Earth Station Antenna

THA 7.3 C & Ku & Ka

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

- Wide variety of feed options designed to meet the latest international standards.
- Doubly contoured, high strength, lightweight aluminium panels fabricated on new aircraft quality tooling providing exacting close tolerances.
- All steel structure are hot dipped galvanized after fabrication providing a thermal homogenous structure to support operation at high frequencies.
- Generous hub enclosure with easy access for inclusion of RF components.
- Stainless steel and galvanized metric hardware throughout.
- Low cost apron type foundation design including anchor bolts and hardware.
- 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

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MECHANICAL PERFORMANCE	
Antenna Diameter	7.3 Meters (23.9 Feet)
RF Configuration	Cassegrain Optics
Hub Dimension	79" (2.0M) diameter x 55" (1.4M) height
Antenna Structure	Elevation over Azimuth, Pedestal & Reflector, Hot Dipped Galvanized After Fabrication
Reflector Panels	Sixteen (16) - Precision, Stretched Formed, Aluminum, High Quality Panels
Azimuth Drive	360° Coverage in six (6) 60° segments, Self Locking, Mechanical Screw Jack Mounted to Pedestal
Elevation Drive Configuration	5° to 90° Continuous, Self Locking, Mechanical Screw Jack
Maximum Feed Pressure	0.50 psi
Foundation	20ft x 20ft x 2ft : 27.6 yds^3 of concrete and 2,277 lbs. of reinforced bar
ENVIRONMENTAL PERFORMANCE	
Operational Wind	45 mph (72km/h) Gusting to 60 mph (97km/h) High Wind designs available
Survival Wind	130 mph (209 km/h) at any position
Operational Temperature	+5° F to +122° F (-15° C to +50° C)
Survival Temperature	-22° F to +140° F (-30° C to +60° C)
Rain	4 inches/hr. (10cm/hr.)
Relative Humidity	100%
Solar Radiation	360 BTU/hr./ft^2 (1000 Kcal/hr./m^2)
Ice (Survival)	1 in (2.54cm) on all surfaces, no wind: 0.5 in (1.25cm) on all surfaces at 80 mph (130km/h) gusts
Atmospheric Conditions	As per the environment in industrial areas or coastal regions
Shock and Vibration	As encountered by commercial truck and air transportation
Seismic	0.1 G Vertical and 0.3 G Horizontal Acceleration (8.3 Richter/11 Modified Mercalli Scale)

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Electrical Performance

Feed Configuration		C-Band		Ku-Band		Ka-Band	
		2 or 4 Port Feed		2 or 4 Port Feed		4 Port Feed	
		Receive	Transmit	Receive	Transmit	Receive	Transmit
Frequency Range	GHz	3.4-4.2	5.725-6.725	10.7-12.75	13.75-14.5	17.7-21.2	27.0-30.0
Center Frequency Gain	dBi	48	51.6	57	58.3	60.2	63.34
Polarity		LP/CP	LP/CP	LP	LP	CP	CP
Return Loss (VSWR)		1.3:1	1.3:1	1.3:1	1.3:1	1.3:1	1.3:1
Beamwidth							
-3dB	deg	0.69	0.45	0.23	0.2	0.15	0.11
-10dB	deg	1.18	0.78	0.4	0.34	0.25	0.19
Antenna Noise Temp.							
10 Degrees Elevation	Kelvin	≤ 43		≤ 73		≤113	
20 Degrees Elevation	Kelvin	≤ 37		≤ 65		≤ 86	
40 Degrees Elevation	Kelvin	≤ 32		≤ 61		≤ 76	
LNA Temp.	Kelvin	30	30	30	30		
Antenna System G/T at 20° El	deg	28.4		34.5		37.21	
Maximum Transmit Power	Watts		5000/2800		2000/1000		1000/500
Sidelobe Envelope	dBi	29-25 Log Theta (1 to 20 deg) ITU-580 3dB/10% SL over envelope					
Port to Port Isolation							
Tx > Rx Rejection	dB	85		85		85	85
Rx > Tx Rejection	dB		85		85	18	18
Rx-Rx, Tx-Tx (CP)	dB	35	35				
Rx-Rx, Tx-Tx (LP)	dB			35	35	35	35
Cross-pol on Axis	dB	35	35	35	35	30.8	30.8
Cross-pol 1 dB Beam Width	dB	30	30	30	30	30	30
Insertion Loss	dB	0.3	0.4	0.35	0.5	0.4	0.5
Waveguide Size		WR-229	WR-137	WR-75	WR-75	WR-42	WR-34

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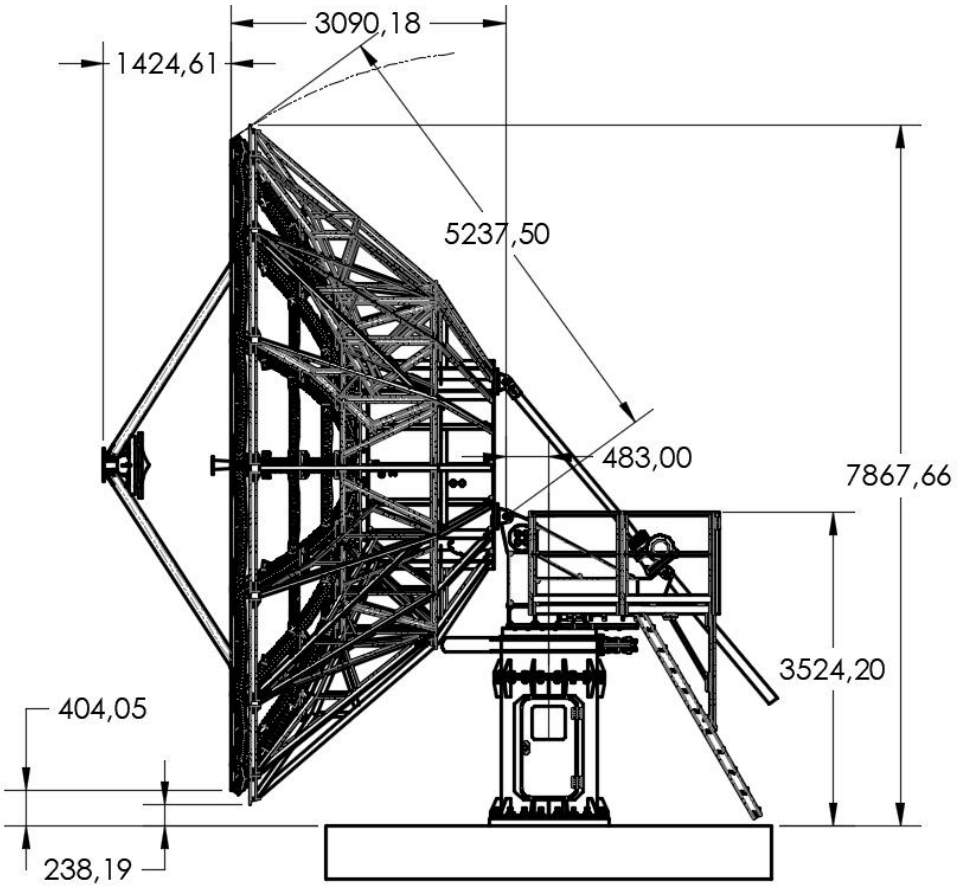

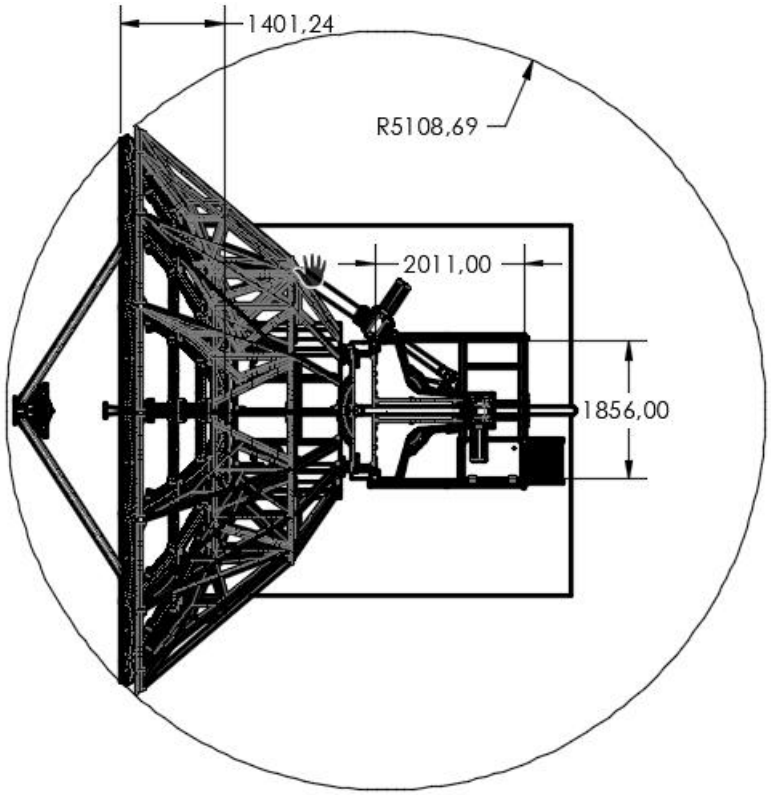

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