

Model C100P Portable Antenna

Portable Case / Vehicle Mount



Rugged - Reliable - Flexible



Vehicle-mounted

Description

The General Dynamics SATCOM Technologies lightweight 1-meter portable antenna is a compact design for worldwide transmit and receive operation. This transit case portable mount antenna consists of a carbon fiber reflector mounted on a cable drive elevation-over-azimuth positioner. This results in a low-weight antenna with superior stiffness and high performance under wind loading conditions. The state-of-the-art design provides exceptionally low sidelobe and cross-polarization performance, within ITU, EUTELSAT and FCC requirements. The complete antenna system can operate from its transit case or can be skid-mounted with most lightweight vehicle structures.

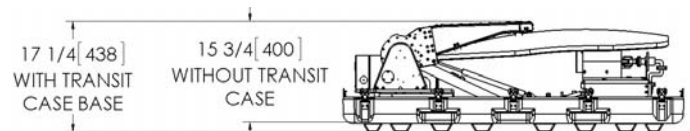
Features

- Aluminum/Carbon fiber construction
 - Light weight
 - Precise surface
 - High stiffness
- Stow/deployment
 - Low profile
 - Integrated Outdoor ACU
 - Mount in transit case
 - Precision alignment

Options

- GPS or jog controller
- Boom-mounted electronics integration kits
- Tx waveguide run
- Outdoor power supply
- Integrated modem
- Tx and Rx amplifiers

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GENERAL DYNAMICS
SATCOM Technologies

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Technical Specifications

Electrical	Ku-Band 2-Port Linear Polarized Cross-pol Compensated		Ka-Band 2-Port Circular Polarized	
	Receive	Transmit	Receive	Transmit
Frequency (GHz)	10.950 - 12.750	13.750 - 14.500	19.700 - 21.200	29.500 - 31.000
Antenna Gain at Midband, dBi	39.90	41.40	43.70	46.80
VSWR	1.30:1 (17.7 dB)	1.30:1 (17.7 dB)	1.30:1 (17.7 dB)	1.30:1 (17.7 dB)
Beamwidth (in degrees at midband)				
-3 dB	1.66	1.42	1.03	0.73
-15 dB	3.49	2.98	2.16	1.53
Sidelobe Performance	Meets ITU, EUTELSAT, FCC		Meets ITU	
Antenna Noise Temperature				
5° Elevation	77 K		183 K	
10° Elevation	61 K		145 K	
20° Elevation	54 K		116 K	
40° Elevation	53 K		99 K	
Power Handling (total)		1 kW CW		500 Watts
Cross Polarization Isolation (minimum)				
On Axis	35 dB	35 dB	24.8 dB	24.8 dB
Within 1.0 dB Beamwidth	27 dB	35 dB	24.8 dB	24.8 dB
Port to Port Isolation (minimum)				
Rx/Tx (Rx frequency)	0 dB	-35 dB	0 dB	-75 dB
Tx/Rx (Tx frequency)	-85 dB	0 dB	-85 dB	0 dB
RF Specification	975-4535		975-4568	

Note: Values are at the rear feed output flange.

Mechanical	
Antenna Diameter	1.00 meter (3.3 ft); stowed/deployed width 37 5/16 in (947 mm)
Antenna Type	Single offset
Reflector Construction	Carbon Fiber Reinforced Polymer (CFRP)
Mount Type	Elevation over azimuth
Antenna Travel	
Elevation	5° - 90° of reflector boresight
Azimuth	±200° continuous
Stow Height	≤15.75 in (40.0 cm)
Antenna Weight	130 lbs. (59 kg) (depending on options)
Integration Capability	40 lbs. (18 kg) on feed boom, axis crossover for rack mounting
Transit Case Dimensions	53 1/8 in (1349 mm) L x 43 1/8 in (1095 mm) W x 19 1/4 in (488 mm) H

Environmental	
Wind Performance (depending on vehicle capabilities)	
Pointing Loss of 0.5 dB at Ku-band Rx peak	30 mph (48 km/h) gusting to 45 mph (72 km/h)
Drive	45 mph (72 km/h) gusting to 60 mph (97 km/h)
Survival	80 mph (128 km/h) any position (anchored)
Temperature Range	
Operational	-5° to +130° F (-20° to +55° C)
Survival	-40° to +140° F (-40° to +60° C)
Rain	Up to 4 in/h (10 cm/h)
Relative Humidity	0% to 100% with condensation
Solar Radiation	360 BTU/h/ft ² (1000 Kcal/h/m ²)
Radial Ice (survival)	1 in (2.5 cm)
Shock and vibration tolerant to conditions encountered during shipment by airplane, ship or truck. Atmospheric tolerant to conditions encountered in coastal regions and/or heavily industrialized areas.	