

## You Can Bet on This Bob-Tail

**4**0 meter DX has really been hot so far this season, but I have not had a lot of success working into the Pacific area in spite of having a full wave 40 meter loop aimed at VK. A thorough examination of the loop did not show up any faults, and replacing the feed line did not improve things at all. I decided to try a different antenna on 40 and looked around for something I could put up without a lot of trouble.

If you'll recall, I recently told you about Dave Ingram's new book *33 Simple Weekend Projects*. One of the projects mentioned was a modified bob-tail antenna. It is a very simple antenna to build, so I decided to try one for 40 meters.

The results were really spectacular! The first weekend I worked 12 VK and nine ZL stations. Switching back and forth between the loop and the bob-tail showed a difference of at least two S units in favor of the bob-tail, and several times signals that were barely readable on the loop were S5 or better on the bob-tail.

I had tried a full size bob-tail on 20 meters many years ago and while I thought it to be a decent antenna, it did not outshine a pair of Lazy H antennas that I normally used for chasing DX on 20. In truth, a Lazy H with the

bottom located one-half wavelength above ground just might be a better antenna on 40, but that's getting BIG!

The modified bob-tail is simply a half-wave long wire with two quarter-wave vertical sections on each end. The antenna is fed at the junction of one quarter-wave section and the half-wave flat-top, see fig. 1.

My particular antenna goes from the top of a 48 foot tower to a tall walnut tree; it is fed at the tower end and that particular vertical is angled away from the tower at about 20 degrees and tied off; the other vertical section drops straight down and is about 15 feet above ground.

I have used this antenna on all bands except 160 and find it works well on the other bands when used with a transmatch. Of particular interest is the fact that it outperforms my 17 meter two element yagi most of the time, and does the same super job on 30 as it does on 40. Eighty meters surprised me, as my first contact on this band was with a WA7 in Washington state who told me I was the only East Coast station he was hearing (not bad for a 40 meter antenna)!

One problem encountered with this antenna is that when cut to formula the antenna was resonant at 7.5 MHz and I had to add 2 ft.

5 in. of wire to each vertical section to bring resonance to 7.1 MHz. This may be due to the proximity of the feed end to just a few inches from my metal tower.

If you are looking for a good, easy-to-build, inexpensive antenna try a modified bob-tail; I think you will like it!

### ■ Building and Using Baluns and Ununs

*Building and Using Baluns and Ununs* by Jerry Sevick, W2FMI, describes baluns and ununs thoroughly and is easy to understand. Baluns and ununs are used to match the impedance of feedlines to loads (antennas).

Everything from the basic 1:1 balun to more advanced devices are discussed, along with construction techniques and applications for the devices. Several multiband antennas and their attendant matching systems are fully described as well as several other antennas.

Using this book, I built a 9:1 balun for use with a T2FD antenna that a friend has been using for several years. Normally fed with 450 ohm line and a transmatch, the T2FD is a formidable wideband antenna, but does require retuning for each band. After adding the 9:1 balun the T2FD performs on 40, 30, 20, 17 and 15 meters without tuning! I will describe this antenna and its construction more fully in a future column.

This manual is available from *CQ Magazine* at a price of \$19.95 plus \$4 shipping and handling. Their address is 76 North Broadway, Hicksville, NY 11801.

### ■ On the Bands

As mentioned earlier, DX has been extremely good so far this season. All continents (except Asia) and about 30 countries have been worked from this QTH on 20 and 15 meter SSB while running 1 watt or less of power. 12 meters has been wide open most days and ten is showing its stuff with lots of openings to the Pacific and South America.

You may be happy to know a new computer is sitting in the N3IK ham shack, and by next month an email address will be available for those who can't wait for the US Postal service to exchange letters with me. Check the *MT* home page for staff email addresses to get the new address even earlier.

That's all for now gang, keep the letters and cards coming.

FIG. 1

## MODIFIED BOB-TAIL ANTENNA

