

Model **GDA-36QB** **GDA-48QB**

Ground Datalink Antenna Product Data Sheet

Features:

- Quad Band (L, S, C and Ku)
- Frequency Coverage 1.625 – 15.35 GHz
- 36" or 48" Diameter Reflector
- Two Axis Positioner (Az, El)
- Positioning and Command Control through Ethernet or Serial Interface
- Portable and Compact
- Designed to MIL-STD-810G
- Wideband Dual Channel Rotary Joint
- Transit Cases

The GDA-36QB and GDA-48QB are military grade portable tactical ground datalink antennas. These antennas enable receive and transmit communications with manned or unmanned aircraft in L, S, C and Ku frequency bands. Quad-band capabilities in a single antenna reduces the number of antenna systems required to communicate, reducing logistics and overall cost of ownership. The GDA-36QB and GDA-48QB are designed to operate in stringent environmental conditions. The modular design makes these antennas extremely portable and easy to transport, set up, and tear down. The 36 inch antenna assembly is transportable in two transit cases and can be set up in the field without tools in less than 10 minutes. A user friendly Graphical User Interface (GUI) guides the operator through initial setup and alignment of the antenna.

Our base configurations are GDA-36QB and GDA-48QB (36" and 48" parabolic reflectors, respectively). Our 48" reflector offers increased antenna gain over all frequencies. These antennas utilize a two axis Elevation/Azimuth Positioner with slip ring assembly capable of 360° continuous rotation in Azimuth and -5° to +90° in Elevation. The Antenna Control Unit (ACU), Servo Amplifiers and Power Supplies are self-contained in the pedestal base allowing a more streamlined setup in the field. A single connector provides Ethernet and/or serial control interfaces.



The GDA-36QB and GDA-48QB antennas follow an aircraft by responding to user-generated azimuth and elevation pointing angles, or by processing user-provided aircraft GPS coordinates (NavTrak) to calculate the pointing angles.

The GDA-36QB and GDA-48QB feature mounting provisions for Radio Frequency Equipment (RFE) and modem behind the reflector. Near proximity access to the antenna provides optimum RF performance and eliminates the need for additional rotary joint channels to route customer RFE. A number of options are available to allow flexibility in configuring the antenna to specific operational requirements.

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Specifications*

KEY PERFORMANCE VALUES

RF Parameters		L-Band	S-Band	C-Band	Ku-Band
Frequency Range		1.625 GHz - 1.850 GHz	2.20 GHz - 2.50 GHz	4.40 GHz - 5.85 GHz	14.40 GHz - 15.35 GHz
Polarization		Linear	Linear	Linear	Circular
Gain (Assumes 1 dB Cable Loss)					
Reflector Size 36"		15.0 dBi - 21.0 dBi	21.0 dBi - 22.5 dBi	27.0 dBi - 28.0 dBi	37.5 dBi - 38.0 dBi
Reflector Size 48"		17.5 dBi - 23.5 dBi	23.5 dBi - 25.0 dBi	29.5 dBi - 30.5 dBi	40.0 dBi - 40.5 dBi
Beamwidth (E/H plane average)					
Reflector Size 36"		13° - 11°	10° - 8.5°	4.5° - 3.5°	1.6°
Reflector Size 48"		9.5° - 8°	7.5° - 6.5°	3.3° - 2.5°	1.2°
Communication Interface					
Ethernet 10/100 or Serial RS-485		Positioning and Command Control			
Mechanical Parameters					
Travel	Azimuth	360° Continuous with slipping/rotary joint			
	Elevation	-5° to +90° (mechanical)			
Velocity		>20°/second			
Acceleration		>20°/second ²			
Pointing Accuracy		0.2° RMS			
Environmental Design		Based on MIL-STD-810G			
Options at Initial Purchase					
Low Noise Amplifier (LNA)		Increase receive power			
Omni Directional Antenna		For close and overhead links			
Tilt Compass Module (TCM)		Provides auto-leveling and true north determination			
Environmental Parameters					
Temperature	Operating	-30°C to +55°C +1120 w/m ² solar (with warm-up)			
	Storage/Transit	-40°C to +70°C +1120 w/m ² solar			
Wind Loading		Operational to 40 MPH			
Humidity		100% RH per AR-70-38			
Altitude	Operating	Below Sea Level to 10,500 ft. MSL			
	Non-Operating	≤ 40,000 ft. MSL			
Rain		Up to 8" / Hour			
Snow Load		10 lbs./ft. ² returnable to operation in 15 min.			
Power Requirements		28 VDC (Optional 48 VDC)			