



ACS-12/14-XK

Tri-Band Quick-Deploy Auto-Acquire Antenna

Powered by AVL Technologies

The ACS-12/14-XK provides the Warfighter with a Quick-Deploy Auto-Acquire SATCOM antenna terminal. The terminal supports X, KU or KA-Band feeds providing a world-wide capable communications platform. The base antenna size is 1.2M but may be increase to 1.4M with optional extender panels. An assortment of BUCs and Modems are available to suit any application and uplink bandwidth to 20Mbps, including the ACS Rugged iDirect series modems and others. As always, ACS custom integrates all RF and electronics to maximize transmission capabilities.

Expandable Reflector	1.2M Segmented, 6 Panel Rugged Carbon Fiber Assembly with optional 1.4M extender panels
High Efficiency Optics	Offset Prime Focus
Positioner Configuration	Elevation-over-Azimuth
Adjustable Polarization	Ku LP: Motorized/Manual Options Ka CP: Manual, Field-Reversible LH/RH X CP: Manual, Field-Reversible LH/RH
Airline-Checkable Pickup Automatic Acquisition	2 Case solution, (3 rd optional case, Misc. equip) One-Button Automatic Deploy/Acquire



Mechanical

Travel (Boresight)	
Azimuth	± 90°
Elevation	0° to 100° (7° to 100° over Tripod Legs)
Polarization (KU only)	± 95°
Speed	
Slewing/Deploying	2°/second typical Az, 1°/second typical EI
Peaking	0.2°/second typical Az, 0.2°/second typical EI
Motors	24V DC variable speed, constant torque
Manual (Emergency) Stowing	Removable Hand-Crank Interface @ Az & EI, Captive Thumbwheel at Pol (KU)
RF Interface	
BUC Mounting	Interchangeable Band-Specific Feed horns, BUCs and LNBS
Waveguide	Flex waveguide from feed with O-ring groove
IF	Type F, TNC, or BNC connectors
Electrical Interface	Connector at positioner
Weight	175 lbs (72-79 kg) depending on options
Transit Case Configuration	
Case 1: Positioner & Reflector	31.3" x 20.4" x 15.5" (< 60 lbs)
Case 2: Positioner & Reflector	31.3" x 20.4" x 15.5" (< 70 lbs)
Case 3: Optional Case for RF waveguide, etc.	22" 18" 12.5" (<60 lbs)
Controller	Full automatic acquisition, with automatic Az, EI and Cross-Pol Peaking
Input Power	95-250VAC auto-ranging, 1 phase, 50/60 Hz, 6/3 A peak, 1 A continuous

Environmental

Wind	
Without anchoring	20 mph
With anchoring	30 mph
Wind – Survival (anchored)	80 mph in Zenith (73° EI) position
Pointing Loss in Wind	
1.2 M	KU 0.7 dB max, KA 2.0 dB max
1.2 M (w/Extender panels)	X 1.5 dB Max
Temperature	
Operational	-25° to 125° F (32° to 52° C)
Survival	-40° to 140° F (-40° to 60° C)



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Controls

ACS SQD Controller
Input Power (AvL Standard Auto-Acquire)

AvL Standard-Speed Auto-Acquire (Hand-Held or Optional 1RU)
100–240VAC 50/60Hz 8A peak, 380W running with max wind/BUC load

Electrical RF

X-Band (1.4 M)	Receive	Transmit
• Frequency Range (GHz)	7.25 – 7.75	7.9 - 8.40
• Gain (Midband) (dBi)	38.6	39.3
• VSWR	1.30:1	1.30:1
• Beamwidth (-3 dB)	2.0°	1.8°
• Radiation Pattern Compliance	MIL-STD-188-164A	MIL-STD-188-164A
• Ant Noise Temperature @ 20° EI, Midband	52° K @ 7.5GHz	
• G/T with 55° LNB, Midband, clear Horizon	18.2dB/° K w/55°K LNB	
• Polarization	RHCP OR LHCP	RHCP OR LHCP
• Axial Ratio (CP only, within pointing cone)	1.2 dB	2.0 dB
• Power Handling Capability		1000 watts per port
• Feed Port Isolation – TX to RX (dB)	115 (includes optional filter)	115 (includes optional filter)
Ku-Band (1.2M)	Receive	Transmit
• Frequency Range (GHz)	10.95 - 12.75	13.75-14.50
• Gain (Midband) (dBi)	41.6	43.1
• VSWR	1.30:1	1.30:1
• Beamwidth (-3 dB)	1.5°	1.2°
• Radiation Pattern Compliance	FCC 25.209, ITU-R S.580-6, IESS 208	FCC 25.209, ITU-R S.580-6, IESS 208
• Ant Noise Temperature @ 20° EI, Midband	54° K @ 11.85 GHz	
• G/T with 50° LNB, Midband, clear Horizon	21.4 dB/° K	
• Polarization	Linear Orthogonal Standard (Co-Pol Optional)	
• Cross Pol Isolation, On-axis	35 dB	35 dB
• Cross Pol Isolation, Off-Axis (in 1 dB BW)	27 dB	28 dB
• Power Handling Capability		0.5 KW watts per port
• Feed Port Isolation – TX to RX (dB)	35	85 (includes filter)
Ka-Band (1.2M)	Receive	Transmit
• Frequency Range (GHz)	20.2 – 21.2 (military)	30.2 –31.0 (military)
• Gain (Midband military) (dBi)	46.4	49.5
• VSWR	1.30:1	1.30:1
• Beamwidth (-3 dB)	0.8°	0.6°
• Radiation Pattern Compliance	MIL-STD-188-164A	MIL-STD-188-164A
• Ant Noise Temperature @ 20° EI, Midband	109° K @ 20.2 GHZ	
• G/T with 100° LNB, Midband, clear Horizon	24.4 dB/° K	
• Polarization	RHCP OR LHCP	RHCP OR LHCP
• Axial Ratio (CP only, within pointing cone)	1.5 dB	1.0 dB
• Power Handling Capability		250 watts per port
• Feed Port Isolation – TX to RX (dB)	35	85 (includes filter)

Options

BUC/HPA mounting (on Boom)	X, Ku, Ka-Band Feeds	ACS-Quick Disconnect wave guide hardware
KU-Band Match-Mode Feed	Rugged Dual input, (AC/DC input) power supply	Custom Modem, BUC, & PS interface harness

**All specifications subject to change without notice.*