



TRANSMIT / RECEIVE ~ NEW SERIES 1385 ~ 3.8m VSAT ANTENNA



Key Features

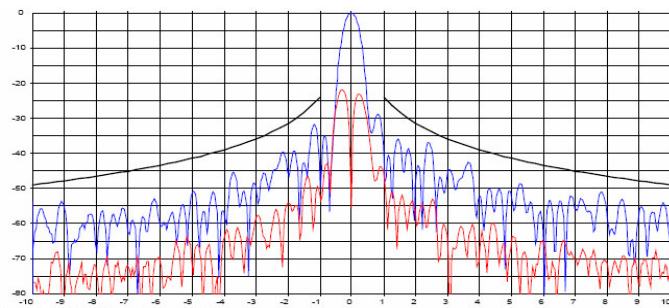
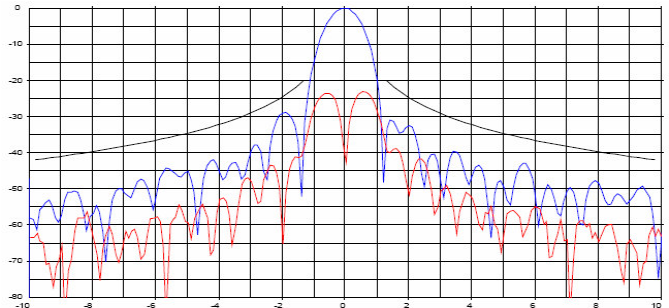
- **UPGRADED INTEGRAL RIB DESIGN FOR HIGHER FREQUENCY OPERATION.**
- **INCREASED STRENGTH FOR HEAVIER RADIO AND ODU EQUIPMENT LOADS.**
- **HIGHER PRECISION ASSEMBLY AND ALIGNMENT FROM AUTOMATED MANUFACTURING PROCESSES.**
- **FIELD FRIENDLY INSTALLATION WITHOUT REQUIREMENT FOR SPECIALIZED TOOLS.**
- **ANTI-ICE CAPABILITY FOR USE IN COLD CLIMATE AND ARCTIC ENVIRONMENTAL CONDITIONS.**
- **OPTIMIZED, 4-PIECE REFLECTOR DESIGN FOR MAXIMUM SHIPPING EFFICIENCIES.**
- **UPGRADABLE FOR HIGH XPD PERFORMANCE.**

Description

The General Dynamics new series 1385 ~ 3.8m antenna has been designed to provide a reliable, long-life and trouble free antenna solution for demanding applications in the primary VSAT communications bands. Enhancements to this antenna design have improved the structural stability and surface tolerances of the reflector, offering growth potential for reliable communications up to Ka-band.

The antenna has been designed to meet the performance requirements of the major satellite service providers and regulatory agencies.

The mechanical design has been optimized for high efficiency packaging to reduce shipping costs. Material selections for the reflector significantly reduce the risk for shipping damage when compared to metal reflector solutions. Factory pre-assembly of critical components eliminates the requirement for complex assembly procedures in the field.



GENERAL DYNAMICS
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Tx/Rx Multi-band 3.8M VSAT Antenna

Series 1385

Technical Specifications

Electrical		C-Band Linear	C-Band Circular	Ku-Band Linear	X-Band Circular
Antenna Size		3.8 M	3.8 M	3.8 M	3.8 M
Operating Frequency (GHz)	Receive Transmit	3.625 - 4.20 GHz 5.845 - 6.425 GHz	3.625 - 4.20 GHz 5.845 - 6.425 GHz	10.95 - 12.75 GHz 13.75 - 14.50 GHz	7.25 - 7.75 GHz 7.90 - 8.40 GHz
Midband Gain (+/- .2dB)	Receive Transmit	42.00 dBi 46.50 dBi	41.80 dBi 46.30 dBi	51.20 dBi 53.00 dBi	47.80 dBi 48.40 dBi
VSWR	Receive Transmit	1.3:1 Max.(<-17.70 dB) 1.3:1 Max.(<-17.70 dB)	1.3:1 Max.(<-17.70 dB) 1.3:1 Max.(<-17.70 dB)	1.5:1 Max.(<-14.00 dB) 1.3:1 Max.(<-17.70 dB)	1.3:1 Max.(<-17.70 dB) 1.3:1 Max.(<-17.70 dB)
Pattern Beamwidth (in degrees at midband)	-3 dB -15 dB	Rx 1.40 deg Tx 0.90 deg Rx 3.20 deg Tx 2.00 deg	Rx 1.40 deg Tx 0.90 deg Rx 1.40 deg Tx 0.90 deg	Rx 0.50 deg Tx 0.40 deg Rx 1.00 deg Tx 0.90 deg	Rx 0.80 deg Tx 0.70 deg Rx 1.60 deg Tx 1.50 deg
Sidelobe Envelope, Co-Pol (dBi)		29 - 25 Log θ dBi (Note) -3.5 dBi 32 - 25 Log θ dBi -10 dBi (averaged)	29 - 25 Log θ dBi (Note) -3.5 dBi 32 - 25 Log θ dBi -10 dBi (averaged)	29 - 25 Log θ dBi (Note) -3.5 dBi 32 - 25 Log θ dBi -10 dBi (averaged)	29 - 25 Log θ dBi (Note) -3.5 dBi 32 - 25 Log θ dBi -10 dBi (averaged)
Note: In receive portion of C-band only, sidelobe envelope specified from 100 λ /D rather than 1°					
Antenna Noise Temperature					
5° Elevation		55 K	62 K	70 K	60 K
10° Elevation		45 K	52 K	60 K	51 K
20° Elevation		38 K	45 K	55 K	47 K
40° Elevation		36 K	43 K	45 K	47 K
Power Handling		1 kW	1 kW	100 W	2 kW
Cross Polarization Isolation					
On Axis		> 30 dB	Rx > 15.00 dB Tx > 17.70 dB	Rx > 30.00 dB Tx > 35.00 dB	Rx > 23.20 dB Tx > 18.80 dB
Within 1.0 dB Beamwidth		> 27 dB	Rx > 15.00 dB Tx > 17.70 dB	Rx > 25.00 dB Tx > 26.00 dB	Rx > 23.20 dB Tx > 18.80 dB
Note: Standard C-band Circular polarization in Tx-Band provides an axial ratio of 1.3 (XPD equivalence of 17.7 dB). Optional F-1 station feed available with axial ratio of 1.09 (XPD equivalence > 27.3 dB) in Tx band. Call factory when specifying this option. X Band filters available upon request.					
Output Waveguide Interface	Receive Transmit	CPR 229 F CPR 137 or Type N	CPR 229 F CPR 137 or Type N	WR 75 WR 75	WR 112 WR 112
Mechanical					
Reflector Material	Glass Fiber Reinforced Polyester SMC				
Antenna Optics	Easy-to-assemble, 4 Pc., Offset Fed Prime Focus Design with 0.6 F/D optics.				
Mast Pipe Size	10" SCH 40 Pipe (10.75" OD) 27.3 cm.				
Elevation Adjustment Range	12° to 90° or 0° to 15° for Polar Latitudes				
Azimuth Adjustment Range	360° Continuous with +/- 35° Fine Adjustment				
Shipping Specifications	Approx. Net Weight Approx. Packaged Weight	Weight (nominal) 1125 lbs. (511 Kg.) Weight (nominal) 1882 lbs., (855 Kg.)			
Environmental Performance					
Wind Loading	Operational Survival	50 mph (80 km/h) 125 mph (201 km/h)			
Temperature Range (operational)	-40° to 140° F (-40° to 60° C)				
Rain (operational)	½" (13mm) per hour				
Ice (operational)	-----				
Atmospheric Conditions	Salt, Pollutants and Contaminants as Encountered in Coastal and Industrial Areas				
Relative Humidity	0 to 100% Condensing				
Solar Radiation	360 BTU/h/ft2				

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