

## VHF/UHF Whip Antenna

The GD2013 VHF/UHF Whip Antenna is a high performance, broadband whip antenna designed for use over the 30 MHz to 512 MHz frequency band.

This monopole antenna is designed for installation on military vehicles.

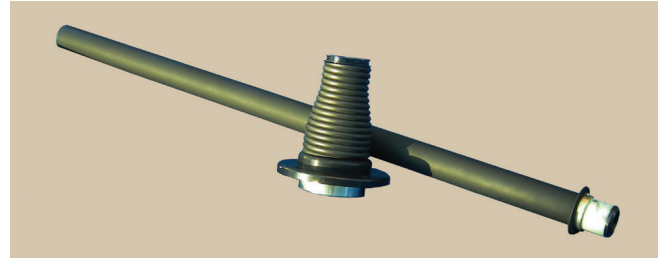
Decoupling techniques are incorporated to maintain optimum interaction and preserve high performance throughout all operating bands.

A frequency independent matching network is fitted to ensure acceptable low band Voltage Standing Wave Ratio (VSWR) with minimum loss of gain.

The antenna comprises a spring loaded GRP tube secured to a round aluminium base. The tube is detachable from the base via a quick release mechanism. The tube is further sealed to prevent the ingress of moisture.

### ENVIRONMENTAL

|                         |   |
|-------------------------|---|
| <b>High Temperature</b> | MIL-STD-810F Method 501.4<br>Procedure I (Continuous Storage): +85 °C<br>Procedure II: +71 °C                         |
| <b>Low Temperature</b>  | MIL-STD-810F Method 502.4<br>Procedure I: -55 °C<br>Procedure II: -40 °C  |
| <b>Rain (Blowing)</b>   | MIL-STD-810F Method 506.4, Procedure I  |
| <b>Humidity</b>         | MIL-STD-810F Method 507.4   |
| <b>Dust and Sand</b>    | MIL-STD-810F Method 510.4, Procedure I & II   |
| <b>Vibration</b>        | MIL-STD-810F Method 514.5 Category 4, Procedure I<br>Two wheeled trailer test duration 64 minutes (64 miles) per axis |
| <b>Impact</b>           | Survival - greater than 25 impacts at the mid-point of the whip at a speed of 40 kph using 'Oak Beam Test'            |



### ELECTRICAL

The electrical performance given below is valid from -40 °C to +71 °C.

Note: Gain figures for the antenna apply when mounted upon a 10 m diameter nominal conductive flat groundplane.

|                         |   |
|-------------------------|---|
| <b>Frequency Ranges</b> | 30 MHz - 88 MHz<br>118 MHz - 174 MHz<br>225 MHz - 512 MHz |
|-------------------------|---|

| <b>Gain</b> | Gain (dBi)                            | Frequency (MHz) |
|-------------|---------------------------------------|-----------------|
|             | -12                                   | 30              |
|             | -10                                   | 50              |
|             | 0                                     | 88              |
|             | -2*                                   | 118 -174        |
|             | 0*                                    | 225 -512        |
|             | * average<br>(See gain plot overleaf) |                 |

|                     |   |
|---------------------|---|
| <b>Power Rating</b> | GD2013-1 Series 50 W CW maximum<br>GD2013-2 Series 100 W CW maximum (< 88 MHz)<br>200 W CW maximum (> 88 MHz) |
|---------------------|---|

|                        |                  |
|------------------------|------------------|
| <b>Input Impedance</b> | 50 ohm (nominal) |
|------------------------|------------------|

| <b>VSWR</b> | VSWR    | Frequency (MHz) |
|-------------|---------|-----------------|
|             | ≤ 2.5:1 | 30 - 88         |
|             | ≤ 2.5:1 | 118 -174        |
|             | ≤ 2.5:1 | 225 - 512       |

|                          |  |
|--------------------------|--|
| <b>Radiation Pattern</b> | Essentially omnidirectional in azimuth |
|--------------------------|--|

|                     |  |
|---------------------|--|
| <b>Polarisation</b> | Predominantly vertical when mounted vertically |
|---------------------|--|

|                     |   |
|---------------------|---|
| <b>RF Connector</b> | Available types: TNC Female, N Female, BNC Female |
|---------------------|---|



## VHF/UHF Whip Antenna

### MECHANICAL

|                               |  |
|-------------------------------|--|
| <b>Length</b>                 | 38.6 in (980.44 mm)  |
| <b>Width</b>                  | 5.8 in (147 mm)  |
| <b>Weight</b>                 | 7 lb (3.17 kg)   |
| <b>Lateral Stiffness</b>      | Adequate to return radiating element to vertical from horizontal |
| <b>Mounting Configuration</b> | 4 or 6 holes fixed location                                      |

