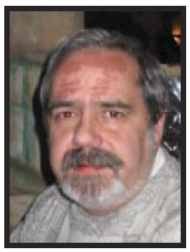

Beginner's Classroom

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This column attempts to explain some aspect of our hobby each month. The subjects may be technical or they may concern such things as DX practices and traditions. Suggestions for topics are always welcome.

BEGINNER'S CLASSROOM FOR SEPTEMBER 2011

ANTENNA BASICS (Part 1)

There have been a few e-mails and questions circulating again about what type of antenna to use for various bands in different home configurations, so I thought it would be time to revisit basic antennas and antenna construction so that they could be ready in time for the winter listening period. This month we'll look at SW, MW and LW antenna basics, and next month we'll look at antennas for FM, TV and Scanning.

Many different types of antennas can be utilized in shortwave radio listening. One of the most common is a longwire antenna, where one end of a long copper wire is attached to the receiver, and the other to some point inside or outside the home. The antenna can be directly connected to the receiver via coaxial cable connection, to a direct wire receptor, or attached to a telescopic antenna on the radio. The far end can be connected via a insulator to a fixed position outside the dwelling, such as a high fence, pole or a tree, or inside to a metal window or metal frame, thus making the metal part of the antenna construction.

Some hobbyists use a variance on the longwire antenna. This can take the form of an inverted-L or -V, where two wires are connected via a central point down to the receiver in the shape of the above-mentioned letters. Instead of copper wire, sometimes listeners use metal slinky toys as their two sections of antenna -- it works quite well, as I have used this configuration for a number of years.

An extremely longwire antenna that can be constructed when a listener has lots of room outside to lay down wire is called a beverage antenna. (This is not to mean the antenna is a beer, or iced tea, or coffee, but is named after the inventor of the antenna style, Harold Beverage!) The advantages of a beverage longwire is that it does not have to be high off the ground if the

wire is in excess of about 250 feet or more, and is directional in the two directions of the antenna, while other longwires are not so directional.

The other type of antenna the is utilized by people who are hampered by space considerations is an active antenna. This type of antenna resembles a whip (or a flyswatter, if you have ever seen the old Sony AN-1), and has an amplifier within its construction to help bring in signals. Because of its compact nature, it is sometimes the preferred type of antenna used in apartments or condos, in a vehicle, or in places where a wire antenna is not a viable option. Many radio stores such as Durham Radio and RadioWorld carry this type of antenna.

For mediumwave reception and for some tropical band SW reception, a loop antenna is best. A loop is basically a number of turns of copper wire, configured in a square, diamond or cylindrical shape. The wire is connected by a variable capacitor, which helps in tuning the antenna to an optimum frequency for best reception. That, in turn, is then connected to the receiver. There are a number of construction ideas for loop antennas in various books and Internet sites, such as Joe Carr's antenna books, and web pages such as www.dxing.com/tnotes.htm, where Joe's tech notes are given. The last two articles involve loop antennas.

If you do not have a loop, a longwire may be of help in MW reception, but normally you should be able to use the ferrite loop that is built directly into many portable receivers. A ferrite loop is a small rod of iron compound upon which copper wire (usually) is wound. The tuning capacitor for the receiver is also connected to the loop, so that it allows for optimum reception at whatever frequency to which the receiver is tuned. If your receiver does have an internal loop, keep your telescopic antenna down when listening to MW.

Longwave reception presents another series of problems. First of all, the best time to listen to LW (between 150 - 500 kHz) is during the Fall, Winter and early Spring seasons of the year. There are still a number of stations broadcasting on LW from various parts of Europe and North Africa, so there are indeed transmissions to be heard in this part of the radio spectrum. The best type of antenna to use in this case is either a good longwire or loop antenna (the loop style seems to be preferred by a number of LW listeners). You also need a lot of patience, and some good propagation or ground wave conditions. If you would like to learn more about the world of LW listening, including some ideas for antenna construction, you can go to the Longwave Club of America’s website at www.lwca.org.

That`s all for September. Next month we'll have a look at antennas for use in FM, TV and Scanning. Until October, cooler weather, and hopefully more listening time....

73, keep smiling and keep listening,
J O E