



PROFESSIONAL DIGITAL TWO-WAY RADIO

**MOTOTRBO™**

**DEP 250**

**NON-KEYPAD PORTABLE RADIO**

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## USER GUIDE

en-US

es-LA

pt-BR

**MAY 2019**

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**MN005811A01-AA**

## Declaration of Conformity

### Declaration of Conformity

Per FCC CFR 47 Part 2 Section 2.1077(a)



Responsible Party

Name: Motorola Solutions, Inc.

Address: 1303 East Algonquin Road, Schaumburg, IL 60196-1078, U.S.A.

Phone Number: 1-800-927-2744

Hereby declares that the product:

Model Name: **DEP 250**

conforms to the following regulations:

FCC Part 15, subpart B, section 15.107(a), 15.107(d), and section 15.109(a)

### **Class B Digital Device**

As a personal computer peripheral, this device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1 This device may not cause harmful interference, and
- 2 This device must accept any interference received, including interference that may cause undesired operation.




**NOTICE:**


This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or TV technician for help.

# Contents

Declaration of Conformity.....	2	Programmable Buttons.....	20
Important Safety Information.....	7	Assignable Radio Functions.....	21
Notice to Users.....	8	Assignable Settings or Utility Functions..	22
Software Version.....	9	Push-To-Talk Button.....	22
Copyrights.....	10	Chapter 4: Status Indicators.....	23
Computer Software Copyrights.....	12	LED Indicators .....	23
Chapter 1: Introduction.....	13	Tones.....	24
Icon Information.....	13	Audio Tones.....	24
Conventional Analog and Digital Modes.....	13	Indicator Tones.....	24
Chapter 2: Basic Operations.....	15	Chapter 5: Zone and Channel Selections.....	25
Charging the Battery.....	15	Selecting Zones .....	25
Attaching the Battery.....	15	Selecting Channels.....	25
Removing the Battery .....	15	Chapter 6: Calls.....	26
Attaching the Antenna.....	16	Group Calls.....	26
Attaching the Belt Clip .....	17	Making Group Calls.....	26
Removing the Belt Clip .....	17	Responding to Group Calls.....	27
Powering Up the Radio.....	18	Private Calls  .....	28
Adjusting the Volume.....	18	Making Private Calls  .....	28
Chapter 3: Radio Controls.....	20	Responding to Private Calls  .....	29
		All Calls.....	29
		Receiving All Calls.....	29

Broadcast Voice Calls.....	30	Responding to Transmissions During	
Making Broadcast Voice Calls.....	30	Scanning.....	36
Receiving Broadcast Voice Calls.....	30	Deleting Nuisance Channels.....	37
Unaddressed Calls.....	31	Restoring Nuisance Channels.....	37
Making Unaddressed Calls.....	31	Call Indicator Settings.....	37
Responding to Unaddressed Calls.....	31	Call Alert Operation .....	37
Open Voice Channel Mode (OVCM).....	32	Responding to Call Alerts .....	37
Making OVCM Calls.....	32	Auto-Range Transponder System  .....	38
Responding to OVCM Calls.....	32	Chapter 8: Utilities.....	39
Chapter 7: Advanced Features.....	34	Squelch Levels .....	39
Talkaround.....	34	Setting Squelch Levels .....	39
Toggling Between Repeater and		Power Levels.....	39
Talkaround Modes.....	34	Setting Power Levels.....	39
Monitor Feature .....	34	Voice Operating Transmission .....	40
Monitoring Channels.....	34	Turning Radio Tones/Alerts On or Off.....	40
Permanent Monitor.....	35	Chapter 9: Authorized Accessories List.....	42
Turning Permanent Monitor On		Batteries and Chargers Warranty.....	45
or Off.....	35	The Workmanship Warranty.....	45
Scan Lists.....	35	The Capacity Warranty.....	45
Scan.....	35	Limited Warranty.....	46
Turning Scan On or Off .....	36	MOTOROLA SOLUTIONS	
		COMMUNICATION PRODUCTS.....	46

I. WHAT THIS WARRANTY COVERS AND FOR HOW LONG:..... 46

II. GENERAL PROVISIONS..... 47

III. STATE LAW RIGHTS:.....47

IV. HOW TO GET WARRANTY SERVICE.....47

V. WHAT THIS WARRANTY DOES NOT COVER.....48

VI. PATENT AND SOFTWARE PROVISIONS..48

VII. GOVERNING LAW..... 49

# Important Safety Information

## RF Energy Exposure and Product Safety Guide for Portable Two-Way Radios

### ATTENTION!

**This radio is restricted to Occupational use only.** Before using the radio, read the RF Energy Exposure and Product Safety Guide for Portable Two-Way Radios which contains important operating instructions for safe usage and RF energy awareness and control for Compliance with applicable standards and Regulations.

For a list of Motorola Solutions-approved antennas, batteries, and other accessories, visit the following website:

<http://www.motorolasolutions.com>

## Notice to Users

This device complies with Part 15 of the FCC rules per the following conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.



**CAUTION:**

Changes or modifications made to this device, not expressly approved by Motorola Solutions, could void the authority of the user to operate this equipment.



## Software Version

All the features described in the following sections are supported by the software version **R01.01.45.0000** or later.

Check with your dealer or system administrator for more information.

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## European Union (EU) Waste of Electrical and Electronic Equipment (WEEE) directive



■ The European Union's WEEE directive requires that products sold into EU countries must have the crossed out trash bin label on the product (or the package in some cases).

As defined by the WEEE directive, this cross-out trash bin label means that customers and end-users in EU countries

should not dispose of electronic and electrical equipment or accessories in household waste.

Customers or end-users in EU countries should contact their local equipment supplier representative or service centre for information about the waste collection system in their country.

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The AMBE+2™ voice coding Technology embodied in this product is protected by intellectual property rights including

patent rights, copyrights and trade secrets of Digital Voice Systems, Inc.

This voice coding Technology is licensed solely for use within this Communications Equipment. The user of this Technology is explicitly prohibited from attempting to decompile, reverse engineer, or disassemble the Object Code, or in any other way convert the Object Code into a human-readable form.

U.S. Pat. Nos. #5,870,405, #5,826,222, #5,754,974, #5,701,390, #5,715,365, #5,649,050, #5,630,011, #5,581,656, #5,517,511, #5,491,772, #5,247,579, #5,226,084 and #5,195,166.

## Introduction

This user guide covers the operation of your radios.

Your dealer or system administrator may have customized your radio for your specific needs. Check with your dealer or system administrator for more information.

You can consult your dealer or system administrator about the following:

- Is your radio programmed with any preset conventional channels?
- Which buttons have been programmed to access other features?
- What optional accessories may suit your needs?
- What are the best radio usage practices for effective communication?
- What maintenance procedures that helps promote longer radio life?

## Icon Information

Throughout this publication, the icons described are used to indicate features supported in either the conventional analog or conventional digital mode.



Indicates a conventional **Analog Mode-Only** feature.



Indicates a conventional **Digital Mode-Only** feature.

For features that are available in **both** conventional analog and digital modes, both icons are **not** shown.

## Conventional Analog and Digital Modes

Each channel in your radio can be configured as a conventional analog or conventional digital channel.

### 1 : Channel Selector Knob

Certain features are unavailable when switching from digital to analog mode.

Your radio also has features available in both analog and digital modes. The minor differences in the way each feature works do **not** affect the performance of your radio.



**NOTICE:**

Your radio also switches between digital and analog modes during a dual mode scan. See [Scan on page 35](#) for more information.

## Basic Operations

This chapter explains the operations to get you started on using the radio.

### Charging the Battery

Your radio is powered by a Lithium-Ion (Li-Ion) battery.

- To comply with warranty terms and avoid damages, charge the battery using a Motorola Solutions charger exactly as described in the charger user guide.

All chargers can charge only Motorola Solutions authorized batteries. Other batteries may not charge. Motorola Solutions recommends that your radio remains powered off while charging.

- Charge a new battery 14 to 16 hours before initial use for best performance.

### Attaching the Battery

Follow the procedure to attach the battery to your radio.

- 1 Align the battery with the rails on the back of the radio.
- 

- 2 Press the battery firmly, and slide upwards until the latch snaps into place.



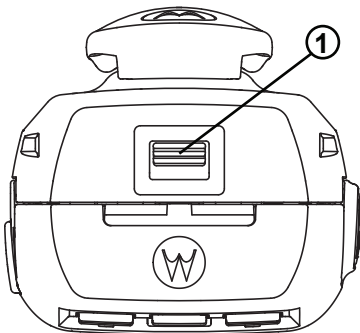
- 3 Slide battery latch into lock position.
- 

### Removing the Battery

Follow the procedure to remove the battery from your radio.

Ensure that the radio is turned off.

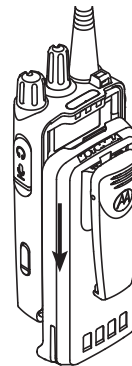
- 1 Move the battery latch into unlock position and hold.



---

### 1 : Battery Latch

- 2 Slide the battery down and lift off the rails.



---

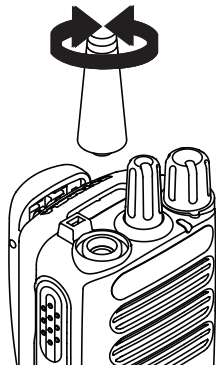
## Attaching the Antenna

Follow the procedure to attach the antenna to your radio.

Ensure that the radio is turned off.

Set the antenna in the receptacle and turn clockwise until snug to provide best protection against water and dust.



**NOTICE:**

To remove the antenna, turn the antenna counterclockwise.

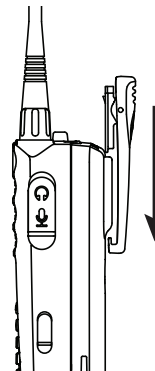
**CAUTION:**

If the antenna must be replaced, ensure that only MOTOTRBO antennas are used. Neglecting this damages your radio. See [Antennas on page 42](#) for a list of available antennas.

## Attaching the Belt Clip

Follow the procedure to attach the belt clip to your radio.

Align the grooves on the clip with those on the battery and press downwards until you hear a click.



## Removing the Belt Clip

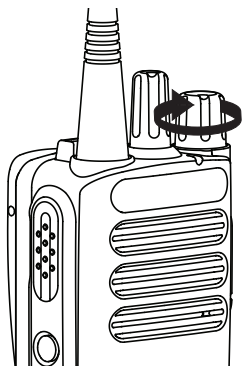
Follow the procedure to remove the belt clip from your radio.

- 1 To remove the clip, press the belt clip tab away from the battery using a key.
- 2 Slide the clip upwards and away from the radio.

## Powering Up the Radio

Follow the procedure to power up your radio.

Rotate the **On/Off/Volume Control Knob** clockwise until a click sounds.



If successful:

- A tone sounds.
- The green LED lights up.

If the Tones/Alerts function is disabled, there is no tone upon powering up.

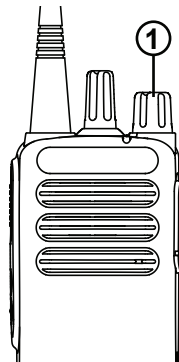
Check your battery if your radio does not power up. Make sure that it is charged and properly attached. Contact your dealer if your radio still does not power up.

## Adjusting the Volume

Follow the procedure to change the volume level of your radio.

Do one of the following:

- Turn the **On/Off/Volume Control Knob** clockwise to increase the volume.
- Turn the **On/Off/Volume Control Knob** counterclockwise to decrease the volume.



**1 : On/Off Volume Control Knob**



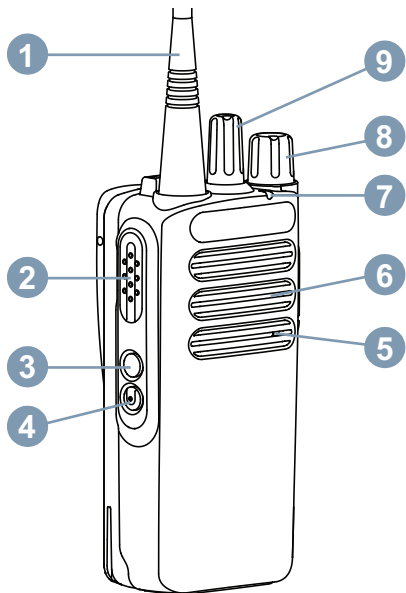
**NOTICE:**

Your radio can be programmed to have a minimum volume offset where the volume level cannot be lowered past the programmed minimum volume. Check with your dealer or system administrator for more information.

---

## Radio Controls

This chapter explains the buttons and functions to control the radio.



- 1 Antenna
- 2 Push-to-Talk (PTT) Button
- 3 Side Button 1<sup>1</sup>
- 4 Side Button 2<sup>1</sup>
- 5 Microphone
- 6 Speaker
- 7 LED Indicator
- 8 On/Off/Volume Control Knob
- 9 Channel Selector Knob

## Programmable Buttons

Depending on the duration of a button press, your dealer can program the programmable buttons as shortcuts to radio functions.

### Short press

Pressing and releasing rapidly.

### Long press

Pressing and holding for the programmed duration.

---

<sup>1</sup> These buttons are programmable.

**Press and hold**

Keeping the button pressed.

The programmed duration of a button press is applicable to all assignable radio/utility functions or settings.

## Assignable Radio Functions

The following radio functions can be assigned to the programmable buttons.

**Battery Type**

Allows selection of battery type between Li-Ion and NiMH.

**Mic AGC**

Toggles the internal microphone automatic gain control (AGC) on or off.

**Monitor**

Monitors a selected channel for activity.

**Nuisance Channel Delete**

Temporarily removes an unwanted channel, except for the Selected Channel, from the scan list. The Selected Channel refers to the selected zone or channel combination of the user from which scan is initiated.

**One Touch Access**

Directly initiates a predefined Private, Phone or Group Call, a Call Alert, or a Quick Text message.

**Permanent Monitor**

Monitors a selected channel for all radio traffic until function is disabled.

**Repeater/Talkaround**

Toggles between using a repeater and communicating directly with another radio.

**Scan**

Toggles scan on or off.

**Voice Announcement On/Off**

Toggles voice announcement on or off.

**Voice Announcement for Channel**

Plays zone and channel announcement voice messages for the current channel. This function is unavailable when Voice Announcement is disabled.

**Voice Operating Transmission (VOX)**

Toggles VOX on or off.

## Assignable Settings or Utility Functions

The following radio settings or utility functions can be assigned to the programmable buttons.

### Tones/Alerts

Toggles all tones and alerts on or off.

### Power Level

Toggles transmit power level between high and low.

### Squelch


Toggles squelch level between tight and normal.


## Push-To-Talk Button

The Push-to-Talk (**PTT**) button serves two basic purposes:

- While a call is in progress, the **PTT** button allows the radio to transmit to other radios in the call. The microphone is activated when the **PTT** button is pressed.
- While a call is not in progress, the **PTT** button is used to make a new call.

If the Talk Permit Tone is enabled, wait until the short alert tone ends before talking.

 If the Channel Free Indication feature is enabled on your radio (programmed by your dealer), you hear a short alert tone the moment the target radio (the radio that is receiving your call) releases the **PTT** button, indicating the channel is free for you to respond.

 You hear a continuous Talk Prohibit Tone if your call is interrupted. You should release the **PTT** button if you hear a continuous Talk Prohibit Tone.

# Status Indicators

This chapter explains the status indicators and audio tones used in the radio.

## LED Indicators

LED indicators show the operational status of your radio.

### Blinking Red

Radio has failed the self-test upon powering up.

Radio is receiving an emergency transmission.

Radio is transmitting in low battery state.

Radio has moved out of range if Auto-Range Transponder System is configured.

### Solid Green

Radio is powering up.

Radio is transmitting.

Indicates full battery capacity when the programmed **Battery Strength** button is pressed.

When pressing the **Battery Type** button to set the battery type as NiMH.

### Blinking Green

Radio is receiving a call or data.

Radio is detecting activity over the air.

### Solid Yellow

Radio is monitoring a conventional channel.

When pressing the **Battery Type** button to set the battery type as Li-Ion.

Indicates fair battery charge when programmable button is pressed.

### Blinking Yellow

Radio is scanning for activity.

Radio has yet to respond to a Call Alert.

Radio has Flexible Receive List enabled.

### Double Blinking Yellow

Radio is actively searching for a new site.

Radio has yet to respond to a Group Call Alert.

Radio is locked.

## Tones

The following are the tones that sound through on the radio speaker.



High Pitched Tone



Low Pitched Tone

## Audio Tones

Audio tones provide you with audible indications of the status, or response to data received on the radio.



### Continuous Tone

A monotone sound. Sounds continuously until termination.



### Periodic Tone

Sounds periodically depending on the duration set by the radio. Tone starts, stops, and repeats itself.



### Repetitive Tone

A single tone that repeats itself until it is terminated by the user.



### Momentary Tone

Sounds once for a short duration set by the radio.

## Indicator Tones

Indicator tones provide you with audible indications of the status after an action to perform a task is taken.



Positive Indicator Tone



Negative Indicator Tone



## Zone and Channel Selections

This chapter explains the operations to select a zone or channel on your radio. A zone is a group of channels.

Your radio supports 1 zone with a maximum of 16 channels.

Each channel can be programmed with different features and/or support different groups of users.

### Selecting Zones

Follow the procedure to select the required zone on your radio.

Press the programmed **Zone Toggle** button.

One of the following tone sounds:

#### **Positive Indicator Tone**

Radio is in Zone 2.

#### **Negative Indicator Tone**

Radio is in Zone 1.



#### **NOTICE:**

For all Non-keypad radio, you are recommended to enable Voice Announcement feature for selecting zone. The Voice Announcement feature can only be enabled through CPS.

---

### Selecting Channels

Follow the procedure to select the required channel on your radio after you have selected a zone.

Turn the **Channel Selector** Knob to select the channel, subscriber ID, or group ID.

---

## Calls

This chapter explains the operations to receive, respond to, make, and stop calls.

You can select a subscriber alias or ID, or group alias or ID after you have selected a channel by using one of these features:

### Programmed One Touch Access Button

This method is used for Group and Private Calls only.

You can only have one ID assigned to a **One Touch Access** button with a short or long programmable button press.

### Volume/Channel Selector Knob

This method manually selects a subscriber alias or ID, or group alias or ID.

The LED lights up solid green while the radio is transmitting and blinks green when the radio is receiving.

## Group Calls

Your radio must be configured as part of a group to receive a call from or make a call to the group of users.

## Making Group Calls

Follow the procedure to make Group Calls on your radio.


- 1 Do one of the following:
  - Select a channel with the active group alias or ID.
  - Press the programmed **One Touch Access** button.

---
- 2 Press the **PTT** button to make the call.  
The green LED lights up.

---
- 3 Do one of the following:
  - Wait for the Talk Permit Tone to end and speak clearly into the microphone if enabled.
  - Wait for the **PTT** Sidetone to end and speak clearly into the microphone if enabled.

---
- 4 Release the **PTT** button to listen.  
The green LED blinks when the target radio responds.

---

- 5  If the Channel Free Indication feature is enabled, you hear a short alert tone the moment the transmitting radio releases the **PTT** button, indicating the channel is free for you to respond. Press the **PTT** button to respond to the call.


The call ends when there is no voice activity for a predetermined period.

---


## Responding to Group Calls

To receive a call from a group of users, your radio must be configured as part of that group. Follow the procedure to respond to Group Calls on your radio.

When you receive a Group Call:

- The green LED blinks.
  - Your radio unmutes and the incoming call sounds through the speaker.
- 1 Do one of the following:
-  If the Channel Free Indication feature is enabled, you hear a short alert tone the moment the transmitting radio releases the **PTT** button,


indicating the channel is free for you to respond. Press the **PTT** button to respond to the call.

-  If the Voice Interrupt feature is enabled, press the **PTT** button to interrupt the audio from the transmitting radio and free the channel for you to respond.

The green LED lights up.

---

- 2 Do one of the following:

- Wait for the Talk Permit Tone to end and speak clearly into the microphone if enabled.
  -  Wait for the **PTT** Sidetone to end and speak clearly into the microphone if enabled.
- 

- 3 Release the **PTT** button to listen.

The call ends when there is no voice activity for a predetermined period.

---

## Private Calls

A Private Call is a call from an individual radio to another individual radio.

There are two ways to set up a Private Call. The first type sets up the call after performing a radio presence check, while the second type sets up the call immediately. Only one of these types can be programmed to your radio by your dealer.

If this feature is not enabled, a negative indicator tone sounds when you make a Private Call through the **One Touch Access** button or the **Channel Selector Knob**.

## Making Private Calls

Your radio must be programmed to initiate a Private Call. If this feature is not enabled, a negative indicator tone sounds when you initiate the call. Follow the procedure to make Private Calls on your radio.

- 1 Do one of the following:
  - Select a channel with the active subscriber alias or ID.

- Press the programmed **One Touch Access** button.
- 

- 2 Press the **PTT** button to make the call.

The green LED lights up.


---

- 3 Wait for the Talk Permit Tone to end and speak clearly into the microphone if enabled.
- 

- 4 Release the **PTT** button to listen.

The green LED blinks when the target radio responds.

---

- 5  If the Channel Free Indication feature is enabled, you hear a short alert tone the moment the transmitting radio releases the **PTT** button, indicating the channel is free for you to respond. Press the **PTT** button to respond to the call.



The call ends when there is no voice activity for a predetermined period. A tone sounds.

---

## Responding to Private Calls

Follow the procedure to respond to Private Calls on your radio.

When you receive a Private Call:

- The green LED blinks.
  - Your radio unmutes and the incoming call sounds through the speaker.
- 1 Do one of the following:
    -  If the Channel Free Indication feature is enabled, you hear a short alert tone the moment the transmitting radio releases the **PTT** button, indicating the channel is free for you to respond. Press the **PTT** button to respond to the call.
    -  If the Transmit Interrupt Remote Dekey feature is enabled, press the **PTT** button to stop an ongoing interruptible call and free the channel for you to respond.

The green LED lights up.

- 
- 2 Wait for the Talk Permit Tone to end and speak clearly into the microphone if enabled.
- 

- 3 Release the **PTT** button to listen.

The call ends when there is no voice activity for a predetermined period.

---

## All Calls


An All Call is a call from an individual radio to every radio on the channel. An All Call is used to make important announcements, requiring full attention from the user. The users on the channel cannot respond to an All Call.

## Receiving All Calls

When you receive an All Call:

- A tone sounds.
- The green LED blinks.
- Your radio unmutes and the incoming call sounds through the speaker.

An All Call does not wait for a predetermined period before ending.

-  If the Channel Free Indication feature is enabled, you hear a short alert tone when the transmitting radio releases

the **PTT** button, indicating the channel is free for you to use.

You cannot respond to an All Call.



### **NOTICE:**

The radio stops receiving the All Call if you switch to a different channel while receiving the call. You are **not** able to continue with any programmed button functions until the end of an All Call.

## Broadcast Voice Calls

A Broadcast Voice Call is a one-way voice call from any user to an entire talkgroup.

The Broadcast Voice Call feature allows only the call initiating user to transmit to the talkgroup, while the recipients of the call cannot respond (no Call Hang Time).

Your radio must be programmed to allow you to use this feature. Check with your dealer or system administrator for more information.

## Making Broadcast Voice Calls

Program your radio to make Broadcast Voice Calls.

---

1 Select a channel with the active group alias or ID.

2 Press the **PTT** button to make the call.

---

The radio returns to the previous menu after the call ends.

## Receiving Broadcast Voice Calls

When you receive a Broadcast Voice Call:

- A tone sounds.
- The green LED blinks.
- Your radio unmutes and the incoming call sounds through the speaker.

A Broadcast Voice Call does not wait for a predetermined period before ending.

You cannot respond to a Broadcast Voice Call.

**NOTICE:**

The radio stops receiving the Broadcast Voice Call if you switch to a different channel while receiving the call. You **cannot** continue with any programmed button functions until the end of the Broadcast Voice Call.

## Unaddressed Calls

An Unaddressed Call is a group call to one of the 16 predefined group IDs.

This feature is configured using CPS-RM. A contact for one of the predefined IDs is required to initiate and/or receive an Unaddressed Call. Check with your dealer or system administrator for more information.

## Making Unaddressed Calls

- 1 Select a channel with the active group alias or ID.
- 
- 2 Press the **PTT** button to make the call.
- 

- 3 Release the **PTT** button to listen.  
A momentary tone sounds.
- 

- 4 If the Channel Free Indication feature is enabled, you hear a short alert tone the moment the transmitting radio releases the **PTT** button, indicating that the channel is free for you to respond. Press the **PTT** button to respond to the call.

The call ends when there is no voice activity for a predetermined period.

---

## Responding to Unaddressed Calls

When you receive an Unaddressed Call:

- The green LED blinks.
- A momentary tone sounds.
- Your radio unmutes and the incoming call sounds through the speaker.

- 1 Do one of the following:
  - If the Channel Free Indication feature is enabled, you hear a short alert tone the moment the transmitting radio releases the **PTT** button,

indicating the channel is free for you to respond. Press the **PTT** button to respond to the call.

- If the Voice Interrupt feature is enabled, press the **PTT** button to interrupt the audio from the transmitting radio and free the channel for you to respond.

- 
- 2 Release the **PTT** button to listen.

The call ends when there is no voice activity for a predetermined period.

---

## Open Voice Channel Mode (OVCM)

An Open Voice Channel Mode (OVCM) allows a radio that is not preconfigured to work in a particular system to both receive and transmit during a group or individual call.

The OVCM group call also supports broadcast calls. Program your radio to use this feature. Check with your dealer or system administrator for more information.

## Making OVCM Calls

Your radio must be programmed for you to make an OVCM Call. Follow the procedure to make OVCM Calls on your radio.

- 1 Select a channel with the active group alias or ID.
  - 2 Press the **PTT** button to make the call.
- 

## Responding to OVCM Calls

When you receive an OVCM Call:

- The green LED blinks.
  - Your radio unmutes and the incoming call sounds through the speaker.
- 1 Do one of the following:
    - If the Channel Free Indication feature is enabled, you hear a short alert tone the moment the transmitting radio releases the **PTT** button, indicating the channel is free for you to respond. Press the **PTT** button to respond to the call.



- If the Voice Interrupt feature is enabled, press the **PTT** button to interrupt the audio from the transmitting radio and free the channel for you to respond.

---

**2** Release the **PTT** button to listen.

The call ends when there is no voice activity for a predetermined period.

---

## Advanced Features

This chapter explains the operations of the features available in your radio.

Your dealer or system administrator may have customized your radio for your specific needs. Check with your dealer or system administrator for more information.

### Talkaround

This feature allows you to continue communication when your repeater is not operational, or when your radio is out of range from the repeater but within talking range of other radios.

The talkaround setting is retained even after powering down.

### Toggling Between Repeater and Talkaround Modes

Follow the procedure to toggle between Repeater and Talkaround modes on your radio.

Press the programmed **Repeater/Talkaround** button.

One of the following tones sounds:

#### **Positive Indicator Tone**

Radio is in talkaround mode.

#### **Negative Indicator Tone**

Radio is in repeater mode.

---

### Monitor Feature

The monitor feature is used to make sure that a channel is free before transmitting.

### Monitoring Channels

Follow the procedure to monitor channels.

- 1 Long press the programmed **Monitor** button.  
The yellow LED double blinks when the channel is busy.
-

- 2 Press the **PTT** button to talk. Release the **PTT** button to listen.
- 

## Permanent Monitor

The Permanent Monitor feature is used to continuously monitor a selected channel for activity.

### Turning Permanent Monitor On or Off

Follow the procedure to turn Permanent Monitor on or off on your radio.

Press the programmed **Permanent Monitor** button.

When the radio enters the mode:

- An alert tone sounds.
- The yellow LED lights up.

When the radio exits the mode:

- An alert tone sounds.
  - The yellow LED turns off.
- 

## Scan Lists

Scan lists are created and assigned to individual channels or groups. Your radio scans for voice activity by cycling through the channel or group sequence specified in the scan list for the current channel or group.

Your radio can support up to 3 scan lists, with a maximum of 16 members in a list.

Each scan list supports a mixture of both analog and digital entries.

## Scan

Your radio cycles through the programmed scan list for the current channel looking for voice activity when you start a scan.

There are two ways of initiating scan:

### Main Channel Scan (Manual)

Your radio scans all the channels or groups in your scan list. On entering scan, your radio may, depending on the settings, automatically start on the last scanned active channel or group, or on the channel where scan was initiated.

### Auto Scan (Automatic)

Your radio automatically starts scanning when you select a channel or group that has Auto Scan enabled.

## Turning Scan On or Off

Follow the procedure to turn scan on or off on your radio.

Do one of the following:

- Press the programmed **Scan** button to start or stop Scan.
  - Turn the **Channel Selector Knob** to select a channel programmed with Auto Scan enabled.
- 

If scan is enabled:


- The yellow LED blinks.
- A positive indicator tone sounds.

If scan is disabled:

- The LED turns off.
- A negative indicator tone sounds.

## Responding to Transmissions During Scanning

During scanning, your radio stops on a channel or group where activity is detected. The radio stays on that channel for a programmed duration known as hang time. Follow the procedure to respond to transmissions during scanning.

- 1  If the Channel Free Indication feature is enabled, you hear a short alert tone the moment the transmitting radio releases the **PTT** button, indicating the channel is free for you to respond. Press the **PTT** button during hang time.

The green LED lights up.

---

- 2 Do one of the following:
    - Wait for the Talk Permit Tone to end and speak clearly into the microphone if enabled.
    - Wait for the **PTT** Sidetone to end and speak clearly into the microphone if enabled.
- 

- 3 Release the **PTT** button to listen.

The radio returns to scanning other channels or groups if you do not respond within the hang time.

---

## Deleting Nuisance Channels

If a channel continually generates unwanted calls or noise, (termed a "nuisance" channel), you can temporarily remove the unwanted channel from the scan list. This capability does not apply to the channel designated as the Selected Channel. Follow the procedure to delete nuisance channels on your radio.

- 1 When your radio locks on to an unwanted or nuisance channel, press the programmed **Nuisance Channel Delete** button until you hear a tone.
- 
- 2 Release the programmed **Nuisance Channel Delete** button.  
The nuisance channel is deleted.
- 

## Restoring Nuisance Channels

Follow the procedure to restore nuisance channels on your radio.

Do one of the following:

- Turn the radio off and then power it on again.

- Stop and restart a scan using the programmed **Scan** button.
  - Change the channel using the **Channel Selector Knob**.
- 

## Call Indicator Settings

This feature allows the radio users to configure call or text message ringing tones. See [Turning Radio Tones/Alerts On or Off on page 40](#) for more information.

## Call Alert Operation

Call Alert paging enables you to alert a specific radio user to call you back.

## Responding to Call Alerts

Follow the procedure to respond to Call Alerts on your radio.

When you receive a Call Alert:

- A repetitive tone sounds.

- The yellow LED blinks.

Press the **PTT** button within 4 seconds of receiving a Call Alert page to respond with a Private Call.

---

## Auto-Range Transponder System

The Auto-Range Transponder System (ARTS) is an analog-only feature designed to inform you when your radio is out-of-range of other ARTS-equipped radios.

ARTS-equipped radios transmit or receive signals periodically to confirm that they are within range of each other.

Your radio provides indications of states as follows:

### **First-Time Alert**

A tone sounds.

### **ARTS-in-Range Alert**

A tone sounds, if programmed.

### **ARTS-Out-of-Range Alert**

A tone sounds. The red LED rapidly blinks.



### **NOTICE:**

Check with your dealer or system administrator for more information.

## Utilities

This chapter explains the operations of the utility functions available in your radio.

### Squelch Levels

You can adjust the squelch level to filter out unwanted calls with low signal strength or channels with noise higher than normal background.

#### Normal

This is the default setting.

#### Tight

This setting filters out unwanted calls and/or background noise. Calls from remote locations may also be filtered out.

### Setting Squelch Levels

Follow the procedure to set the squelch levels on your radio.

Press the programmed **Squelch** button.

One of the following tone sounds:

#### Positive Indicator Tone

Radio is operating in tight squelch.

#### Negative Indicator Tone

Radio is operating in normal squelch.

---

### Power Levels

You can customize the power setting to high or low for each channel.

#### High

This enables communication with radios located at a considerable distance from you.

#### Low

This enables communication with radios in closer proximity.

### Setting Power Levels

Follow the procedure to set the power levels on your radio.

Press the programmed **Power Level** button.

If successful:

- The Positive Indicator Tone sounds.

- Radio transmits at low power.

If unsuccessful:

- The Negative Indicator Tone sounds.
  - Radio transmits at high power.
- 

## Voice Operating Transmission

The Voice Operating Transmission (VOX) allows you to initiate a hands-free voice-activated call on a programmed channel. The radio automatically transmits, for a programmed period, whenever the microphone on the VOX-capable accessory detects voice.

You can enable or disable VOX by doing one of the following:

- Turn the radio off and then power it on again to enable VOX.
- Change the channel by using the **Channel Selector** knob to enable VOX.
- Turn VOX on or off by using the programmed **VOX** button.
- Press the **PTT** button during radio operation to disable VOX.

If the Talk Permit Tone is enabled, use a trigger word to initiate the call. Wait for the Talk Permit Tone to finish before speaking clearly into the microphone. See [Turning Talk Permit Tone On or Off](#) for more information.



### NOTICE:

Turning this feature on or off is limited to radios with this function enabled. Check with your dealer or system administrator for more information.

## Turning Radio Tones/Alerts On or Off

You can enable and disable all radio tones and alerts, if needed, except for incoming Emergency alert tone . Follow the procedure to turn tones and alerts on or off on your radio.

Press the programmed **All Tones/Alerts** button.

If successful:

- The Positive Indicator Tone sounds.
- All tones and alerts are turned on.

If unsuccessful:

- The Negative Indicator Tone sounds.



- All tones and alerts are turned off.
-

## Authorized Accessories List

### Antennas

- UHF, 403–433 MHz, 9 cm Stubby Antenna (PMAE4002\_)
- UHF, 430–470 MHz, 9 cm Stubby Antenna (PMAE4003\_)
- UHF, 465–495 MHz, 9 cm Stubby Antenna (PMAE4006\_)
- UHF, 403–520 MHz, Antenna Whip (PMAE4016\_)

### Batteries

- High Capacity Li-Ion, 2150 mAh Battery (PMNN4080\_)
- Li-Ion, 1750 mAh IP54 Battery (PMNN4476\_)

### Cables

- Programming Cable USB (PMKN4128\_)

### Carry Devices

- Universal Chest Pack (HLN6602\_)
- Spring Belt Clip (For 1.5 in. Belt Width)(HLN9844\_)

- Waterproof Bag, Includes Large Carry Strap (HLN9985\_)
- Adjustable Black Nylon Carrying Strap (Attaches to D-Ring on Carry Case)(NTN5243\_)
- Break-A-Way Chest Pack (RLN4570\_)
- Universal Radio Pack and Utility Case (Fanny Pack) (RLN4815\_)

### Chargers

- Switch Mode Power Supply for Single-Unit Chargers, Low Noise, 18 W, US/NA Plug (25009297001)
- Tri-Chemistry Single-Unit Rapid-Rate Charger (PMLN5228\_)
- Charger SWM, Power Supply, Argentina Plug (EPNN9292\_)
- Charger SWM, Power Supply, Euro Plug (with 2571886T01)(EPNN9286\_)
- Power Supply, Charger Switching Mode, NA/LA Plug (EPNN9288\_)
- Power Supply, Brazil plug (EPNN9356\_)

## Earbuds and Earpieces

- Receive-Only Earbud (AARLN4885\_)
- D-Shell Receive Only Earpiece (One Size) for Remote Speaker Microphone (PMLN4620\_)
- Ear Receiver with In-Line Microphone/PTT/VOX Switch (Mag One)(PMLN6531\_)
- Swivel Earpiece with In-Line Microphone and PTT (PMLN6532\_)
- Earset with combined microphone and PTT (PMLN6533\_)
- Earbud with In-Line Microphone/PTT/VOX Switch (Mag One)(PMLN6534\_)
- D-Style Earpiece with Microphone/PTT (PMLN6535\_)
- Earset with Boom Mic and In-Line PTT/VOX Switch (Mag One) (PMLN6537\_)
- Receive-Only Earpiece (RLN4941\_)

## Headsets and Headset Accessories

- Lightweight Headset with Swivel Boom Microphone (PMLN6538\_)
- Lightweight Temple Transducer Headset (PMLN6541\_)

- MagOne Ultra-Lite Headset, behind-the-head, adjustable with boom microphone and In-Line PTT (PMLN6542\_)
- Heavy Duty Headset, Noise Cancelling Boom Mic Headset (PMLN6854\_)
- Medium Weight Over-the-Head Dual Muff Headset (PMLN7468\_)

## Remote Speaker Microphones

- Remote Speaker Microphone with 3.5 mm Audio Jack (PMMN4013\_)
- Remote Speaker Microphone IP57 (PMMN4029\_)
- Remote Speaker Microphone (Mag One) (PMMN4092\_)

## Surveillance Accessories

- 2-Wire Surveillance Kit with Clear Acoustic Earpiece, Beige (Palm Garden)(PMLN6445\_)
- 2-Wire Surveillance Kit, with Clear Acoustic Earpiece, Black (Palm Garden)(PMLN6530\_)
- 2-Wire Surveillance Kit with Quick Disconnect Acoustic Tube, Black (OTTO)(PMLN6536\_)



**NOTICE:**

Consult your authorized Motorola Solutions dealer on the availability of these accessories.

# Batteries and Chargers Warranty

## The Workmanship Warranty

The workmanship warranty guarantees against defects in workmanship under normal use and service.

All MOTOTRBO Batteries	24 Months
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## The Capacity Warranty

The capacity warranty guarantees 80% of the rated capacity for the warranty duration.

Nickel Metal-Hydride (NiMH) or Lithium-Ion (Li-Ion) Batteries	12 Months
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## Limited Warranty

### MOTOROLA SOLUTIONS COMMUNICATION PRODUCTS

#### I. WHAT THIS WARRANTY COVERS AND FOR HOW LONG:

Motorola Solutions, Inc. ("Motorola Solutions") warrants the Motorola Solutions manufactured Communication Products listed below ("Product") against defects in material and workmanship under normal use and service for a period of time from the date of purchase as scheduled below:

Portable Radios	Two (2) Years
Product Accessories (Excluding Batteries and Chargers)	One (1) Year
MagOne Accessories	Six (6) Months

Motorola Solutions, at its option, will at no charge either repair the Product (with new or reconditioned parts),

replace it (with a new or reconditioned Product), or refund the purchase price of the Product during the warranty period provided it is returned in accordance with the terms of this warranty. Replaced parts or boards are warranted for the balance of the original applicable warranty period. All replaced parts of Product shall become the property of Motorola Solutions.

This express limited warranty is extended by Motorola Solutions to the original end user purchaser only and is not assignable or transferable to any other party. This is the complete warranty for the Product manufactured by Motorola Solutions. Motorola Solutions assumes no obligations or liability for additions or modifications to this warranty unless made in writing and signed by an officer of Motorola Solutions.

Unless made in a separate agreement between Motorola Solutions and the original end user purchaser, Motorola Solutions does not warrant the installation, maintenance or service of the Product.

Motorola Solutions cannot be responsible in any way for any ancillary equipment not furnished by Motorola Solutions which is attached to or used in connection with the Product, or for operation of the Product with any ancillary equipment, and all such equipment is expressly excluded from this warranty. Because each system which

may use the Product is unique, Motorola Solutions disclaims liability for range, coverage, or operation of the system as a whole under this warranty.

## II. GENERAL PROVISIONS

This warranty sets forth the full extent of Motorola Solutions responsibilities regarding the Product. Repair, replacement or refund of the purchase price, at Motorola Solutions option, is the exclusive remedy. THIS WARRANTY IS GIVEN IN LIEU OF ALL OTHER EXPRESS WARRANTIES. IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO THE DURATION OF THIS LIMITED WARRANTY. IN NO EVENT SHALL MOTOROLA SOLUTIONS BE LIABLE FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT, FOR ANY LOSS OF USE, LOSS OF TIME, INCONVENIENCE, COMMERCIAL LOSS, LOST PROFITS OR SAVINGS OR OTHER INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE SUCH PRODUCT, TO THE FULL EXTENT SUCH MAY BE DISCLAIMED BY LAW.

## III. STATE LAW RIGHTS:

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION OR EXCLUSIONS MAY NOT APPLY.

This warranty gives specific legal rights, and there may be other rights which may vary from state to state.

## IV. HOW TO GET WARRANTY SERVICE

You must provide proof of purchase (bearing the date of purchase and Product item serial number) in order to receive warranty service and, also, deliver or send the Product item, transportation and insurance prepaid, to an authorized warranty service location. Warranty service will be provided by Motorola Solutions through one of its authorized warranty service locations. If you first contact the company which sold you the Product (for example, dealer or communication service provider), it can facilitate your obtaining warranty service. You can also call Motorola Solutions at 1-800-927-2744.

## V. WHAT THIS WARRANTY DOES NOT COVER

- 1 Defects or damage resulting from use of the Product in other than its normal and customary manner.
- 2 Defects or damage from misuse, accident, water, or neglect.
- 3 Defects or damage from improper testing, operation, maintenance, installation, alteration, modification, or adjustment.
- 4 Breakage or damage to antennas unless caused directly by defects in material workmanship.
- 5 A Product subjected to unauthorized Product modifications, disassembles or repairs (including, without limitation, the addition to the Product of non-Motorola Solutions supplied equipment) which adversely affect performance of the Product or interfere with Motorola Solutions normal warranty inspection and testing of the Product to verify any warranty claim.
- 6 Product which has had the serial number removed or made illegible.
- 7 Rechargeable batteries if:

- any of the seals on the battery enclosure of cells are broken or show evidence of tampering.
  - the damage or defect is caused by charging or using the battery in equipment or service other than the Product for which it is specified.
- 8 Freight costs to the repair depot.
  - 9 A Product which, due to illegal or unauthorized alteration of the software/firmware in the Product, does not function in accordance with Motorola Solutions published specifications or the FCC certification labeling in effect for the Product at the time the Product was initially distributed from Motorola Solutions.
  - 10 Scratches or other cosmetic damage to Product surfaces that does not affect the operation of the Product.
  - 11 Normal and customary wear and tear.

## VI. PATENT AND SOFTWARE PROVISIONS

Motorola Solutions will defend, at its own expense, any suit brought against the end user purchaser to the extent that it is based on a claim that the Product or parts infringe a United States patent, and Motorola Solutions will pay those



costs and damages finally awarded against the end user purchaser in any such suit which are attributable to any such claim, but such defense and payments are conditioned on the following:

- 1 Motorola Solutions will be notified promptly in writing by such purchaser of any notice of such claim,
- 2 Motorola Solutions will have sole control of the defense of such suit and all negotiations for its settlement or compromise, and
- 3 Should the Product or parts become, or in Motorola Solutions opinion be likely to become, the subject of a claim of infringement of a United States patent, that such purchaser will permit Motorola Solutions, at its option and expense, either to procure for such purchaser the right to continue using the Product or parts or to replace or modify the same so that it becomes non-infringing or to grant such purchaser a credit for the Product or parts as depreciated and accept its return. The depreciation will be an equal amount per year over the lifetime of the Product or parts as established by Motorola Solutions.

Motorola Solutions will have no liability with respect to any claim of patent infringement which is based upon the combination of the Product or parts furnished hereunder with software, apparatus or devices not furnished by

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## VII. GOVERNING LAW

This Warranty is governed by the laws of the State of Illinois, U.S.A.

[www.motorolasolutions.com/mototrbo](http://www.motorolasolutions.com/mototrbo)

Motorola Solutions, Inc.  
500 W Monroe Street  
Chicago, IL 60661 U.S.A.

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