

Wideband Mast-Mount DF Antenna

20 – 3600 MHz

Product Code: DF-A0070

VERSION: 1.4



PRODUCT DESCRIPTION:

The DF-A0070 is a wideband DF antenna suitable for fixed mast-mounted applications.

A hybrid between the compact DF-A0029 and the full-size DF-A0001, the antenna has a full-size low-band array for best DF performance at low frequencies where the compact array is small. Inside the radome are two pentagonal arrays for the middle and high frequency ranges. Secondary arrays of dipoles and monopoles are combined, to provide omni outputs up to 3.6 GHz.

A cavity inside the antenna, approximately 350 mm wide by 370 mm high, allows an RF switch to be integrated into the antenna, reducing cable loss and weight. The cavity slides open, the switch can be installed by one person, on a mast, without a crane.

A lifting eye is provided at the top for positioning with a crane

PRODUCT FEATURES:

- Full-band correlative interferometer
- Wideband dedicated omni capability

APPLICATIONS:

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

SPECIFICATIONS:

Electrical:	
Frequency range	20 – 3600 MHz
Feed power handling	0.5 W (receive only)
Polarisation	Vertical
Internal connectors	SMA male SS
DF:	
DF type	Correlative interferometer
Frequency bands	A: 20 – 300 MHz ^{*1} B: 100 – 800 MHz ^{*1} C: 750 – 3600 MHz
DF accuracy in azimuth	A: 2° RMS ^{*2} B: 2° RMS ^{*2} C: 2° RMS ^{*2}
Monitoring:	
Frequency bands	AB: 1 – 700 MHz C: 700 – 3600 MHz
Monitoring antennas	AB: combined 5 dipoles C: combined 5 monopoles
Internal features:	
GPS antenna	Active patch antenna
Compass	Bracket for KVH C100 compass
Mechanical:	
Dimensions (h x d)	2.3 m high x 2.6 m diameter
Mass	44 kg
Colour	White, or painted to user colour
Environmental: designed to meet the following specifications	
Temperature range	-30 °C to +70 °C
Humidity	5% - 95%
Maximum wind speed	160 km/h; Higher specification possible
Vibration and shock	MIL-STD-810-F ground transport
Salt spray	MIL-STD-810-F salt fog

Notes:

- 1) Optimum A-B change-over is above 100 MHz, actual optimum to be determined by measurements with user's receiver.
- 2) DF accuracy when calibrated, on a test range. Operational accuracy will be lower, depending on platform and range effects.

RELATED PRODUCTS:

- DF-A0029 – vehicle mounting antenna with upper radome portion only. 1 to 3600 MHz
- DF-A0001 – Mast-mounting 3-band interferometer

Wideband Mast-Mount DF Antenna

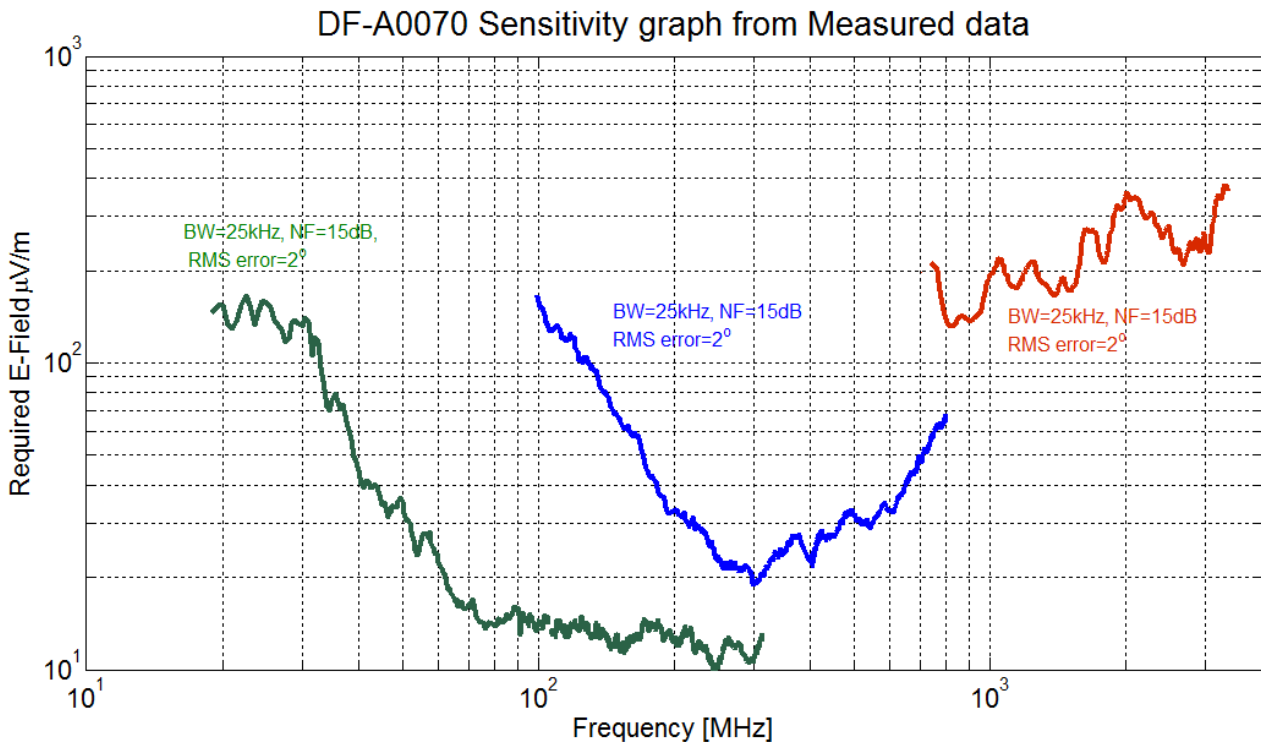
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DF SENSITIVITY:

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.



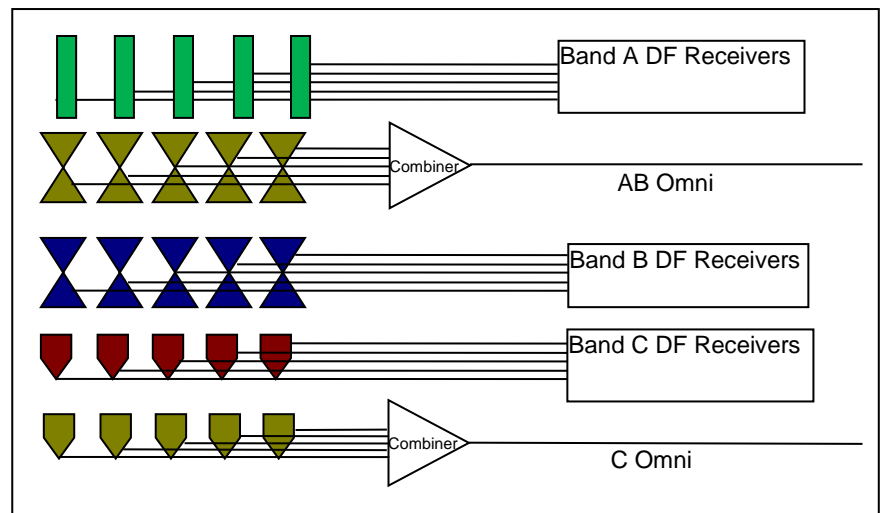
LIST OF RF OUTPUTS FROM ANTENNA:

The antenna has 17 elements with connectors ending in the antenna cavity:

- 5 Band A dipoles, from below
- 5 Band B DF elements
- 5 Band C DF elements
- Band AB combiner output
- Band C combiner output

The separate omni elements of Band B and Band C are passed through combiners to produce the 2 omni outputs.

The diagram shows the antenna outputs.



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OUTER DIMENSIONS:

The outer dimensions of the antenna are as shown below.

