



# Earth Station Antenna

## Model ASI 9.0-Mtr LM X-Band

### Engineering + Craftsmanship + Service

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.

### Antenna Features

1. Wide variety of feed options designed to meet the latest international standards.
2. Doubly contoured, high strength, lightweight aluminium panels fabricated on new aircraft quality tooling providing exacting close tolerances.
3. All steel structure are hot dipped galvanized after fabrication providing a thermal homogeneous structure to support operation at high frequencies.
4. Pedestal mounted azimuth jack providing ease of relocation for 190° coverage in two 120° segments.
5. Generous hub enclosure, 5.97 cubic meters, with easy access for inclusion of RF components.
6. Stainless steel and galvanized metric hardware throughout.
7. Low cost apron type foundation design including anchor bolts and embedded hardware.
8. Three (3) years warranty.

### 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
- Deicing for Feed, Reflector and Sub reflector
- Single or Dual TX waveguide integration from Hub to across upper Az axis



Alpha Satcom, Inc.

[www.alpha-satcom.com](http://www.alpha-satcom.com)



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<u>Preliminary Antenna</u>  <u>Performance Estimate</u>  9.0-mtr X-Band Lo-PIM		Band - 1			Band - 2		
		Receive			Transmit		
		CP			CP		
Frequency: 7.25-7.75 RX & 7.9-8.4 TX							
Frequency Range	GHz	7.25	7.5	7.75	7.9	8.15	8.4
Ambient Temperature	Centigrade	23	23	23	23	23	23
Diameter	Meters	9	9	9	9	9	9
Theoretical Gain Go	dbi	56.70	56.99	57.27	57.44	57.71	57.97
Antenna Gain Gs	dbi	54.92	55.20	55.48	55.39	55.66	55.91
Antenna Noise Temperature	Kelvin	55	55	55			
LNA Noise Temperature	Kelvin	45	45	45			
Effective LNA Noise Temperature	Kelvin	46	46	46			
System Temperature Ts	Kelvin	101	101	101			
Antenna System G/T	dbK	20.04	20.04	20.05			
	dbK	34.88	35.16	35.44			
Elevation Angle	30 degrees						
Antenne Noise Temperature at :							
	7.5° Elevation	65	65	65			
	10° Elevation	61	61	61			
	20° Elevation	56	56	56			
	40° Elevation	55	55	55			
Maximum Transmit Power	Watts				500	500	500
Transmit eirp	dbW				82	83	83
Antenna Pattern Features:							
	3db beamwidth	deg	0.28			0.26	
	10db beamwidth	deg	0.48			0.45	
	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	20			20	
Tx > Rx Rejection	db		85			0	
Rx > Tx Rejection	db		0			85	
Insertion Loss	db		0.60			0.70	
Rx - Rx Isolation	db		120				
Tx - Tx Isolation	db					85	
Return Loss (VSWR)	db		17	(1.25:1)		17	(1.25:1)
Waveguide Size	dBi		WR-112			WR-112	

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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