



## MA-445C HF/VHF/UHF DF Antenna

*The MA-445C HF/VHF/UHF DF Antenna provides accurate direction finding (DF) over the 2 to 2,000-MHz frequency range in a small and lightweight unit.*

The antenna was designed for use on vertically-polarized ground wave and sky wave signals. The MA-445C may be ground or tripod mounted, and can also be operated from the top of a ground vehicle with a metal roof using Linkabit's optional vehicle mounting strap. In the AN/PRD-13(V)1 and AN/PRD-13(V)2 system configurations, a common RF/control cable is used to connect the MA-445C to Linkabit's SIGINT receiver/processors (MD-403A and MD-405A).

The MA-445C is physically divided into two frequency sections: 2–100 MHz (called the HF portion) and 100–2,000 MHz (called the VHF/UHF portion). The unit design incorporates several antenna technologies:

- Ferrite-loaded crossed loops plus a short active monopole whip covering 2–100 MHz
- An annular slot with eight feed points covering 100–460 MHz
- A four-element monopole array covering 460–2,000 MHz

Each antenna section has an independent calibration (frequency versus angle) correction table read by the receiver/processor on power-up, as well as an independent built-in test (BIT) oscillator to help isolate failures between antenna sections. The VHF/UHF section contains a switchable low noise, high performance preamplifier. The preamplifier can be enabled to improve antenna sensitivity and offset coaxial cable loss.



**MA-445C  
HF/VHF/UHF DF  
ANTENNA - ELEMENT  
ATTACHED**



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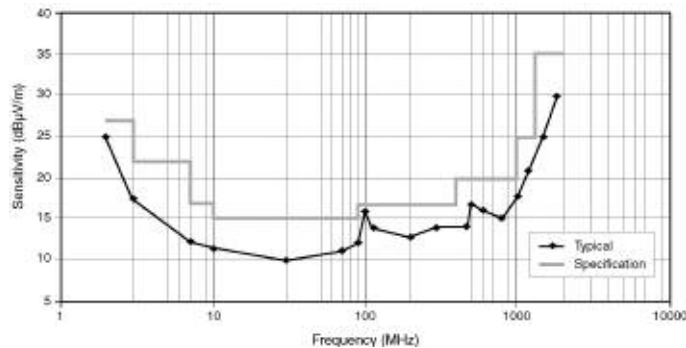
## MA-445C HF/VHF/UHF DF Antenna Features

Performance Characteristics	
Frequency Coverage	2–2,000 Mhz
Azimuth Coverage	360°
Elevation Coverage, 2–100 MHz	0° to 10°
Elevation Coverage, 100–2000 MHz	0° to 60°
Bearing Accuracy <sup>1</sup>	3° RMS typical
Bearing Sensitivity <sup>2</sup>	See chart
Polarization	Vertical
Output Impedance	50 Ohms unbalanced
Preamplifier (100–2,000 MHz)	Selectable (In/Out)
	Gain: 18 dB nominal
	NF: 4.0 dB nominal
	IP <sub>3</sub> : +18 dBm minimum
Connector	RF: Waterproof BNC; Control: Sealed JT quick disconnect
Physical and Environmental Characteristics	
Size (diameter)	330 mm, 13 in.
Height (less whip)	140 mm, 5.5 in.
Weight	4.08 kg (9 lbs.)
Power	1 Watt maximum at 12 VDC
Temperature	Operating: –20° to +50° C; Storage: –40° to +70° C
Humidity	0 to 100% Condensing
Altitude	4,572 m (15,000 ft)

<sup>1</sup> Test range, AM demodulator, un-modulated signal, 1 sec. integration, 20 dB S/N

<sup>2</sup> Test range, AM demodulator, un-modulated signal, 6° RMS degrees jitter, 1 sec. integration. Bearing accuracy and sensitivity in operational situations are subject to the effects of installation, proximity of large conductive objects, terrain, and elevation

*Note: All specifications subject to change without notice*



Part Number	Description	Includes
02-105608-01	MA-445C Antenna	Antenna, Manuals
05-103228-01	Tripod	Antenna Tripod
05-105872-01	RF/Control Cable	Cable
03-102475-01	Tie Down Kit	Antenna Mount Strap

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