



MA1310G GPS BAND MOBILE DF ANTENNA

- 1200 - 1600 MHz frequency coverage
- Accurate and repeatable bearings
- Extremely high signal handling capability
- Low power consumption
- Ruggedized, compact, lightweight design
- One year warranty on parts and labor

An Accurate, Compact Antenna for Mobile Operations

The MA1310G GPS band mobile antenna is an Adcock DF antenna consisting of four dipole elements mounted on the antenna chassis. The MA1310G antenna is designed to receive vertically polarized signals in the 1200 to 1600 MHz frequency range. This includes the 1225 MHz and 1575 MHz GPS frequency ranges. The MA1310G is intended for use as a GPS interference finder.

The antenna consists of a car top mount using magnets and/or car straps.. Removable magnetic mounts are attached to the bottom of the chassis to facilitate car top installation. Car straps are provided for added stability. The antenna can also be configured for an airborne system.

All power and control signals to the antenna are provided through one 8-conductor control cable via the DF processor. The received signal with

bearing information encoded, is routed to the receiver through a RF coaxial cable. The antenna may be cascaded with another DF antenna to provide wider frequency coverage. For example a DF receiver/processor and two antennas can be connected in series as follows; an MA1310G antenna connected to a DF receiver/processor and an MA1316 antenna connected to the MA1310G antenna. This results in a frequency range of 0.5 to 280 MHz and 1200 to 1600 MHz can.

The MA1310G is compatible with several Cubic receiver/processor configurations. A typical DF system may consist of an antenna(s) with the Cubic 4400 DF Receiver/Processor.

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SPECIFICATIONS

Frequency Range:	1200 - 1600 MHz
Azimuthal Coverage:	360°
Antenna:	4-element dipole Adcock array
Bearing Accuracy: (Notes 1 & 2)	7° rms maximum, 1200 - 1600 MHz (4° rms at 1225 MHz, 6° rms at 1575 MHz typical)
Power:	Voltage: 11.5 - 15 VDC (supplied through DF Processor) Current: 350 mA
Typical DF Sensitivity: (Note 3)	1225 MHz: (12 µV/m) 1575 MHz: (12 µV/m)
Polarization:	Vertical
Impedance:	50 ohms nominal
Mechanical:	Height: 11.5" (29.2 cm) with elements Height: 2" (5.1 cm) without elements Width: 12" (30.5 cm) Depth: 12" (30.5 cm) Weight: 7.1 lbs (3.2 kg) with elements 9.2 lbs (4.2 kg) with elements and magnetic mounts
Environmental:	Operating: -40°C to +60°C Storage: -40°C to +70°C Humidity: 95% RH per MIL-STD-810D (507.2) Shock: MIL-STD-810C Procedure VI Vibration: Random per MIL-STD-810D (514.3)

Note 1: DF bearing accuracy is measured on an ideal site with no bias over specified azimuthal and frequency range with specified polarization at 0° elevation. Bearing accuracy will depend upon the physical characteristics of the particular site chosen. Actual production acceptance testing performed at Cubic test site using standard deviation to eliminate site bias.

Note 2: DF bearing accuracy is the rms value of all frequencies at all azimuth points as a single calculation.

$$RMS = \sqrt{\frac{\sum_{i=1}^n (AM_i - AT_i)^2}{n}}$$

i = index
n = # of points (frequency azimuth)
AM = measured azimuth
AT = true azimuth

Note 3: System sensitivity is specified for an incident field strength in microvolts per meter for direction finding processor output with 6° standard deviation bearing jitter, minimum integration time of 200 msec and an IF bandwidth of 6 kHz.

Ordering Information

Model No.	Part No.	Description
MA1310G	0253-1000-14	Mobile DF Antenna, 1200 - 1600 MHz, supplied with interconnect cables. Color: Grey

Specifications subject to change without notice

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