

Emergency / Public Service Communications

Setting up a command post

1. In ham radio the antenna is the most important piece of equipment.
 - a. A base station antenna works best.
 - i. I use a discone antenna that has a cinder block base, is about 10 feet tall and requires no tools to set up. And it fits in the car!
 - ii. The DVRA also uses a ground plane antenna that can be put up to 20 to 30 feet.
 - iii. A j-pole would work well too - no ground plane required.
 - b. A mobile antenna works well too. It is possible to use a vehicle as a command post.
 - c. HT rubber duck antennas are notoriously bad but will work over short distances. Try to use a mobile antenna or something like the MFJ pocket j-pole antenna - no ground plane needed.
 - d. Don't forget cable, connectors and adaptors - sma, bnc, pl-259, N and some basic tools.
2. A mobile rig works fine. You usually need just 5 watts to access a repeater or be a simplex base station.
3. What to use for a power supply?
 - a. Ideally you would have access to 120 volts from a regular outlet so you would need an extension cord and 12 volt power supply with adequate current capacity.
 - b. A generator will work but you must allow for the noise.
 - c. A deep cycle 12 volt battery. Check your equipment to make sure it will work at 12.4 volts or so. A lot of rigs want 13 volts or more. There is a product called **Battery Booster** which provides 13.5 volts at 30 amps from a 12 V battery.
 - d. Don't forget spare fuses and any adaptors that might be needed.
4. Workspace:
 - a. Table.
 - b. Chairs.
 - c. Canopy or tent to protect from sun/rain.
 - d. Work from inside a vehicle.

Operating the Command Post

1. The command post is usually set up on site but may be remote from the activity.
 - a. Try to have more than one operator at the command post. There is usually a lot going on and one person can be overloaded operating the radio and handling the logistics.
 - b. Use a sign in sheet to keep track of the volunteers.
 - c. Make maps and note sheets ahead of time. List the check points and stations along the route. Keep track of who is operating where and notes about the site.
 - d. Use tactical call signs but remember to follow FCC rules and identify every ten minutes or at the end of your transmission - not the end of the event.
 - e. Two meters is still the most common frequency to use but as long as everyone in the group has the same band it doesn't really matter.
2. Run a directed net.
 - a. All traffic passes through a net control station.
 - b. Keep transmissions short. You never know when someone may have an emergency.
 - c. If you need to contact another station, ask for permission from net control.
 - d. Avoid radio lingo. Use plain English. Sound professional - you never know who may be listening.
 - e. Stations should call net control and wait for "stand by" or "go ahead" before sending your traffic.
 - f. Formal or tactical traffic?
3. Repeater or Simplex?
 - a. Use simplex for events in a small area such as a park.
 - i. Its more private and doesn't tie up the repeater.
 - ii. Some people never operate simplex and need the practice.
 - b. Use a repeater for events that cover a large area.
 - i. Check HT coverage for the area you will be in.
 - i. Have a backup plan if the repeater fails.

In The Field

1. Be prepared:
 - a. Make sure HT batteries are charged and will hold a charge.
 - b. Check all your equipment the day before the event.
 - c. Bring your own water, snacks, chairs, sun screen, hat, umbrella, bug repellent etc.
 - d. Clipboard to take notes.
 - e. Radio manual. You do remember how to program that rig don't you?

2. What type of coverage to expect:
 - a. HT to HT communications are good for about 1 to 2 miles at a half watt. Five watts will get about five miles. This assumes no obstructions. In the city this might be only a few blocks. This works fine at the Alzheimer Walk in Veterans Park in Hamilton.
 - b. With a 5 watt radio and base station antenna we can easily communicate over a two mile radius to half watt ht's in Mercer County Park. This also works for the Diabetes Walk in downtown Princeton.
 - c. 5 watt Hts and the DVRA repeater work okay for the Diabetes Bike tour which covers the area from Bristol Meyers Squibb in Lawrence to Sergeantsville in West Amwell. Mobile radios or mobile antennas would work much better. Coverage on the fringe is marginal but useable.

3. State RACES net uses the following to cover the entire state of New Jersey:
 - a. 75 meter HF.
 - b. Low band VHF with 3 remote bases.
 - c. Two meter simplex, 50/150 watts omni or directional antennas - coverage is poor in remote counties.
 - d. Two meter APRS.
 - e. 220 simplex - repeater on channel 52 tower in future.
 - f. 800 Mhz trunked system. Part of State Police network.