

16 Meter Earth Station Antenna



General Description

The probecom 16-meter antenna delivers exceptional performance for transmit/receive and receive only applications for L through Ka-band frequencies. This antenna offers a reflector design that incorporates precision-formed panels, truss radials and hub assembly using matched tooling for interchangeable components. It features an innovative Cassegrain feed and sub-reflector design which results in high gain, low noise temperature, high antenna efficiency and excellent rejection of noise and microwave interference. A large center hub provides spacious accommodation for equipment mounting. The reflector is supported by a galvanized elevation over azimuth kingpost pedestal that provides the required stiffness for pointing and tracking accuracy. The pedestals are designed for full orbital arc coverage and are readily adaptable to ground or rooftop installations.

Highlighted Features

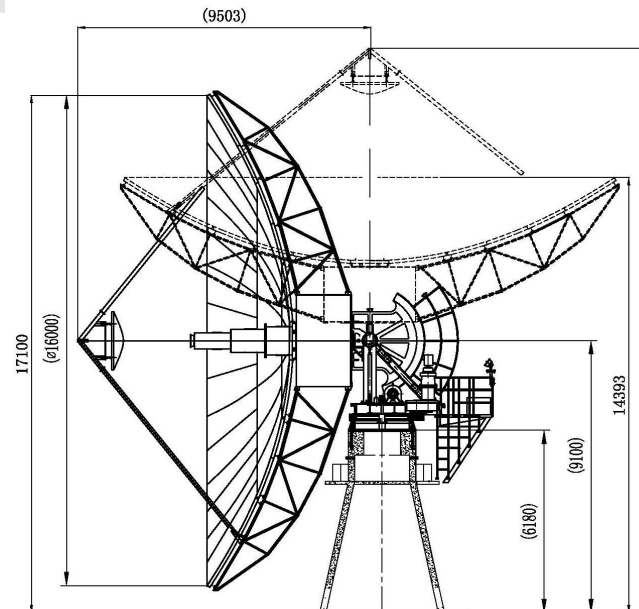
- *Meets CCIR 580 and INTELSAT Requirements
- *Precisely adjusted before leaving factory, and no need theodolite to adjust the panel accuracy;
- *High precision alloy aluminum main reflector.
- *Hot spray galvanized with white paint
- *CP/LP switchable feed
- *High RF performance
- *Galvanized stainless steel hardware
- *Different frequency ranges from many feed configurations
- *Ka band antenna with rotary pedestal is available
- *A large hub for install RF equipments
- *Increase the surface spray zinc thickness along seaside.

Options

- *L,S, X ,Ka bands and multi-bands
- *Customer feed system design
- *800MHz Extended C band is available
- *Full motion antenna
- *Feed blower or deicing sub-system with automatic controls
- *Two or four Tx/Rx port in linear or circular polarized feeds
- *Antenna control system with tracking
- *ODU Support Kits
- *Increase the surface spray zinc thickness along seaside.

Antenna Accessory

- *Motorization Kits
- *Limit Switches
- *Factory Feed System Testing and Documentation
- *Ocean /Air Transport Packing
- *Foundation Kit
- *Grounding Kit Cable-Mounting Kit



Electrical Specification										
Type	C160T		EC160T		IC160T		K160T		DBS160T	
Operating Frequency, GHz	Standard C band		Extended C band		Insat C band		Ku Band		DBS Band	
	Receive	Transmit	Receive	Transmit	Receive	Transmit	Receive	Transmit	Receive	Transmit
Typical Gain, Mid-band, dBi	54.4	58.3	54.2	58.6	55.9	59.3	63.6	65.2	63.6	66.8
Polarization	Linear/circular		Linear/circular		Linear/circular		Linear		linear	
XPD(on Axis), dB(Linear)	35	35	35	35	35	35	35	35	35	35
XPD across 1dB Beam Width, dB(Linear)	30	30	30	30	30	30	30	30	30	30
Axis Ratio, dB (circular)	0.5	0.5	0.5	0.5	0.5	0.5	/	/	/	/
VSWR	1.25	1.25	1.30	1.30	1.25	1.25	1.30	1.30	1.30	1.30
Antenna Noise Temperature (4 Port Feed)	51K		54K		56K		82K		80K	
10° Elevation	43K		45K		48K		70K		70K	
30° Elevation	41K		43K		45K		67K		66K	
50° Elevation										
-3 dB Beam Width, Mid-band	0.31°	0.20°	0.32°	0.19°	0.26°	0.18°	0.11°	0.09°	0.11°	0.075°
Typical G/T (EL=10°)	35.3dB/K (30K LNA)		34.9dB/K (30K LNA)		36.6dB/K (30K LNA)		41.8dB/K (70K LNA)		41.9dB/K (70K LNA)	
Tx. Total Power Capability, KW		5		5		5		2		2
Feed Interface	CPR229F	CPR137F	CPR229F	CPR137F	CPR229F	CPR137F	WR-75	WR-75	WR-75	WR-62
Feed Insertion Loss,dB	0.4	0.3	0.4	0.3	0.4	0.3	0.5	0.4	0.5	0.5
Isolation, Tx to Rx, dB	85		85		85		85		85	
Tx/Tx ,Rx /Rx, dB (linear)	30		30		30		30		30	
Tx/Tx ,Rx /Rx, dB (Circular)	20		20		20		/		/	
Sidelobes	CCIR 580-5									
Mechanical Specification										
Antenna Diameter	16m									
Antenna Type	Cassagrain									
● Surface Accuracy (RMS)	≤0.5mm					≤0.4mm				
Reflector Construction	70 precision-formed aluminum panels with heat-diffusing white paint, Hot spray galvanized back structure.									
Mount type	Kingpost pedestal					Turn table				
Antenna Pointing Range	Azimuth		Elevation		Polarization		0°~350°(Continuous)		0°~90°(Continuous)	
	±75°(three sections)		0°~90°(Continuous)		±90°(Continuous)		±90°(Continuous)			
Drive Mode	Motorized									
Motor Drive System	Azimuth Travel Rate		Elevation Travel Rate		Polarization Travel Rate		0.003°-0.3°/S		0.003°-0.3°/S	
	0.02°/S		0.02°/S		1°/S		1°/S			
Environmental Specification										
Operational Wind	79km/h gusting to 126km/h									
Survival Wind	200km/h(at zenith)									
Temperature	-40°~+60°									
Relative Humidity	100%									
Solar Radiation	1135Kcal/h/m ²									
Seismic(Survival)	0.3g(H), 0.15g(V)									
Ice Loading	13mm Operational; 25mm Survival									