

Low Tech Fox Hunting

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There is lots of information on direction finding and fox hunting using beams, loops and Doppler systems. What is not so easily obtained, is information on how to find a transmitter when you don't have the special equipment. I feel this is much more important than how to build, buy and use the special equipment.

If an occasion should arise where it becomes necessary to find a transmitter and it is not a planned fox hunt, chances are you will not have the special equipment with you. In this situation it will probably not be convenient to go home and get it, or by the time you do go home to get it the situation may no longer exist. Another words when a real need arises where a transmitter must be located, typically time will be limited.

The following is referenced to finding a signal on the 2 meter band but you can use the same process to find a signal on other frequencies.

Equipment Needed

The equipment you need for this type of fox hunting is what you have on hand. First is a radio with a signal strength meter and second is some small wire and a way of cutting the wire and third is an understanding of how your surroundings may affect a signal.

The first thing you have to understand is that the signal strength meter does you no good if the reading is full scale. When this happens you have no indication how close or how far you are from the source. The meter must always be reading on scale. When you get closer to the signal you must make adjustments to reduce the signal so that it is on scale. Here are some of the ways you can accomplish this.

Remove the antenna and replace it with a short piece of wire of perhaps 1 inch long. If the signal is still to strong you can cut the wire shorter and finally just use the radio with no antenna at all.

If further reduction is necessary adjust the frequency to one side or the other of center frequency. If the signal is on 146.500 MHz adjust your radio for 146.505 or 146.495. You can adjust it even farther off frequency if necessary.

The Process

When you start looking for the signal use only enough antenna to get the signal strength on scale on the meter. Look around for a large building that you can circle. Walk around the building or drive around the building while observing the signal strength. You will find that the signal will be strongest on one side of the building verses other sides. If you don't see much change you may be too far away from the building. Start driving or walking in that direction while looking for the signal strength to increase. The signal strength will bounce around as you move so average the readings you get while moving.

If you are in a hilly area and the signal is on the other side of a hill, the signal strength will be weakest when you are on the side of a hill away from the source. It will be strongest when you are on the side of the hill toward the source. The signal at the top of the hill will not be as strong as the signal on the side of a hill. As you drive be aware also of hills on the side of you that may affect the signal.

As you progress the signal should increase to a point and then as you begin to get farther away it will again decrease. When you are sure the signal is decreasing go back to the point where it was strongest. Again determine which direction the signal is coming from now. Start traveling in that direction while observing the signal strength on the meter. At this point you should have decreased the antenna size substantially to keep the signal on the meter. You are getting closer and smaller objects can now block the signal so you can use a metal sign, a truck, a car or even your body to shield the signal and determine which direction it is coming from. Large objects are required to block the signal at a distance while, smaller objects work well as you get closer.

As you search you should never have to add more antenna because the signal is weak. If the signal gets weak to the point where you can't hear it anymore go back to a point where you were able to hear it and go in a different direction. Never add antenna only remove it when the signal gets strong.

When you get to a point where the signal is full scale with no antenna and the radio is 10 kHz off frequency, be careful, you are standing on the transmitter.