

Wideband Portable DF Antenna

1 – 3600 MHz

Product Code: DF-A0168

VERSION: 1.0



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:

Electrical:	
Frequency range:	1 – 3600 MHz
DF Monitoring	1 – 6000 MHz
Feed power handling	0.5 W (receive only)
Polarisation	Vertical
DF:	
DF type	Correlative interferometer
Frequency bands	A: 1 – 90 MHz ^{*1} B: 30 – 1000 MHz ^{*1} C: 1000 – 3600 MHz
DF accuracy in azimuth	A: 3° RMS ^{*2} B: 2° RMS ^{*2} C: 2° RMS ^{*2}
Elevation coverage	-7° to +7° (full accuracy) -15° to +15° (reduced accuracy)
Monitoring:	
Frequency bands	A: (optional HF Whip) ^{*3} 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
Other internal features:	
GPS antenna	Active patch antenna
Compass bracket	KVH C100 compass (optional)
Mechanical:	
Dimensions (h x d) ^{*4}	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

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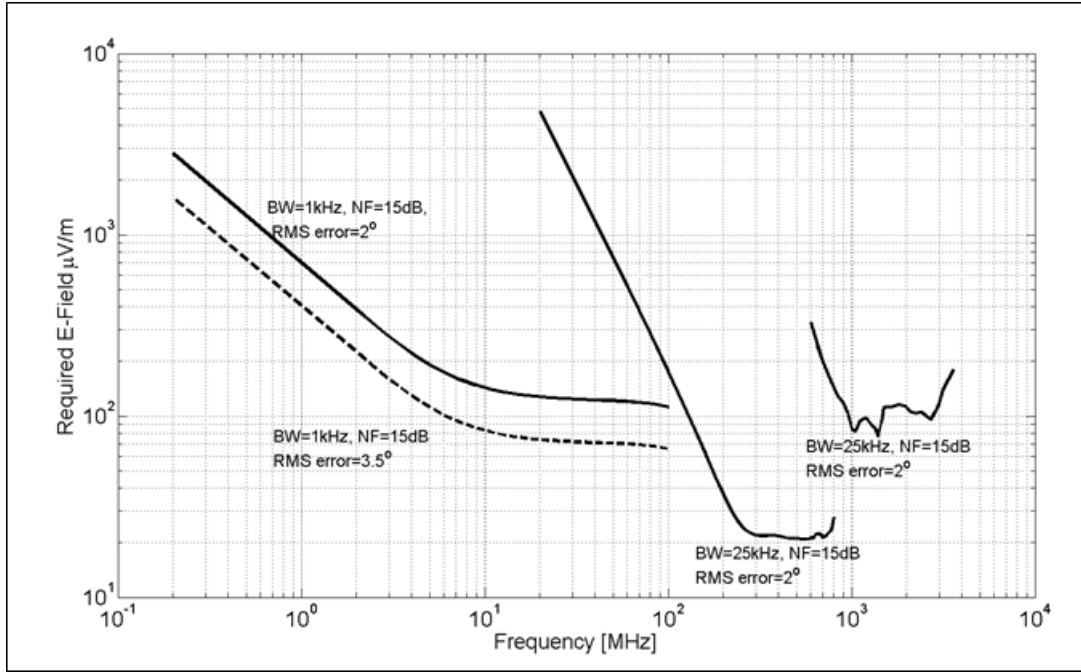
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DF SENSITIVITY:

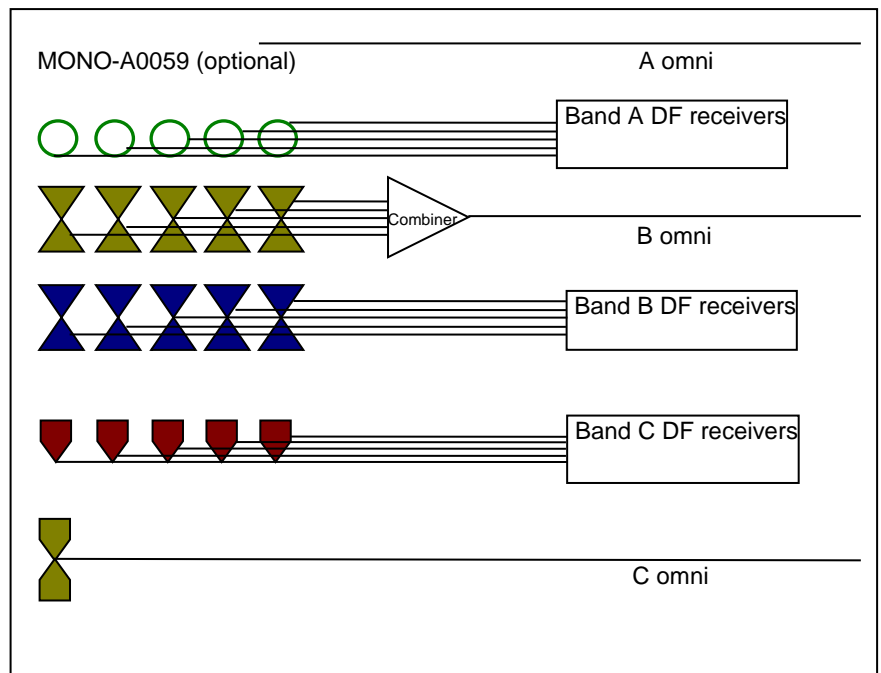
The following graph shows the predicted DF sensitivity of the antenna over frequency. The assumptions about receiver sensitivity, noise figure and RMS error are stated next to the lines.



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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Cyntony Corporation
195 Follen Road
Lexington, Massachusetts
sales@cyntony.com
781-430-0675



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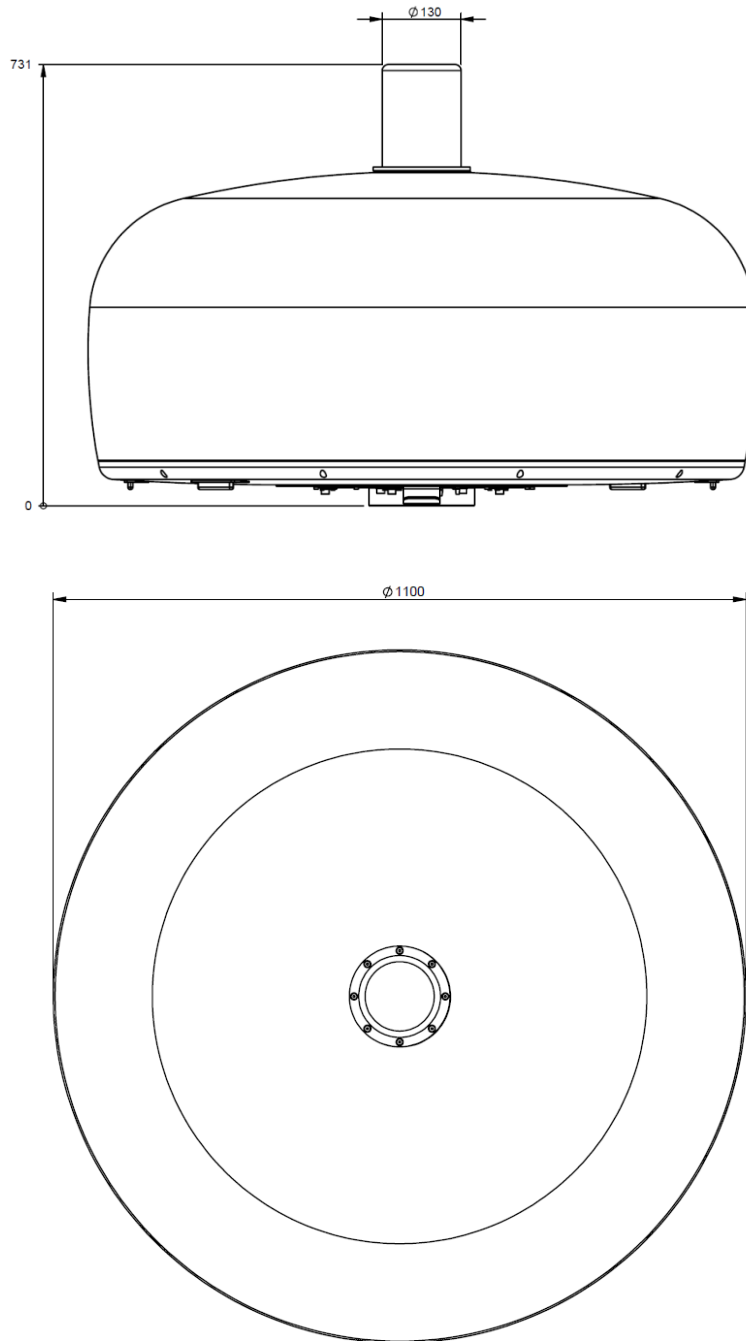
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OUTER DIMENSIONS:

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.



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