



ACS-14SQD-XK (Super Quick Deploy) Antenna System

Powered by AVL Technologies

The ACS-14SQD-XK joins the class of Super Quick Deploy Satcoms antenna systems from ACS designed to provide the warfighter with the latest in Quick-on-the-Halt, (QOTH) communications. The system locates the desired target satellite in 20-50 seconds, (typically ~35 seconds). The system employs many new features such as the ability to locate the spacecraft even when GPS signals are blocked or not available. The terminals can be dual-band or tri-band configured so that X, KU or KA-Band feeds can be quickly interchanged on-the-fly, to provide for a different band of communications. Antenna sizes range from 60cm to 1.8M with an assortment of BUC power and modems to suit any application and uplink bandwidth up to 20Mbps. As always, ACS custom integrates all RF and electronics to maximize transmission capabilities.

Reflector Single Piece 1.4 Meter Carbon Fiber Backing Structure

Optics Offset, Prime Focus, 0.6 f/D

Motorized Drive System AVL Cable Drive

Mount Geometry Elevation over Azimuth

PolarizationRotation of Feed Motorized Worm GearWarranty3-yr Mechanical/RF; 1-yr Controller



Mechanical

Travel

Azimuth 400° (± 200°) Rotational Boom distance from rear of motors 48.4" (1229mm)

Elevation

Mechanical 0° to 90° + of Reflector Bore sight

Electrical Standard: 5° to 65° (meets CE Approval); or 0° to 90°

Polarization ± 95° for 2 and 3 port feeds

± 50° for 2 – port Wideband and 4-port feeds

Speed

Slewing/Deploying (Super Quick Deploy) 14°/second typical Az, 14°/second typical El, High Speed Deploy

Peaking 0.2°/second

Motors 24V variable speed, constant torque

RF Interface

BUC Mounting Interchangeable Band-Specific Feed horns, BUCs and LNBs

Waveguide Flex waveguide from feed with O-ring groove Coax Two Type F or BNC connectors at antenna base

Electrical Interface One 32 ft. cable with connectors to controller

Manual Drive Hand crank for Az, El and Pol

Weight 175 lbs (72-79 kg) depending on options

Stowed Dimensions 82.2 L x 55.6 W x 16 H inches (209L x 141 W x 41 H cm)

Time to Acquisition

Less than 1 minute (typical 35 seconds)

Vehicle Roof Mounting

Integral composite base/vehicle adapter



initial delivery) X, Ku, Ka-Band Feeds

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Surs/val Deployed 75 mph (105 kmph) 100 mph (161 kmph) 20 kmph (20 kmph) 20 kmph (30 - 45 mph (48 kmph)), Gusts to 44 mph (72 kmph) 20 mph (22 kmph) 20 mph (28 kmph) 2	Environmental				
Survival Stowed 100 mph (161 kmph) 20 kmph (20 kmph) 20 mph (28 kmph) 20 kmph (28 kmph) 20 mph (-				
Operational 20					
Printing Less in Wind 20 mph (32 kmph) 30 mph gusting to 45 mph (48 to 72 kmph) 40.5 dB Typical, Ku-band, typical .15 degrees 50 mph gusting to 45 mph (48 to 72 kmph) 40.5 dB Typical, Ku-band, typical .30 degrees 50 mph gusting to 45 mph (48 to 72 kmph) 40.7 dF (-40 to 60 °C) 52°C) 50 mph gusting to 45 mph (48 to 72 kmph) 40.0 mph gusting to 45 mph (48 to 72 kmph) 40.0 mph gusting to 45 mph gusting to 47 mph gusting to 4					
20 mph (32 kmph) 30 mph gusting to 45 mph (48 to 72 kmph) Temperature Operational Survival Controls AVS SCD Controller Input Power (AV. Standard Auto-Acquire) AVS SCD Controller Input Power (AV. Standard Auto-Acquire) AVS SCD Controller AV. Standard-Speed Auto-Acquire (Hand-Held or Optional 1RU) 100~240VAC 50/60Hz 8A peak, 380W ruming with max wind/BUC load Electrical TB X-Band Receive Transmit Frequency Range (GHz) 725 − 7.75 7.9 - 8.40 39.0 39.7 YSWR 1,3001 1,30:1 1,30:1 2.0° 1,88:164A MIL-STD-188-164A MIL-STD-188-1			30 - 45 mpn (48 kmpn), Gusts to 44 mpn (72 kmpn)		
30 mph gusting to 45 mph (48 to 72 kmph) Temperature Operational Survival -25 to 125 F (32 to 52 ° C) -25 to 125 F (32 to 125 F (32 to 52 ° C) -25 to 125 F (32 to 1			0.5 dB Typical Ku-hand typical 15 degrees		
Temperature					
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Input Power (Avt. Standard Auto-Acquire)	Controls				
Frequency Range (GHz)					
K-Band Receive Transmit ■ Frequency Range (GHz) 7.25 – 7.75 7.9 - 8.40 ■ Gain (Midband) (dBi) 39.0 39.7 ■ 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 46° K HC ■ Polarization RHCP OR LHCP RHCP OR LHCP ■ Axial Ratio (CP only, within pointing cone) 1.21 dB 2.0 dB ■ Power Handling Capability 500 watts per port ■ Feed Port Isolation − TX to RX (dB) 115 (includes optional filter) 115 (includes optional filter) ** Frequency Range (GHz) 10.95 - 12.75 13.75 - 14.50 ** Gain (Midband) (BBi) 42.9 44.5 ** Osain (Midband) (BBi) 42.9 44.5 ** VSWR 1.30:1 1.30:1 ** Badation 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 52° K 50 35 dB ** Cros	. ,		100-240VAC 50/60Hz 8A peak, 380W running with max wind/BUC load		
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■ G/T with 55° LNB, Midband, clear Horizon 18.7dB/° K ■ Polarization RHCP OR LHCP RHCP OR LHCP ■ Axial Ratio (CP only, within pointing cone) 1.21 dB 2.0 dB ■ Power Handling Capability 500 watts per port ■ Feed Port Isolation − TX to RX (dB) 115 (includes optional filter) 115 (includes optional filter) ★ Frequency Range (GHz) 10.95 - 12.75 13.75-14.50 ■ Gain (Midband) (dBi) 42.9 44.5 ■ VSWR 1.30·1 1.30·1 ■ Beamwidth (-3 dB) 1.3' 1.1' ■ Radiation Pattern Compliance FCC 25.209, ITU-R S.580-6, IESS 208 FCC 25.209, ITU-R S.580-6, IESS 208 ■ G/T with 50° LNB, Midband, clear Horizon 22.6dB/° K ■ Polarization Linear Orthogonal Standard ■ Cross Pol Isolation, On-axis 35 dB 35 dB ■ Cross Pol Isolation, Within pointing Cone 28 dB 30 dB ■ Power Handling Capability 80 (includes filter) ■ Feed Port Isolation - TX to RX (dB) 35 80 (includes filter) Ka-Band (Option - must be order at inital delivery) Receive Transmit	 Radiation Pattern Compliance 		MIL-STD-188-164A	MIL-STD-188-164A	
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 Cross Pol Isolation, Within pointing Cone Power Handling Capability Feed Port Isolation – TX to RX (dB) 80 (includes filter) Ka-Band (Option - must be order at inital delivery) Receive Transmit Frequency Range (GHz) Gain (Midband military) (dBi) VSWR I.30:1 Beamwidth (-3 dB) Radiation Pattern Compliance Ant Noise Temperature @ 20° El, Midband G/T with 100° LNB, Midband, clear Horizon Axial Ratio (CP only, within pointing cone) 28 dB 30 dB 0.5 KW watts per port 80 (includes filter) 70.5 KW 10.2 -21.2 (military) 30.2 -31.0 (military) 47.6 50.8 50.8 60.8 60.9 				35 dB	
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 Feed Port Isolation – TX to RX (dB) Ka-Band (Option - must be order at inital delivery) Receive Transmit Frequency Range (GHz) Gain (Midband military) (dBi) VSWR Beamwidth (-3 dB) Radiation Pattern Compliance Ant Noise Temperature @ 20° EI, Midband G/T with 100° LNB, Midband, clear Horizon Axial Ratio (CP only, within pointing cone) Feed Port Isolative Receive Transmit 30.2 –31.0 (military) 30.2 –31.0 (military) 30.2 –31.0 (military) 30.2 –31.0 (military) 50.8 50.8 50.8 FCC 25.209, MIL-STD-188-164A FCC 25.209, MIL-STD-188-164A	Power Handling Capability		20 0. 2		
Ka-Band (Option - must be order at inital delivery)ReceiveTransmit• Frequency Range (GHz)20.2 – 21.2 (military)30.2 – 31.0 (military)• Gain (Midband military) (dBi)47.650.8• VSW R1.30:11.30:1• Beamwidth (-3 dB)0.7°0.5°• Radiation Pattern ComplianceFCC 25.209, MIL-STD-188-164AFCC 25.209, MIL-STD-188-164A• Ant Noise Temperature @ 20° El, Midband107° K• G/T with 100° LNB, Midband, clear Horizon24.4dB/° K• PolarizationCircular or Linear• Axial Ratio (CP only, within pointing cone)1.5 dB1.0 dB			35	·	
 Frequency Range (GHz) Gain (Midband military) (dBi) VSWR Beamwidth (-3 dB) Radiation Pattern Compliance Ant Noise Temperature @ 20° El, Midband G/T with 100° LNB, Midband, clear Horizon Axial Ratio (CP only, within pointing cone) 20.2 - 21.2 (military) 30.2 - 31.0 (military) 1.30:1 1.30:1 1.30:1 1.30:1 1.5° 0.5° FCC 25.209, MIL-STD-188-164A FCC 25.209, MIL-STD-188-164A FCC 25.209, MIL-STD-188-164A 107° K 10 dB 	` ,			,	
 Gain (Midband military) (dBi) VSWR Beamwidth (-3 dB) Radiation Pattern Compliance Ant Noise Temperature @ 20° El, Midband G/T with 100° LNB, Midband, clear Horizon Axial Ratio (CP only, within pointing cone) 47.6 50.8 1.30:1 0.5° FCC 25.209, MIL-STD-188-164A <l< td=""><td colspan="2"></td><td></td><td></td></l<>					
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 Ant Noise Temperature @ 20° El, Midband G/T with 100° LNB, Midband, clear Horizon Polarization Axial Ratio (CP only, within pointing cone) 107° K 24.4dB/° K Circular or Linear 1.5 dB 1.0 dB 	, ,				
 G/T with 100° LNB, Midband, clear Horizon Polarization Axial Ratio (CP only, within pointing cone) 24.4dB/° K Circular or Linear 1.5 dB 1.0 dB 			*	. 30 20.200, 318 100 10 //	
 Polarization Circular or Linear Axial Ratio (CP only, within pointing cone) Circular or Linear 1.5 dB 1.0 dB 					
• Axial Ratio (CP only, within pointing cone) 1.5 dB 1.0 dB					
				1.0 dB	
Power Handling Capability 250 watts per port	5 11 111 6 1111		-	250 watts per port	
• Feed Port Isolation – TX to RX (dB) 30 80 (includes filter)			30		
	Options				
·	BUC/HPA mounting (on Boom) Worldwide Controller Software Upgrade		Ku-band Feed Co-Polarization Kit		
External GPS input via Ethernet Direct Point-maintains location when not in use Operational when GPS signals lost or blocked					
		Custom cable lengths			

^{*} All specifications subject to change without notice

1RU Power Supply Optional

High-Speed SQD Controller