Model 615
60cm Fly-Away Manual Antenna

ANTENNA FEATURES

- Five-panel carbon fiber reflector
- Manual azimuth/elevation operation standard – coarse and fine
- Manual polarization rotation
- Five-minute setup
- Airline carry-on IATA-compliant single-case pack-up
- Standard receive/transmit feeds:
    - Two-Port Ku-Band Precision Linear Polarization (LP) - standard cross-polarization composition
    - Two-Port Ku-Band Mode-Match LP - enhanced cross-polarization composition
    - Two-Port Ka-Band Commercial Circular Polarization (CP) or LP **
    - Two-Port Ka-Band Military CP or LP – Wideband Global Satcom (WGS)
    - Two-Port Ka-Band Wideband CP - WGS and Commercial
- Two-Port X-Band Military CP - WGS – optional Rx/Tx Reject Filter Kit
- Computer-assisted pointing (CAP) device available as option
- BUC/LNB integration
- Standard colors: white reflector; black positioner, boom, feed, and tripod

MECHANICAL SPECIFICATIONS

Az/El Drives		Manually driven fine and coarse adjustment (visual scales standard; three-lobe knob for each axis)
Polarization Drive System		Manual rotation of feed (visual scales standard)
Reflector Construction		Segmented carbon fiber
Axis Travel	**Azimuth**	360° continuous
	Elevation	0° to 90°
	Polarization	± 90°
Standard Integration Interfaces	**Transmit Input at Feed**	2°/second azimuth; 1°/second elevation
	Receive Input at Feed	0.2°/second
	BUC and Other CFE Mounting	Contact AvL
Size and Weight (Basic Manual Configuration)		Less than 35 lbs. (16 kg) packed in airline carry-on-compliant backpack (girth less than 45 in. (114 cm))

ENVIRONMENTAL SPECIFICATIONS

Wind – Survival	Deployed	60 mph (97 km/h) ballasted	
Wind – Operational		30 mph (48 km/h) gusting to 45 mph (72 km/h)	
Pointing Loss in Wind (RX)	**Band**	Ku-Band – 30 mph gusting to 45 mph (48 km/h to 72 km/h)	Ka-Band – 30 mph gusting to 45 mph (48 km/h to 72 km/h)
	Typical	0.1 dB	0.2 dB
	Maximum	0.2 dB	0.4 dB
	Maximum with High Wind Struts Installed	0.15 dB	0.3 dB
Temperature	Operational	-40° F to 140° F (-40° C to 60° C)	
	Survival	-50° F to 180° F (-46° C to 82° C)	

RF PARAMETERS: TWO-PORT KU-BAND PRECISION

		Receive	Transmit
Frequency Range (GHz)		10.95 – 12.75	13.75 – 14.50
Polarization Configuration		Linear orthogonal standard, optional co-polarization	
Gain (dBi)		35.6	37.1
Beamwidth (Degrees)	-3 dB	3.0	2.5
Radiation Pattern Compliance		FCC 25.209*, ITU-R S.580-6	
G/T with LNB, Midband, Clear Horizon		15.2 dB/° K (50° LNB)	--
Antenna Noise Temperature (Midband, 20° El)		59° K	--
Maximum Feed Transmit Power		--	500W
VSWR		1.30:1	1.30:1
Axial Ratio (Ka-Band and X-Band Only, Within Pointing Cone)		--	--
Feed Port Isolation (Tx to Rx, dB)		35	80 (including filter)

Specifications subject to change without notice.
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RF PARAMETERS: TWO-PORT X-BAND MIL/WGS

		Receive	Transmit
Frequency Range (GHz)		7.25 – 7.75	7.90 – 8.40
Polarization Configuration		RHCP- or LHCP-configurable	
Gain (dBi)		31.6***	32.3***
Beamwidth (Degrees)	-3 dB	4.7	4.3
Radiation Pattern Compliance		MIL-STD-188-164C	
G/T with LNB, Midband, Clear Horizon		11.2 dB/° K (55° LNB)	--
Antenna Noise Temperature (Midband, 20° El)		55° K	--
Maximum Feed Transmit Power		--	1000W
VSWR		1.30:1	1.30:1
Axial Ratio (Ka-Band and X-Band Only, Within Pointing Cone)		1.21	2
Feed Port Isolation (Tx to Rx, dB)		100 (including optional filter)	100 (including optional filter)

RF PARAMETERS: TWO-PORT KA-BAND MILITARY

		Receive	Transmit
Frequency Range (GHz)		20.2 – 21.2	30.0 – 31.0
Polarization Configuration		Circular or Linear Polarization (CP or LP)	
Gain (dBi)		40.2	43.4
Beamwidth (Degrees)	-3 dB	1.7	1.1
Radiation Pattern Compliance		FCC 25.209, MIL-STD-188-164C	
G/T with LNB, Midband, Clear Horizon		16.9 dB/° K (100° LNB)	--
Antenna Noise Temperature (Midband, 20° El)		111° K	--
Maximum Feed Transmit Power		--	250W
VSWR		1.30:1	1.30:1
Axial Ratio (Ka-Band and X-Band Only, Within Pointing Cone)		1.5	1.0
Feed Port Isolation (Tx to Rx, dB)		35	85 (including filter)

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RF PARAMETERS: TWO-PORT KA-BAND COMMERCIAL

		Receive	Transmit
Frequency Range (GHz)		17.2 – 20.2**	27.5 – 30.0**
Polarization Configuration		Circular or Linear Polarization (CP or LP)**	
Gain (dBi)		39.4	42.9
Beamwidth (Degrees)	-3 dB	1.9	1.2
Radiation Pattern Compliance		FCC 25.209, ITU-R S.580-6	
G/T with LNB, Midband, Clear Horizon		16.1 dB/° K (100° LNB)	--
Antenna Noise Temperature (Midband, 20° El)		111° K	--
Maximum Feed Transmit Power		--	250W
VSWR		1.30:1	1.30:1
Axial Ratio (Ka-Band and X-Band Only, Within Pointing Cone)		1.5	1.0
Feed Port Isolation (Tx to Rx, dB)		35	85 (including filter)

OPTIONS – UPGRADES AND SERVICES

- Upgrade from Two-Port Ku-Band Precision Feed to:
  - Two-Port Ku-Band Mode-Matched Enhanced Cross-Polarization Feed
  - Two-Port X-Band Military Feed
  - Two-Port Ka-Band Military Feed
  - Two-Port Ka-Band Commercial Feed
- Add Co-Polarization Kit (for Two-Port Ku-Band Feeds only): configures receive and transmit to same polarization sense; may require additional transport case
- Add BUC/HPA mounting (note that minimum elevation may be restricted by these options; may require additional transport case)
- Upgrade to custom RF/IF I/O cabling configurations
- 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
- Computer Assisted Pointing (CAP) device

* Outside main beam.
** Contact AvL for commercial Ka-Band frequency range options and circular or linear polarization (CP or LP) options.
*** Excluding optional filters.