

Model 2470 2.4m Motorized FlyAway Tracking Antenna

- Unique Features**
 - Designed for high duty cycle MEO satellite tracking
 - Make-before-Break Handover on two antenna systems
 - 2.4m Segmented 9-piece Carbon Fiber Reflector
- Standard Rx/Tx Feed**
 - 2-Port Ka-Band Commercial CP
- Optional Rx/Tx Feeds**
 - 2- or 4-Port Ka-Band (MIL or Commercial) (CP or LP) (WGS)
 - 2 or 4-Port Ku-Band Precision (standard Cross-Pol comp.)
 - 2 or 4-Port Ku-Band Mode-Match (enhanced Cross-Pol comp.)
 - 2- or 4-Port C-Band CP
 - 2- or 4-Port C-Band LP
 - 2-Port C-Band Troposcatter
- Other Options**
 - 2-Port X-Band with optional Rx/Tx reject filter kit
 - Single or Dual antenna systems available
 - Vehicle, Trailer or Pole Mount options available
 - BUC/LNB integration
- Standard Colorization**
 - White, OD Green or Desert Tan (optional colors available)
- Antenna Size Options**
 - 2 Meter Class: 1.8m, 2.0m and 2.4m
- Operates With**
 - O3b Networks, virtually all GEO Satcom systems



Mechanical

Az/EI Drive	Motorized Dual Slew Drive Positioner
Polarization Drive System	Motorized rotation of feed (LP only)
Reflector Construction	Segmented 9-piece Carbon Fiber
Axis Travel	
Azimuth	350 degrees
Elevation (operational)	5-90 degrees
Polarization	±95° Adjustable to within 1° (LP – Feeds)
Az/EI Speed	
Slewing/Deploying/Tracking	4 degrees/second Az; 1 degree/second EI
Motors	24VDC variable speed, constant torque
Interfaces	
Tx Input	Waveguide flange (cover) @ Feed; 50 ohm connector @ Lower I/O panel
Rx Input	Waveguide flange (cover) @ Feed; 50 ohm connector @ Lower I/O panel
BUC (& other CFE) Mounting	Directly to feed OMT or on the feed boom
Electrical	48VDC Input (28VDC optional) (Power supply and cord optional)
Manual/Emergency Drive	Manual adjustment with hand crank for each axis available.
Configuration	Five rugged, weather-resistant plastic cases
Motorized Positioner and Cables	30.1 x 30.1 x 16.4 inches, 170 lbs. (77 x 77 x 42 cm, 77 kg)
Feed Mast, Ref. Supports	62.3 x 27.3 x 21.6 inches, 150 lbs. (158 x 69 x 55 cm, 68 kg)
Tripod	62.3 x 27.3 x 30.6 inches, 170 lbs. (158 x 69 x 78 cm, 77 kg)
Feed, Boom, and BUC*	62.3 x 27.3 x 21.6 inches, 145 lbs. (158 x 69 x 55 cm , 66 kg), *weight varies based on SSPA or BUC
Reflector Panels	38.7 x 38.7 x 25.0 inches, 155 lbs. (99 x 99 x 64 cm, 70 kg)
Set-up Time	Less than 1 hour per antenna

Environmental

Wind – Survival (anchored)	80 mph in zenith stowed position
Wind – Operational	
Without Anchoring	15 mph
With Anchoring	35 mph gusting to 45 mph
Pointing Loss	
Ka-band Rx	1.0 dB typical, 2.0 dB max
Temperature:	
Operational	-22° to 140°F (-30° to 60°C)
Survival	-40° to 149°F (-40° to 65°C)

AvL TECHNOLOGIES

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RF/Electrical

Feed Type ►	Std. 2-Port Ka-Band Commercial		Opt. 2-Port Precision Ku <i>DBS bands available upon request</i>		Opt. 2-Port C		Opt. 2-Port X (Military/WGS)		Opt. 2-Port Ka (Commercial/Military)	
RF Parameter ▼	Receive	Transmit	Receive	Transmit	Receive	Transmit	Receive	Transmit	Receive	Transmit
Frequency Range (GHz)	17.85-19.30	27.65-29.07	10.95-12.75	13.75-14.5	3.625 - 4.20	5.85 - 6.425	7.25 7.75	7.9 - 8.4	19.2 - 21.2 (military) or 17.7 - 20.2 (commercial)	29.0 - 31.0 (military) or 27.5 - 30.0 (commercial)
Polarization Configuration	RHCP or LHCP Co-pol		Orthogonal Linear, Optional Co-pol Linear		Linear or Circular Options		Circular RHCP or LHCP		Circular or Linear	
Gain (dBi @ mid-band or GHz)	51.0	54.5	47.3	48.8	37.7	41.6	43.3*	44.1*	51.5 @ 19.7 52.0 @ 20.7	54.9 @ 29.5 55.2 @ 30.5
VSWR	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1		1.30:1	
-3dB Beam width (mid-band)	0.5°	0.3°	0.8°	0.6°	2.3°	1.5°	1.2°	1.1°	0.4°	0.3°
Radiation Pattern Compliance	FCC 25.209, ITU-R S.580-6		FCC 25.209, ITU-R S.580-6, IESS 208		FCC 25.209, ITU-R S.580-6, IESS 207		MIL-STD-188-164A		FCC 25.209, MIL-STD-188-164A	
Ant. Noise Temp. (mid-band or GHz, 20° el)	104° K		56° K		49° K		53° K		104° K @ 20.7	
Power Handling Capability		250 watts per port		500 watts per port		1000 watts per port		1000 watts per port		250 watts per port
G/T (dB/K) with LNB, @ Midband, clear horizon	27.9 (with 100°K LNB)		27.0 (with 50°K LNB)		19.3 (with 20°K LNB)		23.0 (with 55°K LNB)		28.9 @ 20.7 (with 100°K LNB)	
Axial Ratios										
Axial Ratio within Tracking Cone	1.8 dB (CP only)	1.8 dB (CP only)			2.3 dB (CP only)	1.3 dB (CP only)	1.21 dB (CP only)	2.0 dB (CP only)	1.5 dB (CP only)	1.0 dB (CP only)
Cross-Pol Isolation										
On-axis			35 dB	35 dB	35 dB / 30 dB	35 dB / 30 dB				
Within Pointing Cone			28 dB standard	30 dB standard						
Within Pointing Cone			25 dB MM option	35 dB MM option						
Feed Port Isolation – TX to RX (dB)	35	80 (includes filter)	35	80 (includes filter)	65	105 (includes filter)	115 (includes filter)	115 (includes filter)	35	85 (includes filter)

Controller

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

Available Options, Upgrades & Services

- Optional feeds and filters available
- BUC/HPA mounting
- Optional 75 ohm coax
- Waveguide interconnect options
- Beacon receiver
- Grounding options (lightning conductor)
- Anchoring kit options
- Custom logo on reflector face (1- or 2-color; per AvL Logo Policy)
- DVB-S2 Receiver Kit
- Spare parts kit

*excludes filter