AvL TECHNOLOGIES

MODEL 878KCB

0.85M Portable Auto-Acquisition Antenna

Buy Now!

Reflector	90 x 80 cm (0.85 Meter Aperture) Single Piece Precision Composite
Optics	Offset, Prime Focus, 0.8 f/D
Interchangeable Feeds	2-Port Ka-CP, Precision Ku-LP, 2-Port X-CP
Positioner Type	Case-based MVSAT
Drive System	AvL Cable Drive Positioner
Mount Geometry	Elevation over Azimuth
Polarization	Rotation of LP Feed

Mechanical

Travel	
Azimuth	± 200°
Elevation	0° to 90° of reflector boresight from calibrated inclinometer
Polarization	± 95°
Speed	
Slewing/Deploying	2°/second Az, 1°/second El
Peaking	0.2°/second
Motors	24V DC variable speed, constant torque
Emergency Axes Drives	Handcranks on Az and El; Knob on Pol
Stowed Configuration	One rugged, weather-resistant plastic case, total weight: 225 lbs. (estimate, Ka only)
Positioner	53.5” x 43.5” x 19.5”, 225 lbs. (estimate, Ka only)
Additional Feeds	May be added to Case 1 with increased weight or in additional cases
Set-up Time	Less than 15 minutes, 8 minutes typical
RF Interface	
BUC Mounting	Between Boom Arms or on Feed (max 24 lb BUC on Ka feed assembly)
Coax	50 ohm Coax (N & BNC) 2 each Tx and RX
Electrical Interface	Connector at positioner base, One 25 ft. cable with connectors to controller

Environmental

Wind	
Operational	
Without anchoring	Gusts to 30 mph
With anchoring	30 mph gusting to 45 mph
Survival (anchored)	80 mph in stowed position
Pointing Loss in Wind	
Ku-band Receive, Operational winds	0.5 dB typical, 1.0 dB max
Ka-band Receive, Operational winds	1.3 dB typical, 2.0 dB max
Temperature	
Operational	-22° to 125° F (-30° to 52° C)
Survival	-40° to 140° F (-40° to 60° C)

Options

- BUC/HPA mounting
- Stabilization leg options
- Waveguide interconnect options
- Ku-band Mode Matched Feed (Eutelsat)
- Ku-band Co-pol Kit

X-Band	Receive	Transmit
Polarization	RHCP or LHCP	LHCP or RHCP
Frequency Range (GHz)	7.25 - 7.75	7.90 - 8.40
Gain (Midband) (dBi)	34.5	35.2
VSWR	1.30:1	1.30:1
Beamwidth (-3 dB, Az)	3.3˚	3.0˚
Radiation Pattern Compliance (beyond mainbeam)	MIL-STD-188-164A	MIL-STD-188-164A
Ant Noise Temperature @ 20° El, midband	49° K	
G/T with 55˚ LNB, midband, clear horizon	14.1 dB/˚ K	
Axial Ratio (CP only, within pointing cone)	1.2 dB	2 dB
Feed Port Isolation – TX to RX (dB)	110 (includes optional filter)	100 (includes optional filter)
Power Handling Capability		1000 watts per port

Ku-Band	Receive	Transmit
Polarization	Linear orthogonal standard	
Frequency Range (GHz)	10.95 - 12.75	13.75-14.50
Gain (Midband) (dBi)	38.5	40.0
VSWR	1.30:1	1.30:1
Beamwidth (-3 dB, Az)	2.1˚	1.7˚
Radiation Pattern Compliance > 2˚	FCC 25.209, ITU-R S.580.6	FCC 25.209, ITU-R S.580.6
Allowable Power		-14 dBw/4 kHz per FCC, -0 dBw/4 kHz per ITU
Ant Noise Temperature @ 20° El, midband	55° K	
G/T with 50˚ LNB, midband, clear horizon	18.1 dB/˚ K	
Cross Pol Isolation, on-axis	30 dB	35 dB
Cross Pol Isolation, within pointing cone	28 dB standard, 25dB optional MM feed	30 dB standard, 35 dB optional MM feed
Feed Port Isolation – TX to RX (dB)	35	80 (includes filter)
Power Handling Capability		500 watts per port

Ka-Band	Receive	Transmit
Polarization	Circular – Configurable for RHCP TX / LHCP RX or vice versa	
Frequency Range (GHz)	20.2 - 21.2 (military)	30.0 - 31.0 (military)
Gain (Midband military) (dBi)	43.3	46.7
VSWR	1.30:1	1.30:1
Beamwidth (-3 dB)	1.2˚	0.8 ˚
Radiation Pattern Compliance	FCC 25.209, MIL-STD-188-164A	FCC 25.209, MIL-STD-188-164A
Ant Noise Temperature @ 20° El, midband	109° K	
G/T with 100˚ LNB, midband, clear horizon	20.0 dB/˚ K	
Axial Ratio	1.5 dB	1.0 dB
Feed Port Isolation – TX to RX (dB)	30	80 (includes filter)
Power Handling Capability		250 watts per port

Controller	Fully Automatic Satellite Acquisition, Peaking, and Cross-Pol Adjustment with GPS, Compass, Level compensation with Entry of Desired Satellite. Select 10”x9”x2.5” power supply/hand-held controller or 1 RU P.S. controller.
Positioning Accuracy ±0.2˚	±0.2˚
Input Power	95-250VAC auto-ranging 110/240 VAC, 1 phase, 50/60 Hz, 6/3 A peak, 1 A continuous

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