

EARTH STATION ANTENNA 7.3 METERS ASL 7.3 LMC/LMKu/LMKa

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 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, 5.97 cubic meters, 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 embedded 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
- Platform Mounted Hand Winch



MECHANICAL PERFORMANCE

Antenna Diameter	7.3 Meters (23.9 Feet)
RF Configuration	Cassegrain Optics
Hub Dimensions	91" (2.3 M) diameter x 55" (1.4 M) 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	190 Degree coverage in two (2) 120 Degree segments, Self Locking, Mechanical Screw Jack Mounted to the Pedestal
Elevation Drive	5 to 90 Degree Continuous, Self Locking, Mechanical Screw Jack
Operational Wind	45 mph (72km/h) Gusting to 60 mph (97km/h) High Wind designs available
Maximum Feed Pressure	0.50 psi
Foundation	1 5ft x 19ft x 2ft : 21.1 yds ³ of concrete and 2278 lbs. of reinforcing bar

ENVIRONMENTAL PERFORMANCE

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 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)
Survival Wind	130 mph (209 km/h) at any position

Feed Configuration		C-Band		C-Band		Ku-Band	
		4 Port Feed		4 Port Feed		4 Port Feed	
		CP		LP		LP	
		Receive	Transmit	Receive	Transmit	Receive	Transmit
Frequency Range	GHz	3.4-4.2	5.85-6.65	3.4-4.2	5.85-6.65	10.7-12.75	13.75-14.5
Mid-Band Gain	dB	47.18	51.19	47.18	51.19	56.48	57.91
VSWR Performance	deg	1.3:1	1.3:1	1.3:1	1.3:1	1.3:1	1.3:1
-3dB Beam Width	deg	0.75	0.49	0.75	0.49	0.25	0.21
-10dB Beam Width	deg	1.34	0.89	1.34	0.89	0.48	0.38
Antenna Noise Temperature							
10 Degrees Elevation	Kelvin	≤50		≤48		≤57	
20 Degrees Elevation	Kelvin	≤45		≤43		≤49	
40 Degrees Elevation	Kelvin	≤44		≤42		≤47	
LNA Temp	Kelvin	30°	30°	30°	30°	70°	70°
Antenna System G/T at 20° El		28.19		28.19		35.136	
TX Power Capability	Watts		5000		5000		1000
Port to Port Isolation							
Tx > Rx Rejection	dB	85	0	85	0	85	0
Rx > Tx Rejection	dB	0	85	0	85	0	85
Rx-Rx, Tx-Tx (CP)	dB	≥21	≥21	≥30	≥30	≥30	≥30
Rx-Rx, Tx-Tx (LP)	dB	≥30	≥30	≥30	≥30	≥30	≥30
Cross-pol on Axis	dB	35	35	35	35	35	35
Cross-pol 1 dB Beam Width	dB	30	30	30	30	30	30
Insertion Loss	dB	0.4	0.57	0.4	0.57	0.8	0.75
Sidelobe Envelope	dB						
Feed Interface	dB						

29-25 Log Theta (1 to 20 deg) ITU-580