

# Compact 4-Channel DF Antenna

1 – 8000 MHz

Product Code: DF-A0380

VERSION: 1.0

## SPECIFICATIONS:



## PRODUCT DESCRIPTION:

The DF-A0380 is an advanced, wideband direction-finding (DF) antenna system designed for deployable mast top applications or on-the-halt tripod application requiring continuous frequency coverage and high performance across a broad spectrum. This cutting-edge solution integrates the proven DF-A0303 tri-band DF antenna with a hybrid loop HF antenna, delivering superior sensitivity and reliable DF capability from 1 MHz to 8000 MHz.

The DF-A0380 supports 4-channel correlative direction finding (CDF) across its entire frequency range. The integrated hybrid loop element enhances HF performance (1 MHz – 200 MHz), ensuring excellent sensitivity for low-frequency signal detection while maintaining the compact, rugged design essential for mobile deployment.

Each channel includes a low noise amplifier (LNA) with passive bypass for flexibility in high-signal environments. A built-in noise source, with the option for external calibration signals, enables full RF chain calibration to maintain measurement integrity. Integrated GPS and navigation sensors support geolocation and orientation needs for real-time direction finding.

Whether deployed in tactical, surveillance, or spectrum monitoring missions, the DF-A0380 provides unmatched wideband performance in a compact, field-ready package.

\*CA Application 2,853,219;

\*EP Patent 2771943;

\*U.S. Patent No. 14/353,382;

\*ZA Patent No. 2014/02806

|                                                                     |                                                                               |
|---------------------------------------------------------------------|-------------------------------------------------------------------------------|
| <b>Electrical: DF</b>                                               |                                                                               |
| Frequency range                                                     | 1 – 8000 MHz                                                                  |
| Frequency bands                                                     | Band A: 1 – 30 MHz                                                            |
|                                                                     | Band B: 20 - 400 MHz                                                          |
|                                                                     | Band C: 400 - 2000 MHz                                                        |
|                                                                     | Band D: 2000 - 8000 MHz                                                       |
| Number of channels                                                  | 4                                                                             |
| DF method                                                           | 4-channel CDF                                                                 |
| RMS accuracy                                                        | 2° RMS                                                                        |
| Polarisation                                                        | Vertical                                                                      |
| Nominal input impedance                                             | 50 Ω                                                                          |
| <b>Electrical:</b>                                                  |                                                                               |
| Frequency range                                                     | 1 – 8000 MHz                                                                  |
| RF Amplification Gain                                               | 20 ± 2 dB                                                                     |
| Control                                                             | USB V2.0                                                                      |
| Switching time                                                      | < 25 µs                                                                       |
| <b>Integrated features:</b>                                         |                                                                               |
| GPS Antenna                                                         | Active (L1)                                                                   |
| Onboard Storage                                                     | 64MB flash in addition to Model no., serial no., user data fields             |
| Programming interface                                               | to integrated micro controller                                                |
| RF calibration                                                      | RF chain calibration using Integrated noise source or external applied signal |
| Power supply                                                        | 6 - 18 V DC                                                                   |
| Power consumption                                                   | < 3W                                                                          |
| <b>Interfaces:</b>                                                  |                                                                               |
| Connector                                                           | MIL-DTL-38999 multi-pin connector                                             |
| Antenna outputs                                                     | 4 x co-axial                                                                  |
| Integrated GPS                                                      | 1 x co-axial                                                                  |
| Ext cal input                                                       | 1 x co-axial                                                                  |
| Control and power                                                   | 4 x digital                                                                   |
| Programming                                                         | 4 x digital                                                                   |
| Mechanical                                                          | 4/6-Hole NATO Flange                                                          |
| <b>Mechanical:</b>                                                  |                                                                               |
| Dimensions (h x d)                                                  |                                                                               |
| Deployed                                                            | 1080 mm x 800 mm                                                              |
| Stowed                                                              | 775 mm x 140 mm                                                               |
| Total mass                                                          | < 9 kg                                                                        |
| Mounting method                                                     | Mast / Tripod mount                                                           |
| <b>Environmental: designed to meet the following specifications</b> |                                                                               |
| Temperature (Operation)                                             | -30°C to +70°C                                                                |
| Temperature (Storage)                                               | -40°C to +70°C                                                                |
| Vibration (Transport)                                               | MIL-STD-810G CN1 method 514.7, category 4, procedure I                        |
| Shock                                                               | MIL-STD-810G CN1 method 516.7                                                 |
| Wind survival                                                       | 120 km/h                                                                      |
| IP Rating                                                           | IP66                                                                          |

## Key Features:

- Full-spectrum coverage: 1 MHz to 8000 MHz
- Hybrid loop HF design for enhanced low-frequency sensitivity
- 4-channel CDF support for accurate direction finding on-the-halt.
- Low noise amplifiers with bypass on each channel
- Integrated noise source and external calibration input
- Compact, manpack-optimized design
- Integrated GPS antenna

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Sensitivity:

