

Radio Exercise 100-1: Getting to Know Your Radio



OBJECTIVES:

At the completion of this training exercise, participants should:

- Be familiar with approved batteries and charging methods
- Power the radio on and off
- Adjust the volume up and down
- Change the operating channel and tone (privacy code)
- Using Push-to-Talk (PTT) button
- Understand how tones function

SKILL LEVEL: Basic

ESTIMATED DURATION: 30 to 60 minutes

RECOMMENDED PARTICIPANTS:

Minimum: 1 (2 radios are suggested)

Maximum: No limit

EQUIPMENT NEEDED:

Participants must have a Family Radio Service (FRS) or General Mobile Radio Service (GMRS) radio available during this exercise. To fully understand how the channels and tones function, access to two or more radios is recommended.

Note – The instructions in this guide will work with a Motorola T600 FRS Radio though the functions with other radios are similar.

PREREQUISITE:

None

REFERENCE MATERIAL:

- Manufacturers user manual for the radio

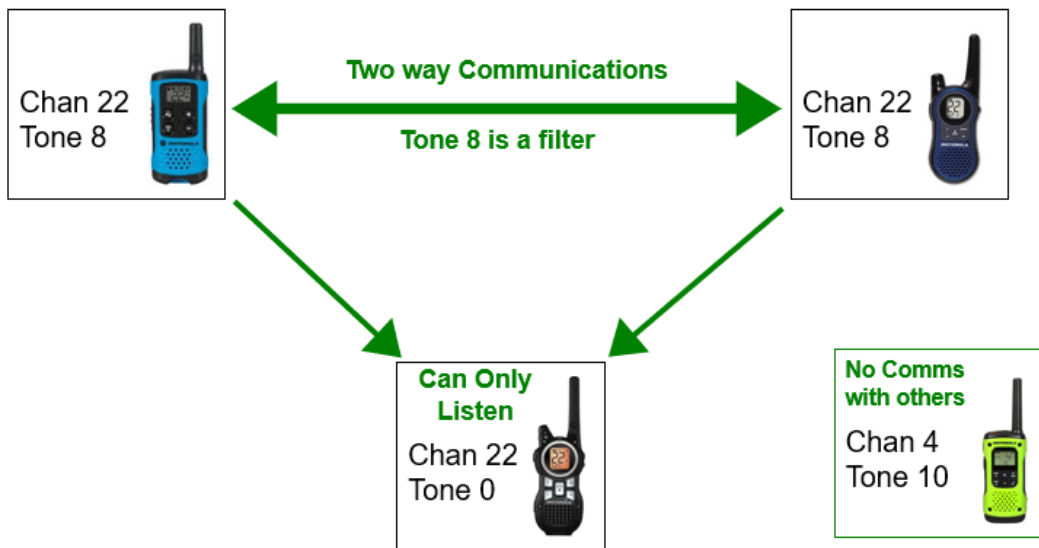
The following is available on the Lake Oswego Fire Department website.

- [Video: 03 Motorola T600 FRS Radio Operations \(60 minutes\) - https://vimeo.com/576075429/4a94072b3f](https://vimeo.com/576075429/4a94072b3f)

INSTRUCTIONS:

- 1) Gather participants and practice removing and installing rechargeable battery (if equipped). Be aware of the proper alignment of a rechargeable battery. Identify location of charger port or how to insert into the charging base (radio dependent). If radio allows, practice installing the proper alkaline batteries in lieu of rechargeable batteries.
- 2) Locate the power button and turn the radio 'on' and 'off.'
 - a. Long press the Mode/Power button. When the radio is 'on,' take note of the battery level indicator.
 - b. Long press the Mode/Power button again to the turn the radio 'off.'
- 3) With the radio 'on,' turn the radio volume 'up' and 'down' using the Volume/Scroll button.
 - a. Press either the + or – to adjust
- 4) With the radio 'on,' have all participants change the radio(s) to Channel 8 (no tone or privacy code equal to 0),
 - a. Short press the Menu button until channel flashes
 - b. Press the volume/scroll buttons (+/-) to change channel up or down.

- c. Short press the Menu button a second time so that the tone/privacy code number is flashing
 - d. Press the volume/scroll buttons (+/-) to change tone up or down so that it is set to 0.
Note: if radio activity is heard on Channel 8, select a different channel
 - e. Pressing the PTT button will exit the Menu option
- 5) Users should space out away from each other and practice using the PTT button one at a time and speaking into the microphone. Remember, when transmitting, **Press, Pause, Speak, Pause, Release.**
- 6) Users should change their radio(s) to Channel 22, with a tone/privacy code of 8 and practice talking. If there are 2 or more radios available, leave one radio set to Channel 22 with no tone. Have users assemble in close proximity to each other and have one user with a radio set to Channel 22, Tone 8 press the PTT button and release. The radio set to Channel 22 and no tone should hear the transmission. Next have someone press the PTT button of the radio set to Channel 22 with no tone and speak. The users with their radios set to having a tone equal to 8 should not hear the radio transmission.

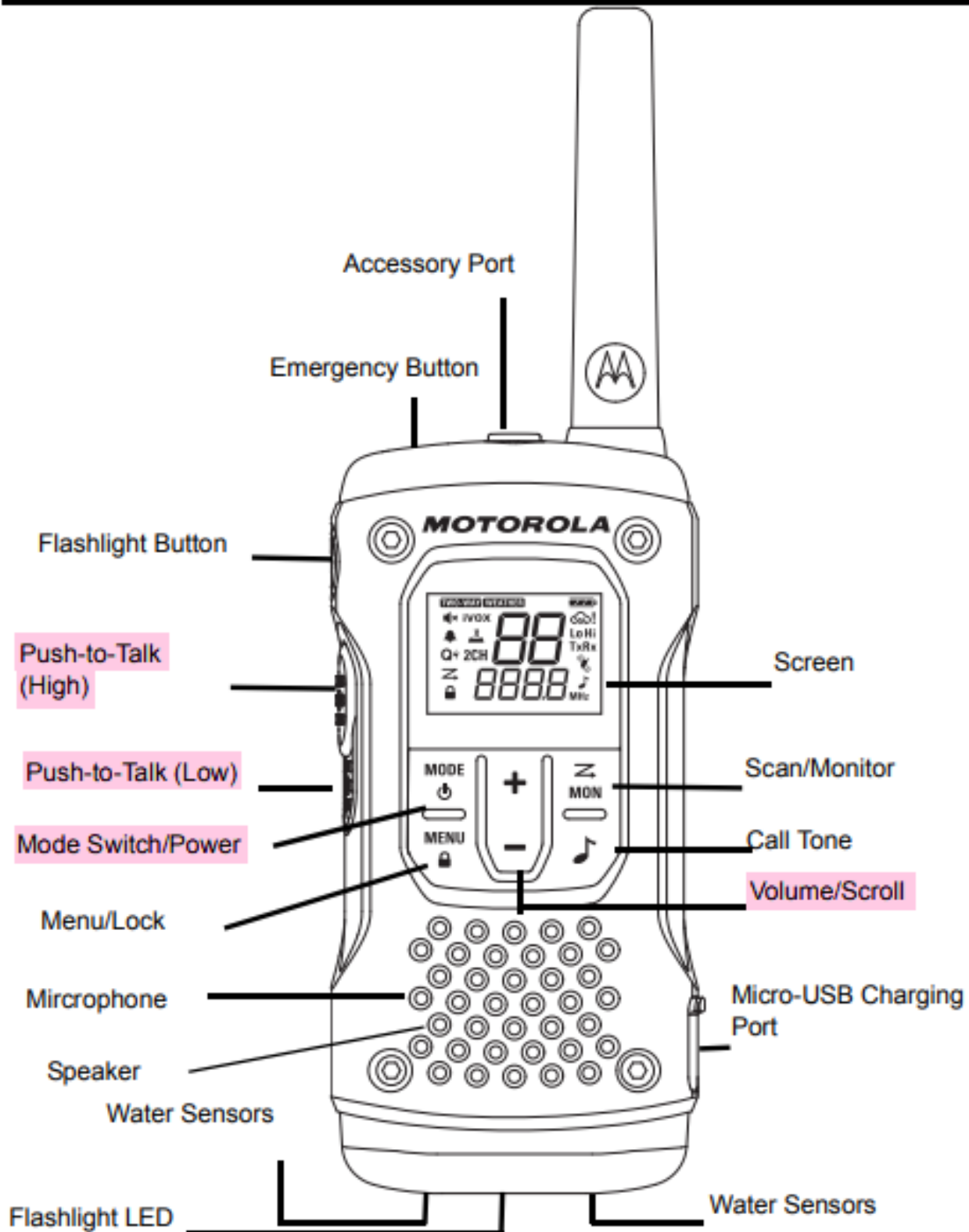


- 7) Continue the exercise by having users turn the radios 'off' and 'on,' changing the radio to various channels/tone and using the PTT button to **Press, Pause, Speak, Pause, Release** until they are comfortable with the radio functions.

Radio users may communicate on the radios using general common discussion. There are no requirements with FRS radios to use any technical radio jargon. These discussions can be simple, plain daily conversations. If users are utilizing a GMRS radio (capable of transmitting above 2 watts), then FCC guidelines should be followed by announcing their GMRS call sign every 10 minutes of communication.

Motorola T600 FRS Radio

Control Buttons



Installing the Batteries

Each radio can use either 1 NiMH rechargeable battery pack or 3 AA alkaline batteries and beeps when the batteries are low.

Installing the NiMH Rechargeable Battery Pack

1. Turn the radio off.
2. With the back of the radio facing you, loosen the retaining screw on the battery door and open the cover.
3. Remove the NiMH battery pack from the clear plastic bag (do not disassemble or unwrap the battery pack).
4. Insert the NiMH battery pack with the diagram facing you. (The ribbon should be underneath the battery pack and should wrap around the right side of the pack for easy removal).
5. Close the battery cover and tighten the retaining screw on the battery cover.

Installing the Three AA Alkaline Batteries

1. Turn the radio off.
2. With the back of the radio facing you, lift the battery cover latch up and remove the cover.
3. Insert the three AA Alkaline batteries with + and - polarity as shown inside. (The ribbon should be underneath the AA alkaline batteries and should wrap around the right side of the batteries).
4. Close the battery cover and tighten the retaining screw on the battery cover.

Radio Battery Meter



The radio battery icon shows the battery charge level, from full  to empty . When the radio has one segment



Turning your Radio On and Off

Press and hold the  Mode Switch/Power button to turn the radio On or Off.

1. In the ON position, the radio chirps and briefly shows all feature icons available on the radio.
2. The display screen then shows the current channel, code and all features that are enabled. The radio is now in Two-Way mode.

Setting the Volume

From any mode, by first press on either  or  it will trigger volume changing and showing the current value.

1. Press  to increase the speaker volume.
 2. Press  to decrease the speaker volume.
- Do not hold the radio close to your ear. If the volume is set to an uncomfortable level, it could hurt your ear.

Talking and Listening

To communicate, all radios in your group must be set to the same channel and Interference Eliminator Code.

1. To talk, press and hold the PTT button. When transmitting, **TWO-WAY** icon blinks and **Tx** is shown. If it is a high power transmission, **Hi** is shown. If it is a low power transmission, **Lo** is shown.
2. When you are finished talking, release the PTT button.
3. When receiving, **TWO-WAY** icon blinks and **Rx** is shown. If it is a high power channel, **Hi** is shown. If it is a low power channel, **Lo** is shown.

For maximum clarity, hold the radio two to three inches away from your mouth and speak directly into the microphone. Do not cover the microphone while talking.

Midland LXT460 FRS Radio

CONTROLS



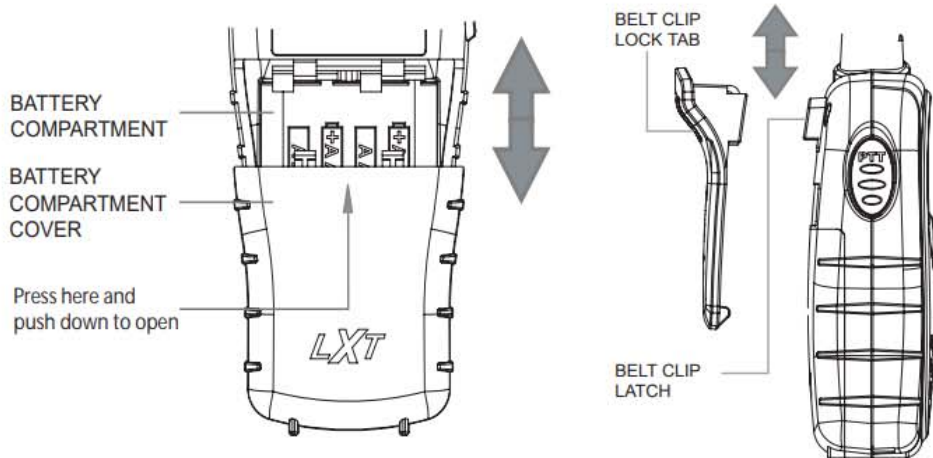
- 12. **PTT Button** – Press and hold to transmit voice communication.
- 13. **CALL/LOCK Button** – Press to send a CALL Alert signal. Press and hold to turn KEY LOCK on/off.
- 14. **MIC** – Built-in microphone.
- 15. **SPEAKER** – Built-in speaker.
- 16. **ANTENNA.**
- 17. **EXTERNAL SPEAKER/MIC/CHG. JACK**
- 18. **POWER / MENU Button** – Press and hold for at least 3 seconds to turn the radio on/off. Press momentarily to access Menu mode.
- 19. **MONITOR/SCAN Button** – Press to enter SCAN mode. Press and hold to enter MONITOR mode
- 20. **UP/WX SCAN ▲ and DOWN ▼ Button** – Make adjustments in MENU mode. Press and hold the UP button for 5 seconds to activate the NOAA Weather Scan function.

BATTERY INSTALLATION

Your LXT460 Series radio operates with either 4 AAA alkaline batteries or an optional NiMH battery pack. The belt clip should be removed (see below) to ease installation or removal of the batteries.

To install the batteries:

1. With the back of the radio facing you, remove the belt clip (see diagram below) for easy access, then remove the Battery Cover by pressing down on the top center and sliding it down from the radio.
2. Insert 4 AAA batteries observing the polarity as shown. Installing the batteries incorrectly will prevent the unit from operating or may damage the unit.
3. Return the Battery Cover by sliding it up on the radio. Replace the belt clip, making sure it locks into place.



OPERATING YOUR RADIO

POWER ON/OFF AND VOLUME

Press the **POWER/MENU** button for at least 3 seconds to turn the radio on/off. During Power On, the radio will beep 2 times with different tones, the LCD will display all icons for 1 second and the LCD display will indicate the last channel selected.

To increase/decrease the volume level, press the **▼/▲** button during **RX** or **STANDBY** mode.

TRANSMITTING AND RECEIVING A CALL

To communicate, all radios in your group must be set to the same channel and Privacy Code.

1. For maximum clarity, hold the radio 2 to 3 inches from your mouth.
2. Press and hold the **PTT** button and speak in a normal voice into the **microphone**. The **TX** icon will appear continuously on the LCD Display while transmitting.
3. To receive a call, release the **PTT** button. The **RX** icon will appear on the display when your radio is receiving a transmission.

CHANNEL SELECTION (GMRS/FRS BAND)

Press the **MENU** button once, and then the **▼/▲** buttons to select one of the 28 GMRS/FRS channels. To confirm the selection, press the **PTT** button or press the **MENU** button again to move to the next feature setting.

SETTING PRIVACY CODES

Your LXT460 Series has 121 **Privacy Codes** available. The selected **Privacy Code** may be different for each channel. To select a **Privacy Code** for the current channel press the **MENU** button twice, and then the **▼/▲** buttons to select one of the 38 **CTCSS** Privacy Code. Press again the **MENU** button and the **▼/▲** button to select one of the 83 **DCS** Privacy Code. The **Privacy Code** icon on the display will indicate whether you set your Privacy Code in **CTCSS** or **DCS** mode. To confirm the selection, press the **PTT** button or press **MENU** button again to move to the next feature setting.

MONITOR

Pressing and holding the **MONITOR** button for 3 seconds will let you hear noise so you can adjust the volume level of the radio when not receiving a signal. This could also be used to check any activity on your current channel before transmitting.

Press and hold the **MONITOR** button for 3 seconds again to get out of **MONITOR** mode.

SCAN

Your LXT460 Series can scan all 28 channels for activity. To enter, quickly press the **SCAN** button. Repeat the same procedure to exit. Your radio will rapidly scan each of the 22 channels and stop on any active channel for 4 seconds before resuming scan.

When you press the **PTT** button to transmit on an active channel, the scanning function will stop and remain on the active channel. To resume scanning, quickly press the **SCAN** button.