

Manpack/Mobile DF Antenna System

1 – 6000 MHz

Product Code: DFS-A0245

VERSION: 1.3



PRODUCT DESCRIPTION

The DFS-A0245 is a wideband DF antenna intended for on-the-move direction finding from 1 – 6000 MHz.

The antenna array is implemented as a three-band vertical stack with the low frequency band integrated into a quadpod with its performance enhanced with patented hybrid loop-Adcock technology to provide improved sensitivity vs traditional designs of the same form factor.

The antenna presents patterns suitable for the Watson Watt estimation method, as well as 3/2-channel correlative DF.

Mounting of the VUHF module is directly via the base-mounted MIL DTL 38999 connector interface onto the quad pod housing the HF band.

A cavity inside the antenna houses an integrated band switch that allows control and calibration circuitry to be integrated into the antenna. External and internal RF chain calibration is accommodated, and a compass and active GPS antenna with receiver are also integrated in the antenna.

*CA Application 2,853,219;
*EP Patent 2771943;
*U.S. Patent No. 14/353,382;
*ZA Patent No. 2014/02806

SPECIFICATIONS

| Electrical: DF | |
|---|--|
| Frequency range | 1 – 6000 MHz |
| Band A | 1 – 200 MHz |
| Band B | 20 – 800 MHz |
| Band C | 500 – 2100 MHz |
| Band D | 2000 – 6000 MHz |
| Channels per band | 3/2 |
| DF method | Watson-Watt or 3/2-channel correlative |
| RMS accuracy: | |
| Using full vector correlation | < 2° * |
| Using WW | < 5° up to 4 GHz ** < 8° up to 6 GHz ** |
| Polarisation | Vertical |
| Elevation coverage | ± 15° with accuracy degraded to 3° ± 25° with accuracy degraded to 10° over 80% of the band |
| Omni-output | Provided as one of the DF channels |
| Electrical: band switch (fully integrated in antenna) | |
| Frequency range | 1 – 6000 MHz |
| Control | RS 485, dedicated switching lines |
| Switching time | < 10µs when using dedicated lines |
| Integrated features | - Compass (accuracy 3°) - Active GPS antenna |
| Stored information | Model no., serial no., user data fields |
| RF calibration | - Internal noise source - External cal injection option |
| Interfaces: | |
| Connector | MIL-38999 connector on cable |
| Antenna outputs | 3 x co-axial (size 12 contact) |
| Ext cal input | 1 x co-axial (size 12 contact) |
| GPS output | 1 x co-axial (size 12 contact) |
| Mechanical: | |
| Dimensions (h x d) | < 800 mm x 85 mm (excl quadpod) < 1500 mm x 2000 mm (incl quadpod) |
| Mass | < 9.0 kg |
| Environmental: designed to meet the following specifications | |
| Temperature range | -30 °C to +55 °C (operating) -40 °C to +71 °C (storage) |
| Ingress protection | IP65 |
| Shock and vibration | MIL-STD-810E 516.4, Cat 8, shock 40g |

* When used in a three-receiver configuration, however, < 1° RMS is possible.

** Using pure Watson Watt estimation (no calibration, arctan formula)

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Typical Sensitivity:

