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Long, Short and Shorter Antennas

You may have heard the old-timer's antenna rule that says that the longer and higher you site your HF antenna the better will be your reception. Generally speaking, this is true, but we live in a practical world and make antennas of practical lengths and heights. So, even when you can't put up the longest and highest antenna imaginable you can still usually get a lot of good communications going with shorter antennas.

This month we review a very short antenna, the Funtenna by Comm-Rad Industries; a short antenna which is long compared to the Funtenna, the 40 ft. Palomar White Box Antenna; and also give simple plans for making a longer antenna (hundreds of ft.) that has been a favorite monitoring antenna of mine for years.

Most antenna designs seem to do a decent job of filling the niche for which they were designed. But it is very important to keep in mind the phrase "the niche for which they were designed." A small table top antenna is not built to compete with a longer, higher outdoor antenna. For shortwave monitoring we are usually well advised to put up outdoor antennas, but for most of us our antennas are compromises between what we'd like to have and what we actually have time, space and money to acquire.

The Funtenna

The Funtenna is designed to sit on the table beside the receiver and can be used whenever you cannot put up a longer indoor or outdoor antenna. This antenna has a plastic dome-shaped base approximately 11" wide at the bottom, 8" high with its whip collapsed and 43" with the whip extended. This size is comparable to many active antennas; however, the Funtenna is passive (no amplification) rather than active in design. Thus it has much less gain than an active antenna, but it also will not be troubled by amplifier overload problems such as intermodulation distortion (intermod) or desensitization.

Covering a frequency range of 6.8 to 90 MHz, the Funtenna provides reception of signals arriving at your monitoring post with moderate to strong signal strength. When I compared its HF performance to that of an 8 ft. wire strung from the ceiling to the receiver the two antennas performed at about the same level; sometimes the Funtenna gave better results on a specific signal, sometime the wire was better. Similar results were obtained on VHF using a 4 ft. piece of wire strung up the wall above the radio; sometimes the Funtenna gave a better signal, sometimes the wire was best.

The Funtenna is equipped with a bandswitch which must be turned to a position appropriate to the received signal's frequency. The manufacturer indicates that further "fine tuning" is possible by varying the length of the whip; however, I was not able to improve signal strength by this method. On the HF band the Funtenna provided many listenable signals. On VHF there is not much activity in my area in the 30 to 90 MHz portion covered by this antenna; however, I did monitor a number of what appeared to be telemetry signals and steady carriers. There are no TV stations in my area in this portion of the band. However, the antenna performed satisfactorily on the entire FM band (88 to 108 MHz).

Funtenna is available from Comm-Rad Industries, 4230 East Lake Road, P.O. Box 88, Wilson, NY 14172 (phone 716-773-1445) for $79.97.

The White Box

Palomar Industries manufactures the model WB-1 "White Box" antenna, a 40 ft. stranded, copper-covered steel longwire which utilizes a magnetic longwire balun. They also manufacture the MLB-1 magnetic longwire balun separately which can be used for constructing your own White-Box type antenna.

I was sent a WB-1 for evaluation and, although this is an outdoor antenna, I initially tested it by laying it out on the ground floor in my wood frame house. It did a fair job in this position, outperforming a table-top whip antenna and a shorter (8-ft.) indoor wire antenna. The antenna was then mounted outside as the manufacturer recommends. In my installation the far end was about 30 ft. off the ground and the feed end about 4 ft. off the ground. The White Box proved to be an excellent performer, bringing in many readable signals from 100 kHz to 30 MHz.

A particular virtue of the White Box Antenna is that it allows the use of coaxial cable lead-in. Although the wire element can be connected directly to the antenna input of your receiver without use of a lead-in, it is usually desirable to have the active element stop some distance from the house and feed the signal from antenna to receiver with coax. The coax shields the signal from the high level of electrical noise present near most buildings serviced by electrical power lines. A coax lead-in can provide reduced received noise and considerably improved weak-signal reception.

The White Box antenna is available from Palomar Engineers, P.O. Box 462222, Escondido, CA 92406, phone 619-747-3343. The MLB-1 magnetic longwire balun is $39.95 plus $4.00 shipping/handling.

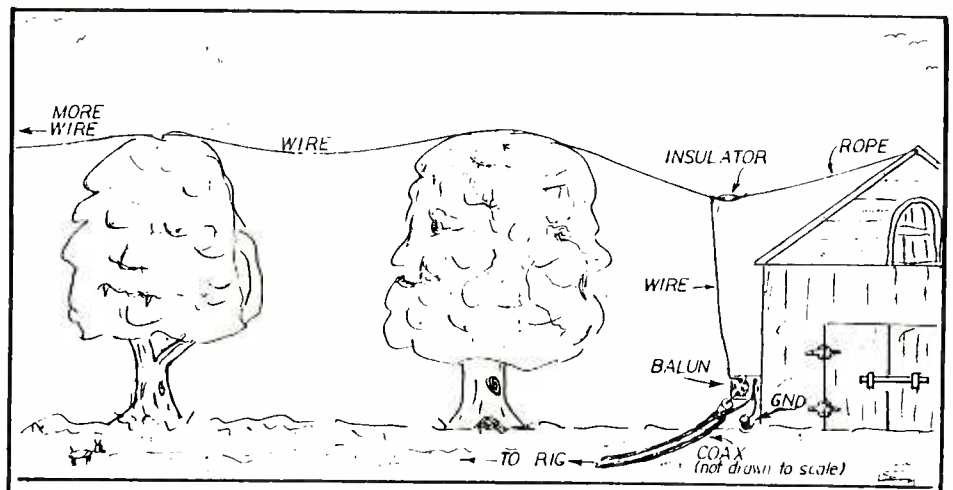

FIG. 1. A BALUN-FED, LONG-WIRE ANTENNA.