Model 2460HW
2.4m Fly-Away High-Wind Antenna

ANTENNA FEATURES

- 2.4m segmented nine-piece carbon fiber reflector
- Case-packed/transported quadpod
- 30-minute setup with one-button auto-acquisition
- Offset, prime focus, 0.8f/D
- Feeds:
  - Four-Port Ku-Band Wideband (standard cross-polarization composition)
  - Four-Port Ka-Band
  - Four-port X-Band (military/WGS)
  - Four-Port Extended C-Band
  - Two-Port S-Band
  - Two-Port L-Band
- MIL-STD-188-164
- Motorized rotation of feed

MECHANICAL SPECIFICATIONS

Az/El Drives		Motorized AvL cable drive azimuth positioner with elevation machine screw
Polarization Drive System		Motorized rotation of feed
Reflector Construction		2.4m segmented nine-piece carbon fiber
Axis Travel	**Azimuth**	±90°
	Elevation	0° to 90° of reflector boresight from calibrated inclinometer
	Polarization	±95°
Axis Speed	**Slewing/Deploying**	0.8°/second azimuth, 0.14°/second elevation
	Peaking	0.08°/second
Motors		90 VDC variable speed, constant torque
RF Interface	**BUC/HPA Mounting**	Feed boom or behind reflector (additional case required)
	RF	Two connectors at positioner base
Electrical Interface		Connector at positioner base
Manual/Emergency Drive		Hand cranks for azimuth and elevation, knob on polarization axis
Configuration	11 rugged, weather-resistant cases, including:	
	Positioner	Six cases less than 40 L x 40 W x 70 H in. (102 L x 102 W x 178 H cm); 174 lbs. (79 kg)
	Boom / Feed	71 L x 18 W x 23 H in. (180 L x 46 W x 58 H cm); 160 lbs. (73 kg); includes Ku- or Ka-Band Feed
	Reflector	40 L x 40 W x 18 H in. (102 L x 102 W x 46 H cm); 160 lbs. (73 kg)
	Additional Feeds	43 L x 28 W x 21 H in. (109 L x 71 W x 53 H cm); 70 lbs. (32 kg) – dependent on feed options selected
Time to Acquisition		Less than 30 minutes

ENVIRONMENTAL SPECIFICATIONS

Wind – Survival	Anchored	100 mph (161 km/h) in 90° elevation position
Wind – Operational	With Anchoring	35 mph gusting to 45 mph (56 to 72 km/h)
	Without Anchoring	60 mph gusting to 80 mph (97 to 129 km/h)
Pointing Loss in Wind (RX)	Ku-Band	0.5 dB typical, 1.0 dB maximum
	Ka-Band	1.2 dB typical, 2.0 dB maximum
Temperature	Operational	-22° to 125° F (-30° to 52° C)
	Survival	-40° to 140° F (-40° to 60° C)

RF PARAMETERS: L-BAND (TWO-PORT)

		Receive	**Transmit**
Frequency Range (GHz)		1.52 – 1.66	1.52– 1.66
Polarization Configuration		Circular	
Gain (dBi)	Two-Port	29.9	29.9
	Four-Port	--	--
Beamwidth (Degrees)	-3 dB	5.7	5.7
Radiation Pattern Compliance		ITU-R S.580-G	
Antenna Noise Temperature (Midband, 20° El)	Two-Port	26.6° K	--
	Four-Port	--	--
Power Handling Capability		--	200 (coax)
G/T Midband, Clear Horizon, Typical		9.9dB/° K (with 75° K LNB)	--
Axial Ratio		-	-
Feed Port Isolation (Tx to Rx, dB)		10	10

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RF PARAMETERS: S-BAND (TWO-PORT)

		Receive	Transmit
Frequency Range (GHz)		2 – 2.6	2 – 2.6
Polarization Configuration		Circular	
Gain (dBi)	Two-Port	33.1	33.1
Beamwidth (Degrees)	-3 dB	3.9	3.9
Radiation Pattern Compliance		ITU-R S.580-6	
Antenna Noise Temperature (Midband, 20° El)	Two-Port	30.7° K	--
Power Handling Capability		--	500W
G/T Midband, Clear Horizon, Typical		12.8 dB/° K (with 75° K LNB)	--
Axial Ratio		2.5 dB	2.5 dB
Feed Port Isolation (Tx to Rx, dB)		14	14

RF PARAMETERS: C-BAND (TWO-PORT)

		Receive	Transmit
Frequency Range (GHz)		3.625 – 4.20	5.85 – 6.725
Polarization Configuration		Circular or Linear	
Gain (dBi)	Two-Port	37.7	41.6
Beamwidth (Degrees)	-3 dB	2.3	1.5
Radiation Pattern Compliance		FCC 25.209, ITU-R S.580-6, IESS 207	
Antenna Noise Temperature (Midband, 20° El)	Two-Port	42° K	--
Power Handling Capability		--	1000W per port
G/T Midband, Clear Horizon, Typical		19.81 dB/° K (with 20° LNB)	--
Axial Ratio		3 dB	2.3 dB
Feed Port Isolation (Tx to Rx, dB)		40	100

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RF PARAMETERS: X-BAND MIL/WGS (TWO-PORT)

		Receive	Transmit
Frequency Range (GHz)		7.25 – 7.75	7.90 – 8.40
Polarization Configuration		Circular or Linear	
Gain (dBi)	Two-Port	43.4	44.1
Beamwidth (Degrees)	-3 dB	1.2	1.1
Radiation Pattern Compliance		MIL-STD-188-164	
Antenna Noise Temperature (Midband, 20° El)	Two-Port	56.5° K	--
Power Handling Capability		--	--
G/T Midband, Clear Horizon, Typical		23.1 dB/° K (with 50° K LNB)	--
Axial Ratio		2.0 dB	2.0 dB
Feed Port Isolation (Tx to Rx, dB)		115 (including optional filter)	115 (including optional filter)

RF PARAMETERS: KU-BAND WIDEBAND (FOUR-PORT)

		Receive	Transmit
Frequency Range (GHz)		10.70 – 12.90*	12.70 – 14.63*
Polarization Configuration		Circular or Linear	
Gain (dBi)	Two-Port	--	--
	Four-Port	47.0	48.8
Beamwidth (Degrees)	-3 dB	0.7	0.6
Radiation Pattern Compliance		FCC 25.209, ITU-R S.580-6, IESS 208	
Antenna Noise Temperature (Midband, 20° El)	Two-Port	--	--
	Four-Port	61° K	--
Power Handling Capability		--	500W per port
G/T Midband, Clear Horizon, Typical		26.5 dB/°K (with 50°K LNB)	--
Axial Ratio		1.5 dB	1.5 dB
Feed Port Isolation (Tx to Rx, dB)		35	80 (including optional filter)

*Frequencies of receive and transmit can be adjusted with specific filters. Overlap is not permissible.

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RF PARAMETERS: KA-BAND (FOUR-PORT)

		Receive	Transmit
Frequency Range (GHz)		17.70 – 21.20 17.0 (TBC)* - 21.20	27.5 – 31.0 27.1 (TBC)* - 31.0
Polarization Configuration		Circular or Linear	
Gain (dBi)	Two-Port	--	--
	Four-Port	52.1	55.0
Beamwidth (Degrees)	-3 dB	0.4	0.3
Radiation Pattern Compliance		FCC 25.209, MIL-STD-188-164	
Antenna Noise Temperature (Midband, 20° El)	Two-Port	--	--
	Four-Port	104° K	--
Power Handling Capability		--	250W per port
G/T Midband, Clear Horizon, Typical		29.0 dB/° K (with 100° K LNB)	--
Axial Ratio		1.5 dB	1.0 dB
Feed Port Isolation (Tx to Rx, dB)		30	80 (including optional filter)

*Axial ratio over full frequency range is TBC.

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.
Software / GUI	AAQRemote / AAQ WebUI
Input Power	115 VAC, 1 phase, 50/60 Hz, 15 A maximum. Power consumption is dependent on antenna size. During acquisition, 150W or 300W is typical; ~50W idle.
Hardware/Options	Embedded outdoor controller with AC input. Other options include Ethernet remote interface, inclined orbit step tracking, TLE tracking, differential GPS compass, remote GUI, and waveguide switch control.

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OPTIONS – UPGRADES AND SERVICES

- Customized I/O cable interface panels
- Customer equipment mounting
- AvL receiver activation, inclined orbit tracking, resolvers/upgrade
- Custom logo on reflector face (one- or two-color, as per the AvL Logo Policy)
- Waveguide interconnect options
- Wind anchoring options: ground stakes or sandbags
- Grounding options (lightning dissipator)
- Anchoring kit options
- Spare parts kit

Contact sales@avltech.com for additional options.