

MODEL

9.3-METER

KPC, KPX, KPK

C/X/KU-BAND

KINGPOST



The Vertex 9.3-Meter Compact Cassegrain antenna for C, X, and Ku-bands offers superior performance for worldwide receive-only and transmit-receive applications. A major feature of reflector installation is the provision for non-optical alignment. Also, highly controlled manufacturing tolerances allow full interchangeability of any reflector component.

All C, X, and Ku reflector models have all aluminum panels, hub and a rigid welded truss backup structure.

The elevation-over-azimuth steel kingpost pedestal provides the stiffness required through the entire travel range.

The 9.3-Meter earth station antennas meet FCC Regulation 25.209, EUTELSAT requirements for antenna pattern and polarization discrimination, and INTELSAT requirements as specified in associated IESS documents.

## Key Features

- Non-Optical Alignment
- Reflector Panel Interchangeability
- INTELSAT Compliant
- Manual or Motorized Azimuth, Elevation, and Polarization Drive Systems
- Turnkey Installation or Installation Assistance
- Reflector and Feed Deicing Systems Available
- Extended Azimuth Travel Pedestal Available

## Mechanical

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Azimuth Travel	120° continuous (standard) 200° 2-Positions (optional)
Azimuth Travel Rate	0.35°/second C-Band; 0.2°/second Ku-Band*
Elevation Travel	5° to 90° continuous (standard) 0° to 90° with 200° azimuth travel (optional)
Elevation Travel Rate	0.35°/second C-Band; 0.2°/second Ku-Band*
Polarization Travel	+95° (2-Port) / + 50° (4 Port)
Polarization Travel Rate	1.5°/second
Weight - Reflector	4,600 pounds (2,090 kg)
Weight - Pedestal	3,500 pounds (1,500 kg)
Shipping Weight (Typical)	13,000 pounds (5,900kg)
Shipping Volume	2,600 cubic feet (74m <sup>3</sup> )
Reflector Structure	Aluminum
Pedestal Structure	Steel
Finishes	
Reflector Surface	Aluminum panels with heat-diffusing white paint
Pedestal	Hot-dip galvanized
Surface Accuracy	0.018 inch (static) (Ku-Band) 0.028 inch (static) (C-Band)
Foundation Size	22 ft x 22 ft x 1.5 ft (6.7m x 6.7m x 0.46m)
Concrete Volume	27 cubic yards (20.7m <sup>3</sup> )
Reinforcing Steel	3,360 pounds (1,525 kg)
Soil Bearing Pressure	2,000 PSF (10,000 kg/m <sup>2</sup> )
<b>Environmental</b>	
Operational Winds	
Operational	30 mph (48 km/h) gust to 45 mph (72 km/h)
Degraded	45 mph (72 km/h) gust to 60 mph (97 km/h)
Survival Winds (Any Position)	125 mph (200mph) @ 58° F (-15° to + 50° C)
Ambient Temperature	Operational: +5 to +122° F (-15° to +50° C) Survival: -22° to +140° F (-30° to +60° C) Low temperature kits available
Rain	Up to 4 in/h (10 cm/h)
Relative Humidity	0% to 100% with condensation
Solar Radiation	360 BTU/h/ft <sup>2</sup> (1000 Kcal/h/m <sup>2</sup> )
Radial Ice (Survival)	1 inch (2.5 cm) on all surfaces or 0.5 inch (1.3cm) on all surfaces with 80 mph (130km/h) wind gusts
Shock and Vibration	As encountered during shipment by commercial air, sea, or land
Corrosive Atmosphere	As encountered in coastal regions and/or heavily industrialized areas
Seismic (survival)	0.3 G's horizontal 0.1 G's vertical

\*Optional Rate Available

# Antenna Products

Electrical	C-Band 4-Port Circular Polarized		X-Band 2-Port Circular Polarized		Ku-Band 4-Port Linear Polarized	
	Receive	Transmit	Receive	Transmit	Receive	Transmit
Frequency (GHz)	3.625- 4.200	5.850- 6.425	7.25- 7.75	7.90- 8.40	10.95- 12.75	13.75- 14.50
Antenna Gain at midband, dBi	50.1	53.9	55.3	56.0	59.3	60.8
Antenna Noise Temperature						
5° Elevation	50 K		67K		90 K	
10° Elevation	42 K		58 K		84 K	
20° Elevation	37 K		53 K		76 K	
40° Elevation	31 K		47K		63 K	
Typical G/T at 4.0, 7.5, 11.85 GHz 20° Elevation, Clear Horizon						
C-Band 28 K LNA	31.8 dB/ K					
X-Band 60 K LNA			34.8 dB/ K			
Ku-Band 70 K LNA					37.7 dB/ K	
Pattern Beamwidth at midband						
-3 dB	0.51°	0.34°	0.28°	0.26°	0.17°	0.14°
-15 dB	1.07°	0.71°	0.55°	0.53°	0.36°	0.29°
Sidelobe Performance						
First sidelobe level	-14 + 2 dB		-14 + 2 dB		-14 + 2 dB	
Meets FCC25.209, Eutelsat, Asiasat, or ITU-RS 580 Specs						
Cross POL Isolation (within 1 dB)	30.7 dB	30.7 dB	21.3 dB	21.3 dB	35 dB	35 dB
VSWR Performance	1.25:1	1.25:1	1.30:1	1.30:1	1.30:1	1.30:1
Axial Ratio	0.50dB	0.50 dB	1.50 dB	1.50 dB		
Port to Port Isolation						
Rx/Tx (Rx Freq)	0 dB	-30 dB	0dB	-110 dB	0 dB	-50 dB
Tx/Rx (Tx Freq)	-85 dB	0 dB	-110 dB	0 dB	-85 dB	0 dB
Rx/Rx, Tx/Tx (Same Band)	20 dB	23 dB			30 dB	30 dB
Feed Insertion Loss	0.20 dB	0.20 dB	0.40 dB	0.40 dB	0.65 dB	0.50 dB
Waveguide Interface Flange	CPR-229G	CPR-159G	WR-137	WR-137	WR-75 Flat	WR-75 Flat
Total Power Handling Capability		10 KW		5 KW		2 KW
RF Specification	975-1420		975-2755		975-1777	

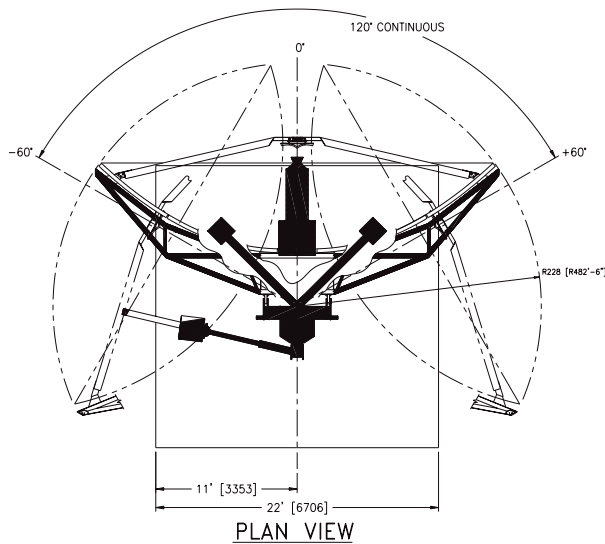
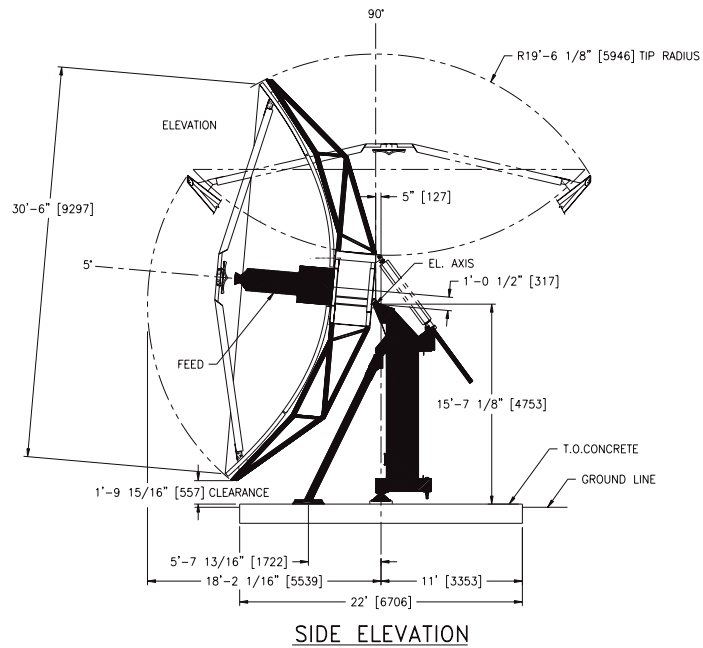
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