

VERTEX 6.1-METER MODEL 6.1 KXK (Kingpost Pedestal)

KU-BAND



EARTH STATION ANTENNAS

This 6.1-Meter antenna is the industry standard for worldwide Ku-band transmit/receive applications.

The Model 6.1 KXK antenna offers a proven high efficiency, low noise temperature, Cassegrain configuration. This reflector has highly accurate field-adjustable reflector panels. The reflector incorporates matched-tooled radial beams, hub assemblies, and panels for ease of installation. The reflector is supported by a steel azimuth/elevation kingpost pedestal that provides the stiffness and pointing accuracy required for Ku-band operation. The pedestals are designed for full CONUS orbital arc coverage.

The antennas meet the requirements for FCC 2° satellite spacing or INTELSAT Ku-band sidelobe specifications.

Options:

- Two port, three port, and four port Tx/Rx linear polarized feeds
- Reflector and feed deicing, full reflector systems with manual or automatic controls
- Manual or motorized azimuth, elevation and polarization drive systems with controls and readouts
- · Step track control system with readouts
- · Turnkey installations or installation assistance
- Extended azimuth travel pedestal system 200° two positions

VERTEX ANTENNA DIVISION

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6.1-METER KXK 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	1,700 pounds (771 kg)			
Weight - Pedestal	2,000 pounds (907 kg)			
Shipping Weight (Typical)	7,055 pounds (3,200 kg)			
Shipping Volume	1,245 cubic feet (35 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 .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/m²)			

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* Optional Rates Available

6.1-METER KXK 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	Operational: +5° to +122°F (-15° to +50°C) Survival: -22° to +140°F (-30° to +60°C) Low temperature kits available				
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/ft² (1000 Kcal/h/m²)				
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.

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6.1-METER KXK CASSEGRAIN R.F. SPECIFICATIONS	KU-BAND 2-Port Linear Pol Feed		KU-BAND 4-PORT LINEAR POL FEED	
	RECEIVE	TRANSMIT	RECEIVE	TRANSMIT
Frequency in GHz*	10.95-12.75	14.00-14.50	10.95-12.75	14.00-14.50
Antenna Gain 10.950/14.000 GHz 11.850/14.250 GHz 12.750/14.500 GHz	55.0 dB 55.7 dB 56.2 dB	56.9 dB 57.1 dB 57.2 dB	54.9 dB 55.6 dB 56.1 dB	56.8 dB 57.0 dB 57.1 dB
Antenna Noise Temperature 5° Elevation 10° Elevation 20° Elevation 40° Elevation	66°К 49°К 39°К 33°К		72°K 55°K 46°K 40°K	
Typical G/T at 20° Elevation, 11.850 GHz, Clear Horizon with 90°K LNA with 120°K LNA	34.3 dB/K 33.4 dB/K		34.3 dB/K 33.4 dB/K	
Pattern Beamwidth in Degrees at 11.850/14.250 GHz - 3 dB - 15 dB	<0.27 <0.57	<0.23 <0.48	<0.27 <0.57	<0.23 <0.48
Sidelobes First Sidelobe Level across the Band Meets FCC Regulation 25.209, Eutelsat, IESS (Intelsat) or CCIR Recommendation 580 Sidelobe Specification	-14± 2dB			
Cross Polarization Isolation on axis within 1 dB Beamwidth	35.0 dB 35.0 dB	35.0 dB 35.0 dB	35.0 dB 35.0 dB	35.0 dB 35.0 dB
VSWR	1.25:1	1.25:1	1.30:1	1.25:1
Feed Insertion or Ohmic Loss	0.25 dB	0.25 dB	0.35 dB	0.35 dB
Receive-to-Receive Port Isolation			30.0 dB	
Transmit-to-Transmit Port Isolation				30.0 dB
Transmit-to-Receive Isolation	30.0 dB	30.0 dB	50.0 dB	85.0 dB
Feed Interfaces	WR-75 Flat	WR-75 Flat	WR-75 Flat	WR-75 Flat
Total Power Handling Capability**		2 kW CW		2 kW CW

* Other Operational Frequencies Available

Other Operational Frequencies Available
** 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.

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

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