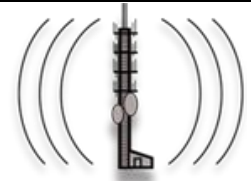


# MOBILE RELAY

A S S O C I A T E S

dba Raycom



## Instructions for Operating My Digital Simplex Mobile Radio

Simplex radios are the simplest form of radio communication. Radios talk direct from radio to radio without the help of any infrastructure. Therefore, the simplex radios will operate during an emergency such as an earthquake, tornado, tsunami or wildfire when all other forms of radio communications fail due to problems with the infrastructure.

The following describes the use of a mobile (vehicle mounted) radio. To operate the radio:

1. Press and hold for one second the ON-OFF button in the upper left corner of the radio to turn on the radio. Use the VOLUME UP and the VOLUME DOWN arrow buttons to the left of the LCD display adjust the receive volume control to be the appropriate volume for your ambient noise condition. The volume has no effect on transmitting.
2. Press the CHANNEL UP or CHANNEL DOWN buttons to the right of the LCD display to the proper channel for operation if you have more than one channel in the radio. Some radios are programmed to select channels with the zone up and zone down buttons which can be programmed to the left and right arrows below the display.
3. Press the MONITOR button to listen for co-channel users. (The MONITOR button is programmable on most radios and is usually one of the buttons below the LCD display, but it can be anywhere on the radio.) Most radios have an icon on the display that will light up to indicate you are in monitor which is typically an outline of a speaker or it will say MON. (Most radios monitor automatically when you remove the microphone from the microphone hanger clip.) If another party is using the frequency, you need to wait until they are finished before you talk on the radio.
4. If your radio is programmed for solely digital operation, you will only hear digital radio transmissions from NXDN (Kenwood and ICOM) type radios. You will not hear digital transmissions from DMR or MotoTrbo radios because their digital transmission is not compatible with your radio. Therefore, there can be other radio traffic on the frequency that you do not hear which can interfere with your transmission.
5. If your radio is programmed for mixed analog and digital mode, you will hear all digital and analog transmissions. Your radio will listen to NXDN (Kenwood and ICOM) transmissions and analog transmissions. You will hear the digital transmissions from DMR and MotoTrbo radios, but they will not be properly decoded and thus will not be understandable.

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6. If the frequency is clear, press and hold the Push-To-Talk (PTT) button on the left side of the microphone and speak in a normal voice from about 1 inch from the microphone. Release the PTT button to hear a response from the party you have called. Do not yell or scream as it will only degrade your intelligibility.
7. With simplex operation, each radio sends out its signal and the signal travels as far as it can directly to the other radios without the help from a repeater. Therefore, when you talk, some people will hear it and some will not hear you, depending upon where they are located. Typically, the people closer to you will hear you and the people further away may or may not hear you depending upon the distance and what obstructions are between you and them. As the signal continues to degrade, the signal may start to cut out at times and eventually the radio will no longer communicate. You will not get static in the reception of the radio signal, but you may get a digital / mechanical sound before it completely fails to communicate. Typical range with portable radios is about 0.6 mile in the city and a mobile radio will be about 6 miles in the city. Typical range with a portable radio in rural areas is about 2.4 miles in the countryside and about 18 miles for a mobile radio in the same area. *Digital radios typically get about 20% better range than an analog radio with everything else being equal.*

Some people operate their radio while the vehicle ignition is turned off. The following information applies to the vehicle battery for mobile (vehicle mounted) radios:

1. Vehicle 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. If this happens, you will need to start the ignition on your vehicle to properly operate the radio.
2. When you are finished using the radio, turn it off unless you have the radio hooked to the ignition so that it turns itself off after the prescribed time.
3. 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.
4. If the radio has a HI / LOW power button, switching the radio to low power will extend the battery life of your vehicle battery when operating the radio with the ignition turned off, but it will reduce the ability of the radio to access the network with your transmissions. If you can reach the network with a good signal on low power, the higher power does nothing to help.
5. If your vehicle battery is low enough to have problems with the radio, there is a good chance that your vehicle will not start unless you have a dual battery system.