

Developmental Specification



WATKINS-JOHNSON

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HF Direction Finding Array WJ-9896

The WJ-9896 HF Direction Finding Array provides accurate DF performance on HF ground-wave and sky-wave signals in the 2 to 30 MHz range. The HF DF array is used with the WJ-8996-1 Receiver/DF Processor. It consists of:

- Four antenna elements
- A calibration switch
- Coaxial RF cables

The antennas use collapsible monopoles for easy deployment in all terrains. A single BNC coaxial cable connects each of the antenna elements to the switch box. When deployed, the antennas form a 14 foot (4.26 meter) square array (a larger baseline may be used for lower frequencies). For best performance, WJ recommends deploying the antenna system in a clear area at least 250 feet (75 meters) from other obstructions, including shelters or buildings.

The mechanical design of the WJ-9896 allows for very compact storage when disassembled. An operator can stow the disassembled antenna in a 2 x 1 x 1 foot (0.6 x 0.3 x 0.3 meters) pack.

Features

- ❑ *2 to 30 MHz DF coverage*
- ❑ *Light weight*
- ❑ *Manportable*

Element Length	Array Dimension	Weight
9ft (2.74meters)	14x14ft (4.26x4.26meters)	<10lbs (4.52kg)

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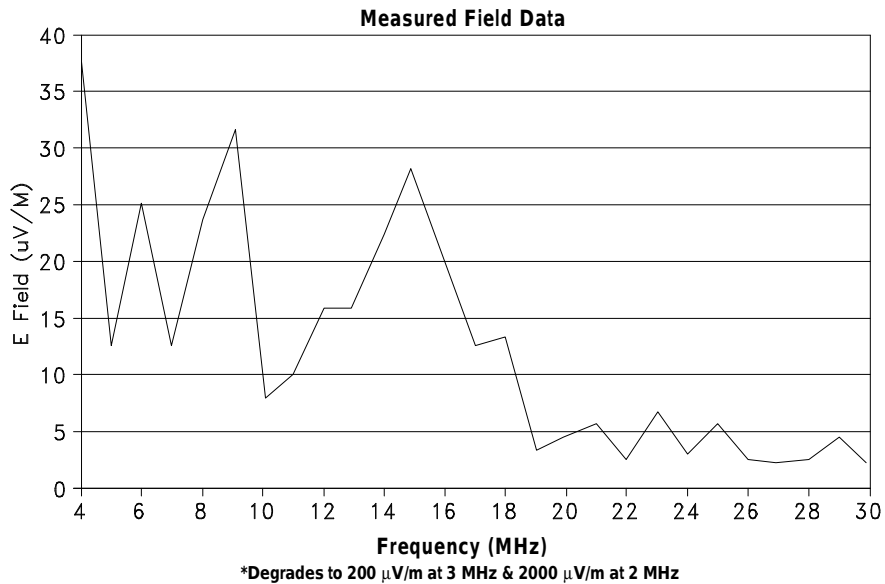
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This material provides up-to-date general information on product performance and use. It is not contractual in nature, nor does it provide warranty of any kind.

Specifications

DF Frequency Coverage	2 to 30 MHz
Azimuth Coverage	360°
Polarization	Vertical
Output Impedance	50 ohms, unbalanced
Output VSWR	2:1, max
Connectors	
RF	BNC
Cables	
RF	50 ft (15.24 meters)
Environmental	
Temperature Range	
Operating	-20 to +60°C
Storage	-40 to +70°C
Humidity	95% non-condensing
Shock	Contact factory



This figure shows the DF Sensitivity versus frequency for the WJ-8996 DF Processor when used with the WJ-9896 HF antenna array. DF Sensitivity is the minimum electric field strength that produces a $\pm 3^\circ$ deviation in the line-of-bearing.