



COMSAT SYSTEMS PVT LTD

An ISO 9001 Company

4.6 M Earth Station Antenna

C Band / Ext C Band / Ku Band



The 4.6Mtr. Antenna in C/Ext C / Ku Band delivers good Performance and can be used in Receive only /Tx-Rx applications and meets all the international specifications.

The Antenna features Gregorian Configuration reflector with 12 doubly curved panels mounted on 12 Radial Trusses which emanate from a Center Hub, provides enough space for accommodating Receive Electronics.

The Antenna comes in 2 Mount Configurations to suit installation requirements. The standard version is an Elevation over Azimuth King Post mount, which can be installed on the ground with 4 x 4 x 0.5 Mtr raft RCC Foundation. The second configuration is an Elevation over Azimuth Mount on a Non Penetrating Mount, which can be installed on roof tops/ground. Cement concrete ballast of about 3 Tonnes to be placed over the mount to restrict uplift.

The Antenna Reflector and the Kingpost Mount Pedestal provide the stiffness and pointing accuracies required for C/Ku Band operation. The Antenna is designed for 110° Continuous Azimuth travel in one position. Non Penetrating mount gives ±30 in each selected position, and covers full ±360° rotation.

Options:

- Prime focus / Gregorian optics
- Feed 2 Port / 4 Port Linear / Circular Feed
- De-icing for Reflector / Feed
- Step Track Mechanism using Antenna Control System, Beacon Receiver and Motor Controller.
- Polarization Controller incorporated in A.C.U
- Turnkey Installations, Commissioning including Civil Foundation

SPECIFICATIONS



Electrical

Antenna Size	: 4.6 Mtr.		
Antenna Type	: Prime focus / Gregorian system		
Frequency of operation	: Rx(GHz) 3.625-4.2 4.500-4.8 10.950-12.750	Tx(GHz) 5.85-6.425 6.725-7.025 14-14.5	
Antenna Gain (Mid Band) ± 0.5 dBi	: C Band Ext C Band Ku Band	Rx 43.0 44.5 52.5	Tx 47.0 48.0 54.0
G/T(Typical)	: C Band Ext C Band Ku Band	24.4 dB/ $^{\circ}$ K with 35 $^{\circ}$ K LNA 25.5 dB/ $^{\circ}$ K with 35 $^{\circ}$ K LNA 32 dB/ $^{\circ}$ K with 70 $^{\circ}$ K LNA	
Cross Pol. Discrimination	: 30dB Min		
VSWR	: 1.30 : 1		
Output wave guide flange	: CPR 229G & CPR 137G for C Band / Ext C Band		
C Band	: WR 75 flat for Ku Band		
Power Handling Cap	: C Band : 2KW Ku Band : 2KW		
Radiation Pattern	: As per ITU - R.S.580-5		

Mechanical

Coverage	
Azimuth Travel	: 110 $^{\circ}$ Continuous, and 180 $^{\circ}$ in 2 positions
Elevation Travel	: 5 $^{\circ}$ - 90 $^{\circ}$
Travel Rate	: 4 $^{\circ}$ /Min for Az & El
Polarisation Travel	: Manual $\pm 95^{\circ}$
Weight of Reflector	: 500 Kgs
Weight of Mount	: 1000 Kgs
Reflector Structure	: Aluminium Alloy
Mount Structure	: Steel (Galvanised)
Foundation Size	: 4 X 4 X 0.5 Mtr

Environmental

Operational Winds	: 70 Kmph gusting to 100 Kmph
Survival Winds	: 200 Kmph
Ambient Temperature	: -15 $^{\circ}$ to + 50 $^{\circ}$ C
Rain	: upto 100 mm/hr
Humidity	: 100%
Solar Radiation	: 360 $^{\circ}$ BTU/hr/ft 2 or 1000 K Cal/hr/m 2
Atmosphere Conditions	: As encountered in Marine / Industrial



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