The Elmers Corner: Emergency Preparedness Part 2
Robert AK3Q

Transmitting Radios

Let's start with hand-held radios (HTs) since they are the usual first choice for local emergency work. Their strength is size, portability, and low power consumption. Their weakness is the stock. When repeaters are active in your area an HT can be one of the best choices for emergency work. When local repeaters are down, the situation can be quite different.

I am going to assume you know how to use your HT (or mobile radio) for the basics, and so will not go into that here. Several aspects of your HT radio should be second nature to you, but likely is not. First, you need to know how to quickly enter in a frequency by hand to any emergency radio in use.

Emergencies tend to be very fluid environments to say the least, and you never know when you will need to work your radio on a simplex frequency, or even when you will need to use an unfamiliar repeater. Another thing which you need to know is how to program in the settings for tones or for CTCSS/DCS codes, especially if you need to isolate some conversations from others.

You should also be familiar with writing to the radio's memory since you may need to switch back and forth between frequencies rapidly, especially if there are multiple nets going for different aspects of an emergency. If you are familiar with the *Incident Command System* (ICS) commonly implemented by emergency services around the country, then you will know there may be nets for operations, logistics, and even public relations. Or you may be in a situation where you are acting as a liaison station between two nets because of your location.

While knowing a system's memory programming steps might seem like something everyone would know, the fact is many folks set their memories and forget them (a lot like people do in day-to-day life!). Practice entering memories, deleting them, and searching them so that the radio's functions become instinctive to you.

Speaking Clearly

While this might seem like an odd topic for a radio group, let me assure you it is not. Speaking clearly involves not just the speech which comes out of your mouth (excited and/or loud speech is often unintelligible over the air), but also knowing where to hold the radio/microphone to get the clearest speech. While every radio is a bit different, several things are common to all radios.

First, avoid having the radio too close to your mouth. A lot of distortion can be introduced into a signal if you are right up on the microphone. It might look cool in the movies, but it does not work in real life.

HT microphones, and mobile microphones to a lesser extent, are designed to be sensitive and yet selective at the same time. Too far away and the audio is hard to copy; too close and a lot of modulation becomes garbled and very hard to copy. Every radio/microphone combination has its sweet spot, so learn where yours is for each radio in use.

Second, many HTs are now being made to withstand rain and being submerged for a few minutes, and the manufacturers have taken steps to protect the radio from water getting inside and messing up the electronics. What this means for speech is that there is often a cloth covering over the microphone hole on an HT which can reduce the audio.

While this can be an issue, I have found the problem is usually operator error in that the person either does not know where the microphone is placed on their HT, or they are holding the radio too far away from their mouth for effective pickup of the signal. Again, knowing your radio's capabilities **before** an emergency hits is the best defense.

If you are committed to emergency communications you will take these things seriously and practice regularly with your amateur equipment. It wouldn't hurt a bit to become comfortable with using your rig in the dark, since this could easily be a situation you might face.

Finally, speaking across the microphone rather than directly into the mike may give you a much more intelligible signal. Work with a few other hams in your area whose judgment you trust, and test your setup and method of operating. Offer to do the same for them and everyone benefits.

Keep in mind when someone is in the midst of an emergency little things are forgotten, and the surroundings are likely to be noisy. Clear, calm speech properly presented into a microphone close, but not too close, can really aid communication as well as avoid precious minutes having to repeat information.

Headsets/Speaker Microphones While adding anything to your basic HT can complicate operation, you may want to look into adding either a speaker microphone which you can clip on your shirt (much like what police officers use), or a headset with a boom microphone. Some of these headsets work in

VOX mode, while others have a transmit button located along the cord which can be placed conveniently where needed.

The biggest advantage to these accessories is that they allow you to keep receive audio close to your ear since you may be in a noisy location. They also allow you to keep your hands free until you need to transmit. While some units will work in VOX (voice activated transmission), unless you are in a location where the VOX will not be triggered by various noises, you are better off with an on/off setup, such as a foot pedal.

HF Radio Options

HF radio options complicate things a bit simply because the bands you are likely to operate on require antennas which are often more complicated to deploy. NVIS (*Near Vertical Incident Skywave)* antennas are a good option for 40/80 meters, and while a compromise, hamsticks or Buddisticks are fairly easy to deploy as well.

20 meters through 10 meters is almost useless for typical local emergency operation, and 40 meters may be likewise difficult depending on the time of day and season of the year. HF signals rely on atmospheric reflection/refraction, and most signals will bounce over your intended target.

However, and I stress this strongly, if the best you can do is to get a signal out on 20 meters, do so! Others with more options/capabilities can act as relays. Many seafaring rescues have started with someone hundreds and even thousands of miles away receiving a distress call and relaying or calling in help to the local area.

The best HF antenna for local emergency work is an NVIS antenna as they are easy to deploy, easy to build, and easy to keep on hand (even in the car). Again you will have the best luck on 40- and 80-meters, but make a contact wherever you can! Here again practice and preparation will pay off. God willing we will never need to use these tools for actual emergencies, but we will be prepared!

Final Thoughts

While it may seem like I am anticipating nightmare scenarios, I am really not a doom-and-gloom person. Sadly, sometimes storms (and man-made disasters) take days and even weeks to resolve, as hurricane Sandy showed us all. You never know how long it is going to take for power to be restored, or for help to come. When faced with the actual situation all you can use is what you have. While you cannot prepare for every emergency, you can certainly try to anticipate what you might need for a few days or a week of having no power or traditional means of getting a message out.

Hopefully, your preparedness will allow you the honor of helping those who are also in need, as well as your family. The better prepared you are, the greater your impact will be in the lives of others.