

# C. Crane Twin Coil Ferrite™ AM Antenna

By Bob Grove, W8JHD

**E**ven though some listening hobbyists would say that AM radio is an anachronism, there are still enough folks listening to the 530-1700 kHz broadcast band to justify new product development.

The traditional approach to enhancing medium frequency reception without using an outdoor aerial is by using a loop antenna. These can be large or small, and either an open winding of wire or a smaller ferrite rod loop. Some are amplified (active) and some are not (passive).

One of the most successful loops was the Select-a-Tenna. Roughly a foot in diameter, it could be plugged into the external antenna socket of a radio, or simply placed in close proximity to the radio in order to “focus” the desired signal to the radio’s internal antenna. Although an excellent product, it is no longer manufactured.

So what makes the C. Crane AM antenna different? It is amplified and has several separate components. Its antenna may be mounted inside or outdoors (which may require ordering an extension cable in 25 or 50 foot lengths).

The amplified tuner may be powered by the AC wall adapter (included) or a nine volt battery (not included). It will work with radios with or without an external antenna jack.

## ❖ Radios without an External Antenna Jack

Since portable radios have internal AM antennas, the C. Crane loop must be inductively coupled to the internal antenna. This is done by pressing a ferrite coupling device to the cabinet of the radio close to the internal antenna.

The tuner control is set conveniently near the radio so that it can be adjusted by the listener. The antenna element is placed anywhere in a six foot radius that it picks up signals best with minimum environmental electrical noise.

## ❖ Radios with an External Antenna Jack

If your radio receiver is equipped with an RCA phono jack to accommodate an external antenna, or separate antenna and ground terminals as found on most home entertainment stereo receivers, cabling and an adapter are provided to make that interconnection. No provision is made for radios with a 1/8 inch phone jack or SO-239 antenna connections. These adapters would have to be provided by the user.



## ❖ Setting it up

After the separate modules are interconnected (you can’t mismatch connections) a weak signal is selected on the radio – the more barely readable, the better. With the ferrite probe set on the portable radio top, the tuner is then switched on.

Slowly rotating the large concentric knob, an increase in signal should be heard at one setting; the inner, smaller tuning knob is then adjusted for fine tuning.

The ferrite probe is move around the radio to find the “sweet spot” of strongest signal coupling, and then the antenna element is positioned the greatest increase in incoming signal strength.

## ❖ Let’s try it out

I decided to try a worst-case scenario. Using an over-the-counter AM pocket radio with the ferrite probe against the top of the case, I randomly selected stations that were barely above the background hiss.

In each case the C. Crane loop brought the signal up to 100 percent intelligibility. It must be pointed out that tuning is quite sharp, and although there is backlash in the main tuning dial, it is easily resolved by adjusting the fine tuning knob.

Success is dependent upon location and orientation of the main antenna element. If it’s close to interference-generating appliances or wiring, then it’s going to amplify that noise. But with the antenna free and clear of noxious noise producers, and its position favoring desired incoming signals, the ferrite loop antenna will provide substantial signal improvement over the radio’s internal antenna.

Twin Coil Ferrite AM Antenna, \$99.95 from Grove Enterprises and some *MT* advertisers and from C. Crane, 1001 Main St., Fortuna, CA. Website: [www.ccrane.com](http://www.ccrane.com), Email [rreynosa@ccrane.com](mailto:rreynosa@ccrane.com); Phone (707) 725-9000.

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