

## President's Column

I like to play with antennas. Currently my main antenna is a doublet with the peak at thirty feet and the ends at fifteen feet. A 450 ohm window line serves as the feed line going to a balanced line tuner at my operating station. I am able to have an SWR of less than 1:1.4 from 10 meters down to 80 meters including 30 meters. Aah, the wonders of window line. I downloaded an antenna modeling program, EZNEC Pro2+, and thought I would look at the far field radiation patterns of the doublet. As I expected, it is a cloud-burner on 80 and 40 which is fine for my local HF nets. As the frequency increases the plot goes from an oval to flowers with all sorts of lobes. Even though I have snagged all 50 states and over 135 dx entities, I thought I would look to see if I could do better.

I researched alternatives that are supposed to be good for DX. One alternative is the half square antenna. It is a monoband antenna consisting of two  $\frac{1}{4}$  wave verticals with a  $\frac{1}{2}$  wave phasing section across the top. The antenna is fed by coax (50 ohm) at a top corner. One vertical is connected to the coax shield and the coax center is attached to the phasing section which then turns down to form the other vertical like an inverted ell. It is directional and has a low take-off angle. I built one for 20 meters and put it up in my backyard. I tried it on the air and was unable to tell much difference. I did some A-B-C tests with my 4BTV vertical and the doublet listening to WWV at 15 mhz with an SDR. The half square was about 4dB quieter than my vertical but about 2 dB noisier than my doublet. As far as signal strength, the s/n of the half square was between the vertical and the doublet with the doublet doing the best by as much as 6dB. So, it appears that the half square is better than my vertical (with 66 radials) but worse than my doublet. I will keep looking.

That is part of the fun of ham radio – try new things.

73,  
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President KCARC