

## Product Review

### Compact antenna

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What can an Amateur Radio operator do when deed restrictions prohibit an antenna? Or when the presence of an antenna causes neighbors to conveniently blame every occurrence of TVI on the ham? Or when the XYL says the antenna farm is going up over her dead body? I've experienced problems with all three of these scenarios. I presently live in a subdivision that prohibits large antenna arrays, and if I could put one up, there would be major domestic war at my QTH. My XYL has her good reasons for feeling the way she does, because at a previous QTH we had a neighbor who visited us, almost as regularly as the postal carrier, complaining about TVI. At first, when I had a dipole which was hard to see from a distance, I had nary a complaint. But soon after I erected a more visible vertical, this particular neighbor was over complaining that I was ruining her TV. Interestingly enough, many of her complaints came at times when I wasn't even on the air, and once when I hadn't even been home. But because I had an antenna in my back yard, my hobby became the scapegoat for every passing airplane or CBer.

When I decided to get back on the air recently, I knew I was going to have to come up with an antenna that was inconspicuous. I'd seen many advertisements for compact antennas, but I was skeptical. In fact, while living in an

apartment years earlier, I had tried one of the so-called miniature antennas and found it sorely lacking. So I was hesitant to go that route again. Then, through the grapevine, I heard about a "flagpole vertical." I talked to a ham who was using one, and I got glowing reports. I wrote to the company immediately, asking for literature and current prices. No reply. I wrote again, and still no reply. In fact, two years later, I'm still waiting. Apparently they have gone out of business. So, back to square one.

About the same time, I spotted a review for the "Isotron," a compact, albeit radical design in antennas, and wrote for literature. When I received the information, I decided this could be the answer to my problem. The Isotron, developed by Ralph Bilal in Florissant, Colorado, comes in several different versions, one for each band from 160 through 10M (including an 11M version). Since I am a 20M fan, I shipped off a letter to Ralph requesting the Isotron for that band.

When I arrived home from work one evening a week or so later, an extremely lightweight box was sitting on my front porch. I opened it up and was amazed at the small size of Ralph's creation. The 20M Isotron measures just 21×8×4 inches. The total weight is less than three pounds.

I decided it was time to try this miniature marvel out and see whether it would live up to my expectations. I read the instructions several times until I was reasonably sure that I understood how to erect and tune the antenna. There's nothing more frustrating than putting something together and discovering you have done it wrong because you missed a key word or phrase (or neglected to read the instructions at all).

Ralph's instructions are pretty straight forward, and I tried out the tuning procedure several times on the ground before erecting the antenna. I decided on a chimney mount using a set of straps I had picked up at my local Radio Shack. I also picked up a sufficient length of their RG-8U coax cable, making sure that it was the new version with the improved shielding. The antenna went up with little difficulty and a minimum of time. With the help of my son, KA8UGL, we tuned the

Isotron to the section of the 20M band that I decided I wanted to work. In less than two hours (and part of that time was spent installing the mast on the chimney), I was ready to go on the air. For purposes of testing the antenna, the XYL gave me temporary permission to erect a reference dipole for comparison.

As I tuned around on 20M, I was amazed at what I heard. While I had had high hopes that this tiny little antenna would work, the logical part of my mind had told me that it wasn't possible. Yet this little mite was pulling in stations. Time to call CQ. I tuned up on SSB and gave a call. To my great delight, I received an answer from Jim, WB4SXR, whose QTH is in Bristol, Tennessee. Jim was mobiling home from work when he heard my call. When I described the Isotron to him, he marveled at my S-7 signal. He waited while I switched to the dipole and then had to admit that my signal had gone up to an S-8, but the results were still pleasing. I could live with one S-unit for an antenna that was the size of one element on my TV antenna.

After signing with Jim, I called CQ again, and this time N4CYJ returned my call. From his maritime mobile on the Potomac River, Bill gave me a reading of S-1 to S-3. Switching to the dipole didn't help much. Perhaps conditions were deteriorating. So, with the dinner call sounded, I decided to shut it down, relatively satisfied with my first results from the Isotron.

A few nights later, when work and family schedules permitted a little time at the rig, I decided to try CW. I found an empty spot on the dial and called CQ. Lo and behold, WA2JND returned my call. Jack told me that my signal was registering 599 in Schenectady, New York. The dipole got the same reading. This new antenna was going to be fun!

My next contact was in the other direction. Again on CW, my CQ went out into the ether and was answered by WN0M, Jerry. He told me that I was a 589 in Grand Island, Nebraska. When I switched to the dipole, Jerry read little difference.

Another CQ pulled in KB4BFM in Virginia. Louis gave me a 579 signal report from historic Williamsburg. When I switched to the dipole, my signal went up slightly, but hardly enough to get excited about. I was becoming sold on the Isotron.

My next CQ netted a signal report of 599 from N5LDX, Gene, in Dallas, Texas. He became very interested when I told him about the Isotron. Gene and I tried a comparison with the dipole and, once again, noted little difference.

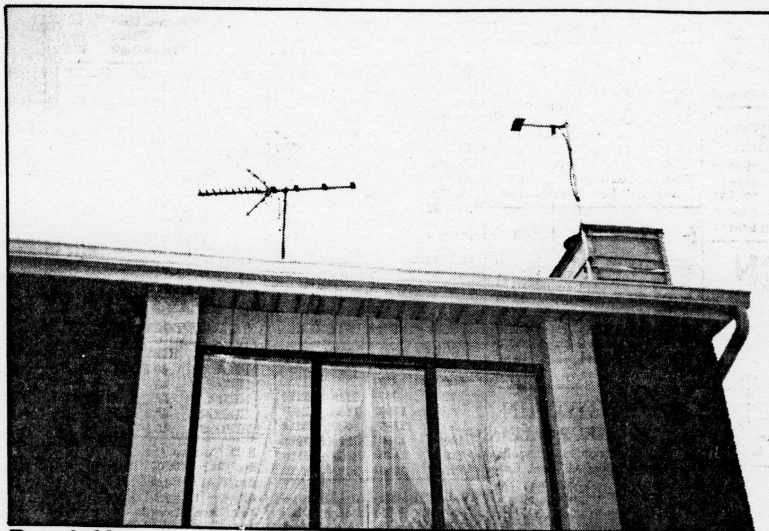
Over the next few evenings I continued giving the Isotron a workout. One evening I heard a TF calling CQ. I haven't worked much DX in a while, so I had to look up the prefix. Iceland! Wow! I was pretty excited to hear the Isotron pulling this station in. Unfortunately, a lot of other people were excited, too, and I got lost in the pile-up. Still, I was impressed that I was pull-

but it's still a far cry from the amount of space you would need to run dipoles on those bands. The 160M model, for example, measures a mere 22×16×15 inches. Bilal even has a special combination price on the 80 and 40M antennas which you can mount back to back using one feedline.

I mentioned the low price of these antennas. They range from about \$30

for the 10M version to about \$65 for the 80M antenna (plus a modest shipping charge for each antenna). The 160M version runs about \$150. But consider that the 160M Isotron replaces a lot of high priced real estate where you would need to construct a 160M dipole. All the antennas, which are warranted against defects in material and workmanship for a period of one year, are available directly from the manufacturer. Write Ralph Bilal at Bilal Company, 137 Manchester Drive, Florissant, CO 80816 for an illustrated brochure on these amazing antennas. He'll probably also include copies of other reviews that have been published about the Isotron.

Any of these antennas would be an ideal solution for the apartment-dwelling Amateur, and I think they would also bear a serious look from clubs or individuals who enjoy Field Day. Their light weight and trim size makes them ideal for Field Day type conditions, and the 10 through 20M or 40/80M combinations can go up on a single mast. Another likely use would be for the motor home or weekend cottage user who wants an inexpensive, easily transportable antenna. All in all, I'm impressed by these antennas. Whether you enjoy CW or SSB, the Bilal line deserves serious consideration if you're in the market for a compact, serviceable HF antenna. □



Dwarfed by a small TV antenna, the 20M Isotron attracts little attention, but it gets big results on the air.

ing in a signal from Iceland. Then I heard a VE7 calling and was pleased to have Frank in Victoria, British Columbia, come back to my call. Now, Victoria is no short distance from south central Michigan, and Frank gave me a 579 signal report on the Isotron. A switch to the dipole only raised it to 599.

I've had a lot of fun with the Isotron, working New Brunswick, Long Island, New Jersey, Vermont and others. I highly recommend this antenna, and I have plans to try the 10M and 15M versions soon. Since my younger son plans to get his Novice license soon, I may add an antenna tuner so we can use all the bands. The 10M Isotron is slightly shorter, measuring 16 inches in length. The 15M antenna is the same length as the 20M gem but with a slightly smaller profile. Ralph Bilal says you can stack the three on one mast using a single feed line. While I haven't seen the three together, I can imagine that even this array would not cause any kind of an eyesore in any neighborhood and would have the added benefit of little wind resistance.

Bilal Company also makes 40, 80 and, as mentioned earlier, 160M antennas. The configuration is slightly larger than the higher band antennas,