

# SOME THOUGHTS ON A SUBTERRANEAN ANTENNA SYSTEM FOR BCB DX'ING

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Having moved into a new home this year I was afforded the opportunity to set up a whole new antenna system. As I listen to frequencies as wide ranging as 500 KHZ to 30 MHZ I needed an all purpose antenna. Upon moving into the house I put up a long wire in the basement to use until time and the weather permitted me to work outside. After a delay longer than I had planned I was able to put up an outside 140 foot longwire. It worked very well, in fact too well below 2 MHZ as I had very large problems with over-loading and spurs and birdies and all manner of images that I did not need in my life. Now I had been using the indoor wire and had not experienced these problems as badly as with the new outdoor antenna. I decided to do a bit of experimenting with the two antennas and even threw in my 3 foot passive loop to keep things confused. All three were put into an antenna switch so I could do instant comparisons of the frequencies I was listening to. I noticed several things:

- 1- The 140 foot outdoor long wire gave me the strongest signals.
- 2- The 140 foot outdoor long wire gave me the most images and spurs.
- 3- The 100 foot indoor long wire gave me signals that were about 3 S units lower than the outdoor antenna. ( I used the S-meter on my R-70 as a unit of measure.)
- 4- The 100 foot indoor long wire had very few if any images or spurs until the sun was fully up.
- 5- The 3 foot loop had the weakest signals of all but did allow me to null out stations and was more useful in pulling out stations that were weak.
- 6- That the 100 foot indoor long wire is very good on the graveyard frequencies where the directionality of the loop is not always a big factor.

I will at this point mention that neither the 140 foot outdoor nor the 100 foot indoor long wires are straight. The outdoor wire is a "U" shaped antenna that is about 18-20 feet off the ground. The basement wire is a 100 square shaped antenna. It is wound around the entire outside wall of the basement. I built it in the following manner:

First of all I attached a coax connector to a 10 foot length of 50 OHM coax. I always use at least 10 feet of coax to feed any antenna to shield it from all of those wonder city noises we are prone to. I then started to run the wire ( I used plain old lamp cord about 18 guage coated ) around the basement. I attached the two wires from the lamp cord to the center of the coax. I attached nothing to the coax's braid as I found that it cut the signal strength by about 1-2 S-units. I used a staple gun to staple the wire to the floor joists as I ran the wire around the basement. By around I do mean around as the wire starts and ends in the area of the basement that my equipment is in.

Now I am sure that the antenna isn't perfect. Far from it but it does an adequate job and is very cheap. Also to my wife's delight it is almost invisible. I have two other thoughts about such an antenna. First of all it might work well outdoors if it were to be buried under the lawn. I at this time have no intentions of digging up my new lawn as I have put too darn much work into it. You would however have to use a wire that could be buried and be water proofed so as not to rot or short out.

The other idea and it is one I may try out this winter is to leave a length of wire on the ground in late fall and allow it to be buried by the snow. This wire would also have to be coated so as not to short out. Since prime DX time is the winter why not let Mother Nature do the burying for you. As for you people in warmer climates that don't see snow I suppose you will have to dig just like we do after it snows. It will make us even.

I hope that this short little piece proved to be, if nothing else, food for thought. I am not big on theory nor do I have a background in electronics but over the years I have found antenna building to be a "Black Art". That is to say it may work for you for reasons beyond explanation but it won't work for others. You will just have to try experimenting to see what works for you. Have fun and good DX.