

# EARTH STATION ANTENNA 11.3 METERS ASL 11.3 LMC / LMKu

## 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, 9.28 cubic meters (328cu. ft.), 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.

## 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	11.3 Meter (37 Ft)
RF Configuration	Cassegrain Optics
Hub Dimensions	102.5" (2.60 M) diameter x 56" (1.42 M) height
Antenna Structure	Elevation over Azimuth, Pedestal & Reflector, Hot Dipped Galvanized After Fabrication
Reflector Panels	Two Tiers, Twelve (12) Inner: Twenty-four (24) Outer - 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 Pedestal
Elevation Drive	5 to 90 Degree Continuous, Self Locking, Mechanical Screw Jack
Maximum Feed Pressure	0.50 psi
Foundation	2 7ft x 21ft x 2ft : 34.2 yds <sup>3</sup> of concrete and 3100 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 <sup>2</sup> (1000 Kcal/hr/m <sup>2</sup> )
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)

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	5.725-6.725	3.4-4.2	5.85 - 6.65	10.7 - 12.75	13.75-14.5
Mid-Band Gain	dBi	51.34	55.73	51.25	55.67	60.6	62.42
VSWR Performance		1.3:1	1.3:1	1.3:1	1.3:1	1.3:1	1.3:1
-3dB Beam Width	deg	0.49	0.29	0.49	0.29	0.15	0.14
-15dB BeamWidth	deg	0.98	0.6	0.98	0.6	0.31	0.26
Antenna Noise Temperature							
10 Degrees Elevation	Kelvin	52		58		73	
20 Degrees Elevation	Kelvin	48		53		66	
40 Degrees Elevation	Kelvin	47		52		64	
LNA Noise Temperature	Kelvin	30		30		65	
System Temperature	Kelvin	81		86		138	
Typical G/T @ 20 Degrees	db/K	32.36		31.89		39.19	
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	50	0	50
Rx-Rx, Tx-Tx (CP)							
Rx-Rx, Tx-Tx (LP)							
Cross-pol on Axis	dB	30	30	35	35	35	35
Cross-pol across 1 dB							
Beam Width	dB	30	30	30	30	30	30
Insertion Loss	dB	0.35	0.3	0.25	0.2	0.6	0.5
Sidelobe Envelope	dBi						
		29-25 Log Theta (1 to 20 deg) ITU-580					
Feed Interface		WR-229 CPR	WR-137 CPR	WR-229 CPR	WR-137 CPR	WR-75 CPR	WR-75 CPR

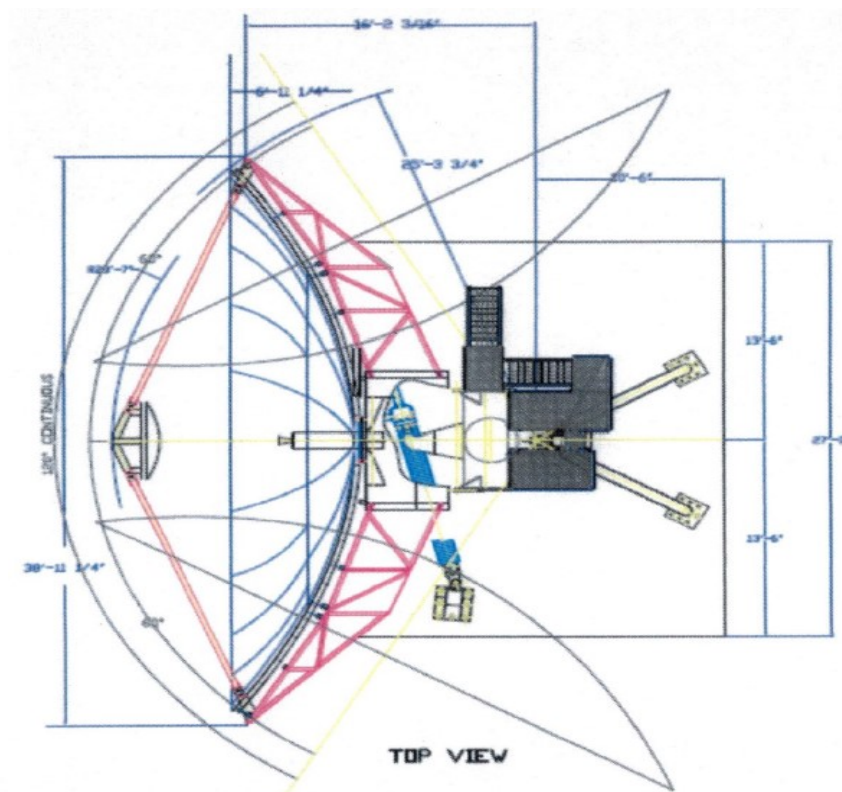
(All values listed are measured at rear feed output flange) ( Note: Other Operational Frequencies Available)



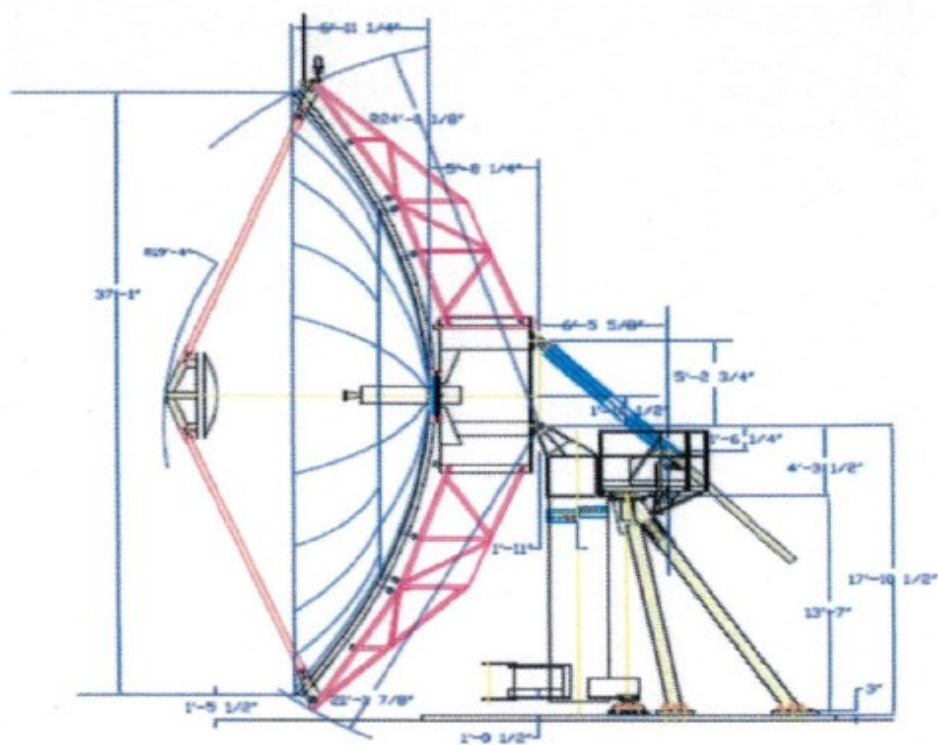


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TOP VIEW



SIDE VIEW