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Instructions for Operating My B2V Portable Radio

Trunked digital repeater radios operating on a network are a most sophisticated form of repeater operation available today. Radios talk direct to the repeater and the repeater transmits to the other radio users. Trunked repeater systems contain multiple repeaters at each of the many locations within the network and your radio can automatically select the use any of them without user intervention. If the repeater infrastructure fails, no one can speak to anyone else through the system that failed because all transmissions are repeated by the repeater and there isn't any direct communications from one user radio to another user radio.

The following describes the use of a portable (hand-held) radio. To operate the radio:

1. Turn on the ON-OFF VOLUME control on top of the radio clockwise to turn on the radio and adjust the receive volume control to be the appropriate volume for your ambient noise condition. The volume has no effect on transmitting.
2. The radio logs into the network by finding a nearby control channel at the site that covers the area in which you are located and then sends a login request to the network. If the network recognizes your radio as valid, it sends a signal to the radio acknowledging the login. If your radio is not authorized, the network will send a rejection at which time you will receive a message that the login failed. The site number for which your radio has accessed is displayed at the top left corner of the LCD display. If the network fails, your radios will not function at all. If a site in the repeater network fails, you will lose any coverage unique to that repeater site. If a repeater fails at a site, it will result in a reduction in traffic capacity, thus increasing the chance that you will receive a busy signal when you attempt to talk.
3. Press and hold the Push-To-Talk (PTT) button on the left side of the radio. The radio will briefly transmit a request to talk to the repeater. The repeater will respond with either a denial (low series of beeps) otherwise known as a "busy signal" which indicated that all channels are in use or it will respond with a channel assignment at which time your radio will give you a proceed tone (triple high-pitched beep). This process takes up to 10 seconds in some situations. Under most circumstances, the "proceed" tone will be received within a second. Speak in a normal voice from about 1 inch from the microphone. Release the PTT button to hear a response from the team member you have called. Do not yell or scream as it will only degrade your intelligibility.
4. If you are receiving a transmission from a team member, your radio is inhibited from transmitting. When you press the PTT button, nothing will happen until the transmission from the other user ceases at which time your transmission will start and you will receive a "proceed" (triple high-pitched beep) tone.
5. The radio will normally display your group name. When you receive a call from another member of your group, the radio will display the "Caller ID" of the calling radio to assist you to identify the calling party if they do not identify themselves. The "Caller ID" will time out after 5-30 seconds depending upon the setting within your radio programming and return to your group name.
6. All user radios from your team that are turned on and in range of the trunked repeater system will switch to

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the same repeater in the trunked repeater system as your radio for the period of the transmission, provided they are registered onto the same site. They will then revert to the control channel after the transmission is finished. If they are registered on a different site, all the radios from your team will switch to the same channel on that site (which will be different than the channel on your site) to complete the call. The two sites are connected to each other, so anything said on one site is repeated on the other site. If there are more than two sites having radios registered from your team, then all the sites are connected to each other that have units registered on your team's talk group. Therefore, no matter how your fleet of radios on your team's talk group spread out over the network, they will be connected to each other. No manual user intervention from your team members is required to switch sites, login or register on the network.

7. With digital trunked repeater operation, all transmissions go through the repeater. Therefore, when you talk, all the team members (that are in range of the repeater) will hear your transmission with the same clarity if you are in range of the repeater. If you are not in range of the repeater, no one will hear you speaking. If you have a good signal into the repeater, all your team members will hear you clearly. As the signal continues to degrade, eventually the signal will be too weak and the repeater may stop entirely and not retransmit your signal (otherwise known as dropping out of the repeater). Typical range is dependent upon the location of the repeaters in the network and how high the repeater antenna is located above ground. Consult our coverage maps to determine coverage area.

Battery and charger information for portable (hand-held) radios:

1. Some radios have a battery icon on the display to let you know the condition of the battery. If you do not have a battery icon, the radio will typically have a LED flash red whenever the battery is low. Some radios will have a different method of signaling a low battery which varies by radio model.
2. If your radio does not have a battery condition icon on the display, you need to pay more attention to how much you use the radio to have an idea of when to charge (or change) the battery.
3. Batteries that are very low can cause the radio to "reboot" whenever you press the PTT button or reboot continuously. Some radios will act very strangely and do things abnormally until the battery is charged or replaced.
4. When you are finished using the radio, turn it off and place it in the battery charger to recharge the battery. When the battery is fully charged, remove the radio from the charger if it will not be used for an extended period of time. Leaving the radio in the charger over night or over a weekend should not be a problem.
5. Most radios have small, medium and/or large batteries which will determine the battery life for a particular radio. Typical numbers for small batteries are 8 hours use at 5-5-90 while large batteries are typically 12 hours at 10-10-80 which means 10% of the time you are transmitting, 10% of the time you are receiving a signal and 80% of the time your radio is in standby, meaning that it is turned on and awaiting for you to transmit or for someone to call.
6. Transmitting takes the most power from the battery by a significant margin, so if you do not talk often, your battery will last significantly longer. Conversely, if you talk often, your battery will discharge more quickly.
7. If the radio has a HI / LOW power button, switching the radio to low power will extend the battery life, but it will decrease the ability of the radio to access the repeater. If you reach the repeater, you will have the same range as HIGH power, but you have decreased your ability to reach the repeater.

The following are tips for getting the most from your portable radio:

1. Keep the radio vertical to maximize the radio reception. The radio signal is vertically polarized, so a vertical antenna will perform better.
2. Using an audio accessory such as a speaker-microphone, lapel microphone, headset with boom microphone, etc. will decrease the range of the radio due to the radio antenna being so

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close to the human body which will absorb a portion of the radio signal. If you are in a very strong signal area, you may not perceive any difference in performance, but you will see the difference in a weak signal area.

3. If the signal quality is poor as indicated on the signal strength indicator, try moving a few inches to a few feet for better signal.
4. Signal quality maps indicate the signal strength outside the building. The signal will be considerably weaker inside a structure.
5. If inside a building, try moving to a window, moving to a higher floor or exiting the building.
6. Hold the radio by the radio body. The antenna is NOT a carrying handle and neither are audio accessory attachments such as a speaker-microphone or a headset. If you hold the antenna, it will decrease the range of the radio.
7. Do not bend the antenna into a loop it so that it is shorter. This will have an adverse effect to the range of the radio and can damage the radio.
8. Shorter antennas are available for most portables, but they will normally compromise the range of the radio.

The following are tips for passing messages using any radio:

1. Keep transmissions brief and to the point so everyone can use the radio.
2. Call the individual to whom you wish to speak and wait for their acknowledgement before you state the message. Talking to someone who is not listening only delays getting your message to its intended destination.
3. Break long messages into smaller “chunks” and verify the listener’s receipt of the message portion before proceeding with the next part of the message.
4. Clearly identify the person to whom you are calling as well as yourself or your location/job. i.e. “Jane Doe to John Doe” or “Unit 3 to base” or “Dispatch to Station 3”.
5. After receiving a message, acknowledge receipt of the message by saying OK, 10-4, “got it”, etc. so that they know that you properly received the message.

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