

mono-loop antenna

Nothing new or startling is claimed for this antenna. However, like the open-wire-line fed flat top, the one-wavelength loop de-

serves a great deal more attention than it's received.

Almost everyone using a quad parasitic array is pleased with the results. The quad has a good capture area, and for modest height above ground, a favorable low angle of radiation. A quad mono-loop has these same advantages, but with the disadvantage of being bidirectional.

My new location precluded a tower and rotary beam. As an alternative I erected thirty feet of tv mast on the chimney of the house; and from the top, some forty feet above ground, suspended a 20-meter quad loop (fig. 1)*. Because of limitations in guying the sides at the proper height, the antenna looks like an ARRL diamond, but it works like a gem (pun intended)!

Reports broadside to the antenna are generally 6 to 12 dB higher than those received from a three-half-wave doublet (100 feet long, center fed; 40 feet high) favoring the same directions. In fact, except that the antenna is fixed, it performs just about as well as a two-element quad in a former location.

For a 20-meter loop, I suggest starting with sides 17 feet 10 inches long and trimming to optimize the swr. In my case, the regular formula length $250/f_{MHz} = \text{side in feet}$ resulted in a resonant frequency higher than desired; probably because the sides are elongated into a diamond shape.

Hams having towers high enough to accommodate a 40-meter loop might find it would outperform a conventional inverted-V doublet, even though the bottom current loop is close to the ground.

James A. Gundry, W8BW

* Editor's note: Suggestions for crossarm braces and a balun are included. The balun is recommended for optimum efficiency.

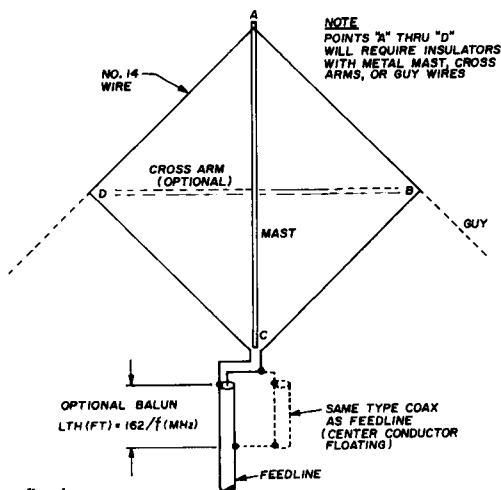


fig. 1.

f (MHz)	total length	length per side
14.0	71' 10"	17' 11½"
14.1	71' 4"	17' 10"
14.2	70' 9"	17' 8¾"
14.3	70' 3"	17' 6¾"
21.0	47' 10"	11' 11½"
21.1	47' 8"	11' 11"
21.2	47' 5"	11' 10¼"
21.3	47' 2"	11' 9½"
28.0	35' 10"	8' 11½"
28.5	35' 3"	8' 9¾"
29.0	34' 8"	8' 8"
29.5	34' 1"	8' 6½"