

NEIGHBORHOOD RADIO WATCH BASIC RADIO OPERATIONS (EMCOMM 0.5)

NEIGHBORHOOD RADIO WATCH

- Are Community Radio Volunteers
- Start with a desire to help others without personal gain of any kind
- Work together as a team and take direction from others
- Train and practice to improve their radio skills
- Practice needed emergency communication skills in weekly directed Neighborhood Radio Watch radio activities
- Come with a wide variety of backgrounds, experience & skills

MAKE SURE YOU ARE ABLE TO:

- Turn your radios on and off
- Follow the instructions in the owner's manual for your radio
- Recognize the function of the radio display icons and buttons
- Select and change channels
- Use the push-to-talk button without cutting off your words
- Raise and lower the volume
- Change the batteries in your radio
- Don't leave the radio in the charger for days, lift out and replace
- Discharge your battery once a week,(run it all the way down, then recharge)

COMMUNICATION BASICS

- Only one person can talk at a time, but all people with radios can listen at the same time
- Listen carefully
- Follow the ABCs of communication—Accurate, Brief, and Clear
- Acknowledge all transmissions addressed to you. (Say “Copy that.”)
- If two people talk at the same time, others will just hear loud static. They may say “Double”, meaning two people transmitting at the same time. State your name, unkey, when other person says “go ahead”, repeat your message.
- Do not tie up radio channels with unnecessary talk..

BASIC RADIO COMMUNICATION SKILLS

- The job of Neighborhood Radio Watch members is to become proficient at radio communication skills during in weekly directed Neighborhood Radio Watch

Important skills for a communicator are:

- Listening MORE THAN 50% of the time.
 - Tune out distractions and when unsure of what you heard ask that it to be repeated.
- Be sure the message you hear/copy is correct:
 - If station to station, ask for aread-back to be sure.
 - If monitoring scanner, one shot, you can't get readback

BASIC RADIO TECHNIQUE

- Hold your radio with the antenna straight up and down
- Listen before you transmit. Make sure you aren't interrupting a conversation.
- Wait 1 second after keying the microphone before speaking to allow the repeater to connect
- Use your normal clear, calm voice
- If using a repeater most have a timeout limit. Our repeater will drop you after one minute. You will not hear that you are not transmitting but no one can read (hear) you. Before the limit time, state "Reset" or "letting it drop" and unkey the mic for a second, rekey, pause for a second and continue.
- State your call sign every 15 minutes to insure you meet the FCC identification rule

READY TO TALK?

- Take your time and think of what you'll need to say before you say it.
- Press the Push to Talk (PTT) button when you want to speak and hold for a second before you speak. Hold the button the entire time you are talking. Wait a half second after talking before you release the button
- Take your time and think of what you'll need to say before you say it.
- Keep message short but complete.
- Speak calmly and clearly in a normal voice. Do not yell. (tendency is to talk louder when you are having trouble hearing. Instead, try moving slightly to improve your connection.
- When giving numbers, say each number separately, e.g., say “one-zero-five-nine”, not “ten-fifty-nine.”

NET CONTROL OPERATOR

- Net Control Operator aka Net Controller
- Radio “traffic cop”
- Coordinates radio traffic
- Duties:
 - Direct you to call (go ahead)
 - Direct you to stand by
 - Prioritize calls based on nature of message
 - Direct you to a different channel or to monitor:

Tier One Resources

Scanner -Dispatch, Ground Tac, Air Attack

Public Service Agency official information sites

WEEKLY NET

- The purpose of any net is to provide a means for orderly communication within a group of stations (individual radio operators)
- The weekly net is readiness practice, a scheduled session on HAM/amateur or GMRS radio users. A typical net session begins with the “Net Control” (NC) station reading an opening script that establishes the purpose of the Net. Individual members check in at the direction of the NC station operator.

WHAT IS A RADIO NET EVENT

- The Neighborhood Radio Watch is a group who coordinate monitoring Public Service Agency official sites and relay information back to the group to be better informed and prepared in an emergency event.
- You need to “check in” to any directed net whether it is the scheduled weekly net or an Event Net for a local event such as a Fire or Flood
- Very Important -only reliable information is communicated to the net and then to the general public through social media sites
 - **Misinformation is worse than NO INFORMATION! Be absolutely sure of your sources before passing on information!**

CHECKING INTO AN EVENT NET

- To become part of a directed net wait for ENC to ask for “check ins” and listen to any specific instructions such as “check-ins with priority traffic only”
- When directed, check-in with: Your name, call sign and if you have new information to share, follow with “with traffic” Then wait for ENC to respond before offering more information.
- Use simple language that is understood by all, no slang or jargon (technical slang) Do not use 10 Codes
- Use your normal clear, calm voice. The most frequent cause of errors on voice nets is speaking too rapidly or loudly when excited
- Pause between transmissions to allow for priority traffic
- Following Net protocol and giving short, concise messages is vital.

- Used in HAM Radio for Emergency communication
- Over-I'm finished with what I need to say, now the other

stations can respond

- Go ahead-Used to indicate that a station may respond
- Clear-end of contact, finished talking on this session
- Out-Leaving the air, will not be listening
- Stand by-A temporary interruption of the contact
- Roger-Indicated the transmission has been received clearly and in full

TIP Don't say "Over and Out"---

PRO-WORDS

USE PROPER PHONETICS
IF YOU NEED TO SPELL OUT

Alpha

Bravo

Charlie

Delta

Echo

Foxtrot

Golf

Hotel

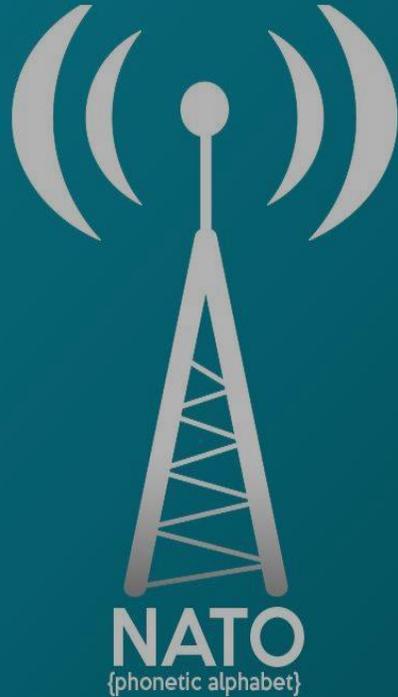
India

Juliet

Kilo

Lima

Mike



November

Oscar

Papa

Quebec

Romeo

Sierra

Tango

Uniform

Victor

Whisky

X-Ray

Yankee

Zulu

FYI DIFFERENT TYPES OF NETS:

- Traffic Net –Handles formal written traffic in aspecified(ARRL) format.

Traffic Nets operated by the National Traffic System (NTS) are excellent examples of how an ARES / RACES formal traffic net should operate.

- Tactical Nets are used for real time coordination of activities related to the emergency. A tactical net usually has an NCS but may be directed or open.

- Resource or Logistics Nets may be needed to acquire resources (food, water and other supplies), accept volunteer check-ins and hand out assignments. This is usually a directed net.

NEIGHBORHOOD RADIO WATCH IS AN INFORMATION NET

- Information Nets are used to collect and share information on a developing situation without overly restricting the use of the frequency by others. Net members send updated local information as needed and bulletins from Public Service Agencies.
 - Another good example of an Information Net is a SKYWARN weather net activated during a severe storm.
 - Since the program started in the 1970s, the information provided by SKYWARN® spotters, has enabled NWS to issue more timely and accurate warnings for tornadoes, severe thunderstorms and flash floods. SKYWARN® storm spotters form the nation's first line of defense against severe weather.

TYPES OF RADIOS AND FREQUENCIES

- GMRS
- FRS
- HAM
- Public Service Bands

GENERAL MOBILE RADIO SERVICE (GMRS)

- Limitations

- Requires a license, good for all the immediate family living with you or apart.
- Intended for family use
- \$35 fee license for 10 yrs

- Advantages
- Inexpensive
- Best used for intra-team communications
- Base station or mobile
- Boost signal with external antennas or repeaters
- 5 watts max on a Handheld (Portable) Radio
- 50 watts max on a Base (Mobile)
- Radio Range: 5-25 miles (Extended by Repeaters)

FAMILY RADIO SERVICE (FRS)

- Limitations
- Very low power $\frac{1}{2}$ watt on channels 8-14
- Up to 2 watts on 1-7 & 15-22
- Handheld only
- Cannot alter radio (no detachable or external antennas) = Limited range

- Advantages
- Inexpensive
- No license required
- Range 1-2 miles if unobstructed
- 22 channels

- Shared communication with

GMRS radios

- Best used for short range

intra-team communications

AMATEUR RADIO ('HAMS')

- The Next Step if you want to know and DO more
- FCC License and call sign required to transmit on Amateur Radio Bands
- Lots of Amateur Radio Frequencies
- Power: 1,500 watts on some bands

- Range: worldwide on some bands
- Wide range of cost for equipment, handheld radio can be more expensive \$\$\$

RADIO CHANNELS (FREQUENCIES)

- Channels 1-7: Shared between FRS(2 watts) and GMRS(5 watts) (no license required when operating at lower power settings)
- Channels 8-14: FRS only channels; lower power
- Channels 15-22: GMRS-only; higher power Requires a license
- FRS may listen(if in range) but not speak on 15-22 including

repeater Channel.

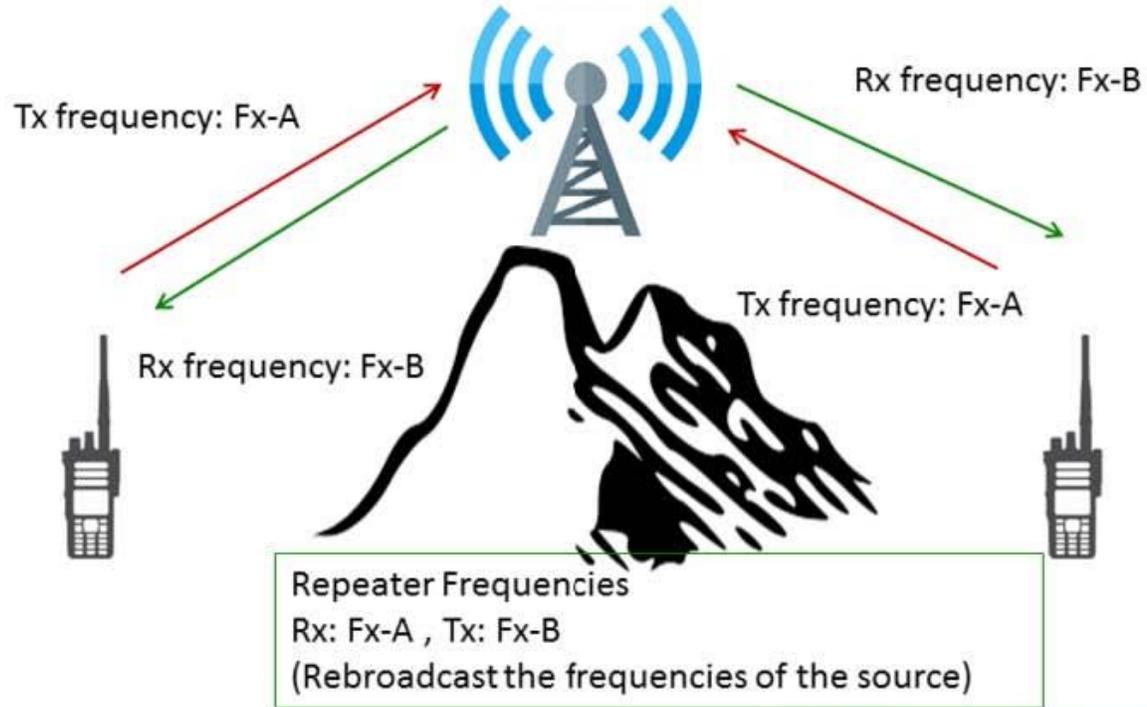
PUBLIC SAFETY BANDS

- A group or band of frequencies reserved by FCC for **Public Service Agencies**
- GMRS or Neighborhood Radio Watch members can monitor on a scanner but **NEVER** Transmit on these channels
- Advantages
- Direct communication to emergency first responders, **if authorized**
- Extremely reliable
- Range up to 20 miles with simplex, 50 miles with repeaters
- Handheld, mobile, or base units

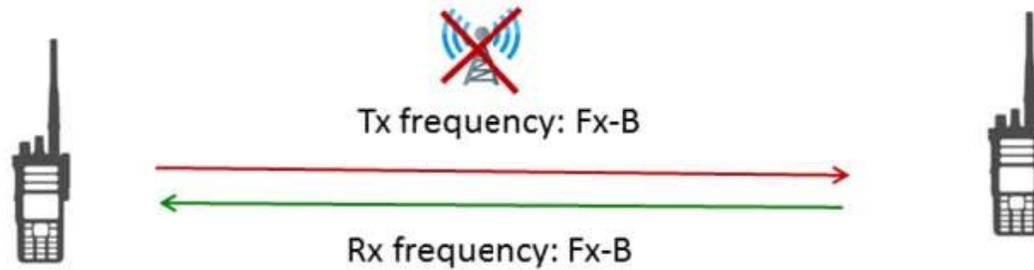
SIMPLEX VS DUPLEX

Radio Communication via Repeater or talk around

Case -1
(Communication
via Repeater)
* Duplex *



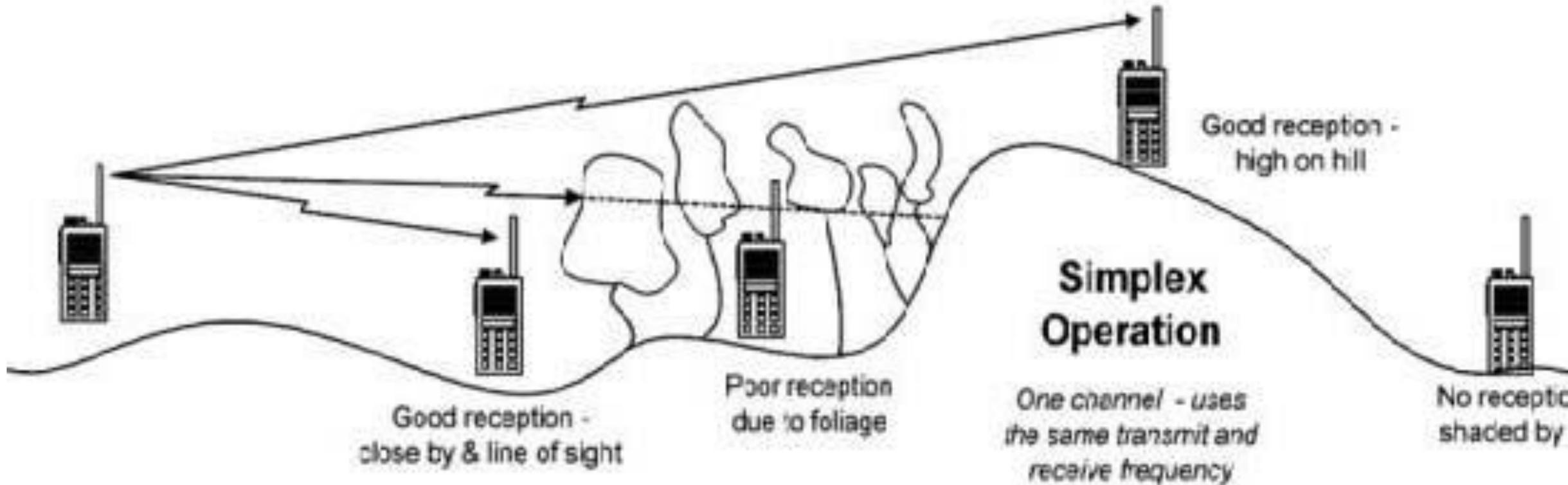
Case -2
(Communication
via Talk around)
* Simplex *



Radio Communication via Repeater

The Repeater is Duplex - uses a PL tone (private line) also called:
Privacy Codes, PL, CTCSS or Tone Squelch
Like an Electronic Filter

SIMPLEX RADIO



Straight Line of Sight

RELAY

- When the Net Control(NC) cannot hear one of the stations on the net because of their location they may ask

one of the other stations on the net to relay information back and forth.

- Liaison Stations-When it is necessary to coordinate with another net, the NC will assign a liaison. The liaison station role is to pass messages between the two different nets. This can be periodic check-in interval for coordination or continuous monitoring of the other net.
- The other NC may also assign a Liaison Station.

WHAT TO EXPECT IN LARGE SCALE DISASTERS

- During the first 72 Hours of a disaster:
 - It takes precious time to overcome obstacles

- Communication is one of the vital resources that can be difficult
 - The greatest concentration of relief effort generally found in incorporated cities served by agencies with paid professionals
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- Rural areas suffer because of their remoteness and limited resources.
 - Frequently the public is isolated, unable to call out for help or determine what their course of action should be.
 - Lack of information leads to further attempts to use the already overloaded phone systems



WHAT WE ARE NOT

WE DO NOT

- A substitute for 911

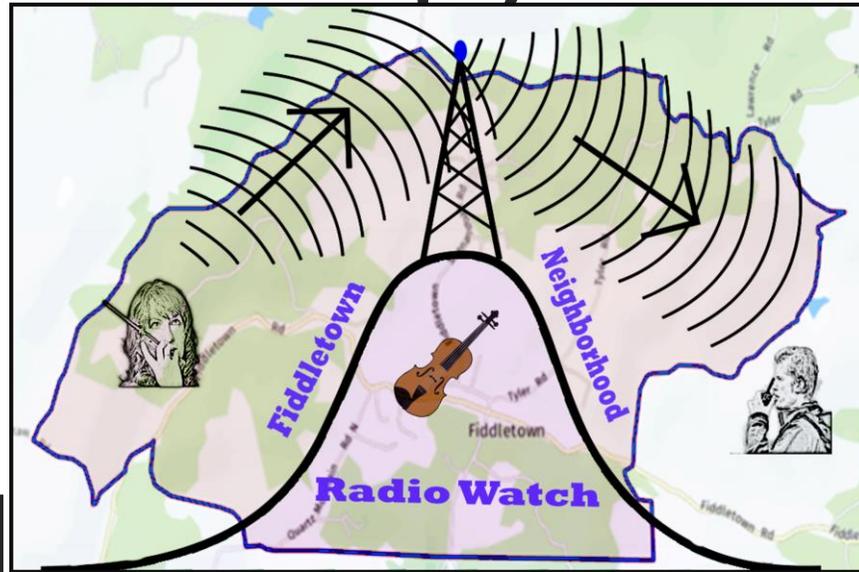
Always call 911 first to report emergencies or ask for help

- Part of any Public Safety Agency
- First Responders
- A social media site

- News broadcaster
- We do not speak on Public Safety Radio Bands
- We do not relay opinions or rumors
- Do not relay private, sensitive or sensational information



By learning basic two-way radio operation skills and processes and staying in practice, you are better prepared to help yourself and your



neighborhood