

Model C390G-HSPA Gregorian Antenna

Satcom Antennas



The Strength to Perform

Easy-to-install, "bolt-together" design

Meets ITU, FCC, WGS and DISA

Aluminum reflector, galvanized pedestal

125 mph (200 km/h) wind survival

Purposefully designed for Ka-band

Buy Now!



Description

The General Dynamics SATCOM Technologies 3.9-meter antenna delivers exceptional performance for transmit/receive and receive-only applications for C through Ka-band frequencies. This antenna offers a deep dish reflector that incorporates precision-formed panels, contoured radials and hub assembly. It features an innovative feed and subreflector design which results in high gain, low noise temperature, high antenna efficiency and excellent rejection of noise and microwave interference. The aluminum reflector is supported by a galvanized pedestal that provides the required stiffness for pointing accuracy. The pedestals are designed for full orbital arc coverage and are readily adaptable to ground or rooftop installations. The electrical performance is compliant with ITU, FCC and WGS/DISA sidelobe specifications. No instruments are required to assemble and align. All configurations meet SATCOM Technologies' own type-approved quality assurance and performance guarantee.

Options

- C, X, Ku and Ka-band feed configurations
- C/Ku receive-only feed systems
- Specialized feed systems (e.g. extended, multi-band)
- Improved feed cross-pol performance
- Fixed or motorizable pedestal mounts
- Reflector and feed deicing systems
- Environmental hub configurations
- Integrated transmit cross-axis kits
- Integrated LNA or LNB systems
- HPAs, converters and M&C systems
- Load frame or non-penetrating mounts
- Packing for sea and air transport
- Turnkey installation and testing

Upgrades

- X-band low PIM reflector/feed configurations
- Antenna control system with tracking
- Extended azimuth travel
- High wind configuration
- Low operating temperatures
- High power configurations



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Technical Specifications

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Electrical ⁽¹⁾	C-Band 2-Port Circular Polarized ⁽⁴⁾		X-Band 2-Port Circular Polarized ⁽⁵⁾		Ku-Band 2-Port Linear Polarized		Ka-Band 2-Port Circular Polarized	
	Receive	Transmit	Receive	Transmit	Receive	Transmit	Receive	Transmit
Frequency (GHz)	3.625-4.200	5.850-6.425	7.250-7.750	7.900-8.400	10.95-12.75	14.00-14.50	20.20-21.20	30.00-31.00
Antenna Gain at Midband, dBi ⁽²⁾	42.60	46.70	48.20	48.90	52.10	53.70	56.70	59.30
Antenna Noise Temperature 5°, 10°, 20°, 40° Elevation	63 K, 54 K, 49 K, 46 K		72 K, 61 K, 55 K, 53 K		78 K, 64 K, 54 K, 49 K		199 K, 153 K, 117 K, 98 K	
Typical G/T at 20° Elevation ⁽³⁾	35 K LNA, 50 K LNA 60 K LNA, 80 K LNA 70 K LNA, 90 K LNA 120 K LNA, 200 K LNA		27.6 dB/K, 26.9 dB/K		31.2 dB/K, 30.5 dB/K		32.8 dB/K, 31.5 dB/K	
Sidelobe Performance	Meets IESS (Intelsat) or ITU-RS-580		Meets ITU-RS-580 Meets ITU-RS-580		Meets ITU-RS-580 Meets ITU-RS-580		Meets ITU-RS-580 Meets ITU-RS-580	
Cross Polarization	On Axis Within 1.0 dB BW		19.7 dB 27.3 dB		21.3 dB 21.3 dB		35.0 dB 35.0 dB	
Axial Ratio	1.80 dB .75 dB		1.50 dB 1.50 dB		1.00 dB 1.00 dB		1.00 dB 1.00 dB	
Port-to-Port Isolation	Rx/Tx (Rx frequency) Tx/Rx (Tx frequency)		0 dB -85 dB		-50 dB 0 dB		-110 dB 0 dB	
Feed Insertion Loss	0.35 dB 0.25 dB		0.45 dB 0.45 dB		0.50 dB 0.30 dB		0.50 dB 0.45 dB	
Waveguide Interface Flange	CPR-229G CPR-137G		WR-137 WR-137		WR-75 Flat WR-75 Flat		WR-42 WR-28	
Total Power Handling Capability	2.00 kW CW		2.00 kW CW		2.00 kW CW		100 W CW	
RF Specification	975-3759		975-3757		975-2089		975-2191	

(1) All values are at rear feed flange. (2) C-band Rx values are at 4 GHz. (3) Typical G/T at 20° elevation with clear horizon using single bolt-on LNA to feed.

(4) C-band CP/LP feed available. (5) Optional low PIM version available. XTAR compliant, MIL-188-164A compliant options available.

Mechanical/Environmental ⁽⁶⁾	Fixed Post Mount (PM) Pedestal	Motorizable Kingpost Pedestal (KP)	Motorizable High Wind Kingpost Pedestal (KP-HW)
Antenna Diameter and Type	3.9 meters (12.8 feet), Compact Cassegrain design		
Reflector Construction	16 precision-formed aluminum panels with heat-diffusing white paint. Cleaned and brightened aluminum back-up structure.		
Hub Dimensions	48 in (122 cm) OD, 29 in (74 cm) depth		
Mount Configuration	Elevation over azimuth pedestal, constructed of galvanized A36 steel		
Drive Type	Manual strut	Manual strut or jack screw	Manual jack screws
Azimuth Travel	360° coarse, 40° fine adjustment	120° continuous	120° continuous
Elevation Travel	0 to 90° continuous	0 to 90° continuous	0 to 90° continuous
Foundation (L x W x D)	12.5 x 12.5 x 1.5 ft (3.8 x 3.8 x 0.38 m)		16.5 x 16.5 x 2.5 ft (5.0 x 5.0 x 0.76 m)
Concrete	8.7 yds ³ (6.65 m ³)		25.5 yds ³ (19.5 m ³)
Reinforcing Steel	1,125 lbs. (510 kg)		1,680 lbs. (762 kg)
Shipping Containers	One 20 ft standard (4 units in one 40 ft)	One 20 ft standard (2 units in one 40 ft)	Two units in one 40 ft standard
Operational Wind Loading	45 mph (72 km/h) gusting to 60 mph (97 km/h)		Up to 62 mph (100 km/h)
Survival Wind Loading	Any Position 125 mph (200 km/h) @ 58° F (15° C)		180 mph (290 km/h) @ 58° F (15° C)
	At Zenith n/a		210 mph (338 km/h) @ 58° F (15° C)
Operational Temperature	+5° to +122° F (-15° to +50° C)		
Survival Temperature	-22° to +140° F (-30° to +60° C), low temperature options available		
Rain	Up to 4 in/h (10 cm/h)		
Relative Humidity	0 to 100% with condensation		
Solar Radiation	360 BTU/h/ft ² (1,000 Kcal/h/m ²)		
Ice (survival)	1 in (2.5 cm) on all surfaces or 1/2 in (1.3 cm) on all surfaces with 80 mph (130 km/h) wind gusts		
Atmospheric Conditions	As encountered in coastal regions and/or heavily industrialized areas		
Shock and Vibration	As encountered during shipment by airplane, ship or truck		

(6) Some specifications may vary based on the combination of equipment, options and/or upgrades ordered.