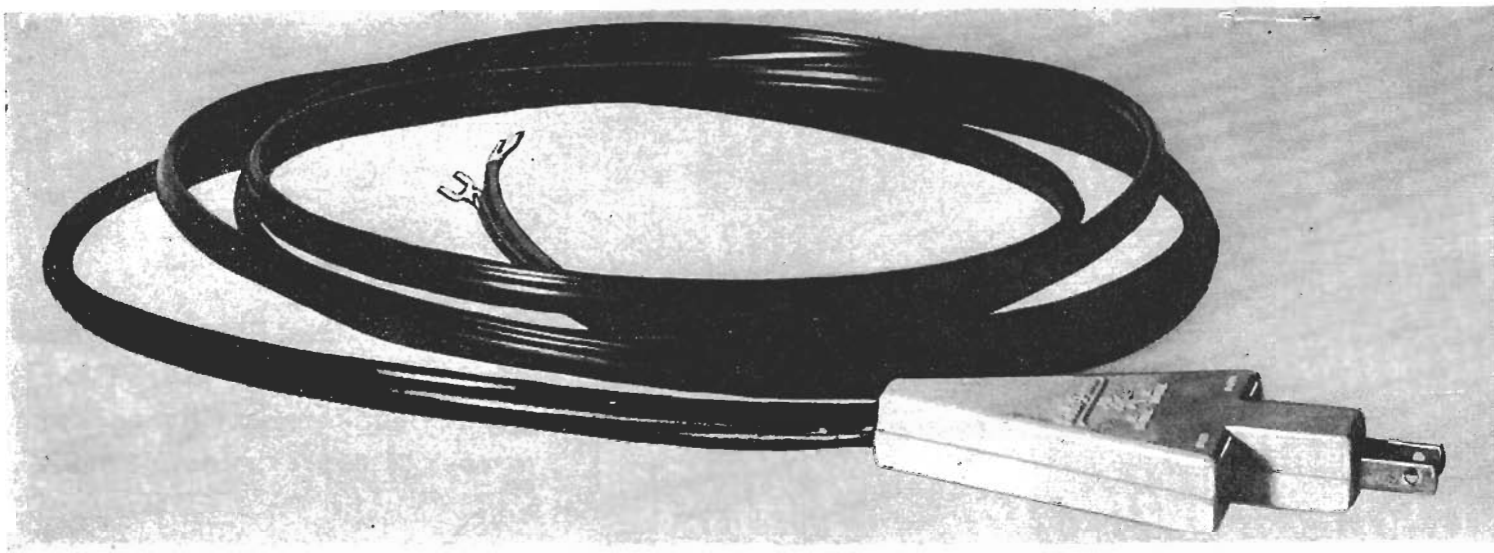
"Line-Cord" Antennas:



Fact and Fiction

By **SIDNEY C. SILVER**
Service Editor, ELECTRONICS WORLD

Neither miracles nor frauds, these signal couplers may prove quite satisfactory in some circumstances.

QUESTION: Line-cord antennas are now being promoted heavily as the long-sought miracle solution to the problem of the external TV antenna. They are also being attacked as completely fraudulent. Which side is right? Do they work or don't they?
ANSWER: They do "work." Regarding the claims and counterclaims, neither extreme is true. There are situations in which they would be useful for TV and FM reception. They are definitely more than "just a length of wire."
QUESTION: Some critics suggest that these units introduce shock hazards. Are the units dangerous enough to cause concern?
ANSWER: They are no more hazardous than many radios, TV receivers, and other household appliances. In fact, they tend to be safer than most such electrical equipment.
QUESTION: Are they worth trying?
ANSWER: One of them might be worth a try—under the right conditions and at the right price—but buying blindly is not recommended. If your particular situation warrants a try, you can protect yourself with a money-back guarantee.

ALTHOUGH it occurred more than thirty years ago, we clearly recall an incident involving an old-time radio buff. He was grinning over a gadget that looked like a diamond-shaped spider web and stood about two feet high. It was an open-loop antenna that he could use indoors on top of his radio cabinet—and it worked. He no longer had to string wire all over his roof. A few years later, even this was outmoded by smaller loops inside the radios, out of sight. They also worked.

Just a few years ago, TV viewers were being tempted by what appeared to be a comparable miracle: a single length of wire connected to one side of the TV set's antenna input at one end and terminated at the other end in an intriguing little box. The miracle, inside the box, was a capacitor, a pitch-like material, a slab of rubber, or thin air. With the box snipped off, the wire worked just as well, which was not well at all.

The latest contender for "miracle" status is a length of 300-ohm lead that also terminates in a box, with the latter plugging into (or otherwise coupling to) house wiring. This "revolutionary discovery," often represented as using "radar principles," is said to "convert your house wiring into a giant TV or FM antenna." Tests on typical units quickly revealed, alas, that the long-awaited miracle is not yet here. However, the mystery box now contains something that makes enough sense to deliver reasonable results in many cases.

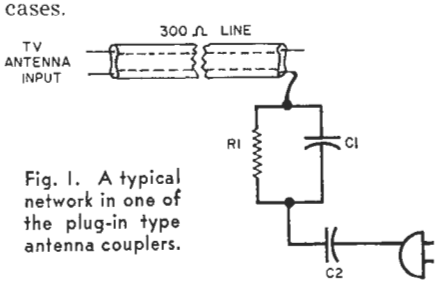
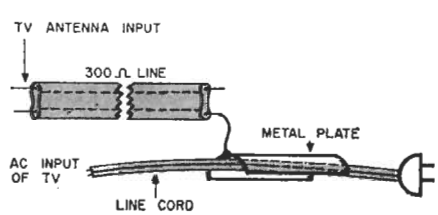


Fig. 1. A typical network in one of the plug-in type antenna couplers.

Fig. 2. Another type of line-cord coupler picks up through a metal plate.



Following unfavorable comment by the National Better Business Bureau and other agencies, many have gathered that the devices are complete frauds. Much as we would like to wear the mantle of the fearless crusader, we cannot dismiss the line-cord devices so unqualifiedly. The BBB attack is largely against the misleading advertising promulgated by many, though not all, of the manufacturers or purveyors of the devices. As to actual performance, the BBB quotes other sources. These other sources appear to have been rather hasty in their tests and in the conclusions drawn from them.

The unit shown at the beginning of this article is typical of most available. Inner detail appears in Fig. 1. It consists of a simple *RC* high-pass filter in series with a blocking capacitor, to keep d.c. or low-frequency a.c. out of the TV set's antenna input. The network is connected between one leg of the house wiring and one side of the antenna input.

Component values, which are not particularly critical, vary somewhat from one manufacturer to another. R_1 may be in the order of 500,000 ohms,

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