

DX'ING WITH THE "DX FLIERS"

Gerry Thomas

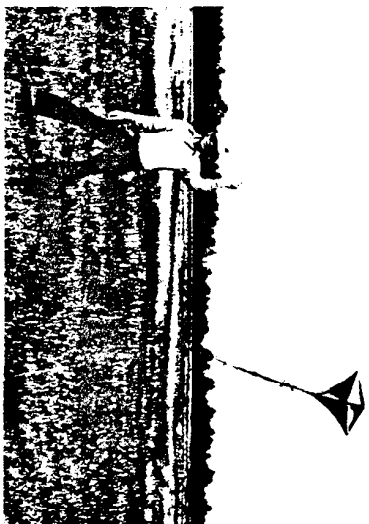
Charlie Barfield

The idea was too intriguing to be put off any longer. For the past two years we had wondered about it, about the DX to be had by sending hundreds of feet of wire aloft with a kite. After all, hadn't we read somewhere that the antenna for Marconi's first wireless was supported by a kite? And that kites routinely "erected" military radio antennas during WWI? Then why hadn't we heard of any BC8 DX'ers using kites to improve, especially daylight, DX? We felt certain that the kite antenna must have been used by someone at some period of BC8 DX history, but since no IRCA or NRC reprints existed on the subject, we decided to give it a try ourselves.

As an initial effort, we thought it best to start modestly. Our goal would be to get 650 feet of 26-gauge copper wire airborne using simple-to-construct, or inexpensive-to-buy, kite designs. One of the questions to be answered concerned just how much improvement in signal the 650 feet of 26-gauge kite-flying wire would provide over our usual daylight DX antenna of 145 feet of 12-gauge wire. Though the kite wire would be significantly longer, it could be expected to have a higher resistance than the 12-gauge antenna. We were hopeful, though, that this disadvantage would be offset by the fact that the kite antenna would be situated at a much higher altitude and, therefore, would be well clear of surrounding obstacles. To get an idea of how good or how bad the kite antenna was, our daylight DX logs, which have been compiled over the past two years using several types of antennas, would serve as a checklist as we scanned the dial. In addition, a Realistic "TRF" located well clear of the kite antenna and operating only on its built-in ferrite loop would provide a secondary comparison.

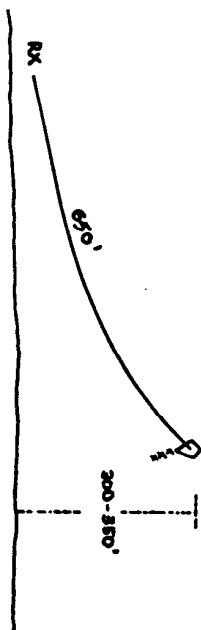
Two kite designs with approximately 30-inch wingspans were tested---a home-made (from 1/4-inch dowels and a plastic garbage bag) traditional, bowed, diamond shape which we dubbed the, uh, "DX Flier I," and a commercially available "delta" design (cost: \$1.25) we called "DX Flier II." The radio used was an extensively modified Realistic "TRF" outfitted with an external antenna tuner. The site of the test was an abandoned helicopter training field located just north of Pensacola proper. Winds that early October day were a fairly steady 8-12 mph from the SSW and the sky was cloudless.

We first tried the "DX Flier I" tethered by a polyester blend of string (\$1.27/500 feet; K-Mart) with the copper wire affixed to the string near the kite body. The combined weight of the string, wire, and over-stated tail (about 15 feet in length) coupled with the relatively light winds made the "DX Flier I" a little sluggish. Removing the string and part of the tail section and allowing the wire to serve as the tether resulted in a much livelier kite. So much livelier, in fact, that upon reaching an altitude of 50 feet the "DX Flier I" returned abruptly to earth, thereby ending its day of testing. (We, nevertheless, think that this design would have worked well had we been able to make adjustments before demolishing it.)



Charlie Barfield optimistically beginning a state-of-the-art launch of the "DX Flier I"

We next turned to the "delta" kite. Although described as a "tail-less" design, we found that a six to eight-foot tail helped the stability of the "DX Flier II" significantly. Using the copper wire as the tether, the "DX Flier II" rose effortlessly and within 10 minutes was at the end of its 650-foot line. The actual height that the kite body itself reached was estimated to be approximately 300-350 feet.



How did the kite antenna do? As you might expect, connecting the 650-foot antenna to the "TRF" resulted in a very large gain in signal strength over the built-in ferrite loop. We used an antenna tuner, remember, but even the very inefficient stock antenna coupling system of the "TRF" would have responded to this antenna. (Incidentally, at our location anyway, the front end of the "TRF" showed no signs of overloading with the kite antenna.) As far as daylight DX is concerned, we were very favorably impressed. While time constraints prevented us from ID'ing every station, a total of 26 new daylight stations were noted during a single dial scan. With Pensacola having just about the worst soil conductivity in the country (and, thereby, a generally feeble potential for groundwave propagation), a 26-station gain to a two-years-running log is much appreciated. The farthest domestic catch, at a distance of about 700 miles, was W0AI-1200, San Antonio, Texas which had never been heard here before in daylight even during the best of conditions. Also noted were KSM-650 and KAAV-1090 (both logged only once last winter) and MSB-750, a mid-winter regular but rare at other times. The remaining 20-odd stations were mostly regional stations located in the Southeast, although a few new daylight Cubans were logged. Comparisons with the second "TRF" were abandoned early on when it became apparent that there were really no comparisons to be made.

While we weren't able to answer all of the questions we had concerning the parameters of kite antennas, we were able to determine that our 650 feet of 26-gauge wire (costing a total of \$6.60) could be sent aloft with a simple kite and that its signal gain would exceed what we were currently using. And with this encouraging finding, a list of successive projects immediately came to mind---multiple wavelength kite antennas (perhaps held aloft by a train of kites); all-night kite flights; steerable kite antennas; and so on. One of the more interesting questions involves whether a Beverage-length kite antenna would exhibit useable lateral nulls (or would the vertical aspect of the antenna totally destroy this directionality?).

Despite their high gain and ease of erection, though, there are a couple of rather significant disadvantages of kite antennas. The first is that you are at the mercy of the wind and its direction. More importantly, however, is that these antennas, because of the height they are capable of attaining, can be dangerous. Of course, you should never fly a kite near power lines, or during stormy weather. And even during cloudless days, static charges can build up and give a severe shock. Therefore, you should always use a ground-keep the antenna grounded until it is connected to the radio (which is also grounded), then ground it again before disconnecting it from the radio. An on-line "fuse wire" probably wouldn't be a bad idea either.

We, quite frankly, initially approached this escapade quite tongue-in-cheek but have decided to continue tinkering around with these kite antennas, so if you have any suggestions (or questions), don't hesitate to contact us.

73's

Gerry Thomas
2385 W. Michigan Ave.
Apt. A-11
Pensacola, FL 32506

Charlie Barfield
917 Fremont Ave.
Pensacola, FL 32508