

# 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:

