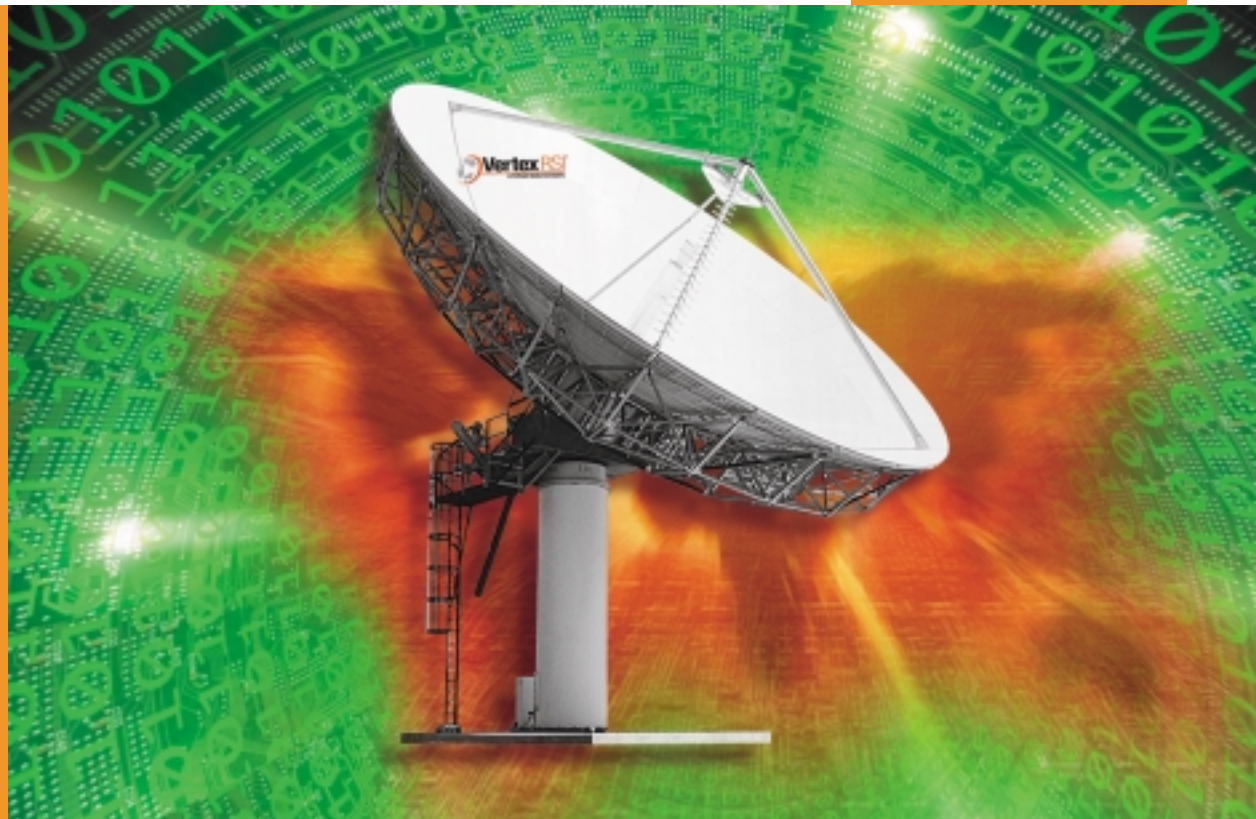


MODEL

16.4-METER

THC

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The VertexRSI Model 16.4THC “Turning Head” antenna is the most recent state-of-the-art antenna design in the industry. This design configuration provides a high-quality product at an economical price. This system is designed primarily for INTELSAT applications (IESS-207), and provides a variety of features which meets the needs of various operational requirements. Options include CP/LP switchable feeds and availability of a high wind configuration.

Tasked with the goal of providing a cost-effective antenna subsystem

installation, the design was approached, in part, to minimize field installation time by increasing the level of factory-controlled subassembly. This was achieved by precision fabrication tooling and higher level of factory subassemblies. An additional feature that benefits the civil effort and provides superior operational flexibility is its azimuth coverage of up to 360 degrees in six 85-degree overlapping segments. The enhanced stiffness of the reflector/pedestal system results in excellent performance for the most critical pointing/tracking requirements.

Key Features

- Up to 360 Degree Coverage
- INTELSAT Standard “A” Applications
- Precision Fabrication
- Robust Pedestal and Reflector
- Optional High Wind Configuration
- CP / LP Switchable Feed Options

Mechanical

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Azimuth Travel	Up to 360° (Six overlapping 85° sections)*
Azimuth Travel Rate	0.03°/second
Elevation Travel	0° - 90° continuous
Elevation Velocity	0.03°/second
Weight - Reflector	40,000 pounds (18,180 kg)
Weight - Pedestal	37,500 pounds (17,050 kg)
Shipping Weight (Approximate)	85,000 pounds (36,600 kg)
Shipping Volume	7,000 cubic feet (200 cu. m.)
Reflector Structure	Steel
Pedestal Structure	Steel
Finishes	
Reflector Surface	Aluminum panels with heat-diffusing white paint
Backup Structure	Hot-dip galvanized
Pedestal	
Turning Head	Hot-dip galvanized
Pedestal Tube	Painted white (galvanized options)
Surface Accuracy	0.025 inch rms (0.6 mm) static
Foundation Size	31.5 ft x 31.5 ft x 3.5ft (9.6m x 9.6m x 1.0m)
Concrete Volume	128.6 cubic yards (98.3 cu.m)
Reinforcing Steel	14,575 pounds (6,620 kg)
Soil Bearing Pressure	3,000 lb.ft ² (14,650 kg/m ²)
Environmental	
Operational Winds	45 mph (72 km/h) gust to 60 mph (97 km/h)
Survival Winds (any position)	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
Relative Humidity	0% to 100% with condensation
Rain	up to 4 in./ hr. (10 cm/h)
Solar Radiation	360 BTU/h/ft ² (1000 Kcal/h/m ²)
Radial Ice (Operational)	1/4 inch (0.6 cm) on all surfaces except reflector and anti-icing heaters energized
Radial Ice (Survival)	1 inch (2.5 cm) on all surfaces or 1/2 inch ice (1.3 cm) with 80 mph (130 km/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

* Travel may be limited by accessories

Antenna Products

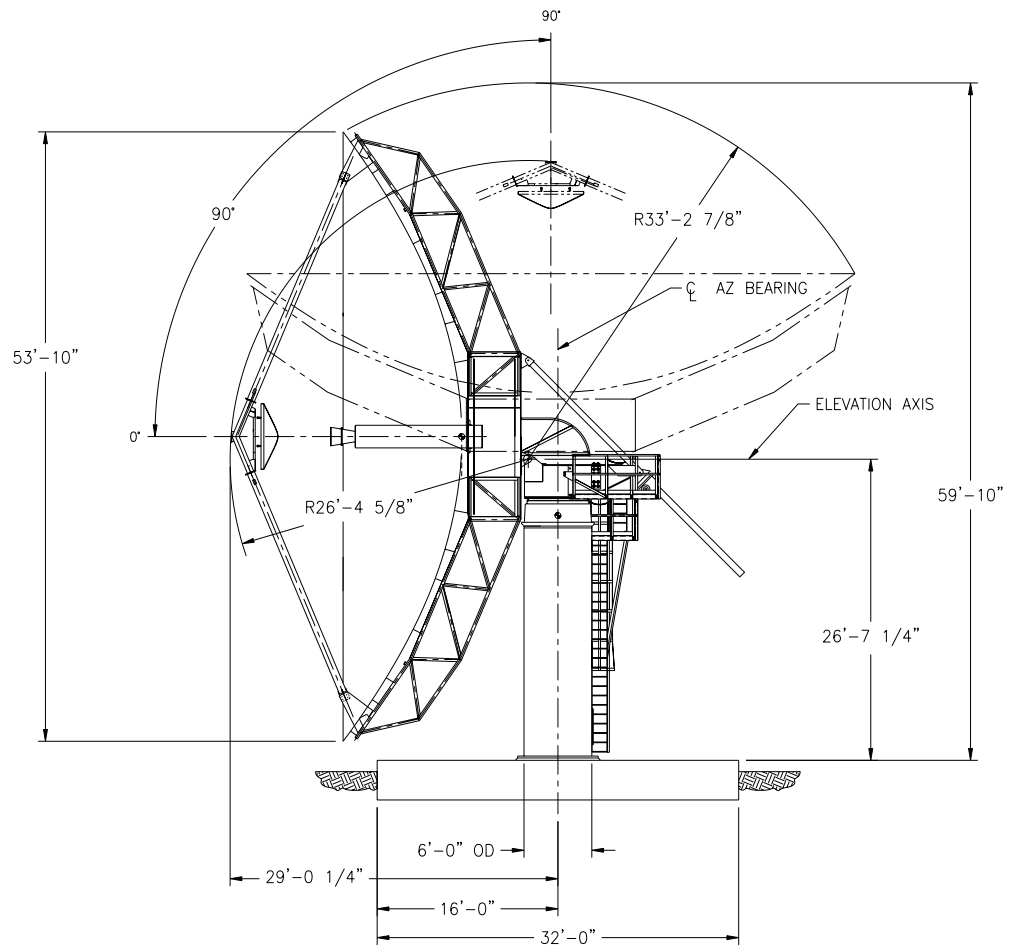
Electrical	C-Band	4-Port	C-Band	4-Port
	Circular	Pol Feed	Linear	Pol Feed
	Receive	Transmit	Receive	Transmit
Frequency (GHz)	3.625 - 4.200	5.850 - 6.425	3.400 - 4.200	5.850 - 6.750
Antenna Gain at midband	55.1	58.9	54.8	59.0
Antenna Noise Temperature				
5° Elevation	58° K		59° K	
10° Elevation	49° K		51° K	
20° Elevation	43° K		45° K	
40° Elevation	41° K		43° K	
Typical G/T at 4,000 GHz				
20° Elevation, Clear Horizon				
35°K LNA	36.0 dB/ K		35.9 dB/ K	
50°K LNA	35.2 dB/ K		35.2 dB/ K	
Pattern Beamwidth at midband				
-3 dB	0.30	0.19	0.32	0.19
-15 dB	0.63	0.40	0.68	0.40
Sidelobe Performance				
First Sidelobe across the Band	-15 ±2 dB		-15 ±2 dB	
Meets FCC 25.209 or ITU-RS-580 Specifications				
Cross POL Isolation				
on Axis	30.7 dB	30.7 dB	35.0 dB	35.0 dB
within 1 dB Beamwidth	30.7 dB	30.7 dB	30.0 dB	30.0 dB
VSWR	1.25:1	1.25:1	1.30:1	1.30:1
Feed Insertion or Ohmic Loss	0.35 dB	0.30 dB	0.40 dB	0.40 dB
Port to Port Isolation				
Rx/Tx (Rx Freq)	0 dB	-30 dB	0 dB	-30 dB
Tx/Rx (Tx Freq)	-30 dB	0 dB	-30 dB	0 dB
Rx/Rx, Tx/Tx (Same Band)	21 dB	23 dB	30 dB	30 dB
Axial Ratio	0.50 dB	0.50 dB		
Waveguide Interface Flange	CPR-229G	CPR-159G	CPR-229G	CPR-159G
Total Power Handling Capability	10 kW CW		10kW CW	
RF Specification	975-1237		975-1792	

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SIDE ELEVATION



2600 N. Longview Street • Kilgore, TX 75662 USA
Tel: (903) 984-0555 • Fax: (903) 984-1826
www.tripointglobal.com

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