

# Wideband Portable DF Antenna

1 – 3600 MHz

Product Code: DF-A0168

VERSION: 1.2



## PRODUCT DESCRIPTION:

The DF-A0168 is a wideband portable DF antenna suitable for fixed and mobile mast-mounted applications.

The antenna has a loop array for good DF performance at low frequencies where the phase size of the array is small and three pentagonal arrays for the higher frequency ranges. A secondary pentagonal array of dipoles are combined by an internal 5-way low-loss combiner to provide a good omni from 1 to 500 MHz and an integrated biconical antenna provides a second omni from 500 to 6000 MHz. Improved sensitivity for low frequency monitoring can be accomplished by the optional MONO-A0059 whip attachment which can be fitted to the top of the antenna.

A decagonal cylindrical cavity inside the antenna, approximately 350 mm wide by 370 mm high, allows switching, amplification and RF processing to be integrated into the antenna, reducing cable loss and weight. The cavity slides open giving access to the RF unit. This can be done by one person, on a mast, without a crane.

## SPECIFICATIONS:

<b>Electrical:</b>	
Frequency range:	1 – 3600 MHz
DF	1 – 6000 MHz
Monitoring	1 – 6000 MHz
Feed power handling	0.5 W (receive only)
Polarisation	Vertical
<b>DF:</b>	
DF type	Correlative interferometer
Frequency bands	A: 1 – 90 MHz <sup>*1</sup> B: 30 – 1000 MHz <sup>*1</sup> C: 1000 – 3600 MHz
DF accuracy in azimuth	A: 3° RMS <sup>*2</sup> B: 2° RMS <sup>*2</sup> C: 2° RMS <sup>*2</sup>
Elevation coverage	-7° to +7° (full accuracy) -15° to +15° (reduced accuracy)
<b>Monitoring:</b>	
Frequency bands	A: (optional HF Whip) <sup>*3</sup> B: 1 – 500 MHz C: 500 – 6000 MHz
Monitoring antenna types	A: Connector at top of antenna B: combined 5 dipoles C: bi-conical antenna
<b>Other internal features:</b>	
GPS antenna	Active patch antenna
Compass bracket	KVH C100 compass (optional)
<b>Mechanical:</b>	
Dimensions (h x d) <sup>*4</sup>	731 mm x 1100 mm
Mass	33 kg
Colour	White, others on request

### Notes:

- 1) Optimum A-B change-over is above 30 MHz, to be determined by user.
- 2) DF accuracy when calibrated, on a test range. Operational accuracy will be lower, depending on platform and range effects.
- 3) See MONO-A0059 product.
- 4) Excludes optional HF whip attachment.

Small carrying handles moulded into the base of the antenna allow it to be moved safely by two people. The antenna has internal struts and gas-lifts, enabling one person to access the RF switch cavity without removing the antenna from the mast. The radome and antenna is lifted up and away from the switch and connector panels.

## PRODUCT FEATURES:

- Full-band correlative interferometer
- HF capability
- Wideband dedicated omni capability
- Lightweight construction for portability

## APPLICATIONS:

- Portable direction finding
- Vehicle and fixed mast-mounted DF
- Wideband monitoring

# Wideband Portable DF Antenna

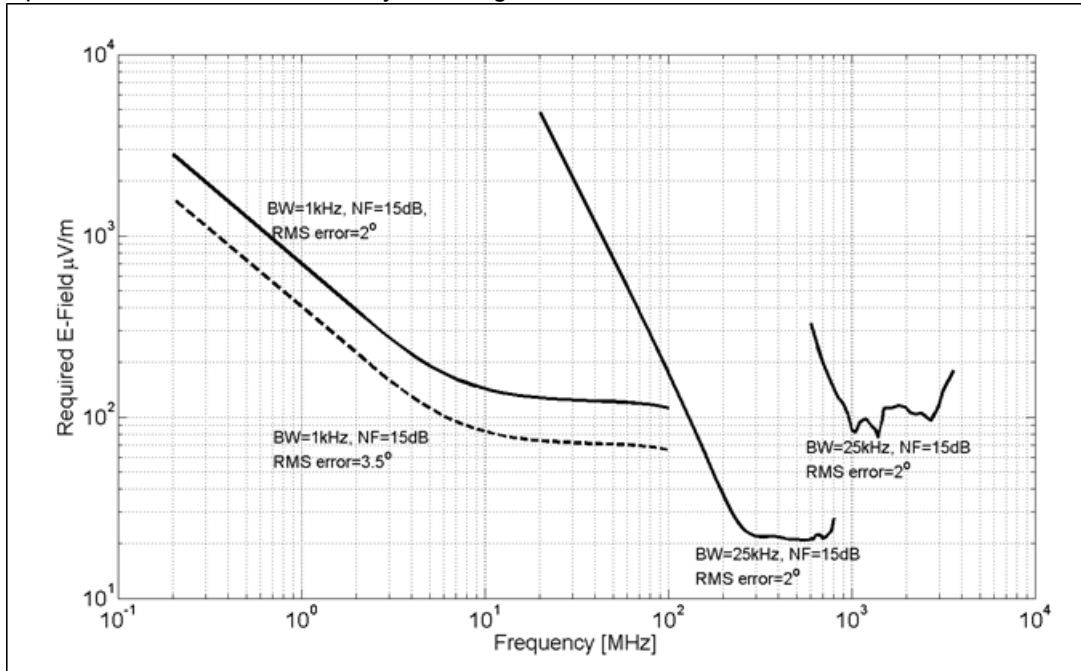
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## DF SENSITIVITY:

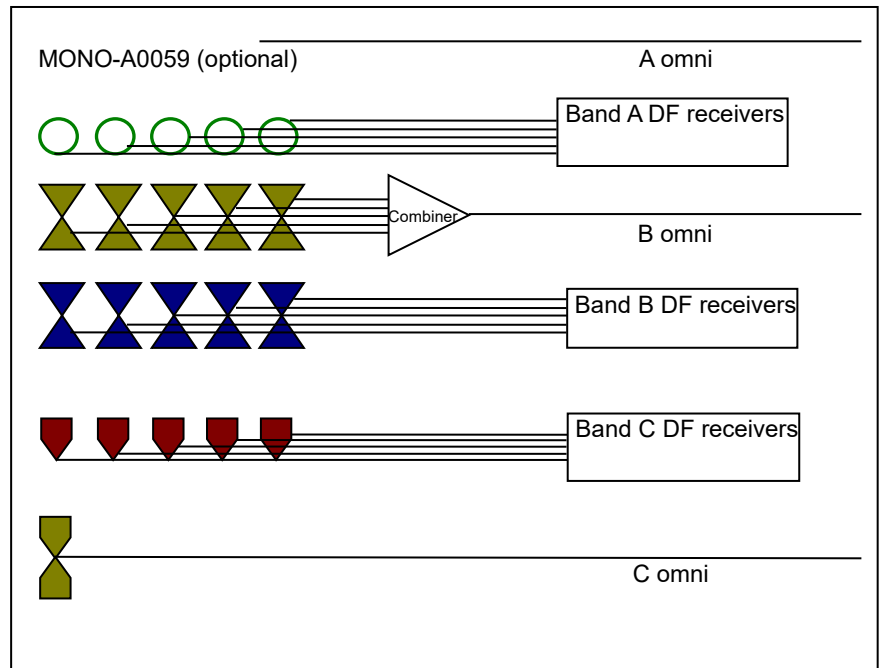
The following graph shows the predicted DF sensitivity of the antenna over frequency. The assumptions about receiver sensitivity, noise figure and RMS error are stated next to the lines.



## LIST OF RF OUTPUTS FROM ANTENNA:

The antenna has 23 elements with connectors ending in the antenna cavity.

- 5 Band A loops
- 5 Band B DF elements
- 5 Band C DF elements
- Band A connector
- Band B combiner output
- Band C output



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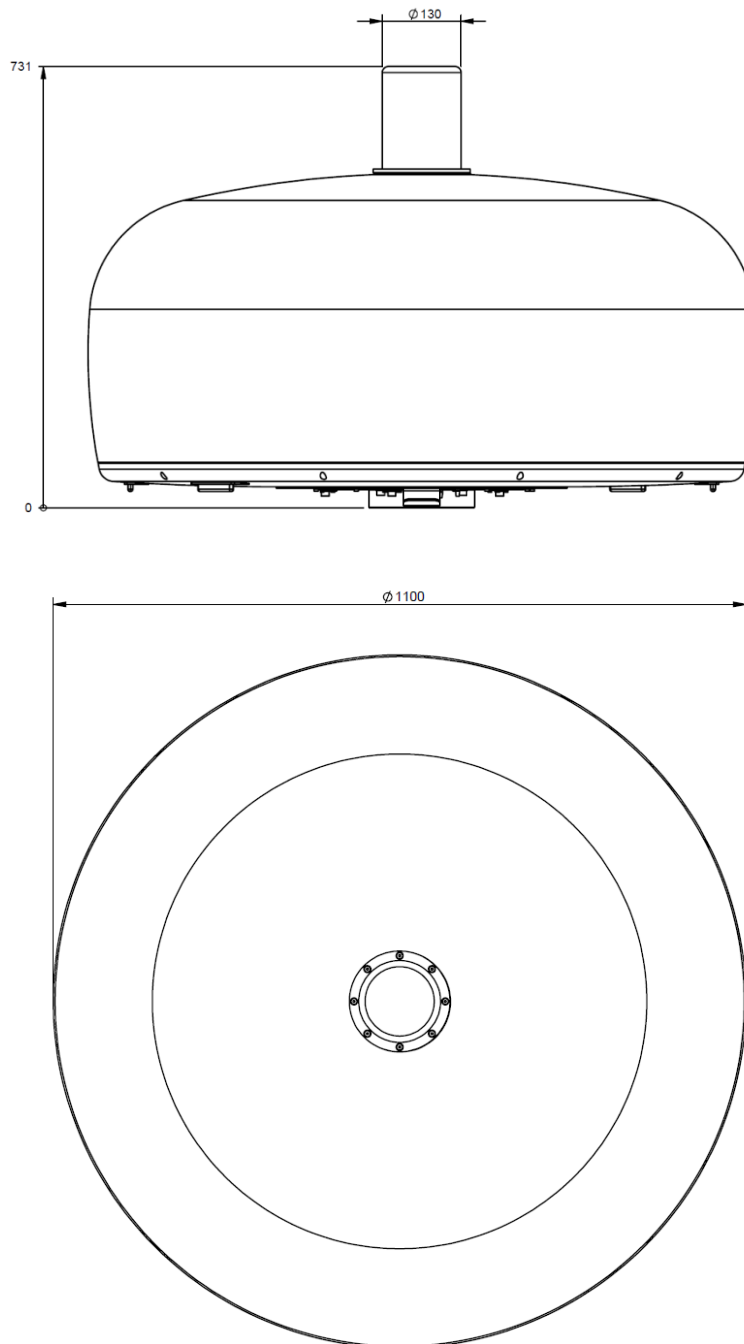
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## OUTER DIMENSIONS:

The outer dimensions of the antenna are as shown.



## HANDLING:

The antenna radome has four small handles in the base, near the edge, for carrying and handling of the antenna by two people.