

L-400B VLF Active Gain Antenna

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L-400B VLF Active Gain Antenna

The L-400B active gain antenna is a compact 26 inch antenna designed specifically for the VLF and LF spectrum. The L-400B may be used with all receivers and converters.

The L-400B broadband design enables you to effectively receive the whole LF spectrum from 10 kHz through 500 kHz without the need of a tuner. The L-400B has very high E field sensitivity with the advantage of excellent BC intermodulation rejection with its sharp roll off filter. A proprietary gain amplifier and low pass filter makes the L-400B a compact and totally sealed probe (no whip). The antenna is omni directional allowing for various installation configurations and for use as a portable antenna. The L-400B probe is waterproof and UV resistant.



Features

- 10kHz to 500 kHz broadband coverage (no tuner required)
- 50 ft of RG174/U with RCA connector included.
- No BC intermod can be detected even 1/4 mile from a 5 kW broadcast station operating on 960 kHz
- The antenna probe is fully sealed and does not use a whip antenna
- Extended ESD and RF protection
- Mounting clamp included
- Dual source power design: Internal 9 volt battery (x2) or external 120 vac / 12 vdc supply

L-400B Specifications

Antenna Probe Size	26 inches long, 1 inch dia.
Coupler Size	4.19"L x 2.74"W x 1.57"H
Filter Rejection	≥ 40 dB above 600 kHz
E Field Sensitivity	-3 dB @ 250 kHz
Low Pass Filter Response	10 kHz to 500 kHz
IP3	24 dBm
Internal (E probe) Amplifier Gain	20 dB
Input/Output Jacks	RCA
Operating Temperature	-25°F to +120°F
Weatherproofing	Antenna probe tested to -2 atmospheres (-66 ft)
DC Power:	12 - 18 Volt, 20 ma, NEDA (2) or equivalent battery
AC Power: (included)	120 vac / 12 vdc power pack with 2.5 mm plug

Introduction:

The L-400B Active Antenna covers the full low frequency spectrum from 10 kHz through 500 kHz. A proprietary low pass filter is used to prevent AM broadcast inter-modulation and a proprietary low noise 20 dB gain amplifier (2 wire feed) insures ample gain throughout the spectrum. The output impedance of the L-400B is 50 to 100 ohms, and is designed to match most receivers and converters in use today. The Receiver Coupler requires two 9 volt batteries (18v) for operation. An external 120 vac / 12 vdc power supply is included for continuous operation.

Battery Installation:

Remove the 4 Philip head screws from the four corners of the front panel. Lift the panel/circuit board from the cabinet and install two 9 volt batteries onto the two battery clips. Reassemble panel into cabinet. The battery life with normal intermittent operation is more than 4 months.



AC Power Supply:

The 120 vac / 12 vdc power supply plugs into the 2.5 mm jack located on the front panel. The ac power supply may be used even with a battery internally connected. The 2.5 mm plug disables the internal battery when inserted into the panel jack.

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 will 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 output (RCVR) to the antenna input terminals of your short-wave receiver with input impedance between 50 and 100 ohms.
3. Route the antenna cable to your receiver. Longer lengths of cable may be added. Connect the antenna cable to the coupler (ANT) input.
 - a. Coax length may be extended 150 ft for a total of 200 ft max. length.
4. Turn the coupler on and your receiver on. The coupler LED will light and your system is now ready for use.

How to Get the Most Out Of Your L-400B Active Gain Antenna:

1. Keep your antenna in the clear and above metal objects (8 ft minimum height) and use a good ground on your receiver.
2. When mounting onto a metal pole, 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 TV sets, light dimmers and other noise generators.

