



VERTEX 6.1-METER

MODEL 6.1 KXC (Kingpost Pedestal)

C - B A N D



EARTH STATION ANTENNAS

The Vertex 6.1-Meter C-band antenna delivers exceptional performance for receive only and transmit-receive worldwide applications.

The Model 6.1 KXC antenna offers a deep dish reflector which incorporates precision-formed panels, radials and hub assembly with matched tooling for ease of assembly without field alignment. The antenna features an innovative compact Cassegrain subreflector and unique feed design which results in high gain, low noise temperature, high antenna efficiency and excellent rejection of noise and microwave interference. The reflector is supported by a steel azimuth/elevation kingpost pedestal providing stiffness and pointing accuracy. The pedestals are designed for full orbital arc coverage.

The antenna meets FCC Regulation 25.209, IESS (INTELSAT) or CCIR Recommendation 580 sidelobe specification beyond first sidelobe (1.8° Rx, 1.4° Tx).

Options:

- Two port, three port, and four port Rx/Tx linear or circular polarized feeds
- Reflector and feed deicing systems with manual or automatic controls
- Manual or motorized azimuth, elevation and polarization drive systems with controls and readouts
- Turnkey installations or installation assistance

6.1-METER KXC MECHANICAL SPECIFICATIONS

Azimuth Travel	120° continuous (standard) 200° 2-position (optional)
Azimuth Travel Rate	.50°/second*
Elevation Travel	0° to 90°
Elevation Travel Rate	.50°/second*
Polarization Travel	±95° (Two Ports) ±50° (Four Ports)
Polarization Travel Rate	1.5°/second
Weight - Reflector	1,200 pounds (545 kg); 2,000 pounds (908 kg) deiced
Weight - Pedestal	2,000 pounds (907 kg)
Shipping Weight (Typical)	5,230 pounds (2,372 kg)
Shipping Volume	735 cubic feet (21 m ³)
Reflector Structure	Aluminum
Pedestal Structure	Steel
Finishes Reflector Surface Pedestal	Aluminum panels with heat-diffusing white paint Hot-dip galvanized
Surface Accuracy	0.020 inch (.5 mm) Static
Foundation Size	16.5 ft x 16.5 ft x 1.5 ft (5.0 m x 5.0 m x 0.46 m)
Concrete Volume	15.5 cubic yards (11.8 m ³)
Reinforcing Steel	1,875 pounds (852 kg)
Soil Bearing Pressure	2,000 PSF (10,000 kg/m ²)

* Optional Rates Available

6.1-METER KXC ENVIRONMENTAL SPECIFICATIONS

Operational Winds	45 mph (72 km/h); gusts to 60 mph (97 km/h)
Survival Winds	125 mph (200 km/h) @ 58°F (15°C)
Ambient Temperature (Survival)	-40° to 140°F (-40° to 60°C)
Rain (Operational and Survival)	Up to 4 in/h (10 cm/h)
Relative Humidity (Operational and Survival)	0% to 100% with condensation
Solar Radiation	360 BTU/h/ft ² (1000 Kcal/h/m ²)
Radial Ice (Survival)	1 inch (2.5 cm) on all surfaces or 1/2 inch (1.3 cm) on all surfaces with 80 mph (130 km/h) wind gusts
Shock and Vibration	As encountered during shipment by commercial air, sea or truck
Corrosive Atmosphere	As encountered in coastal regions and/or heavily industrialized areas
Seismic (Survival)	0.3 G's horizontal 0.1 G's vertical

NOTE: This document gives a description of only the prominent features of the product(s). Vertex reserves the right to change the specifications without notice.

6.1-METER KXC COMPACT CASSEGRAIN R.F. SPECIFICATIONS	C-BAND 4-PORT CIRCULAR POL. FEED	
	RECEIVE	TRANSMIT
Frequency in GHz*	3.625-4.200	5.850-6.425
Antenna Gain		
3.625/5.850 GHz	45.8 dB	49.2 dB
3.912/6.138 GHz	46.5 dB	49.6 dB
4.200/6.425 GHz	47.1 dB	50.0 dB
Antenna Noise Temperature		
5° Elevation	52°K	
10° Elevation	41°K	
20° Elevation	35°K	
40° Elevation	30°K	
Typical G/T at 20° Elevation, 3.912 GHz, Clear Horizon		
with 35°K LNA	27.7 dB/K	
with 50°K LNA	26.9 dB/K	
Pattern Beamwidth in Degrees at 3.912/6.138 GHz		
- 3 dB	<0.82	<0.56
- 15 dB	<1.73	<1.17
Sidelobes	-12 ±2 dB	
First Sidelobe Level across the Band		
Beyond First Sidelobe Meets IESS (Intelsat) or CCIR		
Recommendation 580 Sidelobe Specification		
Cross Polarization Isolation		
On Axis	30.7 dB	30.7 dB
within 1 dB Beamwidth	30.7 dB	30.7 dB
VSWR	1.25:1	1.25:1
Feed Insertion or Ohmic Loss	0.15 dB	0.20 dB
Receive-to-Receive Port Isolation	19.0 dB	
Transmit-to-Transmit Port Isolation		23.0 dB
Transmit-to-Receive Isolation	30.0 dB	30.0 dB
Axial Ratio (Voltage Axial Ratio)	0.50 dB (1.06)	0.50 dB (1.06)
Feed Interfaces	CPR-229G	CPR-159G
Total Power Handling Capability**		10 kW CW

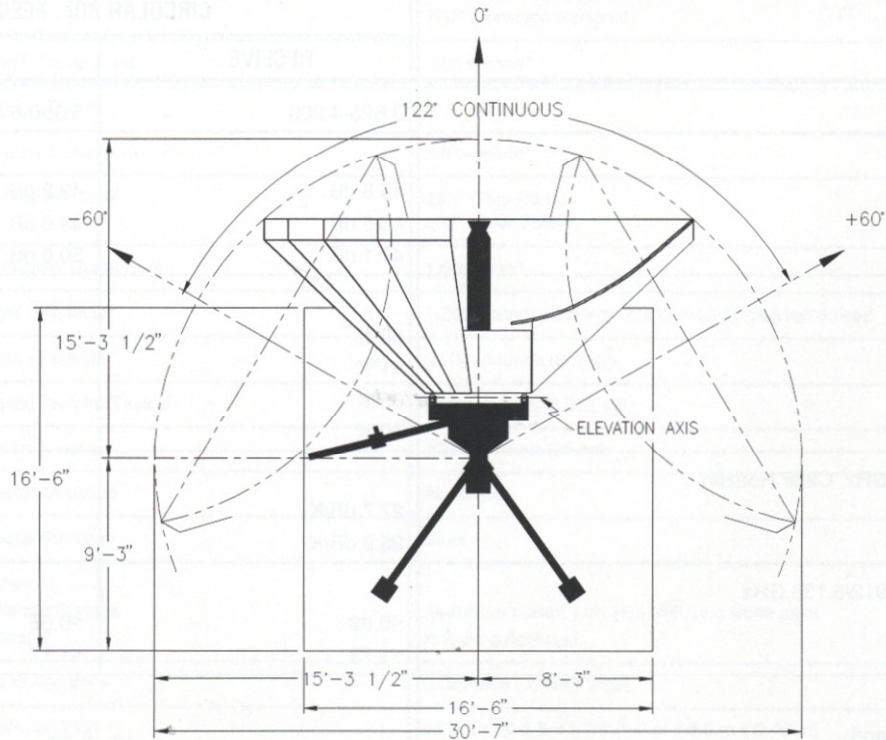
* Other Operational Frequencies Available

NOTE: All values are at the rear feed output flange.

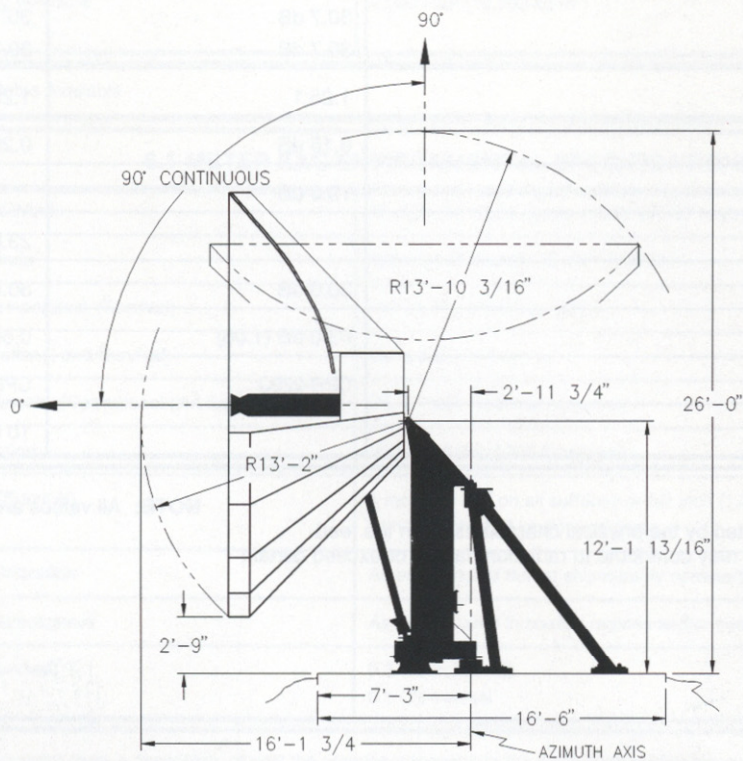
** Power handling capability is based on and limited by the physical characteristics in the feed components. Microwave power at these levels may contribute to radiation hazard or exceed certain off-axis e.i.r.p. specifications.

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PLAN VIEW



SIDE ELEVATION

VERTEX COMMUNICATIONS CORPORATION

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