



# VERTEX 11-METER

## MODEL 11 KPC & KPK (Kingpost Pedestal)

### C-BAND and KU-BAND



## EARTH STATION ANTENNAS

Vertex has developed the 11-Meter C-Band and Ku-Band antennas to offer superior performance for a variety of applications, such as: broadcast uplinks, private networks, domestic satellite telephony/video networks and international INTELSAT Standard "B" Earth Stations.

Model 11 KPC (C-Band) and 11 KPK (Ku-Band) antennas incorporate stretch formed doubly contoured panels with matched radials and hub assemblies for ease of field alignment. The reflectors and azimuth/elevation kingpost pedestals provide the stiffness and pointing accuracy required for C-Band and Ku-Band operation. These antennas are designed for full orbital arc coverage.

The antennas meet FCC Regulation 25.209, IESS (INTELSAT), and CCIR Recommendation 580.

#### Options:

- Two port, three port, four port Rx/Tx linear and circular polarized feeds
- Full reflector and feed deicing 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

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2600 LONGVIEW ST. • P.O. BOX 1277 • KILGORE, TX 75663 • TEL 903-984-0555 • FAX 903-984-1826 • TWX 910-860-5793

### 11-METER KPC/KPK MECHANICAL SPECIFICATIONS

Azimuth Travel	120° continuous*
Azimuth Travel Rate	.1°/second**
Elevation Travel	5° to 90° continuous
Elevation Travel Rate	.05°/second**
Polarization Travel	±90°
Polarization Travel Rate	1.0°/second
Weight - Reflector	14,100 pounds (6,396 kg)
Weight - Pedestal	28,000 pounds (12,701 kg)
Shipping Weight (Typical)	29,300 pounds (13,290 kg)
Shipping Volume	4,520 cubic feet (128 m <sup>3</sup> )
Reflector Structure	Steel
Pedestal Structure	Steel
Finishes Reflector Surface Reflector Backup Structure Pedestal	Aluminum panels with heat-diffusing white paint Hot-dipped galvanized steel Red oxide primer and two coats of enamel
Surface Accuracy	0.025 inch (.64 mm) Static
Foundation Size	24 ft x 24 ft x 2 ft (7.3 m x 7.3 m x 0.6 m)
Concrete Volume	43 cubic yards (32.9 m <sup>3</sup> )
Reinforcing Steel	6,000 pounds (2,721 kg)
Soil Bearing Pressure	3,000 PSF (15,000 kg/m <sup>2</sup> )

\* Extended Travel Option Available ±90°

\*\* Other Rates Available

### 11-METER KPC/KPK 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)	-29° to 60°C (-20° to 140°F)
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 <sup>2</sup> (1000 Kcal/h/m <sup>2</sup> )
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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11 METER KPC/KPK R.F. SPECIFICATIONS		C-BAND 4-PORT CIRC. POL FEED		C-BAND 4-PORT LINEAR POL FEED		KU-BAND 2-PORT LINEAR POL FEED		KU-BAND 4-PORT LINEAR POL FEED	
		RECEIVE	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE	TRANSMIT
Frequency in GHz*		3.625-4.200	5.850-6.425	3.700-4.200	5.925-6.425	10.95-12.75	14.00-14.50	10.95-12.75	14.00-14.50
Antenna Gain		51.2 dB	54.9 dB	51.4 dB	55.0 dB				
3.700/5.925 GHz									
3.912/6.138 GHz		51.8 dB	55.2 dB	51.9 dB	55.3 dB	60.4 dB	62.3 dB	60.3 dB	62.2 dB
3.950/6.175 GHz				52.5 dB	55.6 dB	61.0 dB	62.4 dB	60.9 dB	62.3 dB
4.200/6.425 GHz		52.5 dB	55.6 dB			61.6 dB	62.5 dB	61.5 dB	62.4 dB
10.950/14.000 GHz									
11.850/14.250 GHz									
12.750/14.500 GHz									
Antenna Noise Temperature									
5° Elevation		51°K		49°K		74°K		79°K	
10° Elevation		39°K		37°K		57°K		63°K	
20° Elevation		31°K		29°K		47°K		53°K	
40° Elevation		28°K		26°K		43°K		48°K	
Typical G/T at 20° Elevation, 3.912 GHz, Clear Horizon									
with 40°K LNA		32.9 dB/K							
with 65°K LNA		31.7 dB/K							
Typical G/T at 20° Elevation, 3.950 GHz, Clear Horizon									
with 40°K LNA				33.1 dB/K					
with 65°K LNA				31.9 dB/K					
Typical G/T at 20° Elevation, 11.850 GHz, Clear Horizon									
with 90°K LNA								39.3 dB/K	39.1 dB/K
with 150°K LNA								37.8 dB/K	37.6 dB/K
Pattern Beamwidth in Degrees at 3.912/6.138 GHz									
- 3 dB		0.44	0.29						
- 15 dB		0.93	0.62						
Pattern Beamwidth in Degrees at 3.950/6.175 GHz									
- 3 dB				0.44	0.29				
- 15 dB				0.92	0.61				
Pattern Beamwidth in Degrees at 11.850/14.250 GHz									
- 3 dB						0.14	0.12	0.14	0.12
- 15 dB						0.30	0.25	0.30	0.25
Sidelobes		Meets FCC Regulation 25.209, Eutelsat, IESS (Intelsat) and CCIR Recommendation 580							
Cross Polarization Isolation within 1 dB Beamwidth		30.8 dB	30.8 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	1.25:1	1.25:1	1.25:1	1.25:1	1.30:1	1.25:1
Feed Insertion or Ohmic Loss		0.15 dB	0.20 dB	0.15 dB	0.20 dB	0.40 dB	0.40 dB	0.50 dB	0.50 dB
Receive-to-Receive Port Isolation		21.0 dB		30.0 dB					
Transmit-to-Transmit Port Isolation			23.0 dB		30.0 dB				30.0 dB
Transmit-to-Receive Isolation		30.0 dB	30.0 dB	30.0 dB	30.0 dB	30.0 dB	30.0 dB	50.0 dB	85.0 dB
Transmit-to-Receive Isolation with Optional Filter		30.0 dB	30.0 dB	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	CPR-229G	CPR-159G	WR-75 Flat	WR-75 Flat	WR-75 Flat	WR-75 Flat
Total Power Handling Capability**			10 kW CW		10 kW CW		2 kW CW		2 kW CW

\* Other Operational Frequencies Available  
 \*\* Higher Power Optional

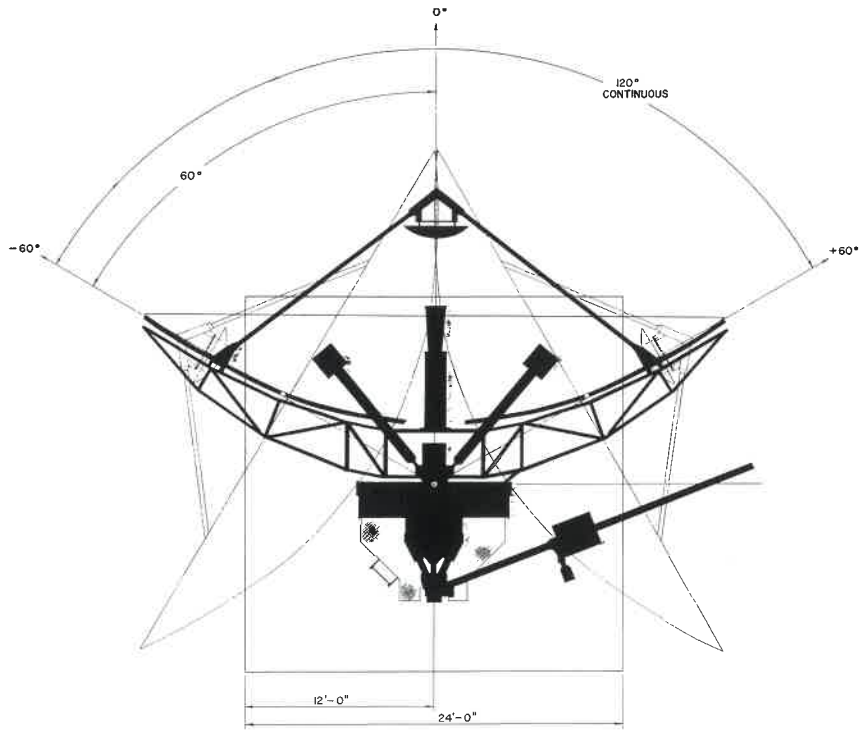
NOTE: All values are at the rear feed output flange.

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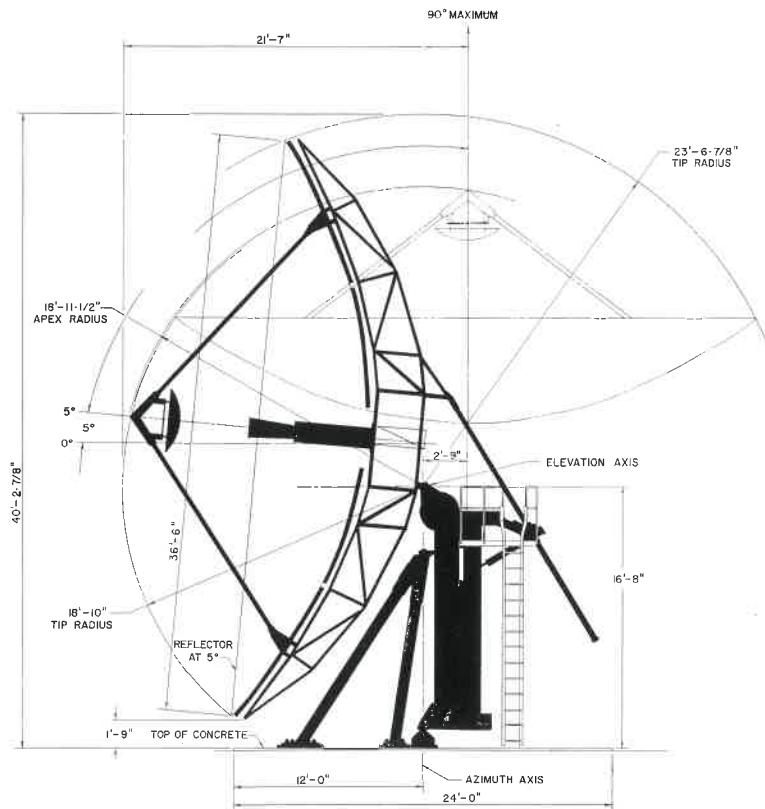
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PLAN VIEW



SIDE ELEVATION

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