

H-900 LF/MF/HF Active Gain Antenna

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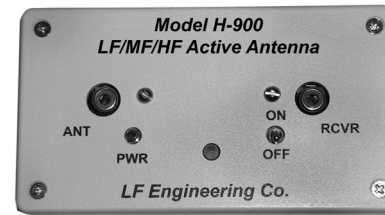
LF Engineering Co.
 17 Jeffery Road
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H-900 LF/MF/HF Active Gain Antenna

The H-900 is a broad band active antenna and signal amplifier combination that effectively covers the longwave through HF shortwave bands (10 kHz through 60 MHz).

The active E-probe antenna consists of impedance matching electronics, and amplifier with a maximum linear output of 16 dBm. The H-900 has high E field sensitivity for its compact size with the advantage of good BC and spurious intermodulation rejection. The antenna is compact, totally sealed and ESD suppression treated.

The antenna is omni directional allowing for various installation configurations and for use as a portable antenna. The probe is waterproof and UV resistant.



Features

- 10 kHz to 60 MHz broad band coverage.
- High desense immunity from signal overload.
- Fully sealed weatherproofed construction.
- Extended ESD and RF protection.
- Mounting clamp included.
- Power requirements:
 12 VDC, 70 ma.
 External 120 vac adapter supplied.

H-900 Specifications

Antenna Probe Size	25 inches long, 1 inch dia. PVC, color gray
Coupler/Signal Amp. Size	4.19"L x 2.74"W x 1.57"H
Operating Frequency	10 kHz to 60 MHz - 3 dB points
E Field Sensitivity	-21 dB
Signal Amplifier Gain	10 dB
Max. Linear Power Output	16 dBm (E-probe)
IP3, IP2	>35 dBm, >55 dBm typical
Input/Output Jacks	Phono
Output Impedance	50 - 75 ohms
Operating Temperature	-25°F to +120°F
Weatherproofing	Antenna probe tested to 2 atmospheres (-66 ft)
DC Power:	12 Volts, 70 ma
AC Power: (included)	120 VAC / 12 VDC power pack with 2.5 mm plug

Introduction:

The H-900 Active Gain Antenna covers the full LF/HF/VHF spectrum from 10 kHz through 60 MHz. The combination of a proprietary low noise amplifier in the E-probe (2 wire feed), and a switchable broad band signal amplifier within the coupler provides ample gain throughout the operating spectrum. The output impedance of the antenna is 50 to 75 ohms, and is designed to match most receivers in use today.

The Receiver Coupler/Amplifier requires an external 120 VAC / 12 VDC power supply, but may be operated with any regulated 12 VDC source.

AC Power Supply:

The 120 VAC / 12 vdc power supply plugs into the 2.5 mm jack located on the front panel. An external 12 VDC battery pack may be connected in place of the AC supply for portable operation.

Note: Insert the 2.5 mm power plug into the coupler/amplifier before applying power.

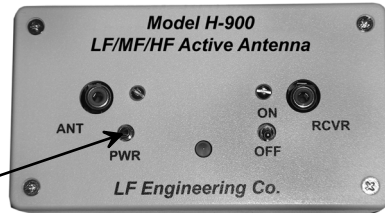
If supplied with flying DC power leads be sure to connect the correct leads to positive and negative. Diode protection is built in for safety. Max 15 VDC.

Antenna Installation:

1. Mount the antenna E probe in the clear 8 ft to 20 ft high in the clear, preferably roof height. Use the stainless clamp supplied for attachment to a vertical support pole.
 - a. A support pole may be any vertical structure made from wood, metal or PVC that is between 1 and 2 inches in diameter. You may use an external roof structure such as the top of a TV mast or roof vent pipe. Note: The use of a vent pipe or any other large diameter mounting surfaces may require a larger mounting clamp.
 - b. The support pipe should not be attached any higher than the neoprene grip as shown in the illustration.
2. Connect the coupler/signal amplifier output (RCVR) to the antenna input of your short-wave receiver with input impedance between 50 and 75 ohms.

Caution: Do not apply RF or direct voltage to the antenna probe. Use only the proper antenna coupler.

External
Power
Jack



3. Power up the coupler/signal amplifier by connecting the power supply to the coupler. The coupler LED will light and your system is now ready for use. Note: Power is always on when the unit is plugged in.

Signal Amplifier Operation:

1. The 10 dB signal amplifier in the coupler can be switched in or out of circuit as needed. The output level is fixed and not adjustable. If necessary, attenuators may be used to control the signal level.
2. Normal position of the signal amplifier is "on" for full high sensitivity performance. The amplifier can be switched "off" if very strong stations are present and receiver overloading occurs.

Note: In the signal amplifier "on" mode, if oscillation occurs, be sure to check that the output coaxial ground connection is secured.

The E-probe alone without the signal amplifier applied can handle very strong signals without overloading, although the receiver in use may overload and may require signal dampening with attenuators or by use of the receiver's RF gain control.

How to Get the Most Out Of Your H-900 Active Gain Antenna:

1. Keep your antenna in the clear and above metal objects. Use a good ground on your receiver.
2. When mounting onto a metal pole, the mounting area should not exceed the neoprene grip.
3. Use a cable strain relief (clamp, strap, tape) around the mounting pipe and cable to reduce cable fatigue at the antenna.
4. Mount your antenna away from man made EMI such as florescent lighting, TV sets, light dimmers and other noise generators.
5. Experiment with antenna placement to achieve the highest signal to lowest noise performance across the operating band.

