Earth Station Antenna

Models ASTH 6.2

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 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 homogenerous structure to support operation at high frequencies.
4. Turning head structure availble for ±150° azimuth continue coverage. single motor dual drive pinion with mechanical anti-backlash function.
5. Anti-backlash, self-locking, direct drive machine screw jacks for elevation.
6. Stainless steel and Galvanized hardware throughout.
7. Low cost apron type foundation design including anchor bolts and embedded hardware.
8. Three (3) years warranty.

Optional Features

* S-band, C-band, X-band, Ku-band, Ka-band
* Tx/Rx or 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 Design
* Deicing for Feed, Reflector and Sub reflector
* Single or Dual TX waveguide integration from Hub to across upper AZ axis
*Platform Mounted Hand Winch

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1221 Judson Road Suite 300
Longview, Texas 75601
Tel: Office: 1-903-238-8888 Mobile: 1-903-235-3087
Email: bill.anton@alpha-satcom.com

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Electrical Performance

Configuration	GHz	C Band		Ku Band		Ka Band	
		RX	TX	RX	TX	RX	TX
Frequency Range	Ghz	3.4-4.2	5.725-6.725	10.95-2.75	14-14.5	17.7-21.2	27.5-31
Gain (mid freq)	dBi	46.4	50.4	55.8	57.2	59.21	62.95
Ports		‘2/4		‘2/4		‘2/4	
VSWR		1.25:1	1.25:1	1.25:1	1.25:1	1.3	1.3
Beamwidth							
-3dB	deg	0.81	0.53	0.27	0.23	0.16	0.12
-10dB	deg	1.62	1.07	0.54	0.46	0.28	0.20
Noise Temp*							
10° EL		42		67		139	
20° EL	Kelvin	36		58		123	
40° EL		33		52		80	
LNA Noise Temp	Kelvin	30		65		120	
Power capacity	Watts		5000		1000		500
Interface		WR-229	WR-137	WR-75	WR-75	WR-42	WR-34
Insertion Loss	dB	0.25	0.2	0.55	0.4	0.6	0.5
Port Isolation							
TX-RX	dBi	85		85		85	
RX-TX	dBi		85		85		85
TX-TX/RX-RX(CP)	dBi	≥20	≥20			≥20	≥20
TX-TX/RX-RX(LP)	dBi	≥30	≥30	≥30	≥30	30	30
X-Pol Isolation							
on axis	dB	35	35	35	35	30.7	30.7
1 dB	dB	30	30	30	30	30	30
Axis Ratio (CP,4 Ports)	dB	0.5	0.5			0.5	0.5
Sidelobe	dBi			CCIR, 580			

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Mechanical Performance

Antenna Diameter	6.2 Meters (20.3 Feet)
RF Configuation	Cassegrain Optics
Hub Dimensions	70" (1.8 M) diameter x 43" (1.1 M) height
Antenna Structure	Elevation over Azimuth Pedestal & Reflector Hot Dipped Galvanized After Fabrication
Reflector Panels	Twelve (12) - Precision, Stretched Formed, Aluminum, High Quality Panels.
Azimuth Drive	±150 Degree Continuous, Single motor,dual drive pinion with machinical anti-backlash function
ElevationDrive	5 to 90 Degree Continuous, Self Locking, Mechanical Screw Jack
Maximum Feed Pressure	0.50psi
Foundation	15ft x 19ft x2ft : 21.1 yds^3 of concrete and 2278 lbs of reinforcing 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	+5F to +122F (-15C to +50C)
Survival Temperature	-22F to +140F (-30C+ to +60C)
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 survices, no wind: 0.5 in (1.25cm) on all surfaces at 80 mph (130km/h) gusts.
Atmospheric Conditions	As per the enviornment 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 Ricther/11 Modified Mercalli Scale)

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