

## CABLE TRACER

**I'd like to trace the path of an underground power cable. One end is above ground and the other end is lost somewhere below ground. Neither end is connected to power. Isn't there some sort of wave generator I could build that would provide a signal I could trace with a receiver and antenna?—D. Andrew, British Columbia, CA**

It's really terrific when a simple question like this has a really simple answer. I've faced this problem myself and I'll pass along the method I used.

Most of the commercial equipment that's designed for this purpose works exactly as you described. A signal is sent along the wire and a specially tuned receiver picks it up. Depending on the amount of bells and whistles, that sort of gear can set you back an impressive number of bucks. But there's an alternative.

As long as you're sure that both ends of the cable aren't connected to anything, connect the above-ground end to the 120VAC line (through a fuse and ground-fault protector). Once you've done that, connect the noisiest appliance you have to the line and turn it on. The best ones to use are those with motors that have a set of old brushes in them. You can usually spot that by seeing whether lots of sparks are created where the brushes ride on the motor.

Each one of the sparks is generating a lot of RF noise that's being transmitted down the cable. You can detect the noise with a portable radio since the noise spreads across a wide band of the spectrum. All you have to do is tune the radio between stations (you may find the AM band is better), turn up the volume, and follow the static across the ground. This may seem a primitive method but it's exactly the method used by the "high priced spread."