

3.0 Meter Earth Station Antenna



General Description

The probecom 3.0-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 or Ring Focus 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

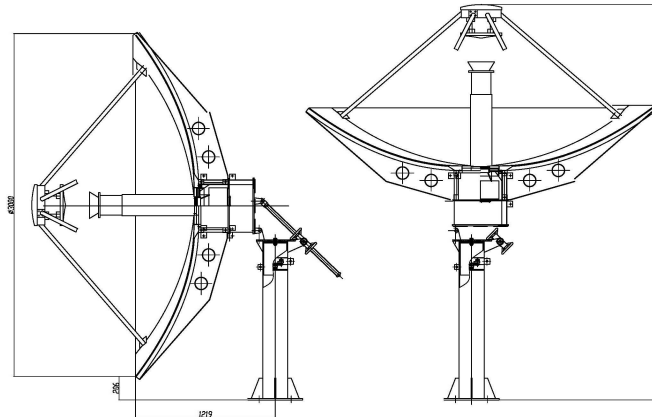
- *Meets CCIR 580 and INTELSAT Requirements
- *Precisely adjusted before leaving factory, and no need theodolite to adjust the panel accuracy;
- *High precision alloy aluminum main reflector.
- *Hot spray galvanized with white paint
- *CP/LP switchable feed
- *High RF performance
- *Galvanized stainless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

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



Technical Specification

Electrical Specification										
Type	C30T		EC30T		IC30T		K30T		DBS30T	
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
	3.625~4.2	5.85~6.425	3.4~4.2	5.85~6.725	4.5~4.8	6.725~7.025	10.70~12.75	13.75~14.5	10.70~12.75	17.3-18.4
Gain, Mid-band, dBi	39.9	43.8	39.7	44.0	41.4	44.8	49.4	51.1	49.4	53.1
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)	2	0.75	2	0.75	2	0.75	/	/	/	/
VSWR	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
Antenna Noise Temperature (2 Port Feed)										
10° Elevation	29K		28K		30K		48K		48K	
30° Elevation	22K		21K		23K		39K		39K	
50° Elevation	19K		20K		21K		35K		35K	
-3 dB Beam Width, Mid-band	1.8°	1.1°	1.8°	1.1°	1.5°	1.0°	0.6°	0.5°	0.6°	0.4°
Typical G/T (EL=10°)	21.9dB/K (30K LNA)		21.8dB/K (30K LNA)		23.3dB/K (30K LNA)		28.4dB/K (70K LNA)		28.4dB/K (70K LNA)	
Tx. Power Capability, KW		1		1		1		1		1
Feed Interface	CPR-229F	CPR-137F	CPR-229F	CPR-137F	CPR-229F	CPR-137F	WR-75	WR-75	WR-75	WR-62
Feed Insertion Loss,dB	0.3	0.25	0.3	0.25	0.3	0.25	0.3	0.25	0.3	0.25
Isolation, Tx to Rx, dB	85		85		85		85		85	
Sidelobe	CCIR 580-5									
Mechanical Specification										
Antenna Diameter		3m								
Antenna Type		Ring Focus								
Surface Accuracy (RMS)		≤0.35mm								
Reflector Construction		8 precision-formed aluminum panels with heat-diffusing white paint, Hot spray galvanized back structure.								
Mount type		Kingpost pedestal								
Antenna Pointing Range	Azimuth Elevation Polarization	0°~360°(Continuous)								
		0°~90°(Continuous)								
		±90°(Continuous)								
Drive Mode		Manual/ Motorized								
Motor Drive System	Azimuth Travel Rate Elevation Travel Rate Polarization Travel Rate	0.03°/S								
		0.04°/S								
		1°/S								
Environmental Specification										
Operational Wind		72km/h gusting to 97km/h								
Survival Wind		216km/h(at zenith)								
Temperature		-40°~+60°								
Relative Humidity		100%								
Solar Radiation		1135Kcal/h/m²								
Seismic(Survival)		0.3g(H), 0.15g(V)								
Ice Loading		13mm Operational; 25mm Survival								