

# HF On-the-March DF Interferometer

1 –88 MHz\*

VERSION: 1.4

Product Code: DF-0113

## SPECIFICATIONS:

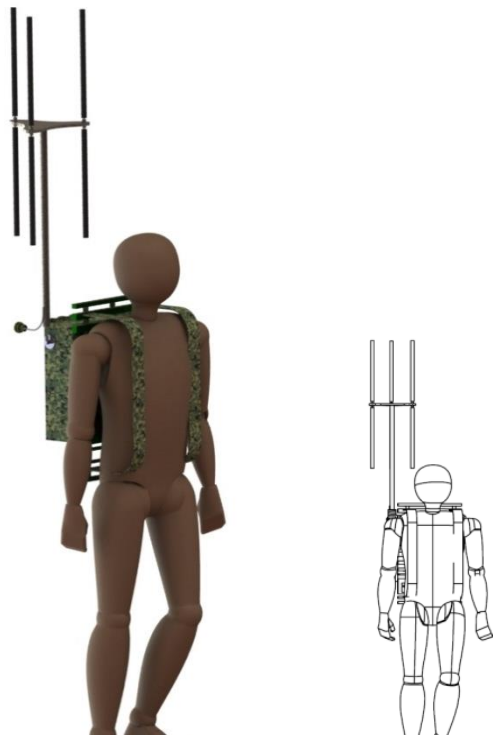
<b>Product codes:</b>	
DF-A0113	HF DF antenna only
DF-A0113-01	HF DF antenna with integrated electronic commutation, GPS antenna and electronic compass
<b>Electrical: DF</b>	
Frequency range	1 – 88 MHz*
Channels	3
DF method	2- or 3-channel interferometry 2- or 3-channel correlative DF
RMS accuracy	Typ. < 2° in large signal conditions
Sensitivity	See attached graph
Polarisation	Vertical
<b>Electrical: commutation switch (integrated)**</b>	
Control	- RS 485 & dedicated strobe line
Commutation switching time	< 1µs when using dedicated line
Integrated features	- Compass (accuracy 3° RMS) - Active GPS antenna
Stored information	Model no., serial no., user data fields
Power supply	12 V DC
Power consumption	< 1 W
<b>Interfaces:</b>	
Electrical	- Via multi-cable with connector - Custom output cabling on request
Connector	MIL-38999 / 26WG11PN
Antenna outputs	3 x co-axial (size 12 contact)
GPS output**	1 x co-axial (size 12 contact)
Power/ctrl**	7 x pin (size 12 contact)
Mechanical	Detachable spring mount for backpack
<b>Mechanical:</b>	
Dimensions (stowed)	400 x 260 x 40 mm (w x l x h)
Dimensions (on the move)	1148 x 260 mm (h x ø, h above top of backpack)
Total mass	< 2.5 kg
Mounting method	Via provided attachment to back-pack
<b>Environmental: designed to meet the following specifications</b>	
Wind survival	120 km/h (without ice)
Temperature (operation)	-30 °C to +70 °C
Ingress Protection	IP 65

\*Operation up to 300 MHz is possible if filters removed (on request)

\*\* Only on DF-A0113-01

## RELATED PRODUCTS:

- DF-A0114 (Watson Watt HF on-the-march DF)
- DF-A0103, DF-A0104 (20 to 500 MHz on-the-march DFs)
- DF-A0061 (Full-band manpack DF antenna system)



## PRODUCT DESCRIPTION:

The DF-A0113 is a 3-element interferometer type antenna array that is suitable for on-the-march DF of signals from 1 to 88 MHz.

The antenna elements are dipoles fed using a balun arrangement, optimised for maximum gain in the band of relevance. The array spacing is as large as practically possible to provide for the highest possible sensitivity in the HF band. Integrated filters are provided to suppress strong emitters above 88 MHz.

The flexible rubber-coated antenna elements are quick-removable for compact stowing with the balun unit and central mounting stalk. The antenna is mounted via a quick-disconnect spring fitting to the manpack.

Output from the antenna is provided by means of a multi-RF cable assembly using a MIL-DTL-38999 standard connector providing the three output RF signals on a single connector interface.

A version of the antenna can be provided with 3-to-2 commutation capability via an integrated RF switch system. This system also provides integrated electronic compass and GPS antenna. Power, control and data are via the same shared MIL-DTL-38999 connector.

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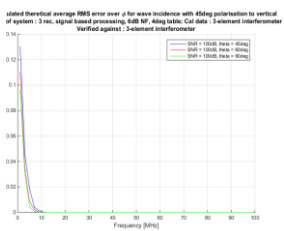
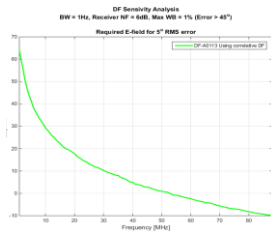
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## PRODUCT FEATURES:

- Compact when stowed
- Low visual signature and lightweight when deployed
- Stealthy, low noise movement
- Very solid DF under the most extreme practical conditions (e.g. cross-polarisation, extreme off-horizon signal incidence - see *Simulated Theoretical Accuracy* plot for off-horizon incidence with 45° slant polarised signals)

## DF PERFORMANCE:



## OUTLINE DIMENSIONS:

