



Earth Station Antenna

ASI 13.2-Mtr Ka Band

Description:

We welcome you to the world of [Alpha Satcom, Inc.](#) The oldest, new antenna company on the planet. [ASI](#) is dedicated to bringing to you, the discerning customer, world-class products and services at the right price and at the right time.

Comprised of a team of Engineers and Satellite Professionals, both of whom with a stellar history reaching back to the beginnings of the Satellite Industry, [ASI](#) is uniquely qualified to bring to the market new, modern, state-of-the-art, antennas that will provide years of exceptional service. Coupled with a network of select customer focused companies, [ASI](#) can address the various requirements your particular business plan requires. We invite you to step into the professional world of [Alpha Satcom, Inc.](#)

Product Features:

- Wide variety of feed options designed to meet the latest international standards.
- Doubly contoured, high strength, light weight aluminium panels fabricated on new aircraft quality tooling providing exacting close tolerances.
- All steel structures are hot dipped galvanized after fabrication, providing a thermal homogeneous structure to support operation at high frequencies.
- Pedestal mounted azimuth jack providing ease of relocation for 190° coverage in two 120° segments.
- Generous hub enclosure, 9.28 cubic meters (328 cu. ft.), with access for inclusion of RF components.
- Stainless steel and galvanized metric hardware throughout.
- Low cost apron type foundation design including anchor bolts and embedded hardware.

Optional Features:

- * S, C, X, Ku, DBS and Ka Band
- * Tx/Rx, 2Tx/2Rx, TT&C, 6 Port Feeds
- * Hybrid, Hi Power and Low Pim Feeds
- * Two and Three Axis Motorization Packages
- * Staircase and Platform for ready access to hub
- * Aircraft Warning Lights
- * Lightning Protection
- * High Wind Designs
- * Low Temperature Designs
- * Anti-Ice for Feed, Reflector and Sub-Reflector
- * Single or Dual TX Waveguide Integration from Hub to across Upper Az Axis



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www.alpha-satcom.com



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<u>Preliminary Antenna</u>		Band - 1			Band - 2		
<u>Performance Estimate</u>		Receive			Transmit		
13.2-Mtr		CP			CP		
Frequency: Ka FRU 17.7-21.2 & 27.5-31.0							
Frequency Range	GHz	17.7	19.45	21.2	27.5	29.25	31
Ambient Temperature	Centigrade	23	23	23	23	23	23
Diameter	Meters	13.2	13.2	13.2	13.2	13.2	13.2
Theoretical Gain Go	dbi	67.78	68.59	69.34	71.60	72.13	72.64
Antenna Gain Gs	dbi	64.92	65.64	66.29	68.70	69.09	69.45
Antenna Noise Temperature	Kelvin	77	91	122			
LNA Noise Temperature	Kelvin	120	120	120			
Effective LNA Noise Temperature	Kelvin	121	121	121			
System Temperature Ts	Kelvin	198	212	243			
Antenna System G/T	dbK	22.96	23.27	23.86			
	dbK	41.96	42.37	42.42			
Elevation Angle	20 degrees						
Antenna Noise Temperature at :							
	7.5° Elevation	106	134	180			
	10° Elevation	94	117	157			
	20° Elevation	77	91	122			
	40° Elevation	69	80	100			
Maximum Transmit Power	Watts				500	500	500
Transmit eirp	dbW				96	96	96
Antenna Pattern Features:							
3db beamwidth	deg		0.08			0.06	
10db beamwidth	deg		0.13			0.10	
Sidelobe envelope	dbi		29-25log(t)	1 > 20		29-25log(t)	1 > 20
% peak sidelobes over envelope				3db / 10%			3db / 10%
Antenna Terminal Characteristics							
Cross-pol	db		35			35	
Tx > Rx Rejection	db		85			0	
Rx > Tx Rejection	db		0			85	
Insertion Loss	db		0.70			0.60	
Rx - Rx Isolation	db		35				
Tx - Tx Isolation	db					35	
Return Loss (VSWR)	db		17	(1.3:1)		17	(1.3:1)
Waveguide Size	dBi		WR-28			WR-42	

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All design, specifications and availabilities of products and services presented in this bulletin are subject to change without notice. 9/20

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