Transmit
Frequency Range (GHz)		7.25 – 7.75	7.90 – 8.40
Polarization Configuration		RHCP or LHCP	
Gain (dBi)		34.6 (not including optional filter)	35.3 (not including optional filter)
Beamwidth	-3 dB	3.3°	3.0°
Radiation Pattern Compliance		MIL-STD-188-164C	
Antenna Noise Temperature (Midband, 20° El)		52° K (including optional filter)	--
Power Handling Capability		--	1000 W
VSWR		1.3:1	1.3:1
Feed Port Isolation (Tx to Rx, dB)		115 (including optional filter)	115 (including optional filter)
G/T, Midband, Clear Horizon		14.3 dB/° K with 55° LNB	--

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CONTROLLER – AvL AAQ1500

Features	Embedded controller with Ethernet IP interface (optional rack-mount P/S available); inclined orbit tracking using step-track, memory track, or TLE track; automatic band sensing; integrated GPS; ability to select and save over 10 satellite target profiles
Software / GUI	AAQRemote (AvL GUI) for onboard or remote control; supports OpenAMIP
Input Power	28 VDC (at antenna positioner); optional 115/230 VAC rack-mount power supply; up to 200W

OPTIONS – UPGRADES AND SERVICES

- Upgrade feed:
  - Two- or Three-Port Ku-Band Wideband
  - Four-Port Ku-Band Wideband
  - Two- or Four-Port Ka-Band
  - Two-Port X-Band
  - L-Band
- Optional H/V switch (Ku-Band Wideband)
- Optional 1RU CIP (Controller Interface Panel) with display screen and red/green buttons for quick deploy/stow/stop
- Add Co-Polarization Kit (Ku-Band Wideband) - configures Rx and Tx to same polarization sense
- Add BUC/HPA Mounting (note that minimum elevation may be restricted by these options)
- 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)
- Spare Parts Kit

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