

# Stick 'Em Up

— install this 2m Bi-Loop anywhere

I needed a simple antenna for 2 FM, one that wouldn't take up too much space or be obvious to the landlord. Remembering the fact that basic antenna designs are fairly independent of frequency, I thought that

a traditional HF antenna, scaled down, might just fit my requirements.

The end result is the antenna illustrated here. In essence, it consists of two full-wave loops fed in parallel—an adaptation of

W7CJB's Bi-Loop.<sup>1</sup> The radiating elements are made from adhesive-backed burglar alarm window foil. This stuff is easy to get at Radio Shack and is inexpensive. Also, it doesn't pull off big chunks of paint when you want to remove it.

Feedline connection is made with burglar-alarm window foil connectors, of course (see detail). Continuity is ensured by overlapping the foil about one-half inch and puncturing with a needle. You should do this about a half-dozen times at each splice. Wall (or window) area needed is about 2¼' x 4½', and the antenna can be covered with a large picture or map for camouflage.

With the antenna stuck on an inside wall on the second story of a frame dwelling (aluminum-backed insulation and all), the feedline vswr is 2:1, and I have solid simplex QSOs with my brother eleven

miles away (I'm running 1½-Watts output). The antenna in free space, theoretically, has 8 dB of gain when compared to a half-wave dipole and 6.8 dB over my old 5/8-wave-length ground plane.<sup>1,2</sup> The loops seem quite broadband, possibly because of the length/width ratio of the elements. Polarization is vertical with the configuration shown. Comparative signal reports from KA2AFS (my brother Hank's station) indicate superiority to the ground plane.

One final note: Window foil of this type is made primarily from lead. This material seems to have no derogatory effect, in spite of its low conductivity as compared to copper. ■

## References

1. Davey, "Try a Bi-Loop Antenna," 73, April, 1979.
2. Miller, "How to Determine Antenna Gain," *Popular Electronics*, July, 1979.

