K4JZB reports on his "V" beam experiments and shows us how to roll our own.

Development and Construction of "V" Beam Antennas

BY ROBERT F. ZIMMER*, K4JZB

The antennas to be described here are often mistaken to be log-periodic antennas. They are not. They are "V" antennas, ½ wavelength "V's" both parasitic and driven. I have been using them for over 10 years. I also have a three-element tribander, plus four-element monobanders for 14 and 21 MHz.

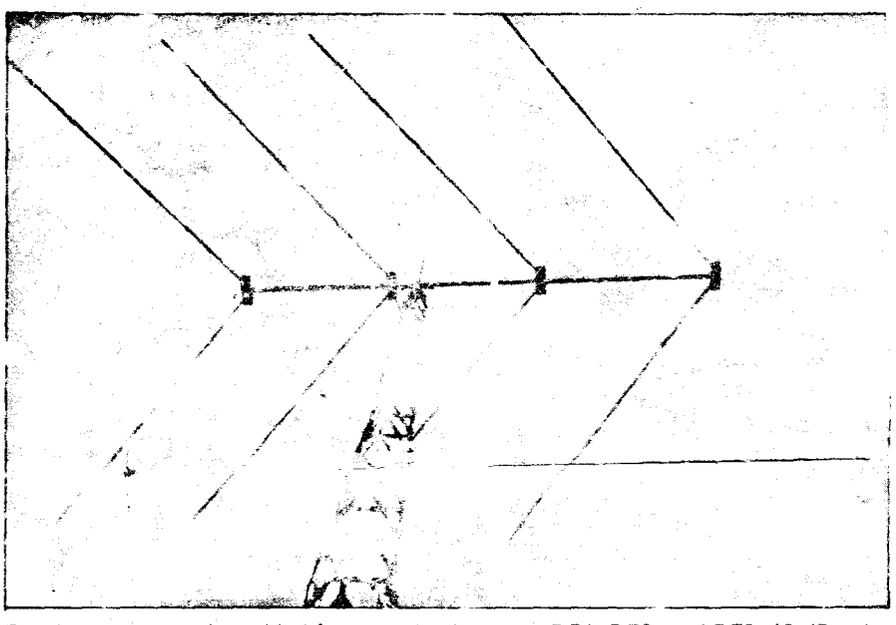
I started off first by bending the antenna elements forward 40° to determine if the reported 3 to 5 dB additional gain actually could be realized. The first antenna was a two-element antenna with both elements of equal length (fig. 1). This proved two things: (1) that front-to-back ratio could be obtained, and (2) that good forward gain could be achieved. They both were justified in this design.

Next I lengthened one element by 5% (fig. 2). This proved to be very beneficial and will out-perform three-element Yagi beams. These antennas were used on 21 MHz s.s.b. and were evaluated on short haul (1,000 miles), medium haul (3,000 miles), and long haul (10,000 miles plus). They were tested at heights from 5 to 50 feet and with output powers from 60 to 600 watts p.e.p.

I then built a three-element broadband antenna for 28 MHz (fig. 3). It was installed 24 feet up and aimed due west. With only 60 watts p.e.p. output, I was able to work VK's when they were only hearing west coast stations.

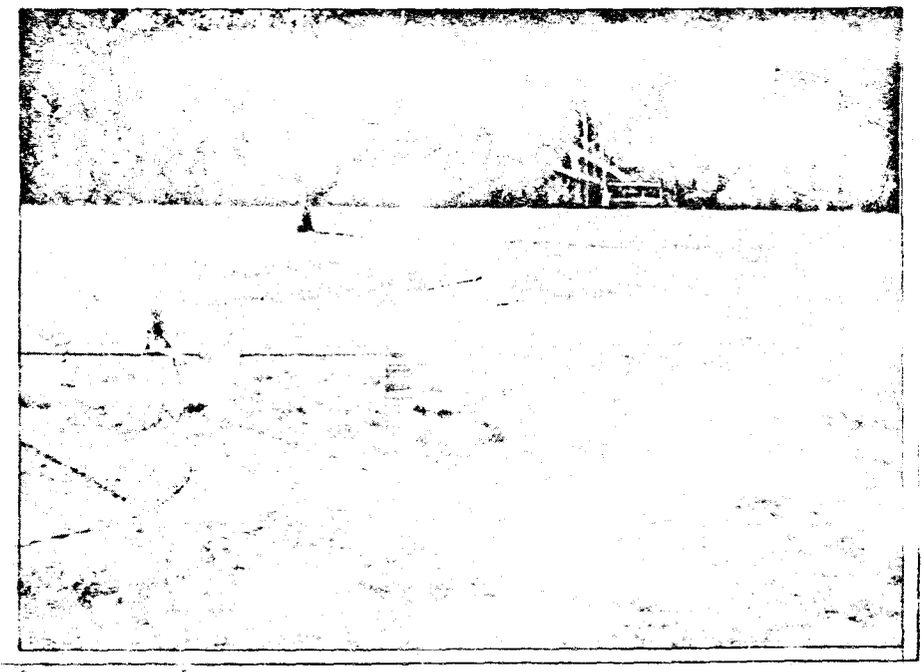
On January 21, 1982 I got caught with my antennas down when Martha, 3C0AC, came on. With the aid of my wife, the antenna shown in fig. 2 was hauled up on the roof and installed on the tower 24 feet up. I pointed it toward Africa and got 3C0AC on the first call through a terrific pile-up. This all took place in a half-hour period.

The next antenna to be described in this series is a four-element one. It has three driven elements plus a reflector on 21 MHz. It has been up since February at a height of 50 feet and has done a terrific job. I have had many inquiries about it from stations I've worked all over the



The 4-element version with 4 foot spacing between DE1, DE2, and DE3, 12 dB gain.

The 10 meter antenna ready to be put up on the tower.



P.O. Box 232, Land O'Lakes, FL 33539