



PROFESSIONAL DIGITAL TWO-WAY RADIO

MOTOTRBO™

XPR 3500/XPR 3500e

LIMITED KEYPAD PORTABLE RADIO

USER GUIDE

en-US

fr-CA

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Supplier's Declaration of Conformity

Supplier's Declaration of Conformity

Per FCC CFR 47 Part 2 Section 2.1077(a)



Responsible Party

Name: Motorola Solutions, Inc.

Address: 2000 Progress Pkwy, Schaumburg, IL. 60196

Phone Number: 1-800-927-2744

Hereby declares that the product:

Model Name: **XPR 3500/XPR 3500e**

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.



NOTE:

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.

For country code selection usage (WLAN devices)



NOTE:

The country code selection is for non-US model only and is not available to all US models. Per FCC regulation, all Wi-Fi products marketed in the US must be fixed to US operation channels only.

Important Safety Information

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



CAUTION:

This radio is restricted to Occupational use only. Before using the radio, read the RF Energy Exposure and Product Safety Guide that comes with the radio. This guide contains operating instructions for safe usage, RF energy awareness, and control for compliance with applicable standards and regulations.

Any modification to this device, not expressly authorized by Motorola Solutions, may void the user's authority to operate this device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

This radio transmitter has been approved by Industry Canada to operate with Motorola Solutions-approved antenna with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Notice to Users (FCC)

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

Notice to Users (Industry Canada)

The operation of your Motorola Solutions radio is subject to the Radiocommunications Act and must comply with rules and regulations of the Federal Government's department of Industry Canada. Industry Canada requires that all operators using Private Land Mobile frequencies obtain a radio license before operating their equipment.

Software Version

All the features described in the following sections are supported by the software version **R02.21.01.0000** or later.

Contact your dealer or administrator for more information.

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European Union (EU) and United Kingdom (UK) Waste of Electrical and Electronic Equipment (WEEE) Directive



The European Union's WEEE directive and the UK's WEEE regulation require that products sold into EU countries and the UK must have the crossed-out wheeled bin label on the product (or the package in some cases).

As defined by the WEEE directive, this crossed-out wheellie bin label means that customers and end-users in EU and UK countries should not dispose of electronic and electrical equipment or accessories in household waste.

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

Disclaimer

Please note that certain features, facilities, and capabilities described in this document may not be applicable to or licensed for use on a specific system, or may be dependent upon the characteristics of a specific mobile subscriber unit or configuration of certain parameters. Please refer to your Motorola Solutions contact for further information.

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

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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.

Radio Care

This section describes the basic handling precaution of the radio.

Table 1: IP Specification

IP Specification	Description
IP67	Allows your radio to withstand adverse field conditions such as being submersed in water between 15 cm and 1 m for 30 minutes or dust tight for 2–8 hours.



CAUTION:

Do not disassemble your radio. This could damage radio seals and result in leak paths into the radio. Radio maintenance should only be done in service depot that is equipped to test and replace the seal on the radio.

- If your radio has been submersed in water, shake your radio well to remove any water that may be trapped inside the speaker grille and microphone port. Trapped water could cause decreased audio performance.

- If your radio's battery contact area has been exposed to water, clean and dry battery contacts on both your radio and the battery before attaching the battery to radio. The residual water could short-circuit the radio.
- If your radio has been submersed in a corrosive substance (for example, saltwater), rinse radio and battery in fresh water then dry radio and battery.
- To clean the exterior surfaces of your radio, use a diluted solution of mild dishwashing detergent and fresh water (for example, one teaspoon of detergent to one gallon of water).
- Never poke the vent (hole) located on the radio chassis below the battery contact. This vent allows for pressure equalization in the radio. Doing so may create a leak path into radio and your radio's submersibility may be lost.
- Never obstruct or cover the vent, even with a label.
- Ensure that no oily substances come in contact with the vent.
- Your radio with antenna attached properly is designed to be submersible to a maximum depth of 1 m (3.28 ft) and a maximum submersion time of 30 minutes. Exceeding either maximum limit or use without antenna may result in damage to your radio.

- When cleaning your radio, do not use a high pressure jet spray on radio as this will exceed the 1 m depth pressure and may cause water to leak into your radio.

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?

1.1

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.

Getting Started

Getting Started provides instructions to prepare your radio for use.

2.1

Charging the Battery

Your radio is powered by a Nickel Metal-Hydride (NiMH) or Lithium-Ion (Li-Ion) battery.

Turn off your radio when charging.

- To comply with warranty terms and avoid damage, charge the battery using a Motorola Solutions authorized charger as described in the charger user guide.
- Charge a new battery 14 to 16 hours before initial use for best performance.

Batteries charge best at room temperature.

- Charge your IMPRES™ battery with an IMPRES charger for optimized battery life and valuable battery data. IMPRES batteries charged exclusively with IMPRES chargers receive a 6-month capacity

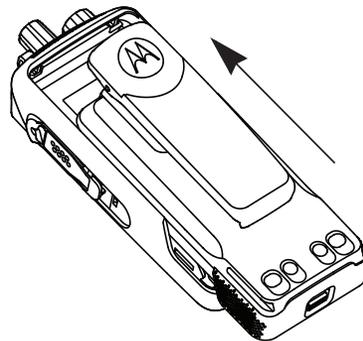
warranty extension over the standard Motorola Solutions Premium battery warranty duration.

2.2

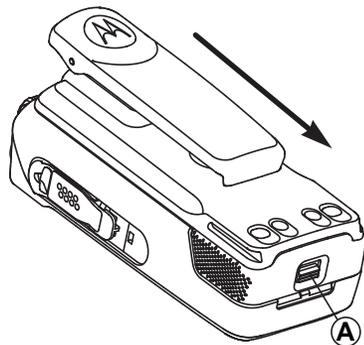
Attaching the Battery

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.
- 4 To remove the battery, turn the radio off. Move the battery latch marked **A** into unlock position and hold, and slide the battery down and off the rails.



NOTE:

This battery mismatch alert feature is only applicable for IMPRES battery and Non-IMPRES battery with kit number programmed in Erasable Programmable Read Only Memory (EPROM).

When the radio is attached with the wrong battery, a low pitched warning tone sounds, the LED blinks in red, display shows `Wrong Battery`, and the Voice Announcement/Text-to-Speech sounds `Wrong Battery` if the Voice Announcement/Text-to-Speech is loaded by using CPS or RM.

When the radio is attached with a non-supported battery, an alert tone sounds, display shows `Unknown Battery`, and battery icon is disabled.

The certification of the radio is voided if you attach a UL battery to an FM approved radio or vice versa. Your radio can be preprogrammed in CPS to alert you if this battery mismatch occurs. Check with your dealer or system administrator to determine how your radio has been programmed.

If your radio is attached with a non-supported or wrong battery, immediately swap with the correct battery.

2.3

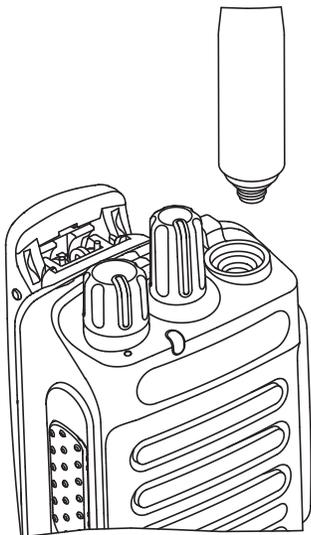
Attaching the Antenna

Turn off your radio.

Set the antenna in the receptacle and turn clockwise.

**NOTE:**

To protect best against water and dust, ensure that antenna is tightly fitted.

**NOTE:**

To remove the antenna, turn the antenna counterclockwise.

**CAUTION:**

To prevent damages, replace the faulty antenna with only MOTOTRBO antennas.

2.4

Attaching the Carry Holster

- 1 Align the rails on the carry holster with the grooves on the battery.
- 2 Press downwards until you hear a click.

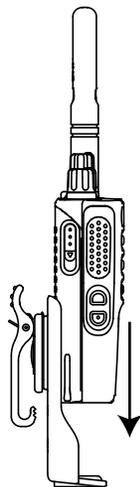


Figure 1: Attaching the Carry Holster

2.5

Attaching the Universal Connector Cover

The universal connector is located on the antenna side of the radio. It is used to connect MOTOTRBO accessories to the radio.

Replace the universal connector cover or dust cover when the universal connector is not in use.

- 1 Insert the slanted end of the cover into the slots above the universal connector.
- 2 Press downwards on the cover to seat the dust cover properly on the universal connector.



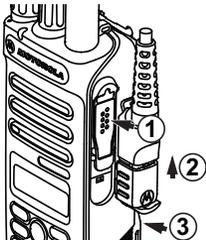
- Secure the dust cover to the radio by pushing the latch upwards.
-

2.6

Attaching the Accessory Connector

The accessory connector is to be secured to the universal connector on the antenna side of the radio. Follow the procedure to attach the accessory connector to your radio.

- Insert the slanted end into the slots above the universal connector.
- Push connector upward.
- Press downwards on the accessory connector until you hear a click.



2.7

Turning the Radio On

Rotate the **On/Off/Volume Control** knob clockwise until it clicks.

If successful, your radio shows the following indications:

- A tone sounds.



NOTE:

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

- The green LED lights up.
- The display shows `MOTOTRBO (TM)`, followed by a welcome message or image.
- The Home screen lights up.

If your radio does not power up, check your battery. Make sure that the battery is charged and properly attached. Contact your dealer if your radio still does not power up.

2.8

Turning the Radio Off

Rotate the **On/Off/Volume Control** knob counterclockwise until it clicks.

The display shows `Powering Down`.

2.9

Adjusting the Volume

To adjust the volume of your radio, perform one of the following actions:

- To increase the volume, turn the **On/Off/Volume Control** knob clockwise.
- To decrease the volume, turn the **On/Off/Volume Control** knob counterclockwise.



NOTE:

Your radio can be programmed to have a minimum volume offset where the volume level cannot be lowered past the programmed minimum volume.

Radio Controls

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



1 Channel Selector Knob

2 On/Off/Volume Control Knob

3 LED Indicator

4 Push-to-Talk (PTT) Button

5 Microphone

6 Side Button 1¹

7 Side Button 2¹

8 Left Navigation Button

9 Menu Button

10 Front Button P1¹

11 OK Button

12 Front Button P2¹

13 Back/Home Button

14 Right Navigation Button

15 Display

16 Speaker

17 Universal Connector for Accessories

18 Antenna

¹ These buttons are programmable.

3.1

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.



NOTE:

See [Emergency Operation on page 89](#) for more information on the programmed duration of the **Emergency** button.

3.1.1

Assignable Radio Functions

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

Audio Profiles

Allows the user to select the preferred audio profile.

Audio Toggle

Toggles audio routing between the internal radio speaker and the speaker of a wired accessory.

Contacts

Provides direct access to the Contacts list.

Call Alert

Provides direct access to the contacts list for you to select a contact to whom a Call Alert can be sent.

Call Forwarding

Toggles Call Forwarding on or off.

Call Log

Selects the call log list.

Channel Announcement

Plays zone and channel announcement voice messages for the current channel.

Emergency

Depending on the programming, initiates or cancels an emergency.

Intelligent Audio

Toggles intelligent audio on or off.

Manual Site Roam ² 

Starts the manual site search.

Mic AGC

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

Monitor

Monitors a selected channel for activity.

Notifications

Provides direct access to the Notifications list.

Nuisance Channel Delete²

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, a Quick Text message, or Home Revert.

Permanent Monitor²

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

Phone 

Provides direct access to the Phone Contacts list.

Privacy 

Toggles privacy on or off.

Radio Alias and ID

Provides radio alias and ID.

Radio Check 

Determines if a radio is active in a system.

Radio Enable 

Allows a target radio to be remotely enabled.

Radio Disable 

Allows a target radio to be remotely disabled.

Repeater/Talkaround²

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

Reset Home Channel

Sets a new home channel.

Silence Home Channel Reminder

Mutes the Home Channel Reminder.

² Not applicable in Capacity Plus.

Scan³

Toggles scan on or off.

Site Lock²

When toggled on, the radio searches the current site only. When toggled off, the radio searches other sites in addition to the current site.

Text Message

Selects the text message menu.

Transmit Interrupt Remote Dekey

Stops an ongoing interruptible call to free the channel.

Trill Enhancement

Toggles trill enhancement on or off.

Voice Announcement On/Off

Toggles voice announcement on or off.

Voice Operating Transmission (VOX)

Toggles VOX on or off.

Zone Selection

Allows selection from a list of zones.

3.1.2

³ Not applicable in Capacity Plus–Single-Site.

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.

Backlight

Toggles display backlight on or off.

Backlight Brightness

Adjusts the brightness level.

Power Level

Toggles transmit power level between high and low.

3.1.3

Accessing Programmed Functions

Follow the procedure to access programmed functions in your radio.



- 1 Do one of the following:
 - Press the programmed button. Proceed to [step 3](#).
 - Press  to access the menu.

-
- 2 Press  or  to the menu function, and press  to select a function or enter a sub-menu.

-
- 3 Do one of the following:
 - Press  to return to the previous screen.
 - Long press  to return to the Home screen.

Your radio automatically exits the menu after a period of inactivity and returns to the Home screen.

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 (see [Calls on page 43](#)).

Long press the **PTT** button to talk. Release the **PTT** button to listen.

If the Talk Permit Tone or the PTT Sidetone  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.

3.3

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. The icons for digital features reflect this change by appearing “grayed out”. The disabled features are hidden in the menu.

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.

**NOTE:**

Your radio also switches between digital and analog modes during a dual mode scan. See [Scan on page 71](#) for more information.

3.4

IP Site Connect

This feature allows your radio to extend conventional communication beyond the reach of a single site by connecting to different available sites by using an Internet Protocol (IP) network. This is a conventional multi-site mode.

When the radio moves out of range from one site and into the range of another, the radio connects to the repeater of the new site to send or receive calls or data transmissions. This is done either automatically or manually depending on your settings.

In an automatic site search, the radio scans through all available sites when the signal from the current site is weak or when the radio is unable to detect any signal from the current site. The radio then locks on to the repeater with the strongest Received Signal Strength Indicator (RSSI) value.

In a manual site search, the radio searches for the next site in the roam list that is currently in range but which may not have the strongest signal and locks on to the repeater.

**NOTE:**

Each channel can only have either Scan or Roam enabled, not both at the same time.

Channels with this feature enabled can be added to a particular roam list. The radio searches the channels in the roam list during the automatic roam operation to locate the best site. A roam list supports a maximum of 16 channels, including the selected channel.



NOTE:

You cannot manually add or delete an entry in the roam list. Contact your dealer for more information.

3.5

Capacity Plus–Single-Site

Capacity Plus–Single-Site is a single-site trunking configuration of the MOTOTRBO radio system, which uses a pool of channels to support hundreds of users and up to 254 Groups. This feature allows your radio to efficiently utilize the available number of programmed channels while in Repeater Mode.

You hear a negative indicator tone if you try to access a feature not applicable to Capacity Plus–Single-Site by using a programmable button press.

Your radio also has features that are available in conventional digital mode, IP Site Connect, and Capacity Plus. However, the minor differences in the way each

feature works does not affect the performance of your radio.

Check with your dealer or system administrator for more information on this configuration.

3.6

Capacity Plus–Multi-Site

Capacity Plus–Multi-Site is a multi-channel trunking configuration of the MOTOTRBO radio system, combining the best of both Capacity Plus and IP Site Connect configurations.

Capacity Plus–Multi-Site allows your radio to extend trunking communication beyond the reach of a single site, by connecting to different available sites which are connected with an IP network. It also provides an increase in capacity by efficiently utilizing the combined available number of programmed channels supported by each of the available sites.

When the radio moves out of range from one site and into the range of another, it connects to the repeater of the new site to send or receive calls/data transmissions. Depending on your settings, this is done automatically or manually.

If the radio is set to do this automatically, it scans through all available sites when the signal from the current site is

weak or when the radio is unable to detect any signal from the current site. It then locks on to the repeater with the strongest RSSI value.

In a manual site search, the radio searches for the next site in the roam list that is currently in range (but which may not have the strongest signal) and locks on to it.

Any channel with Capacity Plus–Multi-Site enabled can be added to a particular roam list. The radio searches these channels during the automatic roam operation to locate the best site.



NOTE:

You cannot manually add or delete an entry to the roam list. Check with your dealer or system administrator for more information.

Similar to Capacity Plus–Single Site, icons of features not applicable to Capacity Plus–Multi-Site are not available in the menu. You hear a negative indicator tone if you try to access a feature not applicable to Capacity Plus–Multi-Site by using a programmable button press.

Status Indicators

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

4.1

Icons

The Liquid Crystal Display (LCD) of your radio shows the radio status, text entries, and menu entries

Table 2: Display Icons

The following icons appear on the status bar at the top of the radio display. The icons are arranged left most in order of appearance or usage, and are channel-specific.

	<p>Battery The number of bars (0–4) shown indicates the charge remaining in the battery. The icon blinks when the battery is low.</p>
	<p>Emergency Radio is in Emergency mode.</p>

	<p>Flexible Receive List Flexible receive list is enabled.</p>
	<p>High Volume Data Radio is receiving high volume data and channel is busy.</p>
	<p>Monitor Selected channel is being monitored.</p>
	<p>Mute Mode Mute Mode is enabled and speaker is muted.</p>
	<p>Notification Notification List has one or more missed events.</p>
	<p>Over-the-Air Programming Delay Timer Indicates time left before automatic re-start of radio.</p>
	<p>Power High Radio is set at High power.</p>
	<p>Power Low Radio is set at Low power.</p>

	<p>Received Signal Strength Indicator (RSSI) The number of bars displayed represents the radio signal strength. Four bars indicate the strongest signal. This icon is only displayed while receiving.</p>		<p>Talkaround⁴ In the absence of a repeater, radio is currently configured for direct radio to radio communication.</p>
	<p>Scan⁴ Scan feature is enabled.</p>		<p>Tones Disable Tones are turned off.</p>
	<p>Scan- Priority 1⁴ Radio detects activity on channel/group designated as Priority 1.</p>		<p>Unsecure The Privacy feature is disabled.</p>
	<p>Scan- Priority 2⁴ Radio detects activity on channel/group designated as Priority 2.</p>		<p>Vote Scan Vote scan feature is enabled.</p>
	<p>Secure The Privacy feature is enabled.</p>		<p>Wi-Fi Excellent⁶ Wi-Fi signal is excellent.</p>
	<p>Site Roaming⁵ The site roaming feature is enabled.</p>		<p>Wi-Fi Good⁶ Wi-Fi signal is good.</p>
			<p>Wi-Fi Average⁶ Wi-Fi signal is average</p>

⁴ Not applicable in Capacity Plus.

⁵ Not applicable in Capacity Plus–Single-Site.

⁶ Only applicable for XPR 3500e Bluetooth and Wi-Fi models.

	Wi-Fi Poor⁶ Wi-Fi signal is poor.
	Wi-Fi Unavailable⁶ Wi-Fi signal is unavailable.
	Bluetooth Not Connected⁶ The Bluetooth feature is enabled but there is no remote Bluetooth device connected.
	Bluetooth Connected⁶ The Bluetooth feature is enabled. The icon stays lit when a remote Bluetooth device is connected.

Table 3: Advance Menu Icons

The following icons appear beside menu items that offer a choice between two options or as an indication that there is a sub-menu offering two options.

	Checkbox (Checked) Indicates that the option is selected.
---	---

	Checkbox (Empty) Indicates that the option is selected.
	Solid Black Box Indicates that the option selected for the menu item with a sub-menu.

Table 4: Call Icons

The following icons appear on the display during a call. These icons also appear in the Contacts list to indicate alias or ID type.

	Private Call Indicates a Private Call in progress. In the Contacts list, it indicates a subscriber alias (name) or ID (number).
	Group Call/All Call Indicates a Group Call or All Call in progress. In the Contacts list, it indicates a group alias (name) or ID (number).
	Phone Call as Group/All Call Indicates a Phone Call as Group Call or All Call in progress. In the Contacts

list, it indicates a group alias (name) or ID (number).



Phone Call as Private Call

Indicates a Phone Call as Private Call in progress. In the Contacts list, it indicates a phone alias (name) or ID (number).

Table 5: Mini Notice Icons

The following icons appear momentarily on the display after an action to perform a task is taken.



Failed Transmission (Negative)

Failed action taken.



Successful Transmission (Positive)

Successful action taken.



Transmission in Progress (Transitional)

Transmitting. This is seen before indication for Successful Transmission or Failed Transmission.

Table 6: Sent Items Icons

The following icons appear at the top right corner of the display in the Sent Items folder.



or



In Progress

The text message to a subscriber alias or ID is pending transmission, followed by waiting for acknowledgment. The text message to a group alias or ID is pending transmission.



or



Send Failed

The text message cannot be sent.



or



Sent Successfully

The text message has been successfully sent.

4.2

LED Indicators

LED indicators show the operational status of your radio.

Blinking Red

- Radio is indicating a battery mismatch.⁷
- 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.
- Mute Mode is enabled.

Solid Green

- Radio is powering up.
- Radio is transmitting.
- Radio is sending a Call Alert or an emergency transmission.

Blinking Green

- Radio is receiving a call or data.
- Radio is retrieving Over-the-Air Programming transmissions.
- Radio is detecting activity over the air.

**NOTE:**

This activity may or may not affect the programmed channel of the radio due to the nature of the digital protocol.

There is no LED indication when the radio is detecting activity over the air in Capacity Plus.

Double Blinking Green

- Radio is receiving a privacy-enabled call or data.

Solid Yellow

- Radio is monitoring a conventional channel.

Blinking Yellow

- Radio is scanning for activity.
- Radio has yet to respond to a Call Alert.
- Radio has Flexible Receive List enabled.
- All Capacity Plus–Multi-Site channels are busy.

Double Blinking Yellow

- Radio has Auto Roaming enabled.
- Radio is actively searching for a new site.
- Radio has yet to respond to a Group Call Alert.
- Radio is locked.

⁷ Only applicable to models with the latest software and hardware.

Radio is not connected to the repeater while in Capacity Plus.

All Capacity Plus channels are busy.

4.3

Tones

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



High Pitched Tone



Low Pitched Tone

4.3.1

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.

4.3.2

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 up to 128 channels and 50 zones, with a maximum of 16 channels per zone.

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

5.1

Selecting Zones

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

- 1 Do one of the following:
 - Press the programmed **Zone Selection** button. Proceed to [step 3](#).
 - Press  to access the menu.
-

- 2 Press  or  to Zone. Press  to select.
The display shows ✓ and the current zone.
-

- 3 Press  or  to the required zone. Press  to select.
The display shows <Zone> Selected momentarily and returns to the selected zone screen.
-

5.2

Selecting Channels

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

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

required zone is displayed (if you have multiple zones in your radio).



NOTE:

If **Virtual Channel Stop** is enabled, your radio stops proceeding beyond the first or the last channel, and a tone is heard.

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:

Alias Search

This method is used for Group, Private, and All Calls only with a keypad microphone.

Contacts List

This method provides direct access to the Contacts list.

Manual Dial (by using Contacts)

This method is used for Private and Phone Calls only with a keypad microphone.

Programmed Number Keys

This method is used for Group, Private, and All Calls only with a keypad microphone.



NOTE:

You can only have one alias or ID assigned to a number key, but you can have more than one number key associated to an alias or ID. All the number keys on a keypad microphone can be assigned. See [Assigning Entries to Programmable Number Keys](#) for more information.

Programmed One Touch Access Button

This method is used for Group, Private, and Phone Calls only.

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

Programmable Button

This method is used for Phone Calls only.

6.1

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.

6.1.1

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. The display shows the **Group Call** icon and the group call alias.
-

- 3 Release the **PTT** button to listen.
The green LED lights up when the target radio responds. The display shows the **Group Call** icon, the group alias or ID, and the transmitting radio alias or ID.
-

- 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

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. The radio returns to the screen you were on prior to initiating the call.

6.1.2

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.
- The display shows the **Group Call** icon at the top right corner.
- The first text line shows the caller alias.
- The second text line displays the group call alias.
- 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.

If the radio receives a Group Call while not on the Home screen, it remains on its current screen prior to answering the call.

Long press  to return to the Home screen to view the caller alias before replying.

6.2

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.

6.2.1

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. The display shows the **Private Call** icon and the private call alias.

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

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

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. The display shows `Call Ended`.

6.2.2

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.
- The first text line shows the **Private Call** icon.
- The second text line displays the Private Call alias.
- 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. The display shows **Call Ended**.

6.3

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.

6.3.1

Receiving All Calls

When you receive an All Call:

- A tone sounds.
- The green LED blinks.
- The display shows the caller ID information at the top right corner.
- The first text line shows the **Group Call** icon and **All Call**.
- Your radio unmutes and the incoming call sounds through the speaker.

The radio returns to the screen before receiving the All Call when the call ends.

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.



NOTE:

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 menu navigation or editing until the end of an All Call.

6.3.2

Making All Calls

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

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

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

The green LED lights up. The display shows the **All Call** icon and All Call.

- 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.

Users on the channel cannot respond to an All Call.

6.4

Selective Calls

A Selective Call is a call from an individual radio to another individual radio. It is a Private Call on an analog system.

6.4.1

Making Selective Calls

Your radio must be programmed for you to initiate a Selective Call. Follow the procedure to make Selective Calls on your radio.

- 1 Select a channel with the active subscriber alias or ID.
-

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

The green LED lights up. The display shows the **Private Call** icon, the subscriber alias, and call status.

- 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 lights up 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.

-
- #### 6 The display shows `Call Ended`.
-

- The first text line shows the **Private Call** icon and the caller alias or `Selective Call` or `Alert with Call`.
- Your radio unmutes and the incoming call sounds through the speaker.

- 1 Press the **PTT** button to respond to the call.

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. A tone sounds. The display shows `Call Ended`.

6.4.2

Responding to Selective Calls

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

When you receive a Selective Call:

- The green LED blinks.

6.5

Initiating Transmit Interrupt

An ongoing call is interrupted, when you perform the following actions:

- Press the **Voice PTT** button.
- Press the **Emergency** button.

- Perform data transmission.
 - Press the programmed **TX Interrupt Remote Dekey** button.
-

The recipient radio displays `Call Interrupted`.

6.6

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.

6.6.1

Making Broadcast Voice Calls

Program your radio to make Broadcast Voice Calls.

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

- 2 Do one of the following:

- Select a channel with the active group alias or ID.
 - Press the programmed **One Touch Access** button.
-

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

The green LED lights up. The display shows `Broadcast Call`, the **Group Call** icon and alias. The display shows the **Group Call** icon and alias.

- 4 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.



NOTE:

Users on the channel cannot respond to Broadcast Voice Calls.

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

6.6.2

Receiving Broadcast Voice Calls

When you receive a Broadcast Voice Call:

- A tone sounds.
- The green LED blinks.
- The display shows the caller ID information in the top right corner.
- The first text line shows the **Group Call** icon and `Broadcast Call`.
- Your radio unmutes and the incoming call sounds through the speaker.

When the call ends, the radio returns to the previous screen.

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

You cannot respond to a Broadcast Voice Call.



NOTE:

The radio stops receiving the Broadcast Voice Call if you switch to a different channel while receiving the call. You cannot continue with any menu navigation or editing until the end of the Broadcast Voice Call.

6.7

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.

6.7.1

Making Unaddressed Calls

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

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

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

- 4 Release the **PTT** button to listen.
The green LED lights up when the target radio responds. A momentary tone sounds.
-

- 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 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.
-

6.7.2

Responding to Unaddressed Calls

When you receive an Unaddressed Call:

- The green LED blinks.

- A momentary tone sounds.
- The text line shows `Unaddress Call`, the caller alias, and the group call alias.
- 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.

6.8

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.

6.8.1

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 Do one of the following:
-

- Select a channel with the active group alias or ID.
 - Press the programmed **One Touch Access** button.
-

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

The green LED lights up.

The text line shows the call type icon, OVCM and alias, indicating that the radio has entered OVCM State.

- 4 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.
-

6.8.2

Responding to OVCM Calls

When you receive an OVCM Call:

- The green LED blinks.
- The text line shows the call type icon, OVCM, and alias.

- Your radio unmutes and the incoming call sounds through the speaker.

**NOTE:**

Recipient users are not allowed to Talkback during a Broadcast Call. If the **PTT** button is pressed during a Broadcast Call, the Talkback Prohibit Tone sounds momentarily.

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.

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.

7.1

Talkaround

This feature allows you to continue communicating when your repeater is non-operational, or when your radio is out of range from the repeater but within the talk range of other radios.

The talkaround setting is retained even after powering down.



NOTE:

This feature is not applicable in Capacity Plus–Single-Site, Capacity Plus–Multi-Site, and Citizens Band channels that are in the same frequency.

7.1.1

Toggling Between Repeater and Talkaround Modes

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

- 1 Do one of the following:
 - Press the programmed **Repeater/Talkaround** button. Skip the following steps.
 - Press  to access the menu.

- 2 Press  or  to Utilities. Press  to select.

- 3 Press  or  to Radio Settings. Press  to select.

- 4 Press  or  to Talkaround. Press  to select.

If enabled, ✓ appears beside Enabled.

If disabled, ✓ disappears beside Enabled.

The screen automatically returns to the previous screen.

If the monitored channel is free, you hear a “white noise”.

7.2

Monitor Feature

The feature allows you to remotely activate the microphone of a target radio. You can use this feature to monitor any audible activity surrounding the target radio.

7.2.1

Monitoring Channels

Follow the procedure to monitor channels.

- 1 Long press the programmed **Monitor** button.

The **Monitor** icon appears on the display and the LED lights up solid yellow.

If the channel is in use:

- You hear radio activity or total silence.
- The yellow LED lights up.

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

7.2.2

Permanent Monitor

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

7.2.2.1

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.

- The display shows `Permanent Monitor On` and the **Monitor** icon.

When the radio exits the mode:

- An alert tone sounds.
- The yellow LED turns off.
- The display shows `Permanent Monitor Off`.

- Return to the home channel.
- Mute the reminder temporarily using the programmable button.
- Set a new home channel using the programmable button.

7.3.1

Muting the Home Channel Reminder

When the Home Channel Reminder sounds, you can temporarily mute the reminder.

Press the programmed **Silence Home Channel Reminder** button.

The display shows `HCR Silenced`.

7.3.2

Setting New Home Channels

When the Home Channel Reminder occurs, you can set a new home channel.

- 1 Do one of the following:

7.3

Home Channel Reminder

This feature provides a reminder when the radio is not set to the home channel for a period of time.

If this feature is enabled through CPS, when your radio is not set to the home channel for a period of time, the following occurs periodically:

- The Home Channel Reminder tone and announcement sound.
- The first line of the display shows `Mon`.
- The second line shows `Home Channel`.

You can respond to the reminder by performing one of the following actions:

- Press the **Reset Home Channel** programmable button to set the current channel as the new Home Channel. Skip the following steps. The first line of the display shows the channel alias and the second line shows `New Home Ch.`
- Press  to access the menu.

2 Press  or  to `Utilities`. Press  to select.

3 Press  or  to `Radio Settings`. Press  to select.

4 Press  or  to `Home Channel`. Press  to select.

5 Press  or  to the desired new home channel alias. Press  to select.

The display shows ✓ beside the selected home channel alias.

7.4

Remote Monitor

This feature is used to turn on the microphone of a target radio with a subscriber alias or ID. You can use this feature to remotely monitor any audible activity surrounding the target radio.

Both your radio and the target radio must be programmed to allow you to use this feature.

This feature stops after a programmed duration or when there is any user operation on the target radio.

7.4.1

Initiating Remote Monitor

Follow the procedure to initiate Remote Monitor on your radio.

1 Press the programmed **Remote Monitor** button.

2 Press  or  to the required alias or ID.

3 Press  to select.

The display shows a transitional mini notice, indicating the request is in progress. The green LED lights up.

4 Wait for acknowledgment.

If successful:

- A positive indicator tone sounds.
- The display shows a positive mini notice.
- The audio from the monitored radio starts playing for a programmed duration, and the display shows *Rem. Monitor*. Once the timer expires, an alert tone sounds, and the LED turns off.

If unsuccessful:

- A negative indicator tone sounds.
 - The display shows a negative mini notice.
-

Initiating Remote Monitor by Using the Contacts List

Follow the procedure to initiate Remote Monitor on your radio by using the Contacts list.

1 Press  to access the menu.

2 Press  or  to *Contacts*. Press  to select.

3 Press  or  to the required alias or ID. Press  to select.

4 Press  or  to *Remote Mon..*

5 Press  to select.

The display shows a transitional mini notice, indicating the request is in progress. The green LED lights up.

6 Wait for acknowledgment.

If successful:

- A positive indicator tone sounds.
- The display shows a positive mini notice.
- The audio from the monitored radio starts playing for a programmed duration, and the display shows *Rem. Monitor*. Once the timer expires, an alert tone sounds, and the LED turns off.

If unsuccessful:

- A negative indicator tone sounds.
 - The display shows a negative mini notice.
-

7.4.3

Initiating Remote Monitor by Using the Manual Dial

Follow the procedure to initiate Remote Monitor on your radio by using the manual dial.

- 1** Press  to access the menu.
-

- 2** Press  or  to *Contacts*. Press  to select.
-

- 3** Press  or  to *Manual Dial*. Press  to select.
-

- 4** Press  or  to *Radio Number*. Press  to select.
-

- 5** Do one of the following:

- Enter the subscriber alias or ID, and press  to proceed.
 - Edit the previously dialed ID, and press  to proceed.
-

- 6** Press  or  to *Remote Mon..*
-

7 Press  to select.

The display shows a transitional mini notice, indicating the request is in progress. The green LED lights up.

8 Wait for acknowledgment.

If successful:

- A positive indicator tone sounds.
- The display shows a positive mini notice.
- The audio from the monitored radio starts playing for a programmed duration, and the display shows *Rem. Monitor*. Once the timer expires, an alert tone sounds, and the LED turns off.

If unsuccessful:

- A negative indicator tone sounds.
 - The display shows a negative mini notice.
-

Bluetooth®

This feature allows you to use your radio with a Bluetooth-enabled device (accessory) through a Bluetooth connection. Your radio supports both Motorola Solutions and Commercially available Off-The-Shelf (COTS) Bluetooth-enabled devices.



NOTE:

This feature is applicable to XPR 3500e Bluetooth and Wi-Fi models only.

Bluetooth operates within a range of 10 m (32ft) line of sight. This is an unobstructed path between your radio and your Bluetooth-enabled device. For high degree of reliability, Motorola Solutions recommends to not separate the radio and the accessory.

At the fringe areas of reception, both voice and tone quality start to sound "garbled" or "broken". To correct this problem, position your radio and Bluetooth-enabled device closer to each other (within the 10 m defined range) to re-establish clear audio reception. The Bluetooth function of your radio has maximum power of 2.5 mW (4 dBm) at the 10 m range.

Refer to the user manual of your respective Bluetooth-enabled device for more details on the full capabilities of your Bluetooth-enabled device.

Your radio connects to the Bluetooth-enabled device within range with either the strongest signal strength, or to one which it has connected to before in a prior session. Do not turn off your Bluetooth-enabled device or press the home back button  during the finding and connecting operation as this cancels the operation.

7.5.1

Turning Bluetooth On and Off

Follow the procedure to turn Bluetooth on and off.

- 1 Press  to access the menu.

- 2 Press  or  to Bluetooth. Press  to select.

- 3 Press  or  to My Status. Press  to select.
The display shows On and Off. The current status is indicated by a ✓.

- 4 Do one of the following:

- Press  or  to On. Press  to select. The display shows ✓ beside On.
- Press  or  to Off. Press  to select. The display shows ✓ beside Off.

7.5.2

Connecting to Bluetooth Devices

Follow the procedure to connect to Bluetooth devices.

Turn on your Bluetooth-enabled device and place it in pairing mode.

- 1 Press  to access the menu.

- 2 Press  or  to Bluetooth. Press  to select.

- 3 Press  or  to Devices. Press  to select.

- 4 Do one of the following:

- Press  or  to the required device.
Press  to select.
- Press  or  to Find Devices to locate available devices. Press  or  to the required device. Press  to select.

- 5 Press  or  to Connect. Press  to select.

Your Bluetooth-enabled device may require additional steps to complete the pairing. Refer to the user manual of your Bluetooth-enabled device.

The display shows Connecting to <Device>.

Wait for acknowledgment.

If successful:

- A positive indicator tone sounds.
- The display shows <Device> Connected and the **Bluetooth Connected** icon.

If unsuccessful:

- A negative indicator tone sounds.

- The display shows Connecting Failed.

7.5.3

Connecting to Bluetooth Devices in Discoverable Mode

Follow the procedure to connect to Bluetooth devices in discoverable mode.

Turn on your Bluetooth-enabled device and place it in pairing mode.

- 1 Press  to access the menu.
- 2 Press  or  to Bluetooth. Press  to select.
- 3 Press  or  to Find Me. Press  to select. The radio can now be found by other Bluetooth-enabled devices for a programmed duration. This is called Discoverable Mode.

Wait for acknowledgment.

If successful:

- A positive indicator tone sounds.
- The display shows <Device> Connected and the **Bluetooth Connected** icon.
- The display shows ✓ beside the connected device.

If unsuccessful:

- A negative indicator tone sounds.
- The display shows Connecting Failed.

7.5.4

Disconnecting from Bluetooth Devices

Follow the procedure to disconnect from Bluetooth devices.

- 1 Press  to access the menu.

- 2 Press  or  to Bluetooth. Press  to select.

- 3 Press  or  to Devices. Press  to select.

- 4 Press  or  to the required device. Press  to select.

- 5 Press  or  to Disconnect. Press  to select.

The display shows Disconnecting from <Device>.

Wait for acknowledgment.

- A tone sounds.
- The display shows <Device> Disconnected and the **Bluetooth Connected** icon disappears.
- The ✓ disappears beside the connected device.

7.5.5

Switching Audio Route between Internal Radio Speaker and Bluetooth Device

Follow the procedure to toggle audio routing between internal radio speaker and external Bluetooth device.

Press the programmed **Bluetooth Audio Switch** button.

The display shows one of the following results:

- A tone sounds. The display shows `Route Audio to Radio`.
- A tone sounds. The display shows `Route Audio to Bluetooth`.

7.5.6

Viewing Device Details

Follow the procedure to view device details on your radio.

- 1 Press  to access the menu.
-
- 2 Press  or  to `Bluetooth`. Press  to select.
-
- 3 Press  or  to `Devices`. Press  to select.
-

- 4 Press  or  to the required device. Press  to select.
-

- 5 Press  or  to `View Details`. Press  to select.
-

7.5.7

Deleting Device Name

You can remove a disconnected device from the list of Bluetooth-enabled devices.

- 1 Press  to access the menu.
-
- 2 Press  or  to `Bluetooth`. Press  to select.
-
- 3 Press  or  to `Devices`. Press  to select.
-

4 Press  or  to the required device. Press  to select.

5 Press  or  to Delete. Press  to select. The display shows Device Deleted.

4 Press  or  to the BT Mic Gain type and the current values. To edit values, press  to select.

5 Press  or  to increase or to decrease values. Press  to select.

7.5.8

Adjusting Bluetooth Mic Gain Values

Allows control of microphone gain value in connected Bluetooth-enabled devices.

1 Press  to access the menu.

2 Press  or  to Bluetooth. Press  to select.

3 Press  or  to BT Mic Gain. Press  to select.

7.5.9

Permanent Bluetooth Discoverable Mode

The Permanent Bluetooth Discoverable Mode must be enabled by the dealer or system administrator.



NOTE:

If enabled, Bluetooth is **not** displayed in the Menu and you cannot use any Bluetooth programmable button features.

Other Bluetooth-enabled devices can locate your radio, but the devices cannot connect to the radio. The Permanent Bluetooth Discoverable Mode enables dedicated devices to use your radio position in the process of Bluetooth-based location.

7.6

Radio Check

This feature allows you to determine if another radio is active in a system without disturbing the radio user. No audible or visual notification is shown on the target radio. This feature is only applicable for subscriber aliases or IDs. Your radio must be programmed to allow you to use this feature.

7.6.1

Sending Radio Checks

Follow the procedure to send radio checks on your radio.

- 1 Press the programmed **Radio Check** button.

- 2 Press  or  to the required alias or ID.
Press  to select.

The display shows a transitional mini notice, indicating the request is in progress. The green LED lights up.

Wait for acknowledgment.

If you press  when the radio is waiting for acknowledgment, a tone sounds, the radio terminates all retries, and exits Radio Check mode.

The radio returns to the subscriber alias or ID screen.

7.6.2

Sending Radio Checks by Using the Contacts List

Follow the procedure to send radio checks on your radio by using the Contacts list.

- 1 Press  to access the menu.

- 2 Press  or  to *Contacts*. Press  to select.

- 3 Press  or  to the required alias or ID.
Press  to select.

- 4 Press  or  to Radio Check. Press  to select.

The green LED lights up.

- 5 Wait for acknowledgment.

If you press  when the radio is waiting for acknowledgement, a tone sounds, the radio terminates all retries, and exits Radio Check mode. The radio returns to the subscriber alias or ID screen.

7.7

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 250 scan lists, with a maximum of 16 members in a list.

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

You can add, delete, or prioritize channels by editing a scan list.

The **Priority** icon appears on the left of the member alias, if set, to indicate whether the member is on a Priority 1 or Priority 2 channel list. You cannot have multiple Priority 1 or Priority 2 channels in a scan list. There is no **Priority** icon if priority is set to **None**.

7.7.1

Viewing Entries in the Scan List

Follow the procedure to view the entries in the Scan list on your radio.

- 1 Press  to access the menu.

- 2 Press  or  to Scan. Press  to select.

- 3 Press  or  to Scan List. Press  to select.

- 4 Press  or  to view each member on the list.

7.7.2

Adding New Entries to the Scan List

Follow the procedure to add new entries to the Scan list on your radio.

- 1 Press  to access the menu.

- 2 Press  or  to Scan. Press  to select.

- 3 Press  or  to Scan List. Press  to select.

- 4 Press  or  to Add Member. Press  to select.

- 5 Press  or  to the required alias or ID.
Press  to select.

- 6 Press  or  to the required priority level.
Press  to select.

The display shows a positive mini notice and then, Add Another?.

- 7 Do one of the following:
 - Press  or  to Yes to add another entry.
Press  to select. Repeat [step 5](#) and [step 6](#).
 - Press  or  to No to save the current list. Press  to select.

7.7.3

Deleting Entries from the Scan List

Follow the procedure to delete entries from the Scan list.

- 1 Press  to access the menu.

- 2 Press  or  to Scan. Press  to select.

3 Press  or  to Scan List. Press  to select.

4 Press  or  to the required alias or ID.
Press  to select.

5 Press  or  to Delete. Press  to select.
The display shows Delete Entry?.

6 Do one of the following:

- Press  or  to Yes to delete the entry.
Press  to select.
The display shows a positive mini notice.
 - Press  or  to No to return to the previous screen. Press  to select.
-

7 Repeat [step 4](#) to [step 6](#) to delete other entries.

8 Long press  to return to the Home screen after deleting all required aliases or IDs.

7.7.4

Setting Priority for Entries in the Scan List

Follow the procedure to set priorities for entries in the Scan list on your radio.

1 Press  to access the menu.

2 Press  or  to Scan. Press  to select.

3 Press  or  to Scan List. Press  to select.

4 Press  or  to the required alias or ID.
Press  to select.

- 5 Press  or  to Edit Priority. Press  to select.
-

- 6 Press  or  to the required priority level. Press  to select.

The display shows a positive mini notice before returning to the previous screen. The **Priority** icon appears on the left of the member alias.

Auto Scan (Automatic)

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



NOTE:

When you configure **Receive Group Message In Scan**, your radio is able to receive group messages from non-home channels. Your radio is able to reply the group messages on home channel but is not able to reply on non-home channels. Check with your dealer or system administrator for more information.

7.8

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.

7.8.1

Turning Scan On or Off

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

- 1 Turn the **Channel Selector Knob** to select a channel programmed with a scan list.
-

- 2 Press  to access the menu.
-

- 3 Press  or  to Scan. Press  to select.
-

4 Press  or  to Scan State. Press  to select.

5 Press  or  to the required scan state and press  to select.

If scan is enabled:

- The display shows Scan On and **Scan** icon.
- The yellow LED blinks.

If scan is disabled:

- The display shows Scan Off.
- The **Scan** icon disappears.
- The LED turns off.

7.8.2

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.

7.8.3

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.

7.8.4

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 or menu.
 - Change the channel using the **Channel Selector Knob**.
-

7.9

Vote Scan



Vote Scan provides you with wide area coverage in areas where there are multiple base stations transmitting identical information on different analog channels.

Your radio scans analog channels of multiple base stations and performs a voting process to select the strongest received signal. Once that is established, your radio receives transmissions from that base station.

During a vote scan, the yellow LED blinks and the display shows the **Vote Scan** icon.

To respond to a transmission during a vote scan, see [Responding to Transmissions During Scanning on page 72](#).

7.10

Contacts Settings

Contacts provides address book capabilities on your radio. Each entry corresponds to an alias or ID that you use to initiate a call. The entries are alphabetically sorted.

Each entry, depending on context, associates with the different call types: Group Call, Private Call, All Call, PC Call, or Dispatch Call.

PC Call and Dispatch Call are data-related. They are only available with the applications. Refer to the data applications documentation for further details.

**NOTE:**

You see a checkmark before each number key that is assigned to an entry. If the checkmark is before `Empty`, you have not assign a number key to the entry.

Your radio supports two Contacts lists, each for Analog contacts and Digital contacts, with a maximum of 500 members for each Contacts list.

Each entry within Contacts displays the following information:

- Call Type
- Call Alias
- Call ID

**NOTE:**

You can add, or edit subscriber IDs for the Digital Contacts list. Deleting subscriber IDs can only be performed by your dealer.

You can only view the subscriber IDs, edit the subscriber IDs, and initiate a Call Alert for the Analog Contacts list. Adding and deleting capabilities can only be performed by your dealer.

If the Privacy feature is enabled on a channel, you can make privacy-enabled Group Calls, Private Calls, and All Calls on that channel. Only target radios with the same Privacy Key, or the same Key Value and Key ID as your radio will be able to decrypt the transmission.

7.10.1

Making Group Calls by Using the Contacts List

Follow the procedure to make Group Calls on your radio by using the Contacts list.

- 1 Press  to access the menu.
-

2 Press  or  to **Contacts**. Press  to select.

3 Press  or  to the required alias or ID.

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

5 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.
-

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

The green LED blinks when any user in the group responds. The display shows the **Group Call** icon, and alias or ID, and the transmitting radio alias or ID.

7  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.

7.10.2

Making Private Calls by Using the Contacts List

1 Press  to access the menu.

2 Press  or  to **Contacts**. Press  to select.

3 Press  or  to the required alias or ID.
Press  to select.

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

The green LED lights up. The display shows the destination alias.

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

- 6 Release the **PTT** button to listen.
The display shows the transmitting user alias or ID.

- 7  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. The display shows **Call Ended**.

- 2 Press  or  to **Contacts**. Press  to select.

- 3 Press  or  to the required alias or ID.
Press  to select.

- 4 Press  or  to **Set as Default**. Press  to select.

A positive indicator tone sounds. The display shows a positive mini notice. The display shows ✓ beside the selected default alias or ID.

7.10.3

Setting Default Contact

Follow the procedure to set the default contact on your radio.

- 1 Press  to access the menu.

7.11

Call Indicator Settings

This feature allows you to configure call or text message ringing tones.

7.11.1

Activating or Deactivating Call Ringers for Call Alerts

- 1 Press  to access the menu.

- 2 Press  or  to Utilities. Press  to select.

- 3 Press  or  to Radio Settings. Press  to select.

- 4 Press  or  to Tones/Alert. Press  to select.

- 5 Press  or  to Call Ringers. Press  to select.

- 6 Press  or  to Call Alert. Press  to select.

7.11.2

Activating or Deactivating Call Ringers for Private Calls

Follow the procedure to activate or deactivate call ringers for Private Calls on your radio.

- 1 Press  to access the menu.

- 2 Press  or  to Utilities. Press  to select.

- 3 Press  or  to Radio Settings. Press  to select.

- 4 Press  or  to Tones/Alerts. Press  to select.

- 5 Press  or  to Call Ringers. Press  to select.

- 6 Press  or  to Private Call. Press  to select.

The display shows ✓ beside On if Private Call ringing tones are enabled.

The display shows ✓ beside Off if Private Call ringing tones are disabled.

7.11.3

Activating or Deactivating Call Ringers for Selective Calls

Follow the procedure to activate or deactivate call ringers for Selective Calls on your radio.

- 1 Press  to access the menu.
-
- 2 Press  or  to Utilities. Press  to select.
-

- 3 Press  or  to Radio Settings. Press  to select.
-

- 4 Press  or  to Tones/Alerts. Press  to select.
-

- 5 Press  or  to Call Ringers. Press  to select.
-

- 6 Press  or  to Selective Call. Press  to select.
- The display shows ✓ and the current tone.
-

- 7 Do one of the following:
- Press  or  to the required tone. Press  to select.
The display shows ✓ and the selected tone.
 - Press  or  to Off. Press  to select.

If the ringing tones were earlier enabled, the display shows ✓ beside Off.

If the ringing tones were earlier disabled, the display does not show ✓ beside Off.

7.11.4

Activating or Deactivating Call Ringers for Text Messages

Follow the procedure to activate or deactivate call ringers for text messages on your radio.

- 1 Press  to access the menu.

- 2 Press  or  to Utilities. Press  to select.

- 3 Press  or  to Radio Settings. Press  to select.

- 4 Press  or  to Tones/Alerts. Press  to select.

- 5 Press  or  to Call Ringers. Press  to select.

- 6 Press  or  to Text Message. Press  to select.

The display shows ✓ and the current tone.

- 7 Do one of the following:
 - Press  or  to the required tone. Press  to select.
The display shows ✓ and the selected tone.
 - Press  or  to Off. Press  to select.
If the ringing tones were earlier enabled, the display shows ✓ beside Off.
If the ringing tones were earlier disabled, the display does not show ✓ beside Off.
-

7.11.5

Assigning Ring Styles

The radio can be programmed to sound one of eleven predefined ringing tones when receiving a Private Call, a Call Alert, or a Text Message from a particular contact. The radio sounds out each ring style as you navigate through the list.

- 1 Press  to access the menu.

- 2 Press  or  to `Contacts`. Press  to select.
The entries are alphabetically sorted.

- 3 Press  or  to the required alias or ID.
Press  to select.

- 4 Press  or  to `View/Edit`. Press  to select.

- 5 Press  until display shows `Ringer` menu

A ✓ indicates the current selected tone.

- 6 Press  or  to the required tone. Press  to select.

The display shows `Contact Saved`.

7.11.6

Selecting a Ring Alert Type



NOTE:

The programmed **Ring Alert Type** button is assigned by your dealer or system administrator. Check with your dealer or system administrator to determine how your radio has been programmed.

You can program the radio calls to one predetermined vibrate call. If All Tones status is disabled, the radio displays the All Tone Mute icon. If All Tones status is enabled, the related ring alert type is displayed.

The radio vibrates once if it is a momentary ring style. The radio vibrates repetitively if it is a repetitive ring style. When

set to Ring and Vibrate, the radio sounds a specific ring tone if there is any incoming radio transaction (for example, Call Alert or Message). It sounds like a positive indicator tone or missed call.

For radios with batteries that support the vibrate feature and are attached to a vibrating belt clip, the available Ring Alert Type options are Silent, Ring, Vibrate, and Ring and Vibrate.

For radios with batteries that do not support the vibrate feature and are not attached to a vibrating belt clip, Ring Alert Type is automatically set to Ring. The available Ring Alert Type options are Silent and Ring.

You can select a Ring Alert Type by performing one of the following actions.

- Press the programmed **Ring Alert Type** button to access the Ring Alert Type menu.
 - a. Press  or  to Ring, Vibrate, Ring & Vibrate or Silent and press  to select.
- Access this feature through the menu.
 - a. Press  to access the menu.

- b. Press  or  to Utilities and press  to select.
- c. Press  or  to Radio Settings and press  to select.
- d. Press  or  to Tones/Alerts and press  to select.
- e. Press  or  to Ring Alert Type and press  to select.
- f. Press  or  to Ring, Vibrate, Ring & Vibrate or Silent and press  to select.

7.11.7

Configuring Vibrate Style



NOTE:

The programmed **Vibrate Style** button is assigned by your dealer or system administrator. Check with your dealer or system administrator to determine how your radio has been programmed.

Vibrate Style is enabled when the Vibrating Belt Clip is attached to the radio with a battery that supports the vibrate feature.

You can configure the vibrate style by performing one of the following actions.

- Press the programmed **Vibrate Style** button to access the Vibrate Style menu.
 - a. Press  or  to Short, Medium, or Long and press  to select.
- Access this feature via the menu.
 - a. Press  to access the menu.
 - b. Press  or  to Utilities and press  to select.
 - c. Press  or  to Radio Settings and press  to select.
 - d. Press  or  to Tones/Alerts and press  to select.

- e. Press  or  to Vibrate Style and press  to select.
- f. Press  or  to Short, Medium, or Long and press  to select.

7.11.8

Alarm Tone Volume Escalation

Your radio can be programmed by your dealer to continually alert you when a radio call remains unanswered. This is done by automatically increasing the alarm tone volume over time. This feature is known as Escalert.

7.12

Dynamic Caller Alias

This feature allows a Caller Alias to be configured in the radio.

When in a call, the receiving radio displays the Caller Alias of the transmitting radio.

The Caller Aliases list can store up to 500 Caller Aliases of transmitting radio. You can view or make Private Calls