

Radio Exercise 100-2: Introduction to a Radio NET



OBJECTIVES:

At the completion of this training exercise, participants should:

- Be familiar with purpose and function of a *Radio NET*
- Understand and/or participate in the role of NET Control Operator
- Be familiar with types of messages and the order of radio transmission priority
- Be familiar with the ITU Phonetic Alphabet
- Complete a 'check-in' to a Radio NET while using the Phonetic Alphabet
- Understand Readability Reporting

SKILL LEVEL: Basic

ESTIMATED DURATION: 30 to 60 minutes

RECOMMENDED PARTICIPANTS:

Minimum: 2

Maximum: No limit, though 8-15 is ideal

EQUIPMENT NEEDED:

- Participants are encouraged to utilize a Family Radio Service (FRS) or General Mobile Radio Service (GMRS) radio during this exercise. However, if radios are not available, participants can still conduct this training in a round table fashion while pretending to use radios.
- A clipboard or writing surface, notepad and a writing utensil (i.e. pen or pencil) is needed for documentation

PREREQUISITE:

If using radios, participants should have experience operating a FRS/GMRS radio such as turning it on, using the PTT button and changing radio channels/tone.

REFERENCE MATERIAL:

- ITU Phonetic Alphabet (included in guide)
- LO Neighborhood Association Ad-Hoc Radio Net Script (included in guide)
- LO Neighborhood Association Radio Net Check-In Log (included in guide)
- FRS/GMRS Radio Operations Guide – Section (*in development*)

BACKGROUND:

A Radio NET is an organized on-air gathering of radio users. There are various types of Radio NET's but this exercise will lead participants through a *directed* NET by way of a Net Control Radio Operator (NET Control). A Radio NET is usually identified with a recognizable name, such as the *Waluga Radio Net*.

The Net Control serves as a radio traffic conductor on the Radio NET. They are responsible for directing and controlling which radio users make over the air transmissions to minimize people from talking over each other at the same time, referred to as 'doubles.'

It is common practice for Net Control to use a written script while managing a Radio NET. The script provides a documented means of order to control the flow of messages according to the priority while keeping track of where messages come from and where they go. The script typically includes a preamble that explains how the NET will be conducted along with instructions that identify how radio users should participate or other pertinent announcements. One important aspect of conducting a radio NET for

training is to regularly include the verbiage that *'this is a training exercise and only a training exercise.'* Anyone listening to the radio may not know the messages are training and alert public safety agencies.

The preamble will also discuss the 'order of calls' for radio transmissions. Radio messages can be characterized as an "Emergency," "Routine," or "Welfare." The following describe the types of information shared with these message priority types.

- Emergency – This is the highest priority type of message that means that if the call is not answered immediately, there is a definite, severe and "RIGHT NOW" condition or hazard that will result in death or serious injury to a person or people.
- Routine – Involves general informational update or situation reports that are pertinent to radio NET.
- Welfare – The lowest priority message and is usually used to let people know your current status.

Whenever there is a radio call that begins with the words "Emergency," all radio traffic must stop and attention should be focused on that radio call. The NET Control will then assist in gathering information and addressing the issue. It's important that no other radio user interject into the radio communication unless specifically requested to do so by Net Control. All radio traffic will remain ceased until the issue is addressed and Net Control resumes the radio NET.

While talking on the radio, users should use plain language. There is no need to use fancy jargon. However, certain syllables or words can sound like something else. Sometimes a 'B' sounds like a 'D,' an 'M' sounds like 'N' and 'P' sounds like 'V.' Radio users utilize an international standardized system called the NATO Phonetic Alphabet which are an established set of words used to stand for alphabetical letters in oral communications. The purpose is to ensure the clarity of communications and to provide a clear means to identify pronunciation. For example, the word "fire" would be repeated "Foxtrot – India – Romeo – Echo." Participants should familiarize themselves with the included Phonetic Alphabet and practice using it while checking into the radio NET during this training exercise.

The quality of radio signals can vary quite a bit. Users may only need to move a few feet in a direction in order to improve a bad radio signal. FRS/GMRS radios work best when outside away from obstructions. During the exercise, users may ask if they how they are being heard. The check-in log provides five possible answers. A radio transmission is going to be "Loud and Clear," "Readable, Slightly Scratchy," "Readable, but Difficult," "Barely Readable," or may come across as static which would be "Unreadable."

It is highly recommended that:

- Net Control have time to review the script and become familiar with the instructional guidelines provided for primary or alternate actions.
- Participants do not have copies of the script during the exercise. Experience has shown when participants have copies of the script, they do not listen as intently to the instructions. It is preferred to have participants follow along by receiving further instructions via the radio through Net Control and to not read along with Net Control.
- A scribe (note taker) should be appointed to support Net Control with recording and documentation on the check in log during the radio net.

INSTRUCTIONS:

- 1) Gather all participants together in a common area and identify an individual to serve as Net Control and an individual to serve as the Scribe (no Scribe is necessary if just 2 participants).
 - Net Control should have a copy readily available of the Ad-hoc radio net script.
 - Scribe should have a copy of the LO Neighborhood Association Radio Net Log Sheet along with
- 2) Net Control should establish the name of the Radio NET to be used for the exercise along with a primary radio channel/tone and a secondary channel/tone for the duration of the training. This information must be shared with all participants. A Radio NET name could include the name of the neighborhood such as the *Waluga Radio NET* or *Mountain Park Radio NET* or it could be a more specific such as the *Mary's Woods Radio NET*.
- 3) The Scribe or note taker should document who is fulfilling the role of Net Control Operator, the name of the Radio NET, the primary/secondary radio channels and the date/time on the check-in log.
- 4) Before participants leave the area to begin the exercise, they should:
 - Verify their radios are on the proper channel/tone with other users by pressing the PTT buttons and volumes are set to hearing level
 - Make note of the channels designated before separating or leaving the area so that if an unknown user causes problems on the primary channel, NET Control can simply direct users to switch to the secondary channel without announcing the new channel.
- 5) Once participants are spaced out far enough to not cause radio interference, Net Control will initiate and conduct the exercise by reading and following the provided radio net script.
- 6) Net Control will continue the exercise by following the prompts in the radio net script until all radio users have the opportunity to check-in and provide a comment if they wish to do so.
- 7) Encourage some participants to ask for a readability report of the radio transmission as part of their check in.
- 8) When all participants have been checked in on the log, the Radio NET will be terminated by Net Control.
- 9) Once the Radio NET is terminated, participants should gather again in close proximity to discuss any pertinent lessons learned. Participants can switch roles and perform the activity one or more times as needed. This

ITU Phonetic Alphabet

A ALFA AL-FAH	B BRAVO BRAH-VOH	C CHARLIE CHAR-LEE	D DELTA DELL-TAH	E ECHO ECK-OH	F FOXTROT FOKS-TROT
G GOLF GOLF	H HOTEL HOH-TEL	I INDIA INI-DEE-AH	J JULIET JEW-LEE-ETT	K KILO KEY-LOH	L LIMA LEE-MAH
M MIKE MIKE	N NOVEMBER NO-VEM-BER	O OSCAR OSS-CAH	P PAPA PAH-PAH	Q QUEBEC KEH-BECK	R ROMEO ROW-ME-OH
S SIERRA SEE-AIR-RAH	T TANGO TANG-GO	U UNIFORM YOU-NEE-FORM	V VICTOR VIK-TAH	W WHISKEY WISS-KEY	X X-RAY ECKS-RAY
Y YANKEE YANG-KEY	Z ZULU ZOO-LOO	1 ONE WUN	2 TWO TOO	3 THREE TREE	4 FOUR FOW-ER
5 FIVE FIFE	6 SIX SIX	7 SEVEN SEV-EN	8 EIGHT AIT	9 NINE NIN-ER	0 ZERO ZEE-RO

The following is a prepared script that can be used to assist neighborhood associations with conducting their own ad-hoc radio training sessions using FRS type radios. This script will provide guidance with establishing and managing a neighborhood radio net under varying times for training purposes. A separate script is available for any neighborhood groups wishing to establish a regularly scheduled or emergency radio net.

- Black text refers to the script that a net control station would be reading.
- Text in **[BOLD UPPERCASE]** are placeholders that should be substituted with appropriate information
- Red text enclosed in [Brackets] is instructional and is not intended to be read 'over the air'.
 - Whenever you see the prompt [Pause], this is a reminder that the net control operator shall release the PTT button on the radio and wait a 3-5 seconds before resuming. This will allow a short period for other radio stations to interrupt if necessary.
- Blue text indicates alternate script text that may not be necessary to read.
- Purple text is a simulated radio response from participant for demonstrative purposes.

[A few minutes before the start of the net, check to see if the desired channel for the training is in use. After announcing your name each time, spell it phonetically.]

This is **[NAME]** in the **[NEIGHBORHOOD NAME]** neighborhood. Is this channel in use?

[Net Control Station (NCS) should then listen and if nothing is heard broadcast "nothing heard" and pause for several seconds, allowing any other station on the net who DOES hear stations already using the frequency to interrupt and notify the NCS. If the frequency is in use, request the use of the channel for the training exercise or announce the alternate frequency, and switch to that frequency. It is suggested that the alternate frequency not be broadcasted to prevent malicious interference.]

This is **[NAME]** and due to other radio traffic on this channel, we will move the **[NEIGHBORHOOD CALL SIGN]** radio net to our secondary channel and tone. [It may be worthwhile to repeat this message just before starting the net on the original channel]

[One minute before starting the net]

All stations on channel **[CHAN #]** with code **[TONE #]** please standby for the start of the **[NEIGHBORHOOD CALL SIGN]** radio net. If anyone has any emergency traffic or if you need to make a quick call, please go ahead and do so now. I'll be starting the **[NEIGHBORHOOD CALL SIGN]** radio net for training purposes up in one minute.

[At the determined net start time]

Attention all stations, attention all station, this is **[NAME]** in the **[NEIGHBORHOOD NAME]** neighborhood. I will be the Net Control Station and at this time I am establishing the **[NEIGHBORHOOD CALL SIGN]** radio net. The purpose of today's net is **[DESCRIBE WHY CHANNEL IS BEING USED for radio propagation testing to identify critical relay locations in the _____ neighborhood]**. There is no emergency, this is just for training purposes. [Pause: release PTT button and wait 3-5 seconds]

This will be a directed net meaning all traffic will go through net control. I will begin check ins in just a moment. [Pause]

This net will interrupt at any time for emergency or traffic. If you have such traffic, please say the words 'BREAK, BREAK' followed by your name and wait to be acknowledged. Does anyone have any emergency traffic? [Pause]

Does anyone have any emergency radio traffic? [Pause]

All radio stations, regardless of location, are welcome and encouraged to check in and participate in this radio net. Net control requests initial check in by simply stating your first name and the street you live on and groups of three to allow us to write the information down. Immediately following the first round of check-ins, we will offer each station the opportunity to make a brief comment or announcement for the net. I will call on participants to provide their traffic after we complete check ins. Please limit comments to matters pertaining to the neighborhood. [Pause]

This is [NAME] and I am the net control for today's [NEIGHBORHOOD CALL SIGN] radio net. Check in will go in alphabetical groups by first name. When checking in, please key up and say "This is," unkey and listen for others. If you don't hear anyone else, give your first name slowly in plain English and again phonetically followed by the street you live on. If you do not want to be called on for comments, just announce "No Comment" after your name and street when checking in. [Pause]

We do ask that all stations stay for the entire formal portion of the net. If you will be short-time, please state this in your check in. For your references and signal strength checking, my location is near [PROVIDE LOCATION OR NEAREST INTERSECTION] and I am physically [INSIDE OR OUTSIDE]. [Pause]

Starting the formal check-ins, I request groups of three and will first call for any stations wishing to check in with the first name starting with 'Alpha' through 'Foxtrot,' please check in now. [Pause for replies. Write down any stations checking in using the radio log sheet. If station identifies with "No Comment," be sure to check the appropriate column so they are not called upon at the end for announcements. -- Repeat as needed with groups of 3 until no responses.]

"This is. Andrew, spelled Alpha November Delta Romeo Echo Whiskey from Maple Street."

"This is. Drew, Delta Romeo Echo Whiskey and I live on Elm Street. No Comment."

Now calling any stations wishing to check in with the first name starting with 'Golf' through 'Mike,' please check in now. [Pause for replies. Write down any stations checking in using the radio log sheet. If station identifies with "No Comment," be sure to check the appropriate column so they are not called upon at the end for announcements. -- Repeat as needed with groups of 3 until no responses.]

Now calling any stations wishing to check in with the first name starting with 'November' through 'Sierra,' please check in now. [Pause for replies. Write down any stations checking in using the radio log

sheet. If station identifies with "No Comment," be sure to check the appropriate column so they are not called upon at the end for announcements. -- *Repeat as needed with groups of 3 until no responses.*]

"This is. Nancy November Alpha November Charlie Yankee and I live on Elm Street. No Comments for me at this time."

"This is. Roger, spelled Romeo Oscar, Golf, Echo, Romeo and I live on Oak Street."

Now calling any stations wishing to check in with the first name starting with 'Tango' through 'Zulu,' please check in now. [Pause for replies. Write down any stations checking in using the radio log sheet. If station identifies with "No Comment," be sure to check the appropriate column so they are not called upon at the end for announcements. -- *Repeat as needed with groups of 3 until no responses.*]

Now calling any stations wishing to check in with the first name starting with 'Alpha' through 'Zulu,' please check in now. [Pause for replies. Write down any stations checking in using the radio log sheet. If station identifies with "No Comment," be sure to check the appropriate column so they are not called upon at the end for announcements. -- Repeat at least once.]

This is [NAME] and I am the net control for the [NEIGHBORHOOD CALL SIGN] radio net and I am inviting any other stations, regulars or visitors to please check in now. [Pause for replies. Repeat as needed until no stations respond.]

Let's go ahead and start the announcement and comments portion of today's net. [Pause. Use the log sheet to identify check-ins and who did not respond with "No Comment." Begin going down the list by recognizing check-ins and calling on them to make their announcement/comment.]

Net control is going to recognize Andrew on Maple Street for comments.

"This is Andrew, thank you Net Control. I'm checking in from a new location down by the school. Hopefully this is better than in my backyard so let me know what my signal is like. I just wanted to share that Thank you, over."

Andrew, thanks for the information. Your transmission is readable but scratchy. [Pause]

Net control is now going to recognize Roger on Oak Street for his comments. [Notice that Drew and Nancy were skipped over as they checked in with 'No Comment.']

"This is Roger, thank you Net Control. Just a reminder that we have a neighborhood association meeting this week. Over."

Do we have any other late check-ins for the net? [Pause]

This is Steve, Sierra Tango, Echo, Victor, Echo and I am on Sumac Drive.

Thanks for joining us Steve. We are in the announcements and comments section of the net and there is nobody else in front of you on the list so go ahead with any comments you may have.

Thanks. This is Steve and I tried checking in earlier but you didn't copy while I was in the house. I'm now outside. This was a good reminder that if nobody hears you, move to a new location and try again. Over.

Well, we are glad you were able to connect with us Steve. I'm reading you loud and clear. [Pause]

If any stations have any other additional announcements or comments prior to closing the net, please call out now. [Pause. Wait and see if anyone else requests to make an announcement or comment.]

This will conclude our check-ins and announcement section. [Pause]

This is [NAME] and I would like to thank all stations that checked in today along with those that held their traffic so we could utilize this channel. We had a total of [] stations that checked in today, including myself. I am now closing this session of the [NEIGHBORHOOD CALL SIGN] radio net and returning the channel to normal use.

Lake Oswego Neighborhood Association FRS/GMRS Radio Net Check- In Log

Radio Net Name: _____ Date & Time: _____
 Net Control Operator: _____ Primary Channel/Code: _____

Readability Reporting

Loud and Clear
 Readable, not Difficult
 Readable but Difficult

Barely Readable
 Unreadable

Name	Street	Announcement or Comments	Other Notes
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	

Name	Street	Announcement or Comments	Other Notes
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	
		Yes No	