



The privacy fence also acts as an anchor for one of the legs of the Stealthy Delta.

maple tree is still here and so am I, but I've abandoned my single-wire period and have embarked on the year of the loop. Or to quote Daffy Duck in the memorable cartoon, "I swear, your honor, I will never paint a malicious mustache on a work of art again... *I'm doin' beards now!*"

The Problem Remains the Same

Little else has changed in four years. I still exist on a house lot the size of a postage stamp. The local squirrels have easements written into my deed. I still have a wife who distrusts my every move and despises every antenna I attempt to create. When I wonder aloud about where I can erect my next abomination, her reply is "Cleveland."

I asked Dean Straw, N6BV, our resident ARRL antenna guru, how I could improve my situation. The exchange went something like this...

Dean: Put up a tower and a triband Yagi antenna.

Me: Do these things come with divorce documents?

Dean: How about a 100-foot dipole 50 feet above the ground?

Me: Supported by what two tastefully designed 50-foot objects?

Dean: How about a vertical loop supported by your tree?

That's when the sweatsock-filled-with-nickels-of-inspiration struck me upside the head. How about a loop not only supported by the tree, *but in the tree?*

The Stealthy Delta

A delta loop gets its classy moniker from the Greek alphabet, namely the letter *delta*, or Δ . My Stealthy Delta is a vertical wire triangle fed directly in the middle of its base (see Figure 1). For multiband HF operation the idea is to make the triangle as big as possible. It also helps to keep the base of the triangle about 7 feet or so off the ground.

For my application each side of the triangle is 40 feet in length. Remember that the wire is continuous; that's why they call it a loop. Using our wood privacy fence to hide the bottom wire, I strung the loop out 20 feet to an insulator, up into the tree (to an insulator suspended by a Nylon rope),

down to another insulator on the other side of the tree and then finally back to where I began. Was it a perfect triangle? No. Was it good enough for Amateur Radio and rock n' roll? You bet.

And now that it was strung, how would I feed the Stealthy Delta? I would need an antenna tuner for multiband operation—that much was clear. With the tuner indoors I could use 450- Ω ladder line between the tuner and the feed point of the antenna. In my case, however, the ladder line would have to take a torturous route to reach the Stealthy Delta. It would have to careen through the air and directly over my wife's sacred hedges and rose bushes. That was unacceptable (to her, anyway). The alternative was to use a substantial length of buried coax, but coaxial cable is much too lossy in the face of the high SWRs that would exist between the antenna and the tuner.

If the mountain will not come to Mohamet, Mohamet must go to the mountain. Or putting it in a ham context, if the antenna will not come to the tuner without unacceptable feed line loss, the tuner must go to the antenna. Borrowing an idea from my "One Stealthy Wire" article, I invested in a new SG-237 remote automatic antenna tuner from SGC Inc (www.sgcworld.com). I installed the tuner at the feed point, hiding it behind the tree trunk, and ran direct-bury coax and a power cable all the way back to the station. I buried most of the wires, except for a short run up the side of the house and into the guest bedroom window.

How Does it Work?

The SG-237 is RF activated. You transmit and it finds a low SWR within a few seconds. That low SWR is achieved at the antenna. With the good-quality coax I used between the tuner and my radio, feed line loss was kept to a minimum (a little over 1 dB on 6 meters and much less on lower bands). With my Stealthy Delta the SGC tuner can find an acceptable match with an SWR less than 2:1 on any amateur frequency from 80 through 6 meters. If I had erected a somewhat larger loop, I probably could have operated the antenna on 160 meters as well.



The direct-bury coax makes a discreet jaunt into the bedroom window.

In terms of performance, the Stealthy Delta is definitely superior to my single stealthy wire. Even on 80 meters, where it is way too short, the loop surprised me. During a recent RTTY contest I made several contacts into Europe on 80 meters, which I've never done before on RTTY from home. On 40 through 10 meters I consistently receive strong signal reports. I worked the XRØX and TI9M DXpeditions on RTTY after just a few calls and even managed to get through the pileup to work the PWØT group on 15-meter SSTV. Not bad for a wire triangle.

And best of all, the Stealthy Delta is very stealthy indeed. The tree camouflages most of the antenna. The photos that accompany this article were shot in March when the tree was bare and yet the antenna is very difficult to see. Just imagine how invisible it is when the tree is in bloom.

Will I stick with the Stealthy Delta? Certainly...for now. I can't beat the performance and convenience, but I'm sure I'll eventually think of something that will. Some day my "loop period" will give way to some other source of annoyance for my wife and child...

"I swear, honey, I will never erect another diabolical delta...*I'm doin' rhombics now!*"

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