

# Model 1.2m Quick Deploy Motorized Auto-Acquire Antenna

## Technical Specifications

Electrical	Ku-Band 2-Port Linear Polarized		Ka-Band 2-Port Circular Polarized		X-Band 2-Port Circular Polarized	
	Receive	Transmit	Receive	Transmit	Receive	Transmit
Frequency (GHz)	10.700 - 12.750	13.750 - 14.500	20.200 - 21.200	30.000 - 31.000	7.250 - 7.750	7.900 - 8.400
Antenna Gain at Midband, dBi	41.60	43.60	45.30	48.40	36.70	37.60
Sidelobe Compliant with	FCC requirements*		ITU-RS-580		32-25 log A	
Return Loss	15.9 dB	15.9 dB	17.7 dB	17.7 dB	17.7 dB	17.7 dB
Antenna Noise Temperature						
5° Elevation	82 K		182 K		83 K	
10° Elevation	69 K		144 K		70 K	
20° Elevation	61 K		116 K		65 K	
40° Elevation	56 K		95 K		63 K	
Cross Polarization Isolation						
On Axis	35.0 dB	35.0 dB	24.8 dB	24.8 dB	23.2 dB	18.8 dB
Within 1.0 dB Beamwidth	35.0 dB	35.0 dB	24.8 dB	24.8 dB	23.2 dB	18.8 dB
Pattern Beamwidth (in degrees at midband)						
-3 dB	1.36	1.13	0.85	0.60	2.37	2.10
Power Handling		100 W CW		50 W CW		500 W CW
Output Waveguide Flange Interface	WR-75	WR-75	WR-42	WR-28	WR-112	WR-112
RF Specification	975-1622		975-3521		975-3753	

Mechanical	
Reflector Material	Nine-piece carbon fiber composite
Antenna Optics	Axis-symmetric stepped ring focus
Azimuth Travel	±180° (±200° option available) depending on controller
Elevation Travel	-1° to 91° (5° to 85° operational)
Polarization Travel	±90°
Pedestal Structure	Cable-driven elevation-over-azimuth aluminum construction
Shipping Configuration	Cases can be configured to meet 90 in (229 cm) rule (depending on options)
Shipping Weight	Less than 150 lbs. packaged (depending on options)

Auto Acquisition Control System	
System Interface	Independent embedded outdoor controllers supporting one button acquisition. Optional laptop user interface via Ethernet for advanced antenna control. Multiple controller configuration options available.
Power	115/230 VAC, 50/60 Hz

Environmental	
Wind Loading	
Operational (anchored)	30 mph (48 km/h) gusting to 45 mph (72 km/h)
Survival (with tie-downs)	50 mph (80 km/h) any position, 80 mph (129 km/h) in stow position with reflector removed
Pointing Loss (operational winds)	2 dB peak Rx loss at Ku-band
Temperature - Antenna and Control System	
Operational	-22° to +130° F (-30° to +55° C)
Survival (packed)	-40° to +158° F (-40° to +70° C)
Solar Radiation	360 BTU/h/ft <sup>2</sup> (1000 Kcal/h/m <sup>2</sup> )
Relative Humidity - Antenna and Control System	100% (outdoor duty)
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.	

\* Per 25.220 (c)(1) with maximum input power density of -15.3 dBW / 4 kHz

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# Model 1.2m Quick Deploy Motorized Auto-Acquire Antenna



The Strength to Perform

## Description

The ultra-lightweight General Dynamics SATCOM Technologies 1.2-meter Quick Deploy Motorized Auto-Acquire (QDMA) Antenna is designed for worldwide transmit and receive operation in Ku, Ka and X-band. This portable antenna consists of a segmented composite reflector and motorized positioner mount. This configuration results in an extremely low-weight and packable antenna product with superior stiffness and high performance under wind loading conditions.

The unique optical shape and accurate reflector surface provide good sidelobe and excellent cross-polarization performance. Repeatability is maintained with precision registration of the nine-piece reflector segments and RF components. The antenna can be quickly assembled by one person in less than ten minutes. The auto-acquire controller can find the correct satellite and optimize co-pol and cross-pol performance with the push of a button. The antenna controller can be configured as a multi-functional device combining several options such as external GUI, monitor and control, spectrum analyzer and tracking.

The 1.2m QDMA antenna system, including a Stepped Ring Focus (SRF) feed, is packaged in one or two transit cases (depending on options ordered). The transit cases, designed to be shipped via commercial air cargo, feature wheels and suitcase handles to ease relocation by one person.

## Features

- Carbon fiber reinforced polymer (CFRP) reflector
- Captive hardware/fasteners
- No tools required for assembly or deployment
- Superior cross-pol and side-lobe performance
- Extremely low loss RF component mounting
- One button acquisition
- Internal GPS receiver

## Options

- Color - Standard white or other options available (green, tan)
- Transport case configurations
- Beacon receiver and tracking
- Spectrum analyzer

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- Single button auto-acquire control system
- Antenna control system offers optional GUI, built-in spectrum analyzer, monitor and control (including modem) and tracking
- Standard cases meet weight and dimension requirements for shipment by overnight delivery service (FedEx, UPS, DHL)
- Stepped-Ring Focus (SRF) feed available in Ku, X or Ka-band
- 9-piece carbon fiber reflector with captive hardware/fasteners allows for assembly in less than 10 minutes by one person
- Motorized positioner mount
- Rear feed-mounted SSPA up to 25 watts