PROFESSIONAL DIGITAL TWO-WAY RADIOS

MOTOTRBO ™
DM1600
ALPHANUMERIC DISPLAY MOBILE
USER GUIDE

EN DE FR IT



Contents

This User Guide contains all the information you need to use the MOTOTRBO DM1600 Mobile Radio.

Important Safety Information vii
Product Safety and RF Exposure Compliance . . vii

Software Version vii

Computer Software Copyrights viii

Getting Started 1
How to Use This User Guide 1
What Your Dealer/System Administrator Can Tell You 1
Powering Up the Radio 2
Adjusting the Volume 2

Identifying Radio Controls 3
Radio Controls 4
Programmable Buttons 5
Assignable Radio Functions 5
Assignable Settings or Utility Functions 6
Accessing the Programmed Functions 7
Push-To-Talk (PTT) Button 7
Switching Between Conventional Analog and Digital Mode 8

Identifying Status Indicators 9
Display Icons 10
Call Icons 11
Mini Notice Icons 11
Sent Item Icons 12
LED Indicators 12
Audio Tones 13
Indicator Tones 14

Receiving and Making Calls 14
Selecting a Zone 15
Selecting a Channel 15
Receiving and Responding to a Radio Call 16
Receiving and Responding to a Group Call 16
Receiving and Responding to a Private Call . . . 17
Receiving an All Call 17
Receiving and Responding to a Selective Call . . 18
Making a Radio Call 18
Making a Group Call 19
Making a Private Call 19
Making a Selective Call 20
Talkaround 21
Permanent Monitor 22

Advanced Features 23
Scan Lists 23
Viewing an Entry in the Scan List 23

Editing the Scan List 24
Adding a New Entry to the Scan List 24
Deleting an Entry from the Scan List 24
Setting and Editing Priority for an Entry in the Scan List 25
Scan 26
Starting and Stopping Scan 26
Responding to a Transmission During a Scan . . 27
Deleting a Nuisance Channel 27
Restoring a Nuisance Channel 27
Vote Scan 28
Contacts Settings 28
Making a Group Call from Contacts 29
Making a Private Call from Contacts 29
Assigning an Entry to a Programmable Number Key 30
Removing the Association between Entry and Programmable Number Key 31
Setting Default Contact 31
Adding a New Contact 32
Call Indicator Settings 33
Activating or Deactivating Call Ringers for Call Alerts 33
Activating or Deactivating Call Ringers for Private Calls 33
Activating or Deactivating Call Ringers for Selective Call 34
Activating or Deactivating Call Ringers for Text Message 35
Escalating Alarm Tone Volume 36
Call Log Features 36
Viewing Recent Calls 36
Deleting a Call from a Call List 37
Deleting All Calls from a Call List 37
Call Alert Operation 38
Receiving and Responding to a Call Alert 38
Making a Call Alert from the Contacts List 39
Making a Call Alert with the One Touch Access Button 39
Emergency Operation 40
Receiving an Emergency Alarm 40
Responding to an Emergency Alarm 41
Sending an Emergency Alarm 41
Sending an Emergency Alarm with Call 42
Sending an Emergency Alarm with Voice to Follow 43
Reinitiating an Emergency Mode 44
Exiting Emergency Mode 45
Text Messaging Features 45
Sending a Quick Text Message 45
Sending a Quick Text Message with the One Touch Access Button 46

Managing Fail-to-Send Text Messages 46
Resending a Text Message 46
Forwarding a Text Message 47
Managing Sent Text Messages 47
Viewing a Sent Text Message 47
Sending a Sent Text Message 48
Deleting All Sent Text Messages from Sent Items 49
Receiving a Text Message 49
Reading a Text Message 50
Managing Received Text Messages 50
Viewing a Text Message from the Inbox 50
Replying to a Text Message with Quick Text . . 51
Deleting a Text Message from the Inbox 52
Deleting All Text Messages from the Inbox . . . 52
Analog Message Encode 53
Sending MDC Message Encode to Dispatcher . . 53
Analog Status Update 53
Sending Status Update to Predefined Contact . . 53
Privacy 54
Analog Scrambling 55
Turning Analog Scrambling On or Off 55
Setting the Analog Scrambling Codes 56
Lone Worker 57
Notification List 57
Accessing the Notification List 58
Auto-Range Transponder System (ARTS) 58
Utilities 59
Turning the Radio Tones/Alerts On or Off 59
Setting the Tone Alert Volume Offset Level 59
Turning the Talk Permit Tone On or Off 60
Turning the Power Up Alert Tone On or Off 60
Setting the Text Message Alert Tone 61
Setting the Power Level 61
Adjusting the Display Brightness 62
Turning Horns/Lights On or Off 62
Setting the Squelch Level 63
Turning the LED Indicators On or Off 63
Language 64
Turning the Voice Operating Transmission (VOX) Feature On or Off 64
Voice Announcement 65
Analog Mic AGC (Mic AGC-A) 66
Digital Mic AGC (Mic AGC-D) 66
Accessing General Radio Information 67
Checking the Radio Alias and ID 67
Checking the Firmware Version and Codeplug Version 67
Keypad Microphone Features 68
Using the Keypad 69
Turning Keypad Tones On or Off 70

Additional Advanced Features 70
Selecting a Zone by Alias Search 70
Making a Private Call by Manual Dial 71
Making a Group or Private Call with the Programmable Number Key 72
Making a Group or Private Call by Alias Search 73
Viewing an Entry in the Scan List by Alias Search 73
Editing the Scan List by Alias Search 74
Adding a New Entry to the Scan List 74
Deleting an Entry from the Scan List 75
Setting and Editing Priority for an Entry in the Scan List 76
Storing an Alias or ID from a Call List 76
Making a Call Alert by Manual Dial 77
RSSI Values 77
Text Messaging 78
Managing Fail-to-Send Text Messages 78
Forwarding a Text Message by Manual Dial . . 78
Dual Tone Multi Frequency (DTMF) 79
Password Lock Features 79
Accessing the Radio from Password 79
Unlocking the Radio from Locked State 80
Turning the Password Lock On or Off 80
Changing the Password 81
Front Panel Programming (FPP) 82
Entering FPP Mode 82
Editing FPP Mode Parameters 82
Limited Warranty 83
Notes 86

Important Safety Information

RF Energy Exposure and Product Safety Guide for Mobile 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 Mobile 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-approved antennas and other accessories, visit the following website:

http://www.motorolasolutions.com

Software Version

All the features described in the following sections are supported by the radio's software version **R01.00.00**.

See ***Checking the Firmware Version and Codeplug Version*** on page 67 to determine your radio's software version.

Please check with your dealer or system administrator for more details of all the features supported.

Computer Software Copyrights

The Motorola products described in this manual may include copyrighted Motorola computer programs stored in semiconductor memories or other media. Laws in the United States and other countries preserve for Motorola certain exclusive rights for copyrighted computer programs including, but not limited to, the exclusive right to copy or reproduce in any form the copyrighted computer program. Accordingly, any copyrighted Motorola computer programs contained in the Motorola products described in this manual may not be copied, reproduced, modified, reverse-engineered, or distributed in any manner without the express written permission of Motorola. Furthermore, the purchase of Motorola products shall not be deemed to grant either directly or by implication, estoppel, or otherwise, any license under the copyrights, patents or patent applications of Motorola, except for the normal non-exclusive license to use that arises by operation of law in the sale of a product.

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.

Open Source Software Legal Notices

This Motorola Product contains Open Source Software. For more information regarding licenses, acknowledgements, required copyright notices, and other usage terms, refer to the Documentation for this Motorola Product at:

https://emeaonline.motorolasolutions.com

Getting Started

Take a moment to review the following:

How to Use This User Guide . . . . . page 1
What Your Dealer/System Administrator Can Tell You . . . . . page 1
Powering Up the Radio . . . . . page 2
Adjusting the Volume . . . . . page 2

How to Use This User Guide

This User Guide covers the basic operation of the MOTOTRBO Mobiles.

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

Throughout this publication, the icons below are used to indicate features supported in either the conventional Analog mode 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** Analog and Digital modes, **no** icon is shown.

What Your Dealer/System Administrator Can Tell You

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

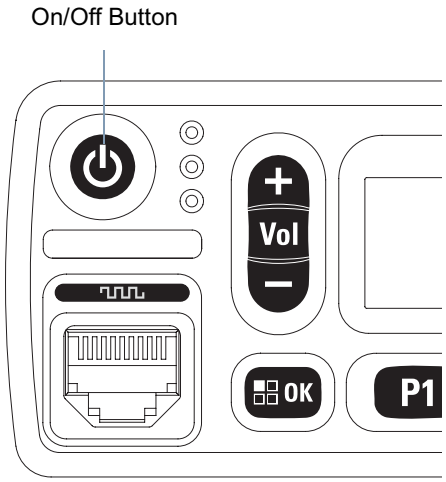
- Is your radio programmed with any preset conventional channels?
- Which buttons have been programmed to access other features?
- What optional accessories may suit your needs?
- What are the best radio usage practices for effective communication?
- What maintenance procedures will help promote longer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

Powering Up the Radio

Press the **On/Off Button** briefly. You see MOTOTRBO (TM) on the radio's display momentarily, followed by a welcome message or welcome image.

The green LED lights up and the Home screen lights up.

A brief tone sounds, indicating that the power up test is successful.



NOTE: There is no power up tone if the radio tones/alerts function is disabled (see ***Turning the Radio Tones/ Alerts On or Off*** on page 59).

If your radio does not power up, contact your dealer.

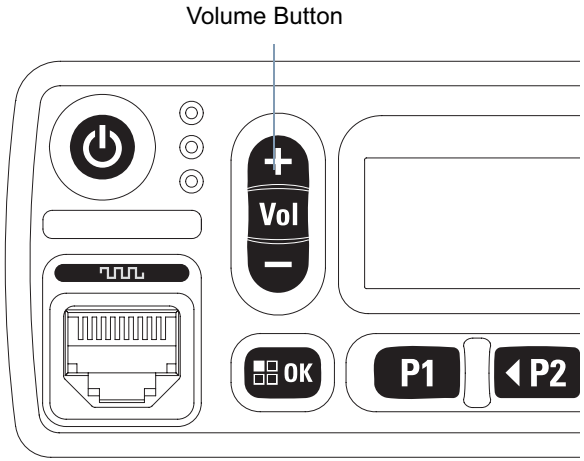
To turn off the radio, press and hold the On/Off Button until you see Powering Down *on the radio's display.*

NOTE: If the radio is locked up and unresponsive to button presses, press and hold the On/Off Button for at least 7 seconds. This will force a radio reset.

NOTE: Your radio may take up to 7 seconds to completely turn off.

Adjusting the Volume

To increase the volume, press the volume " + " button.



To decrease the volume, press the volume " – " down.

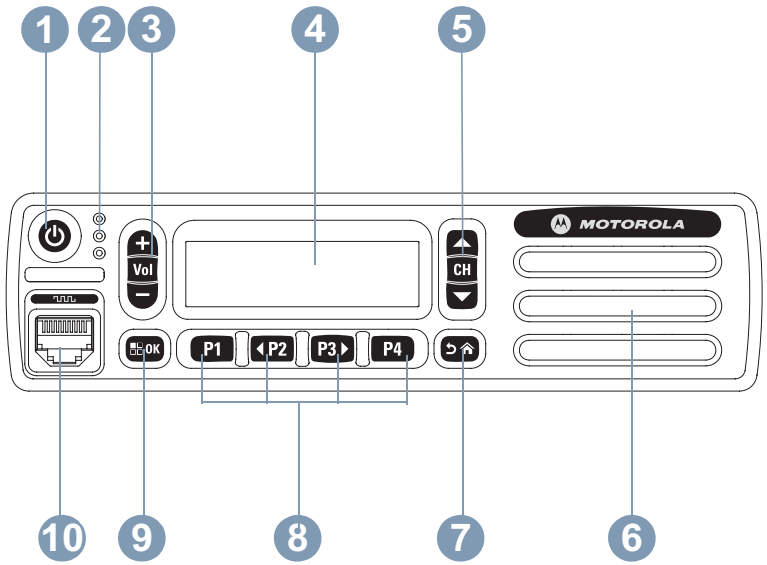
NOTE: Your radio can be programmed to have a minimum volume offset where the volume level cannot be turned past the programmed minimum volume. Check with your dealer or system administrator for more information.

Identifying Radio Controls

Take a moment to review the following:

Radio Controls . . . . . page 4
Programmable Buttons . . . . . page 5
Accessing the Programmed Functions . . . . . page 7
Push-To-Talk (PTT) Button . . . . . page 7
Switching Between Conventional Analog and Digital Mode . . . . . page 8

Radio Controls



1. On/Off Button
2. LED Indicators
3. Volume Up/Down Button
4. Display
5. Channel Up/Down Button
6. Speaker
7. Return/Home Button
8. Front Programmable Buttons
9. Menu/OK Button
10. Accessory Connector

Programmable Buttons

Your dealer can program the programmable buttons as shortcuts to **radio functions** or up to a maximum of six (6) **preset channels/groups** depending on the duration of a button press:

- Short press – Pressing and releasing rapidly.
- Long press – Pressing and holding for the programmed duration.
- Hold down – Keeping the button pressed.

NOTE: The programmed duration of a button press is applicable for all assignable radio/utility functions or settings. See ***Emergency Operation*** on page 40 for more information on the programmed duration of the configured **Emergency** button.

Assignable Radio Functions

Analog Scrambling – Toggles analog scrambling on or off.

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

Call Log – Selects the call log list.

TM**Contacts** – Provides direct access to the contacts list.

Emergency – Depending on the programming, initiates or cancels an Emergency alarm or call.

Manual Dial – Depending on the programming, initiates a Private call by keying in any radio ID or phone number.

Mic AGC On/Off – 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 Delete – Temporarily removes an unwanted channel, except for the Selected Channel, from the scan list. The Selected Channel refers to the user's selected zone/channel combination from which scan is initiated.

One Touch Access – Directly initiates a predefined Private, Group Call, a Call Alert or a Quick Text message.

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

Privacy – Toggles privacy on or off.

Radio Alias and ID – Provides radio alias and ID.

Repeater/Talkaround – Toggles between using a repeater and communicating directly with another radio.

Scan – Toggles scan on or off.

Status – Selects the status list menu.

Text Message – Selects the text message menu.

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.

Zone Selection – Allows radio to switch between zones.

Assignable Settings or Utility Functions

All Tones/Alerts – Toggles all tones and alerts on or off.

Analog Scrambling Codes – Toggles scrambling codes between 3.29KHz and 3.39KHz.

Backlight – Adjusts the brightness level.

Channel Up/Down – Depending on the programming, changes channel to previous or next channel.

Power Level – Toggles transmit power level between high and low.

Squelch – Toggles squelch level between tight and normal.

Accessing the Programmed Functions

You can access various radio functions through one of the following ways:

- A short or long press of the relevant programmable buttons.

OR

- Use the Menu Navigation Buttons as follows:

1 To access the menu, press the OK button. Press the appropriate **Left/Right Navigation** button (P2 or P3) to access the menu functions.

2 To select a function or enter a sub-menu, press the OK button.

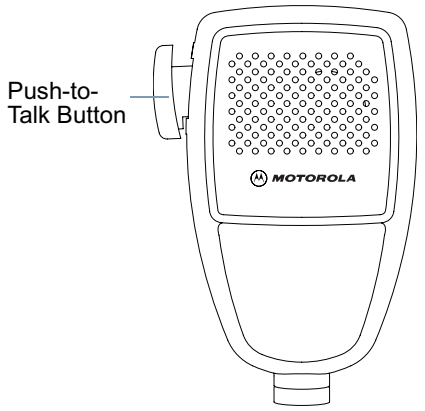
3 To go back one menu level, or to return to the previous screen, press the button. Long press the button to return to the Home screen.

*The Menu Navigation Buttons are also available on a keypad microphone (see **Using the Keypad** on* page 69*).*

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

Push-To-Talk (PTT) Button

The **PTT** button on the side of the microphone serves two basic purposes:



- While a call is in progress, the **PTT** button allows the radio to transmit to other radios in the call.

  Press and hold down **PTT** button to talk. Release the **PTT** button to listen.

  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 ***Making a Radio Call*** on page 18).

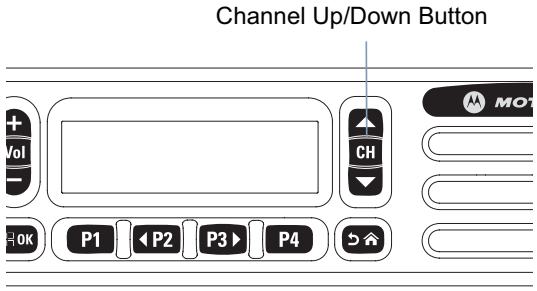
*If the Talk Permit Tone (see **Turning the Talk Permit Tone On or Off** on page 60) or the **PTT** Sidetone is enabled, wait until the short alert tone ends before talking.*

*During a call, 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 will also hear a continuous talk prohibit tone, if your call is interrupted, indicating that you should release the PTT button, for example when the radio receives an Emergency Call.

Switching Between Conventional Analog and Digital Mode

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



NOTE: For Analog-only radios, each channel can only be configured as a conventional analog channel.

To switch between an analog or a digital channel, use the

- **Left/Right Navigation** buttons, or
- **Channel Up/Down Button**, or
- programmed **Channel Up** or **Channel Down** buttons

When switching from digital to analog mode, certain features are unavailable. Icons for the digital features (such as Messages) reflect this change by appearing ‘greyed out’. Disabled features are hidden in the menu.

Your radio also has features available in both analog and digital mode. However, the minor differences in the way each feature works does **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 26).

To use the **Left/Right Navigation** buttons, while in the Home Screen of the required Zone, press P2 or P3 to select the required channel.

To use the programmed **Channel Up** or **Channel Down** buttons, while in the Home Screen of the required Zone, press **Channel Up** or **Channel Down** to select the required channel.

Identifying Status Indicators

Your radio indicates its operational status through the following:

Display Icons . . . . . page 10
Call Icons . . . . . page 11
Sent Item Icons . . . . . page 12
LED Indicators . . . . . page 12
Audio Tones . . . . . page 13
Indicator Tones . . . . . page 14

Display Icons

The 132*36 pixels monochrome display (LCD) of your radio shows the radio status, text entries, and menu entries.

The following are icons that appear on the status bar at the top of the radio's display. Icons are displayed on the status bar, arranged left-to-right, in order of appearance/usage and are channel specific.



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.



Emergency
Radio is in Emergency mode.



Notification
Notification List has one or more missed events.



Scan
Scan feature is enabled.



Scan – Priority 1
Radio detects activity on channel/group designated as Priority 1).



Scan – Priority 2
Radio detects activity on channel/group designated as Priority 2.



Vote Scan
Vote scan feature is enabled.



Monitor
Selected channel is being monitored.



Talkaround
In the absence of a repeater, radio is currently configured for direct radio to radio communication.



Secure
The Privacy feature is enabled.



Unsecure
The Privacy feature is disabled.



Tones Disable
Tones are turned off.

Call Icons

The following icons appear on the radio's 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 radio alias (name) or ID (number).



Group Call

Indicates a Group Call in progress.

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

Mini Notice Icons

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



Successful Transmission (Positive)

Successful action taken.



Failed Transmission (Negative)

Failed action taken.



Transmission in Progress (Transitional)

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

Sent Item Icons

The following icons appear in the Sent Items folder.

OR

Sent Successfully

The text message is sent successfully.

OR

Send Failed

The text message cannot be sent.

OR

In-Progress

- The text message to a radio alias or ID is pending transmission, followed by waiting for acknowledgement.
- The text message to a group alias or ID is pending transmission.

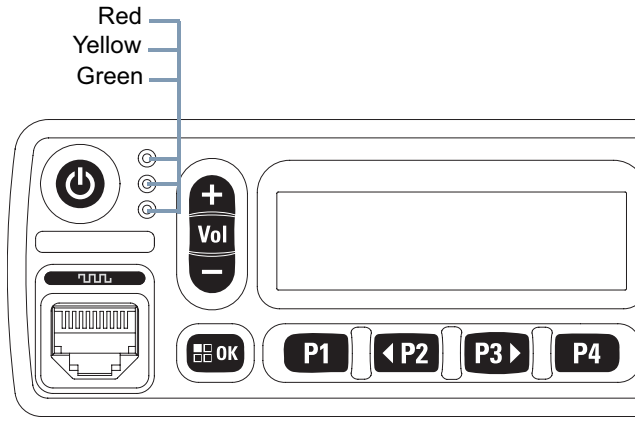
OR

Unread

The text message has not been read.

LED Indicators

LED indicators show the operational status of your radio.



Blinking red – Radio is receiving an emergency transmission or has failed the self-test upon powering up, or has moved out of range if radio is configured with Auto-Range Transponder System.

Solid yellow – Radio is monitoring a conventional channel.

Blinking yellow – Radio is scanning for activity or receiving a Call Alert.

Double blinking yellow – Indicates radio has yet to respond to a group call alert, or radio is locked.

Solid green – Radio is powering up, or transmitting.

Blinking green – Radio is receiving a non-privacy-enabled call or data, or detecting activity over the air.

Double blinking green – Radio is receiving a privacy-enabled call or data.

NOTE: While in conventional mode, when the green LED blinks, it indicates the radio detects activity over the air. Due to the nature of the digital protocol, this activity may or may not affect the radio's programmed channel.

Audio Tones

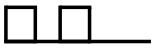
Alert tones provide you with audible indications of the radio's status or the radio's response to data received.

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 only once for a short period of time defined by the radio.

Indicator Tones

High pitched tone ☐ Low pitched tone ■



Positive Indicator Tone



Negative Indicator Tone

Receiving and Making Calls

Once you understand how your MOTOTRBO Mobile is configured, you are ready to use your radio.

Use this navigation guide to familiarize yourself with the basic Call features:

Selecting a Zone . . . . . page 15
Selecting a Channel. . . . . page 15
Receiving and Responding to a Radio Call . . . . . page 16
Making a Radio Call. . . . . page 18
Talkaround . . . . . page 21
Permanent Monitor . . . . . page 22

Selecting a Zone

A zone is a group of channels. Your radio supports up to 160 channels and 25 zones, with a maximum of 160 channels per zone.

Use the following procedure to select a zone.

Procedure:
Press the programmed **Zone** button and proceed to Step 3.
OR
Follow the procedure below.

1. OK to access the menu.
2. P2 or P3 to `Zone` and press OK to select.
3. The current zone is displayed and indicated by a ✓.
4. P2 or P3 to the required zone and press OK to select.
5. The display shows `<Zone> Selected` momentarily and returns to the selected zone screen.

Selecting a Channel

Transmissions are sent and received on a channel. Depending on your radio's configuration, each channel may have been programmed differently to support different groups of users or supplied with different features. After selecting the required zone, select the channel you require to transmit or receive on.

Procedure:

Select a channel by using:

- **Left/Right Navigation** buttons, OR
- **Channel Up/Down Button**, OR
- The programmed **Channel Up** or **Channel Down** buttons

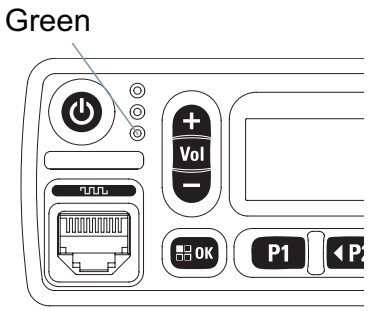
*See **Selecting a Zone** on page 15 for more information on selecting your required zone.*

See ***Switching Between Conventional Analog and Digital Mode*** on page 8 for information about **Scroll Up/Down** buttons.

See ***Programmable Buttons*** on page 5 for information about the **Channel Up** or **Channel Down** buttons.

Receiving and Responding to a Radio Call

Once the channel, radio alias or ID, or group alias or ID is displayed, you can proceed to receive and respond to calls.



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

The green LED lights up while the radio is transmitting and double blinks when the radio is receiving a privacy-enabled call.

To unscramble a privacy-enabled call, your radio must have the same Privacy Key, or the same Key Value and Key ID (programmed by your dealer) as the transmitting radio (the radio you are receiving the call from).

NOTE: See ***Privacy*** on page 54 for more information.

Receiving and Responding to a Group Call

To receive a call made to a group of users, your radio must be configured as part of that group.

Procedure:
When you receive a Group Call (while on the Home screen):

1. The green LED blinks.
2. The caller ID information appears in the top right corner. The first text line displays the Group Call icon and the group call alias. Your radio unmutes and the incoming call sounds through the radio's speaker.
3. 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 green LED lights up.
4. Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
   OR
   Wait for the **PTT** Sidetone to finish (if enabled) and speak clearly into the microphone.
5. Release the **PTT** button to listen.
6. If there is no voice activity for a predetermined period of time, the call ends.

*See **Making a Group Call** on page 19 for details on making a Group Call.*

Receiving and Responding to a Private Call

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

Procedure:
When you receive a Private Call:

1. The green LED blinks.
2. The first text line shows the Private Call icon and the caller alias. Your radio unmutes and the incoming call sounds through the radio's speaker.
3. 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 green LED lights up.
4. Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
5. Release the **PTT** button to listen.
6. If there is no voice activity for a predetermined period of time, the call ends.
7. The display shows `Call Ended`.

*See **Making a Private Call** on page 19 for details on making a Private Call.*

Receiving an All Call

An All Call is a call from an individual radio to every radio on the channel. It is used to make important announcements requiring the user's full attention.

Procedure:
When you receive an All Call:

1. A tone sounds and the green LED blinks.
2. The caller ID information appears in the top right corner. The first text line displays the Group Call icon and `All Call`. Your radio unmutes and the incoming call sounds through the radio's speaker.
3. Once the All Call ends, the radio returns to the previous screen before receiving the call. An All Call does not wait for a predetermined period of time before ending.
   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 now available for 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.

During an All Call, you are **not** able to continue with any menu navigation or editing until the call ends.

Receiving and Responding to a Selective Call

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

Procedure:
When you receive a Selective Call:

1. The green LED blinks.
2. The first text line shows the Private Call icon. The radio displays `Selective Call` or `Alert with Call`. Your radio unmutes and the incoming call sounds through the radio's speaker.
3. Press the **PTT** button to respond to the call.
4. The green LED lights up.
5. Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
6. Release the **PTT** button to listen.
7. If there is no voice activity for a predetermined period of time, the call ends.
8. You hear a short tone. The display shows `Call Ended`.

NOTE: See ***Making a Selective Call*** on *page 20* for details on making a Selective Call.

Making a Radio Call

After selecting your channel, you can select a radio alias or ID, or group alias or ID by using:

- The Contacts list (see ***Contacts Settings*** on page 28)
- A programmed **One Touch Access** button
- The programmed number keys – This method is for Group and Private Calls only and is used with the keypad microphone (see ***Making a Group or Private Call with the Programmable Number Key*** on *page 72*). Manual Dial (via Contacts) – This method is for Private Calls only and is dialed using a keypad microphone (see ***Making a Private Call by Manual Dial*** on *page 71*)

NOTE: Your radio must have the Privacy feature enabled on the channel to send a privacy-enabled transmission. Only target radios with the same Privacy Key as your radio are able to unscramble the transmission.

See ***Privacy*** on *page 54* for more information.

The One Touch Access feature allows you to make a Group or Private Call to a predefined ID easily. This feature can be assigned to a short or long programmable button press.You can **ONLY** have one ID assigned to a **One Touch Access** button. Your

radio can have multiple **One Touch Access** buttons programmed.

Making a Group Call

To make a call to a group of users, your radio must be configured as part of that group.

Procedure:

1. Select the channel with the active group alias or ID. See ***Selecting a Channel*** on page 15.
   OR
   Press the programmed **One Touch Access** button.
2. Press the **PTT** button to make the call. The green LED lights up. The first text line shows the Group Call icon and the group call alias.
3. Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
   OR
   Wait for the **PTT** Sidetone to finish (if enabled) and speak clearly into the microphone.
4. Release the **PTT** button to listen. When the target radio responds, the green LED blinks. You see the Group Call icon, the group alias or ID, and transmitting radio alias or ID on your display.
5. If the Channel Free Indication feature is enabled, you hear a short alert tone the moment the target radio releases the **PTT** button, indicating the channel is free for you to respond. Press the **PTT** button to respond.
   OR
   If there is no voice activity for a predetermined period of time, the call ends.
6. Radio returns to the screen you were on prior to initiating the call.

*You can also make a Group Call via Contacts (see **Making a Group Call from Contacts** on page 29).*

Making a Private Call

While you can receive and/or respond to a Private Call initiated by an authorized individual radio, your radio must be programmed for you to initiate a Private Call.

There are two types of Private Calls. The first type, where a radio presence check is performed prior to setting up the call, while the other sets up the call immediately.

Only **one** of these call types can be programmed to your radio by your dealer.

You hear a negative indicator tone, when you make a Private Call via the Menu, Call Log, Contacts list, **One Touch Access** button, the programmed number keys, **Left/ Right Navigation** button or the **Channel Up/ Down button** buttons.

Use the Text Message or Call Alert features to contact an individual radio. See ***Text Messaging Features*** on *page 45* or ***Call Alert Operation*** on *page 38* for more information.**Procedure:**

1 Select the channel with the active radio alias or ID. See ***Selecting a Channel*** on page 15.
OR
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, with the radio alias alternating with `Calling`.

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

4 Release the **PTT** button to listen. When the target radio responds, the green LED blinks.

5 If the Channel Free Indication feature is enabled, you hear a short alert tone the moment the target radio releases the **PTT** button, indicating the channel is free for you to respond. Press the **PTT** button to respond.
OR
If there is no voice activity for a predetermined period of time, the call ends.

6 You hear a short tone. The display shows `Call Ended`.

You can also make a Private Call via Contacts (see ***Making a Private Call from Contacts*** on page 29), manually dial a Private Call (see ***Making a Private Call by Manual Dial*** on page 71) or perform a quick alphanumeric search for the required target alias via a keypad entry (see ***Making a Group or Private Call by Alias Search*** on page 73).

Making a Selective Call

Just like a Private Call, while you can receive and/or respond to a Selective Call initiated by an authorized individual radio, your radio must be programmed for you to initiate a Selective Call.

Procedure:

1 Select the channel with the active radio alias or ID. See ***Selecting a Channel*** on page 15.

2 Press the **PTT** button to make the call. The green LED lights up. The display shows the Private Call icon and the radio alias.

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

4 Release the **PTT** button to listen. When the target radio responds, the green LED blinks.

5 If there is no voice activity for a predetermined period of time, the call ends.

6 You hear a short tone. The display shows `Call Ended`.

Talkaround

You can continue to communicate when your repeater is not operating, or when your radio is out of the repeater's range but within talking range of other radios. This is called "talkaround".

Procedure:

Press the programmed **Repeater/Talkaround** button to toggle between talkaround and repeater modes.

OR

Follow the procedure below.

1 OK to access the menu.

2 P2 or P3 to `Utilities` and press OK to select.

3 P2 or P3 to `Radio Settings` and press OK to select.

4 P2 or P3 to `Talkaround` and press OK to select.

5 Press OK to enable Talkaround. The display shows ✓ beside Enabled.

OR

Press OK to disable Talkaround. The ✓ disappears from beside Enabled.

6 The screen automatically returns to the previous menu.

The Talkaround setting is retained even after powering down.

Permanent Monitor

Use the Permanent Monitor feature to continuously monitor a selected channel for activity.

Procedure:

1. Press the programmed **Permanent Monitor** button.
2. Radio sounds an alert tone, the yellow LED lights up, and the display shows `Permanent Monitor On`. The monitor icon appears on the status bar.
3. Press the programmed **Permanent Monitor** button to exit Permanent Monitor mode.
4. Radio sounds an alert tone, the yellow LED turns off, and display shows `Permanent Monitor Off`.

Advanced Features

Use this navigation guide to learn more about advanced features available with your radio:

Scan Lists . . . . . page 23
Scan . . . . . page 26
Vote Scan . . . . . page 28
Contacts Settings . . . . . page 28
Call Indicator Settings . . . . . page 33
Call Log Features . . . . . page 36
Call Alert Operation . . . . . page 38
Emergency Operation . . . . . page 40
Text Messaging Features . . . . . page 45
Analog Message Encode. . . . . page 53
Analog Status Update . . . . . page 53
Privacy. . . . . page 54
Analog Scrambling . . . . . page 55
Lone Worker . . . . . page 57
Notification List . . . . . page 57
Auto-Range Transponder System (ARTS) . . . . . page 58
Utilities. . . . . page 59

Scan Lists

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

You can attach a new scan list to your radio via Front Panel Programming.

Viewing an Entry in the Scan List

Procedure:

1. OK to access the menu.
2. P2 or P3 to `Scan` and press OK to select.
3. P2 or P3 to `View/Edit List` and press OK to select.
4. Use P2 or P3 to view each member on the list.

*The priority icon appears left of the member's 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**.*

Editing the Scan List

Adding a New Entry to the Scan List

Procedure:

1 OK to access the menu.

2 P2 or P3 to Scan and press OK to select.

3 P2 or P3 to View/Edit List and press OK to select.

4 P2 or P3 to Add Member and press OK to select.

5 P2 or P3 to the required alias or ID and press OK to select.

6 P2 or P3 to the required priority level and press OK to select.

7 The display shows positive mini notice, followed immediately by Add Another?.

8 P2 or P3 to Yes and press OK to select, to add another entry, and repeat Steps 5 and 6.
OR
P2 or P3 to No and press OK to select to save the current list.

Deleting an Entry from the Scan List

Procedure:

1 OK to access the menu.

2 P2 or P3 to Scan and press OK to select.

3 P2 or P3 to View/Edit List and press OK to select.

4 P2 or P3 to the required alias or ID and press OK to select.

5 P2 or P3 to Delete and press OK to select.

6 At Delete Entry?, P2 or P3 to Yes and press OK to select, to delete the entry. The display shows positive mini notice.
OR

P2 or P3 to No and press OK to select to return to the previous screen.

7 Repeat Steps 4 to 6 to delete other entries.

After deleting all required aliases or IDs, long press ⌂ to return to the Home screen.

Setting and Editing Priority for an Entry in the Scan List

Procedure:

1 OK to access the menu.

2 P2 or P3 to Scan and press OK to select.

3 P2 or P3 to View/Edit List and press OK to select.

4 P2 or P3 to the required alias or ID and press OK to select.

5 P2 or P3 to Edit Priority and press OK to select.

6 P2 or P3 to the required priority level and press OK to select.

7 The display shows positive mini notice before returning to the previous screen.

8 The priority icon appears left of the member's name.

*There is no priority icon if priority is set to **None**.*

Scan

When you start a scan, your radio cycles through the programmed scan list for the current channel looking for voice activity.

The yellow LED blinks and the scan icon appears on the status bar.

During a dual mode scan, if you are on a digital channel, and your radio locks onto an analog channel, it automatically switches from digital mode to analog mode for the duration of the call. This is also true for the reverse.

There are two ways of initiating scan:

- **Main Channel Scan (Manual)**: Your radio scans all the channels/groups in your scan list. On entering scan, your radio may – depending on the settings – automatically start on the last scanned “active” channel/group or on the channel where scan was initiated.
- **Auto Scan (Automatic)**: Your radio automatically starts scanning when you select a channel/group that has Auto Scan enabled.

Starting and Stopping Scan

Procedure:
Press the programmed **Scan** button to start or stop Scan. **OR** Follow the procedure below.

1. Use the **Left/ Right Navigation** buttons to select a channel programmed with a scan list.
2. OK to access the menu.
3. P2 or P3 to `Scan` and press OK to select.
4. P2 or P3 to `Turn On` and press OK to select.

   OR

   P2 or P3 to `Turn Off` and press OK to select.
5. The display shows `Scan On` when scan is enabled. The yellow LED blinks and the scan icon appears.

   OR

   The display shows `Scan Off` if scan is disabled. The LED turns off and the scan icon disappears.

While scanning, the radio can only accept data (e.g. text message, location or PC data) if received on its Selected Channel.

Responding to a Transmission During a Scan

During scanning, your radio stops on a channel/group where activity is detected. The radio stays on that channel for a programmed time period known as “hang time”.

Procedure:

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.
2. Press the **PTT** button during hang time. The green LED lights up.
3. Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
   OR
   Wait for the **PTT** Sidetone to finish (if enabled) and speak clearly into the microphone.
4. Release the **PTT** button to listen.
5. If you do not respond within the hang time, the radio returns to scanning other channels/groups.

Deleting a Nuisance Channel

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.

Procedure:

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 **Nuisance Channel Delete** button. The nuisance channel is deleted.

*Deleting a “nuisance” channel is **only** possible through the programmed **Nuisance Channel Delete** button. This feature is **not** accessible through the menu.*

Restoring a Nuisance Channel

Procedure:
To restore the deleted nuisance channel, do **one** of the following:

- Turn the radio off and then power it on again, **OR**
- Stop and restart a scan via the programmed **Scan** button or menu, **OR**
- Change the channel via the **Channel Up/Down** buttons.

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 unmutes to transmissions from that base station.

The yellow LED blinks and the vote scan icon appears on the status bar.

To respond to a transmission during a Vote Scan, follow the same procedures as Responding to a Transmission During a Scan on page 27.

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.

Each entry, depending on context, associates with **one** of four types of calls: Group Call, Private 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:

If the Privacy feature is enabled on a channel, you can make privacy-enabled Group Call and Private Call on that channel. Only target radios with the same Privacy Key OR the same Key Value and
Key ID as your radio are able to unscramble the transmission.

See ***Privacy*** on page 54 for more information.

Additionally, Contacts menu allows you to assign each entry to a programmable number key or more on a keypad microphone. If an entry is assigned to a number key, your radio can perform a quick dial on the entry.

Your radio supports two Contacts lists, one for Analog contacts and one for Digital contacts, with a 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 radio IDs for the Digital Contacts list. Deleting radio IDs can only be performed by your dealer.

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

Making a Group Call from Contacts

Procedure:

1 OK to access the menu.

2 P2 or P3 to Contacts and press OK to select.The entries are alphabetically sorted.

3 P2 or P3 to the required group alias or ID.

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

5 Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
OR
Wait for the **PTT** Sidetone to finish (if enabled) and speak clearly into the microphone.

6 Release the **PTT** button to listen. When any user in the group responds, the green LED blinks. You see the Group Call icon, the group alias or ID, and that user's alias or ID on your display.

7 If the Channel Free Indication feature is enabled, you hear a short alert tone the moment the target radio releases the **PTT** button, indicating the channel is free for you to respond. Press the **PTT** button to respond.
OR
If there is no voice activity for a programmed period of time, the call ends.

Making a Private Call from Contacts

Procedure:

1 OK to access the menu.

2 P2 or P3 to Contacts and press OK to select.The entries are alphabetically sorted.

3 P2 or P3 to the required subscriber alias or ID.

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 finish (if enabled) and speak clearly into the microphone.

6 Release the **PTT** button to listen. When the target radio responds, the green LED blinks and the display shows the transmitting user's alias or ID.

7 If the Channel Free Indication feature is enabled, you hear a short alert tone the moment the target radio releases the **PTT** button, indicating the channel is free for you to respond. Press the **PTT** button to respond.
OR
If there is no voice activity for a programmed period of time, the call ends.

8 You hear a short tone. The display shows `Call Ended`.

NOTE: If you release the **PTT** button while the radio is setting up the call, it exits without any indication and returns to the previous screen.

Your radio may be programmed to perform a radio presence check prior to setting up the Private Call. If the target radio is not available, you hear a short tone and see negative mini notice on the display.

The radio returns to the menu prior to initiating the radio presence check.

Assigning an Entry to a Programmable Number Key

Procedure:

1 OK to access the menu.

2 P2 or P3 to `Contacts` and press OK to select. The entries are alphabetically sorted.

3 P2 or P3 to the required alias or ID and press OK to select.

4 P2 or P3 to `Program Key` and press OK to select.

5 P2 or P3 to the desired number key and press OK to select.
OR
If the number key is currently assigned to another entry, the display shows `The Key is Already Used` and then, the first line of the display shows `Overwrite?`.
P2 or P3 to `Yes` and press OK to select.

6 The display shows `Contact Saved` and a positive mini notice.

7 The screen automatically returns to the previous menu.

NOTE: Each entry can be associated to different number keys. 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.

If a number key is assigned to an entry in a particular mode, this feature is not supported when you long press the number key in another mode.

*See **Making a Group or Private Call with the Programmable Number Key** on page 72 for details on making a Group or Private Call with the programmed number keys.*

Removing the Association between Entry and Programmable Number Key

Procedure:

Long press the programmed number key to the required alias or ID, press OK to select, and proceed to Step 4.

OR

Follow the procedure below.

1 OK to access the menu.

2 P2 or P3 to `Contacts` and press OK to select. The entries are alphabetically sorted.

3 P2 or P3 to the required alias or ID and press OK to select.

4 P2 or P3 to `Program Key` and press OK to select.

5 P2 or P3 to `Empty` and press OK to select.

6 The first line of the display shows `Clear from all keys?`.

7 P2 or P3 to `Yes` and press OK to select.

8 The display shows `Contact Saved` and a positive mini notice.

9 The screen automatically returns to the previous menu.

NOTE: When an entry is deleted, the association between the entry and its programmed number key(s) is removed.

Setting Default Contact

Procedure:

Follow the procedure below.

1 OK to access the menu.

2 P2 or P3 to `Contacts` and press OK to select.

3 P2 or P3 to the required alias or ID and press OK to select.

4 P2 or P3 to `Set as Default` and press OK to select.

5 The radio sounds a positive indicator tone and the display shows positive mini notice.

6 A ✓ appears beside the selected default alias or ID.

Adding a New Contact

Procedure:

Follow the procedure below.

1 OK to access the menu.

2 P2 or P3 to `Contacts` and press OK to select.

3 P2 or P3 to `New Contact` and press OK to select.

4 P2 or P3 to `Radio Contact` and press OK to select.

5 Use the keypad to enter the contact number and press OK to confirm.

6 Use the keypad to enter the contact name and press OK to confirm.

7 If adding a Radio Contact, P2 or P3 to the required ringer type and press OK to select.

8 The radio sounds a positive indicator tone and the display shows positive mini notice.

Call Indicator Settings

Activating or Deactivating Call Ringers for Call Alerts

You can select, or turn on or off ringing tones for a received Call Alert.

Procedure:

1 OK to access the menu.

2 P2 or P3 to `Utilities` and press OK to select.

3 P2 or P3 to `Radio Settings` and press OK to select.

4 P2 or P3 to `Tones/Alerts` and press OK to select.

5 P2 or P3 to `Call Ringers` and press OK to select.

6 P2 or P3 to `Call Alert` and press OK to select. The current tone is indicated by a ✓.

7 P2 or P3 to the required tone and press OK to select. ✓ appears beside selected tone.
OR
P2 or P3 to the `Off` and press OK to select.

8 Press OK to disable the Call Alert ringing tones. The display shows ✓ beside `Off`.
OR
Press OK to enable the Call Alert ringing tones. The ✓ disappears from beside `Off`.

Activating or Deactivating Call Ringers for Private Calls

You can turn on or off the ringing tones for a received Private Call.

Procedure:

1 OK to access the menu.

2 P2 or P3 to `Utilities` and press OK to select.

3 P2 or P3 to `Radio Settings` and press OK to select.

4 P2 or P3 to `Tones/Alerts` and press OK to select.

5 P2 or P3 to `Call Ringers` and press OK to select.

6 P2 or P3 to `Private Call`.

7 P2 or P3 to On to enable to enable Private Call ringing tones. The display shows ✓ beside On.

OR

P2 or P3 to Off to disable Private Call ringing tones. The display shows ✓ beside Off.

Activating or Deactivating Call Ringers for Selective Call

You can select, or turn on or off ringing tones for a received Selective Call.

Procedure:

1 OK to access the menu.

2 P2 or P3 to Utilities and press OK to select.

3 P2 or P3 to Radio Settings and press OK to select.

4 P2 or P3 to Tones/Alerts and press OK to select.

5 P2 or P3 to Call Ringers and press OK to select.

6 P2 or P3 to Selective Call and press OK to select. The current tone is indicated by a ✓.

7 P2 or P3 to the required tone and press OK to select. ✓ appears beside selected tone.

OR

P2 or P3 to the Off and press OK to select.

8 Press OK to disable the Selective Call ringing tones. The display shows ✓ beside Off.

OR

Press OK to enable the Selective Call ringing tones. The ✓ disappears from beside Off.

Activating or Deactivating Call Ringers for Text Message

You can turn on or off the ringing tones for a received Text Message.

Procedure:

1 OK to access the menu.

2 P2 or P3 to `Utilities` and press OK to select.

3 P2 or P3 to `Radio Settings` and press OK to select.

4 P2 or P3 to `Tones/Alerts` and press OK to select.

5 P2 or P3 to `Call Ringers` and press OK to select.

6 P2 or P3 to `Messages` and press OK to select. The current tone is indicated by a ✓.

7 P2 or P3 to the required tone and press OK to select. ✓ appears beside selected tone.
OR
P2 or P3 to the `Off` and press OK to select.

8 Press OK to disable the Text Message ringing tones. The display shows ✓ beside `Off`.
OR
Press OK to enable the Text Message ringing tones. The ✓ disappears from beside `Off`.

Escalating Alarm Tone Volume

You can program your radio 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.

Procedure:

1 OK to access the menu.

2 P2 or P3 to `Utilities` and press OK to select.

3 P2 or P3 to `Radio Settings` and press OK to select.

4 P2 or P3 to `Tones/Alerts` and press OK to select.

5 P2 or P3 to `Escalert`.

6 P2 or P3 to `On` to enable Escalert. The display shows ✓ beside `On`.
OR
P2 or P3 to `Off` to disable Escalert. The display shows ✓ beside `Off`.

Call Log Features

Your radio keeps track of all recent outgoing, answered, and missed Private Calls. Use the call log feature to view and manage recent calls.

You can perform the following tasks in each of your call lists:

- Store alias or ID to Contacts (See ***Storing an Alias or ID from a Call List*** on page 76)
- Delete Call
- Delete All Calls
- View Details

Viewing Recent Calls

The lists are `Missed`, `Answered`, and `Outgoing`.

Procedure:

1 OK to access the menu.

2 P2 or P3 to `Call Log` and press OK to select.

3 P2 or P3 to preferred list and press OK to select.

4 The display shows the most recent entry at the top of the list.

5 P2 or P3 to view the list.

*Press the **PTT** button to start a Private Call with the current selected alias or ID.*

Deleting a Call from a Call List

Procedure:

1 OK to access the menu.

2 P2 or P3 to `Call Log` and press OK to select.

3 P2 or P3 to the required list and press OK to select.

4 P2 or P3 to the required alias or ID and press OK to select.

5 P2 or P3 to `Delete` and press OK to select.

6 Press OK to select `Yes` to delete the entry. The display shows positive mini notice.
OR
P2 or P3 to `No` to return to the previous screen.

*When you select a call list and it contains no entries, the display shows `List Empty`, and sounds a low tone if Keypad Tones are turned on (see **Turning Keypad Tones On or Off** on page 70).*

Deleting All Calls from a Call List

Procedure:

1 OK to access the menu.

2 P2 or P3 to `Call Log` and press OK to select.

3 P2 or P3 to the required list and press OK to select.

4 P2 or P3 to the required alias or ID and press OK to select.

5 P2 or P3 to `Delete All` and press OK to select.

6 Press OK to select `Yes` to delete all entries. The display shows positive mini notice.
OR
P2 or P3 to `No` to return to the previous screen.

Viewing Details from a Call List

Procedure:

1 OK to access the menu.

2 P2 or P3 to `Call Log` and press OK to select.

3 P2 or P3 to the required list and press OK to select.

4 P2 or P3 to the required alias or ID and press OK to select.

5 P2 or P3 to `View Details` and press OK to select.
Display shows details.

Call Alert Operation

Call Alert paging enables you to alert a specific radio user to call you back when they are able to do so.

This feature is applicable for radio aliases or IDs only and is accessible through the menu via Contacts or manual dial.

Receiving and Responding to a Call Alert

When you receive a Call Alert page, you see the notification list listing a Call Alert with the alias or ID of the calling radio on the display.

Procedure:

1 You hear a repetitive tone. The yellow LED blinks.

2 Press the **PTT** button while the display still shows the Call Alert in the Notification List to respond with a Private Call.
OR
Press OK to exit the Notification List. The alert is moved to the Missed Call Log.

*See **Notification List** on page 57 for details about the Notification List.*

*See **Call Log Features** on page 36 for details about the Missed Call List.*

Making a Call Alert from the Contacts List

Procedure:

1. OK to access the menu.
2. P2 or P3 to `Contacts` and press OK to select.
3. P2 or P3 to the required radio alias or ID and press OK to select.
4. P2 or P3 to `Call Alert` and press OK to select.
5. The display shows `Call Alert` and the radio alias or ID, indicating that the Call Alert has been sent.
6. The green LED lights up when your radio is sending the Call Alert.
7. If the Call Alert acknowledgement is received, the display shows positive mini notice.
   OR
   If the Call Alert acknowledgement is not received, the display shows negative mini notice.

You can also send a Call Alert by manually dialing the radio *ID (see **Making a Call Alert by Manual Dial** on page 77).*

Making a Call Alert with the One Touch Access Button

Procedure:

1. Press the programmed **One Touch Access** button to make a Call Alert to the predefined alias or ID.
2. The display shows `Call Alert` and the radio alias or ID, indicating that the Call Alert has been sent.
3. The green LED lights up when your radio is sending the Call Alert.
4. If the Call Alert acknowledgement is received, the display shows positive mini notice.
   OR
   If the Call Alert acknowledgement is not received, the display shows negative mini notice.

Emergency Operation

An Emergency Alarm is used to indicate a critical situation. You are able to initiate an Emergency at any time on any screen display even when there is activity on the current channel.

Your dealer can set the duration of a button press for the programmed **Emergency** button, except for long press, which is similar with all other buttons:

- Short press – Between 0.05 seconds and 0.75 seconds
- Long press – Between 1.00 second and 3.75 seconds

The **Emergency** button is assigned with the Emergency On/ Off feature. Check with your dealer for the assigned operation of the **Emergency** button.

*If short press the **Emergency** button is assigned to turn on the Emergency mode, then long press the **Emergency** button is assigned to exit the Emergency mode.*

*If long press the **Emergency** button is assigned to turn on the Emergency mode, then short press the **Emergency** button is assigned to exit the Emergency mode.*

Your radio supports **three** Emergency Alarms:

- Emergency Alarm
- Emergency Alarm with Call
- Emergency Alarm with Voice to Follow

In addition, each alarm has the following types:

- **Regular** – Radio transmits an alarm signal and shows audio and/or visual indicators.
- **Silent** – Radio transmits an alarm signal without any audio or visual indicators. Radio receives calls without any sound through the radio's speaker, until you press the **PTT** button to initiate the call.
- **Silent with Voice** – Radio transmits an alarm signal without any audio or visual indicators, but allow incoming calls to sound through the radio's speaker.

Only **one** of the Emergency Alarms above can be assigned to the programmed **Emergency** button or the **Emergency** footswitch.

Receiving an Emergency Alarm

Procedure:

1 The emergency icon appears, a tone sounds, the red LED blinks, and the radio displays the Alarm List if there is more than one alarm listed. The emergency caller aliases are listed. P2 or P3 to the required alias and press OK to view more details. Press OK again to view your action options.
OR
The emergency icon appears, a tone sounds, the red LED blinks, and the radio displays the emergency caller alias

Press OK to view more details. Press OK again to view your action options.

2 Press and select Yes to exit the Alarm List.

To revisit the Alarm List, press OK to access the menu and select Alarm List.

Responding to an Emergency Alarm

Procedure:

When receiving an Emergency Alarm:

1 In the Alarm List, P2 or P3 to the required alias.

2 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.

3 Press **PTT** button to transmit non-emergency voice to the same group that the Emergency Alarm was targeted to. The green LED lights up. Your radio remains in the Emergency mode.

4 Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
OR

Wait for the **PTT** Sidetone to finish (if enabled) and speak clearly into the microphone.

5 Release the **PTT** button to listen. When the emergency initiating radio responds, the green LED blinks. You see the Group Call icon, the group alias or ID, and transmitting radio alias or ID on your display.

6 Your radio displays the Alarm List.

Emergency voice can only be transmitted by the emergency initiating radio. All other radios (including the emergency receiving radio) transmit non-emergency voice.

Sending an Emergency Alarm

This feature allows you to send an Emergency Alarm, a non-voice signal, which triggers an alert indication on a group of radios.

Procedure:

1 Press the programmed **Emergency On** button or the **Emergency** footswitch.

2 The display shows Tx Alarm and the destination alias. The green LED lights up and the Emergency icon appears.
OR

The display shows Tx Telegram and the destination alias. The green LED lights up and the Emergency icon appears.

3 When an Emergency Alarm acknowledgment is received, the Emergency tone sounds and the green LED blinks. The display shows `Alarm Sent`.
OR
If your radio does not receive an Emergency Alarm acknowledgement, and after all retries have been exhausted, a tone sounds and the display shows `Alarm Failed`.

4 Radio exits the Emergency Alarm mode and returns to the Home screen.

If your radio is set to Silent, it does not display any audio or visual indicators during Emergency mode.

Sending an Emergency Alarm with Call

This feature allows you to send an Emergency Alarm to a group of radios. Upon acknowledgement by a radio within the group, the group of radios can communicate over a programmed Emergency channel.

Procedure:

1 Press the programmed **Emergency On** button or the **Emergency** footswitch.

2 The display shows `Tx Alarm` and the destination alias. The green LED lights up and the Emergency icon appears.
OR
The display shows `Tx Telegram` and the destination alias. The green LED lights up and the Emergency icon appears.

3 When an Emergency Alarm acknowledgment is received, the Emergency tone sounds and the green LED blinks. The display shows `Alarm Sent`.

4 Your radio enters the emergency call mode when the display shows `Emergency` and the destination group alias.

5 Press **PTT** button to make the call. The green LED lights up and the group icon appears on the display.

6 Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
OR
Wait for the **PTT** Sidetone to finish (if enabled) and speak clearly into the microphone.

7 Release the **PTT** button to listen.
When you receive a group call, the display shows the caller alias and group alias.

8 When the channel is free for you to respond, a short alert tone sounds (if the Channel Free Indication feature is enabled). Press the **PTT** button to respond.
OR
Once your call ends, press **Emergency Off** button to exit the Emergency mode.

9 The radio returns to the Home screen.

Sending an Emergency Alarm with Voice to Follow

This feature allows you to send an Emergency Alarm to a group of radios. Your radio's microphone can be preconfigured, allowing you to communicate with the group of radios without pressing the PTT button.

This activated microphone state is also known as "hot mic".

NOTE: Some accessories may not support "hot mic". Check with your dealer or system administrator for more information.

If your radio has Emergency Cycle Mode enabled, repetitions of hot mic and receiving period are made for a programmed duration.

NOTE: During Emergency Cycle Mode, received calls sound through the radio's speaker.

If you press the **PTT** button during the programmed receiving period, you will hear a prohibit tone, indicating that you should release the **PTT** button. The radio ignores the **PTT** press and remains in Emergency mode.

NOTE: If you press the **PTT** button during hot mic, and continue to press it after the hot mic duration expires, the radio continues to transmit until you release the **PTT** button.

Procedure:

1. Press the programmed **Emergency On** button or the **Emergency** footswitch.
2. The display shows `Tx Alarm` and the destination alias. The green LED lights up and the Emergency icon appears.
   OR
   The display shows `Tx Telegram` and the destination alias. The green LED lights up and the Emergency icon appears.
3. Once the display shows `Alarm Sent`, speak clearly into the microphone. When hot mic has been enabled, the radio automatically transmits without a **PTT** press until the hot mic duration expires.
   While transmitting, the green LED lights up and the Emergency icon appears.
4. The radio automatically stops transmitting when:
   Once the cycling duration between hot mic and receiving calls expires, if Emergency Cycle Mode is enabled.
   OR
   Once the hot mic duration expires, if Emergency Cycle Mode is disabled.
5. To transmit again, press the **PTT** button.
   OR
   Press the programmed **Emergency Off** button to exit the Emergency mode.
6. The radio returns to the Home screen.

*If your radio is set to Silent, it does not display any audio or visual indicators during Emergency mode, or allow any received calls to sound through the radio's speaker, until the programmed hot mic transmission period is over, and you press the **PTT** button.*

*If your radio is set to Silent with Voice, it does not display any audio or visual indicators during Emergency mode when you are making the call with hot mic, but allow sound through the radio's speaker when the target radio responds after the programmed hot mic transmission period is over. The indicators only appear when you press the **PTT** button.*

NOTE: If the Emergency Alarm request fails, the radio does not retry to send the request, and enters the hot mic state directly.

Reinitiating an Emergency Mode

NOTE: This feature is only applicable to the radio sending the Emergency Alarm.

There are two instances where this can happen:

- You change the channel while the radio is in Emergency mode. This exits the Emergency mode. If Emergency Alarm is enabled on this new channel, the radio reinitiates Emergency.
- You press the programmed **Emergency On** button during an Emergency initiation/transmission state. This causes the radio to exit this state, and to reinitiate Emergency.

Exiting Emergency Mode

NOTE: This feature is only applicable to the radio sending the Emergency Alarm.

Your radio exits Emergency mode when **one** of the following occurs:

- Emergency Alarm acknowledgement is received (for **Emergency Alarm** only), **OR**
- An Emergency Exit Telegram is received, **OR**
- All retries to send the alarm have been exhausted, **OR**
- The **Emergency Off** button is pressed, **OR**
- Turn the radio off and then power it on again if your radio has been programmed to remain on the Emergency Revert channel even after acknowledgement is received.

NOTE: If your radio is powered off, it exits the Emergency mode. The radio does not reinitiate the Emergency mode automatically when it is turned on again.

If you change channels when your radio is in Emergency mode to a channel that has no emergency system configured, `No Emergency` is shown on your display.

Text Messaging Features

Your radio is able to receive data, for example a text message, from another radio or an e-mail application.

Sending a Quick Text Message

Your radio supports a maximum of 50 Quick Text messages as programmed by your dealer.

Procedure:
Press the programmed **Text Message** button and proceed to Step 3.
OR
Follow the procedure below.

1. OK to access the menu.
2. P2 or P3 to `Messages` and press OK to select.
3. P2 or P3 to `Quick Text` and press OK to select.
4. P2 or P3 to the required Quick Text and press OK to select.
5. P2 or P3 to the required alias or ID and press OK to select.

6 The display shows transitional mini notice, confirming your message is being sent.

7 If the message is sent, a tone sounds and the display shows positive mini notice.
OR
If the message is not sent, a low tone sounds and the display shows negative mini notice.

If the text message fails to send, the radio returns you to the Resend *option screen (see* ***Managing Fail-to-Send Text Messages*** *on page 46).*

Sending a Quick Text Message with the One Touch Access Button

1 Press the programmed **One Touch Access** button to send a predefined Quick Text message to a predefined alias or ID.

2 The display shows transitional mini notice, confirming your message is being sent.

3 If the message is sent, a tone sounds and the display shows positive mini notice.
OR
If the message is not sent, a low tone sounds and the display shows negative mini notice.

If the text message fails to send, the radio returns you to the Resend *option screen (see* ***Managing Fail-to-Send Text Messages*** *on page 46).*

Managing Fail-to-Send Text Messages

You can select one of the following options while at the Resend option screen:

- Resend
- Forward

Resending a Text Message

Procedure:

1 Press OK to resend the same message to the same radio/group alias or ID.

2 If the message is sent successfully, a tone sounds and the display shows positive mini notice.
OR
If the message cannot be sent, the display shows negative mini notice.

Forwarding a Text Message

Select `Forward` to send the message to another subscriber/ group alias or ID.

Procedure:

1 P2 or P3 to `Forward` and press OK to select.

2 P2 or P3 to the required alias or ID and press OK to select.

3 The display shows transitional mini notice, confirming your message is being sent.

4 If the message is sent, a tone sounds and the display shows positive mini notice.
OR
If the message is not sent, a low tone sounds and the display shows negative mini notice.

*You can also manually select a target radio address (see **Forwarding a Text Message by Manual Dial** on page 78).*

Managing Sent Text Messages

Once a message is sent to another radio, it is saved in Sent Items. The most recent sent text message is always added to the top of the Sent Items list.

The Sent Items folder is capable of storing a maximum of thirty (30) last sent messages. When the folder is full, the next sent text message automatically replaces the oldest text message in the folder.

NOTE: Long press ⌂ at any time to return to the Home screen.

Viewing a Sent Text Message

Procedure:
Press the programmed **Text Message** button and proceed to Step 3.
OR
Follow the procedure below.

1 OK to access the menu.

2 P2 or P3 to `Messages` and press OK to select.

3 P2 or P3 to `Sent Items` and press OK to select.

4 P2 or P3 to the required message and press OK to select.

A subject line may be shown if the message is from an e-mail application.

The icon beside each message indicates the status of the message (see ***Sent Item Icons*** *on page 12).*

Sending a Sent Text Message

You can select one of the following options while viewing a sent text message:

- Resend
- Forward
- Delete

Procedure:

1 Press OK again while viewing the message.

2 P2 or P3 to `Resend` and press OK to select.

3 The display shows transitional mini notice, confirming that the same message is being sent to the same target radio.

4 If the message is sent, a tone sounds and the display shows positive mini notice.
OR
If the message is not sent, a low tone sounds and the display shows negative mini notice.

If the text message fails to send, the radio returns you to the `Resend` *option screen. Press* OK *to resend the message to the same* radio*/group alias or ID.*

NOTE: Changing the volume, and pressing any button, except for OK , P2, or P3 , returns you to the message.

The radio exits the `Resend` option screen if you press the **PTT** button to initiate a Private or Group Call, or to respond to a Group Call. It also exits the screen when the radio receives a text message, an emergency call or alarm, or a call alert.

The display returns to the `Resend` option screen if you press the **PTT** button to respond to a Private Call (except if the radio is displaying the Missed Call screen).

Press P2 or P3 *to access the* `Forward`*,* `Edit`*, or* `Delete` *option screen:*

- *Select* `Forward` *to send the selected text message to another target radio (see* ***Forwarding a Text Message*** *on page 47). You can also manually select a target radio address using a keypad microphone (see* ***Forwarding a Text Message by Manual Dial*** *on page 78).*
- *Select* `Delete` *to delete the text message.*

NOTE: If you exit the message sending screen while the message is being sent, the radio updates the status of the message in the Sent Items folder without providing any indication in the display or via sound.

If the radio changes mode or powers down before the status of the message in Sent Items is updated, the radio cannot complete any In-Progress messages and automatically marks it with a Send Failed icon.

The radio supports a maximum of five (5) In-Progress messages at one time. During this period, the radio cannot send any new message and automatically marks it with a Send Failed icon.

Deleting All Sent Text Messages from Sent Items

Procedure:
Press the programmed **Text Message** button and proceed to Step 3.
OR
Follow the procedure below.

1. MENU/OK to access the menu.
2. P2 or P3 to `Messages` and press MENU/OK to select.
3. P2 or P3 to `Sent Items` and press MENU/OK to select.
4. P2 or P3 to `Delete All` and press MENU/OK to select.
5. P2 or P3 to `Yes` and press MENU/OK to select. The display shows positive mini notice
   OR
   P2 or P3 to `No` and press MENU/OK to return to the previous screen.

When you select Sent Items and it contains no text messages, the display shows `List Empty` *and sounds a low tone if Keypad Tones are turned on (see* ***Turning Keypad Tones On or Off*** *on page 70).*

Receiving a Text Message

When your radio receives a message, the display shows the Notification List with the alias or ID of the sender and the message icon.

You can select one of the following options when receiving a text message:

- Read
- Read Later
- Delete

NOTE: The radio exits the Text Message alert screen and sets up a Private or Group Call to the sender of the message if the **PTT** button is pressed when the radio is displaying the alert screen.

Reading a Text Message

Procedure:

1 P2 or P3 to `Read` and press OK to select.

2 Selected message in the Inbox opens.
A subject line may be shown if the message is from an e-mail application.

3 Press ⌂ to return to the Inbox.

OR

Press OK to reply, forward, or delete the text message.

Press P2 or P3 to access the `Read Later` or `Delete` option screen:

- *Select `Read Later` to return to the screen you were on prior to receiving the text message.*
- *Select `Delete` to delete the text message.*

Managing Received Text Messages

Use the Inbox to manage your text messages. The Inbox is capable of storing a maximum of 30 messages.

Your radio supports the following options for text messages:

- Reply (via Quick Text)
- Forward
- Delete
- Delete All

NOTE: Long press ⌂ at any time to return to the Home screen.

Viewing a Text Message from the Inbox

Procedure:

1 OK to access the menu.

2 P2 or P3 to `Messages` and press OK to select.

3 P2 or P3 to `Inbox` and press OK to select.

4 P2 or P3 to view the messages.

A subject line may be shown if the message is from an e-mail application.

5 Press OK to select the current message, and press OK again to reply, forward, or delete that message.
OR
Long press ⌂ to return to the Home screen.

Replying to a Text Message with Quick Text

Procedure:
Press the programmed **Text Message** button and proceed to Step 3.
OR
Follow the procedure below.

1 OK to access the menu.

2 P2 or P3 to `Messages` and press OK to select.

3 P2 or P3 to `Inbox` and press OK to select.

4 P2 or P3 to the required message and press OK to select.
A subject line may be shown if the message is from an e-mail application.

5 Press OK once more to access the sub-menu.

6 P2 or P3 to `Reply` and press OK to select.

7 P2 or P3 to `Quick Reply` and press OK to select.

8 P2 or P3 to the required message and press OK to select.

9 The display shows transitional mini notice, confirming your message is being sent.

10 If the message is sent successfully, a tone sounds and the display shows positive mini notice.
OR
If the message cannot be sent, the display shows negative mini notice.

If the text message fails to send, the radio returns you to the `Resend` *option screen (see* ***Managing Fail-to-Send Text Messages*** *on page 46).*

Deleting a Text Message from the Inbox

Procedure:
Press the programmed **Text Message** button and proceed to Step 3.
OR
Follow the procedure below.

1. OK to access the menu.
2. P2 or P3 to `Messages` and press OK to select.
3. P2 or P3 to `Inbox` and press OK to select.
4. P2 or P3 to the required message and press OK to select.
   A subject line may be shown if the message is from an e-mail application.
5. Press OK once more to access the sub-menu.
6. P2 or P3 to `Delete` and press OK to select.
7. P2 or P3 to `Yes` and press OK to select.
8. The display shows positive mini notice.
9. The screen returns to the Inbox.

Deleting All Text Messages from the Inbox

Procedure:
Press the programmed **Text Message** button and proceed to Step 3.
OR
Follow the procedure below.

1. OK to access the menu.
2. P2 or P3 to `Messages` and press OK to select.
3. P2 or P3 to `Inbox` and press OK to select.
4. P2 or P3 to `Delete All` and press OK to select.
5. P2 or P3 to `Yes` and press OK to select.
6. The display shows positive mini notice.

When you select the Inbox and it contains no text messages, the display shows `List Empty`, and sounds a low tone if Keypad Tones are turned on (see ***Turning Keypad Tones On or Off*** *on page 70).*

NOTE: Additional text messaging features are available with a keypad-enabled microphone. Refer to ***Text Messaging*** on page 78 for more details.

Analog Message Encode

Your radio is able to send preprogrammed messages from the Message list to a radio alias or to the dispatcher.

Sending MDC Message Encode to Dispatcher

Procedure:

1 OK to access the menu.

2 P2 or P3 to Message and press OK to select.

3 P2 or P3 to Quick Text and press OK to select.

4 P2 or P3 to the required message. Press OK to send.

5 The display shows transitional mini notice, confirming your message is being sent.

6 If the message is sent, a tone sounds and the display shows positive mini notice.
OR
If the message is not sent, a low tone sounds and the display shows negative mini notice.

Analog Status Update

Your radio is able to send preprogrammed messages from the Status List indicating your current activity to the dispatcher (for MDC systems).

The last acknowledged message is kept at the top of the Status List. The other messages are arranged in alphanumeric order.

Sending Status Update to Predefined Contact

Procedure:

1 OK to access the menu.

2 P2 or P3 to Status and press OK to select.

3 P2 or P3 to the required status. Press OK to select.

4 P2 or P3 to Set as Default. Press OK to send the status update.

5 The display shows transitional mini notice, confirming your status update is being sent.

6 If the status update is acknowledged, a tone sounds and the display shows positive mini notice. A ✓ appears beside the acknowledged status.
OR
If the status update is not acknowledged, a low tone sounds and the display shows negative mini notice. A ✓ remains beside the previous status.

Privacy

If enabled, this feature helps to prevent eavesdropping by unauthorized users on a channel by the use of a software-based scrambling solution. The signaling and user identification portions of a transmission are not scrambled.

Your radio must have privacy enabled on the channel to send a privacy-enabled transmission, although this is not a necessary requirement for receiving a transmission. While on a privacy-enabled channel, the radio is still able to receive clear (unscrambled) transmissions.

Your radio only supports **Basic Privacy**.

To unscramble a privacy-enabled call or data transmission, your radio must be programmed to have the same Privacy Key as the transmitting radio.

If your radio receives a scrambled call that is of a different Privacy Key, you will hear a garbled transmission.

The green LED lights up while the radio is transmitting and double blinks when the radio is receiving an ongoing privacy-enabled transmission.

NOTE: Some radio models/locations may not offer this Privacy feature. Check with your dealer or system administrator for more information.

Procedure:
Press the programmed **Privacy** button to toggle privacy on or

off.

OR

Follow the procedure below.

1. OK to access the menu.
2. P2 or P3 to `Utilities` and press OK to select.
3. P2 or P3 to `Radio Settings` and press OK to select.
4. P2 or P3 to `Privacy`.
5. P2 or P3 to `On` to enable Privacy. The display shows ✓ beside `On`.

   OR

   P2 or P3 to `Off` to disable Privacy. The display shows ✓ beside `Off`.

If the radio has a privacy type assigned, the secure or unsecure icon appears on the status bar, except when the radio is sending or receiving an Emergency call or alarm.

Analog Scrambling

Analog Scrambling is an analog-only feature designed to prevent eavesdropping by unauthorized users on a channel by the use of a software-based scrambling solution. The signaling and user identification portions of a transmission are not scrambled.

Your radio must have analog scrambling enabled on the channel to send and receive an analog scrambling-enabled transmission. While on an analog scrambling-enabled channel, the radio is **NOT** able to receive clear (unscrambled) transmissions.

Your radio supports **TWO** analog scrambling codes that can be toggled via the programmable button.

Turning Analog Scrambling On or Off

Procedure:

Press the programmed **Analog Scrambling** button to enable or disable this function.

OR

Follow the procedure below.

1. OK to access the menu.
2. P2 or P3 to `Utilities` and press OK to select.

3 P2 or P3 to Radio Settings and press OK to select.

4 P2 or P3 to Scramble

5 Press OK to enable Scramble. The display shows ✓ beside Enabled.
OR
Press OK to disable Scramble. The ✓ disappears from beside Enabled.

Setting the Analog Scrambling Codes

Procedure:
Press the programmed **Analog Scrambling** button to enable or disable this function.
OR
Follow the procedure below.

1 OK to access the menu.

2 P2 or P3 to Utilities and press OK to select.

3 P2 or P3 to Radio Settings and press OK to select.

4 P2 or P3 to Scramble.

5 P2 or P3 to the required code and press OK to select.

Lone Worker

This feature prompts an emergency to be raised if there is no user activity, such as any radio button press or activation of the channel selector, for a predefined time.

Following no user activity for a programmed duration, the radio pre-warns the user via an audio indicator once the inactivity timer expires.

If there is still no acknowledgment by the user before the predefined reminder timer expires, the radio initiates an Emergency Alarm.

Only **one** of the following Emergency Alarms is assigned to this feature:

- Emergency Alarm
- Emergency Alarm with Call
- Emergency Alarm with Voice to Follow

The radio remains in the emergency state allowing voice messages to proceed until action is taken. See ***Emergency Operation*** on page 40 on ways to exit Emergency.

NOTE: This feature is limited to radios with this function enabled. Check with your dealer or system administrator for more information.

Notification List

Your radio has a Notification List that collects all your “unread” events on the channel, such as unread text messages, telegrams, missed calls, and call alerts.

The Notification icon appears on the status bar when the Notification List has one or more events.

The list supports a maximum of forty (40) unread events. When it is full, the next event automatically replaces the oldest event.

After the events are read, they are removed from the Notification List.

NOTE: Your radio suspends Scan when the Notification List is displayed. Scanning resumes when your radio exits the Notification List. Press  to exit the Notification List or wait for the menu timer to expire.

Accessing the Notification List

Procedure:

Press the programmed **Notifications** button.
OR
Follow the procedure below.

1 OK to access the menu.

2 P2 or P3 to `Notification` and press OK to select.

3 P2 or P3 to the required event and press OK to select.

Long press *to return to the Home screen.*

Auto-Range Transponder System (ARTS)

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 dealer can program your radio to transmit or receive the ARTS signal.

Your radio provides indications of states as follows:

- **First-Time Alert** – A tone sounds and the display shows `In Range` after the channel alias.
- **ARTS-in-Range Alert** – A tone sounds, if programmed, and the display shows `In Range` after the channel alias.
- **ARTS-Out-of-Range Alert** – A tone sounds, the LED rapidly blinks red, and the display alternates between `Out of Range` and the home screen.

Utilities

Turning the Radio Tones/Alerts On or Off

You can enable and disable all radio tones and alerts (except for the incoming Emergency alert tone) if needed.

Procedure:

Press the programmed **All Tones/Alerts** button to toggle all tones on or off.

OR

Follow the procedure below.

1. OK to access the menu.
2. P2 or P3 to `Utilities` and press OK to select.
3. P2 or P3 to `Radio Settings` and press OK to select.
4. P2 or P3 to `Tones/Alerts` and press OK to select.
5. P2 or P3 to `All Tones` and press OK to select.
6. P2 or P3 to `On` to enable All Tones. The display shows ✓ beside `On`.

   OR

   P2 or P3 to `Off` to disable All Tones. The display shows ✓ beside `Off`.

Setting the Tone Alert Volume Offset Level

You can adjust the Tone Alert Volume Offset level if needed. This feature adjusts the volume of the tones/alerts, allowing it to be higher or lower than the voice volume.

Procedure:

1. OK to access the menu.
2. P2 or P3 to `Utilities` and press OK to select.
3. P2 or P3 to `Radio Settings` and press OK to select.
4. P2 or P3 to `Tones/Alerts` and press OK to select.
5. P2 or P3 to `Vol. Offset` and press OK to select.
6. P2 or P3 to the required volume value. The radio sounds a feedback tone with each corresponding volume value.

7 Press OK to keep the required displayed volume value.

OR

Repeat Step 6 to select another volume value.

OR

⌂ to exit without changing the current volume offset settings.

Turning the Talk Permit Tone On or Off

You can enable and disable the Talk Permit Tone if needed.

Procedure:

1 OK to access the menu.

2 P2 or P3 to `Utilities` and press OK to select.

3 P2 or P3 to `Radio Settings` and press OK to select.

4 P2 or P3 to `Tones/Alerts` and press OK to select.

5 P2 or P3 to `Talk Permit` and press OK to select.

6 P2 or P3 to `On` to enable Talk Permit Tone. The display shows ✓ beside `On`.

OR

P2 or P3 to `Off` to disable Talk Permit Tone. The display shows ✓ beside `Off`.

Turning the Power Up Alert Tone On or Off

You can enable and disable the Power Up Alert Tone if needed.

Procedure:

1 OK to access the menu.

2 P2 or P3 to `Utilities` and press OK to select.

3 P2 or P3 to `Radio Settings` and press OK to select.

4 P2 or P3 to `Tones/Alerts` and press OK to select.

5 P2 or P3 to `Power Up` and press OK to select.

6 P2 or P3 to On to enable Power Up Tone. The display shows ✓ beside On.

OR

P2 or P3 to Off to disable Power Up Tone. The display shows ✓ beside Off.

Setting the Text Message Alert Tone

You can customize your radio's text message alert tone to Momentary or Repetitive for each entry in the Contacts list.

Procedure:

1 OK to access the menu.

2 P2 or P3 to Contacts and press OK to select.

3 P2 or P3 to the required radio alias or ID and press OK to select.

4 P2 or P3 to Message Alert and press OK to select.

5 The display shows Momentary and Repetitive.

P2 or P3 to the required setting and press OK to enable.

✓ appears besides selected setting.

Setting the Power Level

You can customize your radio's power setting to high or low for each channel.

Settings: High enables communication with radios located at a considerable distance from you. Low enables communication with radios in closer proximity.

Procedure:

Press the programmed **Power Level** button to toggle transmit power level between high and low.

OR

Follow the procedure below.

1 OK to access the menu.

2 P2 or P3 to Utilities and press OK to select.

3 P2 or P3 to Radio Settings and press OK to select.

4 P2 or P3 to Power and press OK to select.

5 P2 or P3 to the required setting and press OK to select.

✓ appears beside selected setting.

6 Screen returns to the previous menu.

Long press ⌂ to return to the Home screen. The power level icon is visible.

Adjusting the Display Brightness

You can adjust radio's display brightness as needed.

Procedure:
Press the programmed **Brightness** button and proceed to Step 5.
OR
Follow the procedure below.

1. OK to access the menu.
2. P2 or P3 to `Utilities` and press OK to select.
3. P2 or P3 to `Radio Settings` and press OK to select.
4. P2 or P3 to `Brightness` and press OK to select.
5. The display shows a progress bar. Decrease display brightness by pressing P2 or increase the display brightness by pressing P3. Press OK to confirm your entry.

Turning Horns/Lights On or Off

Your radio is able to notify you of an incoming call via the horns and lights feature. When activated, an incoming call sounds your vehicle's horn and turns on its lights.

This feature needs to be installed through your radio's rear accessory connector by your dealer.

Procedure:
Press the programmed **Horns/Lights** button to toggle horns and lights feature on or off.
OR
Follow the procedure below.

1. OK to access the menu.
2. P2 or P3 to `Utilities` and press OK to select.
3. P2 or P3 to `Radio Settings` and press OK to select.
4. P2 or P3 to `Horns/Lights` and press OK to select.
5. P2 or P3 to `Turn On` to enable Horns/Lights The display shows ✓ beside `Turn On`.
   OR
   P2 or P3 to `Turn Off` to disable Horns/Lights The display shows ✓ beside `Turn Off`.

Setting the Squelch Level

You can adjust your radio's squelch level to filter out unwanted calls with low signal strength or channels that have a higher than normal background noise.

Settings: `Normal` is the default. `Tight` filters out (unwanted) calls and/or background noise. However, calls from remote locations may also be filtered out.

Procedure:
Press the programmed **Squelch** button to toggle squelch level between normal and tight.
OR
Follow the procedure below.

1. OK to access the menu.
2. P2 or P3 to `Utilities` and press OK to select.
3. P2 or P3 to `Radio Settings` and press OK to select.
4. P2 or P3 to `Squelch` and press OK to select.
5. The display shows `Tight` and `Normal`. P2 or P3 to the required setting and press OK to enable. ✓ appears besides selected setting.
6. Screen returns to the previous menu.

Turning the LED Indicators On or Off

You can enable and disable the LED Indicators if needed.

Procedure:

1. OK to access the menu.
2. P2 or P3 to `Utilities` and press OK to select.
3. P2 or P3 to `Radio Settings` and press OK to select.
4. P2 or P3 to `LED Indicator` and press OK to select.
5. P2 or P3 to `On` to enable LED Indicator. The display shows ✓ beside `On`.
   OR
   P2 or P3 to `Off` to disable LED Indicator. The display shows ✓ beside `Off`.

Language

You can set your radio display to be in your required language.

Procedure:

1 OK to access the menu.

2 P2 or P3 to Utilities and press OK to select.

3 P2 or P3 to Language and press OK to select.

4 P2 or P3 to the required language and press OK to enable. ✓ appears beside selected language.

Turning the Voice Operating Transmission (VOX) Feature On or Off

This feature allows you to initiate a hands-free voice activated call on a programmed channel. Your radio automatically transmits, for a programmed period, whenever the microphone on the VOX-capable accessory detects voice.

NOTE: You may need to turn off the radio and power it up again after detaching the VOX-capable microphone from it to allow the radio to switch to another valid accessory. The microphone source must be preconfigured and the VOX-capable accessory attached to the preconfigured port.

Pressing the **PTT** button during radio operation disables VOX. To re-enable VOX, do **one** of the following:

- Turn the radio off and power it on again, **OR**
- Change the channel via the **Scroll Up/Down** buttons, **OR**
- Change the channel via the **Channel Up/Down Button**, **OR**
- Follow the procedure below.

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

Procedure:
Press the programmed **VOX** button to toggle the feature on or off.
OR
Follow the procedure below.

1 OK to access the menu.

2 P2 or P3 to Utilities and press OK to select.

3 P2 or P3 to Radio Settings and press OK to select.

4 P2 or P3 to VOX and press OK to select.

5 P2 or P3 to On to enable VOX. The display shows ✓ beside On.
OR
P2 or P3 to Off to disable VOX. The display shows ✓ beside Off.

*If the Talk Permit Tone feature is enabled (see **Turning the Talk Permit Tone On or Off** on page 60), use a trigger word to initiate the call. Wait for the Talk Permit Tone to finish before speaking clearly into the microphone.*

Voice Announcement

This feature enables the radio to audibly indicate the current Zone or Channel the user has just assigned, or programmable button press. This audio indicator can be customized per customer requirements. This is typically useful when the user is in a difficult condition to read the content shown on the display.

Use the following features to toggle Voice Announcement on or off.

Procedure:

Press the programmed **Voice Announcement** button.
OR
Follow the procedure below.

1 OK to access the menu.

2 P2 or P3 to Utilities and press OK to select.

3 P2 or P3 to Voice Announcement.

4 P2 or P3 to On to enable Voice Announcement. The display shows ✓ beside On.
OR
P2 or P3 to Off to disable Voice Announcement. The display shows ✓ beside Off.

Analog Mic AGC (Mic AGC-A)

This feature controls the your radio's microphone gain automatically while transmitting on an analog system. It suppresses loud audio or boosts soft audio to a preset value in order to provide a consistent level of audio.

Procedure:

1. OK to access the menu.
2. P2 or P3 to `Utilities` and press OK to select.
3. P2 or P3 to `Radio Settings` and press OK to select.
4. P2 or P3 to `Analog Mic AGC`.
5. P2 or P3 to `On` to enable Analog Mic AGC. The display shows ✓ beside `On`.
   OR
   P2 or P3 to `Off` to disable Analog Mic AGC. The display shows ✓ beside `Off`.

Digital Mic AGC (Mic AGC-D)

This feature controls the your radio's microphone gain automatically while transmitting on an digital system. It suppresses loud audio or boosts soft audio to a preset value in order to provide a consistent level of audio.

Procedure:

1. OK to access the menu.
2. P2 or P3 to `Utilities` and press OK to select.
3. P2 or P3 to `Radio Settings` and press OK to select.
4. P2 or P3 to `Digital Mic AGC`.
5. P2 or P3 to `On` to enable Digital Mic AGC. The display shows ✓ beside `On`.
   OR
   P2 or P3 to `Off` to disable Digital Mic AGC. The display shows ✓ beside `Off`.

Accessing General Radio Information

Your radio contains information on the following:

- Radio Alias and ID
- Firmware and Codeplug Versions

NOTE: Press ↩ at any time to return to the previous screen or long press ↩ to return to the Home screen. The radio exits the current screen once the inactivity timer expires.

Checking the Radio Alias and ID

Displays the ID of your radio.

Procedure:
Press the programmed Radio Alias and ID button to check your radio alias and ID. You hear a positive indicator tone.
OR
Follow the procedure below.

1. OK to access the menu.
2. P2 or P3 to `Utilities` and press OK to select.
3. P2 or P3 to `Radio Info` and press OK to select.
4. P2 or P3 to `My Number` and press OK to select.
5. The first line of the display shows the radio alias. The second line of the display shows the radio ID.

*You can also press the programmed **Radio Alias and ID** button to return to the previous screen.*

Checking the Firmware Version and Codeplug Version

Displays the firmware and codeplug versions on your radio.

Procedure:

1. OK to access the menu.
2. P2 or P3 to `Utilities` and press OK to select.
3. P2 or P3 to `Radio Info` and press OK to select.
4. P2 or P3 to `Versions` and press OK to select.

The display shows the current firmware and codeplug versions.

Keypad Microphone Features

The following additional features for your radio are available with a keypad-enabled microphone:

Using the Keypad . . . . . page 69
Additional Advanced Features . . . . . page 70
Text Messaging . . . . . page 78
Dual Tone Multi Frequency (DTMF) . . . . . page 79
Password Lock Features. . . . . page 79
Front Panel Programming (FPP). . . . . page 82

Using the Keypad

You can use the 3 x 4 alphanumeric keypad on the 4-Way Navigation Keypad Microphone (Motorola part number PMMN4089_) to access your radio's features. You can use the keypad to enter radio aliases or IDs. Many characters require that you press a key multiple times. The table below shows the number of times a key needs to be pressed to generate the required character.

	Number of Times Key is Pressed												
Key	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1	1	.	,	?	!	@	&	‘	%	-	:	*	#
2 abc	A	B	C	2									
3 def	D	E	F	3									
4 ghi	G	H	I	4									
5 jkl	J	K	L	5									
6 mno	M	N	O	6									
7 pqrs	P	Q	R	S	7								
8 tuv	T	U	V	8									
9 wxyz	W	X	Y	Z	9								
0	0	**NOTE**: Press to enter “0” and long press to activate the CAPS lock. Another long press to turn off the CAPS lock.											
*	* or del	**NOTE**: Press during text entry to delete the character. Press during numeric entry to enter a “*”.											
#	# or space	**NOTE**: Press during text entry to insert a space. Press during numeric entry to enter a “#”.											

Turning Keypad Tones On or Off

You can enable and disable Keypad Tones if needed.

Procedure:

1. OK to access the menu.
2. P2 or P3 to `Utilities` and press OK to select.
3. P2 or P3 to `Radio Settings` and press OK to select.
4. P2 or P3 to `Tones/Alerts` and press OK to select.
5. P2 or P3 to `Keypad Tones` and press OK to select.
6. Press OK to enable keypad tones. The display shows ✓ beside Enabled.
   OR
   Press OK to disable keypad tones. The ✓ disappears from beside Enabled.

Additional Advanced Features

Selecting a Zone by Alias Search

Procedure:

1. OK to access the menu.
2. P2 or P3 to `Zone` and press OK to select.
3. The current zone is displayed and indicated by a ✓.
4. P2 or P3 to the required zone and proceed to Step 7.
   OR
   Key in the first character of the required zone.
5. A blinking cursor appears.
   Use the keypad to type the required zone.
   Press # to move one space to the right.
   Press * to delete any unwanted characters.
   Long press 0 to toggle between lower case and upper case.

6 The first line of the display shows the characters you keyed in. The next lines of the display show the shortlisted search results.
The alias search is case-insensitive. If there are two or more zones with the same name, the radio displays the zone that is listed first in the zone list.

7 Press OK to select.

8 The display shows `<Zone> Selected` momentarily and returns to the selected zone screen.

Making a Private Call by Manual Dial

Procedure:

1 OK to access the menu.

2 P2 or P3 to `Contacts` and press OK to select.The entries are alphabetically sorted.

3 P2 or P3 to `Manual Dial` and press OK to select.

4 P2 or P3 to `Radio Number` and press OK to select.

5 If there is a previously dialed radio ID, the ID appears along with a blinking cursor.
Use the keypad to edit the radio ID.
OR
Use the keypad to enter a new radio ID.

6 Press the **PTT** button to make the call. The green LED lights up. The display shows the destination alias.

7 Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.

8 Release the **PTT** button to listen. When the target radio responds, the green LED blinks.

9 If the Channel Free Indication feature is enabled, you hear a short alert tone the moment the target radio releases the **PTT** button, indicating the channel is free for you to respond. Press the **PTT** button to respond.
OR
If there is no voice activity for a programmed period of time, the call ends.

10 You hear a short tone. The display shows `Call Ended`.

Making a Group or Private Call with the Programmable Number Key

The Programmable Number Key feature allows you to make a Group or Private Call to a predefined alias or ID easily. This feature can be assigned to all the available number keys on a keypad microphone.

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.

Procedure:
When you are on the Home screen:

1 Long press the programmed number key to make a Group or Private Call to the predefined alias or ID.
If the number key is not associated to an entry, a negative indicator tone sounds.

2 Press the **PTT** button to make the call. The green LED lights up. The Group/Private Call icon appears in the top right corner. The first text line shows the caller alias. The second text line displays the call status for a Private Call.

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

4 Release the **PTT** button to listen. When the target radio responds, the green LED blinks. The display shows the destination alias.

5 If the Channel Free Indication feature is enabled, you hear a short alert tone the moment the target radio releases the **PTT** button, indicating the channel is free for you to respond. Press the **PTT** button to respond.
OR
If there is no voice activity for a predetermined period of time, the call ends.

6 Radio returns to the screen you were on prior to initiating the call.

For a Private Call, you hear a short tone when the call ends.

*See **Assigning an Entry to a Programmable Number Key** on page 30 for details on assigning an entry to a number key on the keypad.*

Making a Group or Private Call by Alias Search

You can also use alias or alphanumeric search to retrieve the required radio alias.

This feature is only applicable while in Contacts.

Procedure:

1 OK to access the menu.

2 P2 or P3 to Contacts and press OK to select. The entries are alphabetically sorted.

3 Key in the first character of the required alias.

4 A blinking cursor appears.
Use the keypad to type the required alias.
Press P2 to move one space to the left.
Press P3 to move one space to the right.
Press * to delete any unwanted characters.

5 The first line of the display shows the characters you keyed in. The next lines of the display show the shortlisted search results.
The alias search is case-insensitive. If there are two or more aliases with the same name, the radio displays the alias that is listed first in the Contacts list.

6 Press the **PTT** button to make the call. The green LED lights up. The first line displays the target radio's ID. The second line displays the call type and the Call icon.

7 Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone

8 Release the **PTT** button to listen. When the target radio responds, the green LED blinks. The display shows the destination alias.

9 If the Channel Free Indication feature is enabled, you hear a short alert tone the moment the target radio releases the **PTT** button, indicating the channel is free for you to respond. Press the **PTT** button to respond.
OR
If there is no voice activity for a programmed period of time, the call ends.

10 You hear a short tone. The display shows Call Ended.

NOTE: Press ⏎ button or OK to exit alias search.

Viewing an Entry in the Scan List by Alias Search

Procedure:

1 OK to access the menu.

2 P2 or P3 to Scan and press OK to select.

3 P2 or P3 to Scan List and press OK to select.

4 Key in the first character of the required alias.

5 A blinking cursor appears.
Use the keypad to type the required zone.

Press # to move one space to the right.

Press * to delete any unwanted characters.

Long press 0 to toggle between lower case and upper case.

6 The first line of the display shows the characters you keyed in. The next lines of the display show the shortlisted search results.

The alias search is case-insensitive. If there are two or more entries with the same name, the radio displays the entry that is listed first in the scan list.

Editing the Scan List by Alias Search

Adding a New Entry to the Scan List

Procedure:

1 OK to access the menu.

2 P2 or P3 to Scan and press OK to select.

3 P2 or P3 to Scan List and press OK to select.

4 P2 or P3 to Add Member and press OK to select.

5 Key in the first character of the required alias.

6 A blinking cursor appears.
Use the keypad to type the required zone.

Press # to move one space to the right.

Press * to delete any unwanted characters.

Long press 0 to toggle between lower case and upper case.

7 The first line of the display shows the characters you keyed in. The next lines of the display show the shortlisted search results.
The alias search is case-insensitive. If there are two or more aliases with the same name, the radio displays the alias that is listed first in the list.

8 Press OK to select.

9 P2 or P3 to the required priority level and press OK to select.

10 The display shows positive mini notice, followed immediately by Add Another?.

11 P2 or P3 to Yes and press OK to select, to add another entry, and repeat Steps 5 to 9.
OR
P2 or P3 to No and press OK to select to save the current list.

Deleting an Entry from the Scan List

Procedure:

1 OK to access the menu.

2 P2 or P3 to Scan and press OK to select.

3 P2 or P3 to Scan List and press OK to select.

4 Key in the first character of the required alias.

5 A blinking cursor appears.
Use the keypad to type the required zone.
Press # to move one space to the right.
Press * to delete any unwanted characters.
Long press 0 to toggle between lower case and upper case.

6 The first line of the display shows the characters you keyed in. The next lines of the display show the shortlisted search results.
The alias search is case-insensitive. If there are two or more entries with the same name, the radio displays the entry that is listed first in the scan list.

7 Press OK to select.

8 P2 or P3 to Delete and press OK to select.

9 At Delete Entry?, P2 or P3 to Yes and press OK to select, to delete the entry. The display shows positive mini notice.
OR
P2 or P3 to No and press OK to select to return to the previous screen.

10 Repeat Steps 4 to 9 to delete other entries.

After deleting all required aliases or IDs, long press ⌂ to return to the Home screen.

Setting and Editing Priority for an Entry in the Scan List

Procedure:

1. OK to access the menu.
2. P2 or P3 to `Scan` and press OK to select.
3. P2 or P3 to `Scan List` and press OK to select.
4. Key in the first character of the required alias.
5. A blinking cursor appears.
   Use the keypad to type the required zone.
   Press # to move one space to the right.
   Press * to delete any unwanted characters.
   Long press 0 to toggle between lower case and upper case.
6. The first line of the display shows the characters you keyed in. The next lines of the display show the shortlisted search results.
   The alias search is case-insensitive. If there are two or more entries with the same name, the radio displays the entry that is listed first in the scan list.
7. Press OK to select.
8. P2 or P3 to `Edit Priority` and press OK to select.
9. P2 or P3 to the required priority level and press OK to select.
10. The display shows positive mini notice before returning to the previous screen.
11. The priority icon appears left of the member's name.

*There is no priority icon if priority is set to **None**.*

Storing an Alias or ID from a Call List

Procedure:

1. OK to access the menu.
2. P2 or P3 to `Call Log` and press OK to select.
3. P2 or P3 to the required list and press OK to select.
4. P2 or P3 to the required alias or ID and press OK to select.
5. P2 or P3 to `Store` and press OK to select.

6 A blinking cursor appears. If needed, key in the alias for that ID and press OK.

7 The display shows positive mini notice.

You can also store an ID without an alias.

Making a Call Alert by Manual Dial

Procedure:

1 OK to access the menu.

2 P2 or P3 to `Contacts` and press OK to select.

3 P2 or P3 to `Manual Dial` and press OK to select.

4 A blinking cursor appears. Enter the radio ID you want to send the Call Alert to and press OK.

5 P2 or P3 to `Call Alert` and press OK to select.

6 The display shows `Call Alert` and the radio alias or ID, indicating that the Call Alert has been sent.

7 The green LED lights up when your radio is sending the Call Alert.

8 If the Call Alert acknowledgement is received, the display shows positive mini notice.
OR
If the Call Alert acknowledgement is not received, the display shows negative mini notice.

RSSI Values

Your radio shows the Received Signal Strength Indicator (RSSI) icon at the top of your display. This feature allows you to view the RSSI values.

Procedure:
When you are on the Home screen:

1 Press ◀ three times (◀-◀-◀) and long press ◀, all within 8 seconds.

2 The display shows the current RSSI values.

Long press the ⮌ button to return to the Home screen.

*See **Display Icons** on page 10 for details on the RSSI icon.*

Text Messaging

The **maximum** length of characters for a text message, including the subject line (seen when receiving message from an e-mail application), is **140**, whereas to receive would be a maximum of **280** characters.

NOTE: The radio exits the current screen once the inactivity timer expires. Long press ⌂ at any time to return to the Home screen.

Managing Fail-to-Send Text Messages

if the message fails to send, the radio returns you to the `Resend` option screen.

Forwarding a Text Message by Manual Dial

Select `Forward` to send the message to another radio/group alias or ID.

Procedure:

1 P2 or P3 to `Forward` and press OK to select.

2 P2 or P3 to `Manual Dial` and press OK to select.
The first line of the display shows `Radio Number:`.
Key in the radio ID and press OK.

3 The display shows transitional mini notice, confirming your message is being sent.

4 If the message is sent, a tone sounds and the display shows positive mini notice.
OR
If the message is not sent, a low tone sounds and the display shows negative mini notice.

Dual Tone Multi Frequency (DTMF)

The Dual Tone Multi Frequency (DTMF) feature allows the radio to operate in a radio system with an interface to telephone systems.

Procedure:

To initiate a DTMF call.

1. Press and hold the **PTT** button.
2. Enter the desired number, * or #.

*You can turn off the DTMF tone by disabling all radio tones and alerts (see **Turning the Radio Tones/Alerts On or Off** on page 59).*

Password Lock Features

If enabled, this feature allows you to access your radio via password upon powering up. You can use a keypad microphone or **Scroll Up/Down** buttons to enter password.

Accessing the Radio from Password

Procedure:
Power up the radio.

1. You hear a continuous tone.
2. Enter your current four-digit password via keypad microphone.

   The display shows ●●●●. Press OK to proceed.

   OR

   Enter your current four-digit password. Press P2 or P3 to edit each digit's numeric value and OK to enter the selected digit and move to the next digit. Each digit changes to ●.

   Press OK to confirm your selection.

   You hear a positive indicator tone for every digit pressed. Press ◀ to remove the each ● on the display. You hear a negative indicator tone, if you press ◀ when the line is empty, or if you press more than four digits.

3 If the password is correct:
Your radio proceeds to power up. See ***Powering Up the Radio*** on page 2.
OR
If the password is incorrect:
The display shows `Wrong Password`. Repeat Step 2.
OR
After the third incorrect password, the display shows `Wrong Password` and then, shows `Radio Locked`. A tone sounds and the yellow LED double blinks.

*Your radio enters into locked state for 15 minutes, and responds to inputs from **On/Off** button and programmed **Backlight Auto** button only.*

NOTE: The radio is unable to receive any call, including emergency calls, in locked state.

The use of **Emergency** footswitch cancels out password input to access the radio.

Unlocking the Radio from Locked State

Procedure:
Wait for 15 minutes. Repeat Steps 1 to 3 in ***Accessing the Radio from Password*** on page 79.
OR
Power up the radio, if you have powered down the radio during locked state:

1 A tone sounds and the yellow LED double blinks. The display shows `Radio Locked`.

2 Wait for 15 minutes. Repeat ***Accessing the Radio from Password*** on page 79.

Your radio restarts the 15 minutes timer for locked state when you power up.

Turning the Password Lock On or Off

Procedure:

1 OK to access the menu.

2 P2 or P3 to `Utilities` and press OK to select.

3 P2 or P3 to `Radio Settings` and press OK to select.

4 P2 or P3 to `Passwd Lock` and press OK to select.

5 Enter a four-digit password.
See Step 2 in ***Accessing the Radio from Password*** on page 79.

6 If the password is correct:

P2 or P3 to Turn On to enable Password Lock. The display shows ✓ beside Turn On.
OR
P2 or P3 to Turn Off to disable Password Lock. The display shows ✓ beside Turn Off.
OR
If the password is incorrect:
The display shows Wrong Password and automatically returns to the previous menu.

Changing the Password

Procedure:

1 OK to access the menu.

2 P2 or P3 to Utilities and press OK to select.

3 P2 or P3 to Radio Settings and press OK to select.

4 P2 or P3 to Passwd Lock and press OK to select.

5 Enter your current four-digit password via keypad microphone.
See Step 2 in ***Accessing the Radio from Password*** on page 79.

6 If the password is correct:

P2 or P3 to Change Pwd and press OK to select.
OR
If the password is incorrect:
The display shows Wrong Password and automatically returns to the previous menu.

7 Enter a new four-digit password via keypad microphone.
See Step 2 in ***Accessing the Radio from Password*** on page 79.

8 Re-enter the new four-digit password. See Step 2 in ***Accessing the Radio from Password*** on page 79.

9 If both of the new password inputs match:
The display shows Password Changed.
OR
If both of the new password inputs do not match:
The display shows Passwords Do Not Match.

10 The screen automatically returns to the previous menu.

Front Panel Programming (FPP)

Your radio is able to customize certain feature parameters to enhance the use of your radio.

Entering FPP Mode

Procedure:

1 OK to access the menu.

2 P2 or P3 to `Utilities` and press OK to select.

3 P2 or P3 to `Program Radio` and press OK to select.

NOTE: Long press ⌂ at any time to return to the Home screen.

Editing FPP Mode Parameters

Use the following buttons as required while navigating through the feature parameters.

P2 or P3 – Scroll through options, increase/decrease values, or navigate vertically

OK – Select the option or enter a sub-menu

⌂ – Short-press to return to previous menu or to exit the selection screen. Long-press to return to Home screen.

Limited Warranty

MOTOROLA COMMUNICATION PRODUCTS

I. WHAT THIS WARRANTY COVERS AND FOR HOW LONG:

MOTOROLA SOLUTIONS INC. (“MOTOROLA”) warrants the MOTOROLA 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:

DM1600 Mobile Radios	Two (2) Years
Product Accessories	One (1) Year

MOTOROLA, 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.

This express limited warranty is extended by MOTOROLA 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. MOTOROLA assumes no obligations or liability for additions or modifications to this warranty unless made in writing and signed by an officer of MOTOROLA.

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

MOTOROLA cannot be responsible in any way for any ancillary equipment not furnished by MOTOROLA 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 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'S responsibilities regarding the Product. Repair, replacement or refund of the purchase price, at MOTOROLA’s 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 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 through one of its authorized warranty service locations. If you first contact the company which sold you the Product (e.g., dealer or communication service provider), it can facilitate your obtaining warranty service.

V. WHAT THIS WARRANTY DOES NOT COVER:

A) Defects or damage resulting from use of the Product in other than its normal and customary manner.

B) Defects or damage from misuse, accident, water, or neglect.

C) Defects or damage from improper testing, operation, maintenance, installation, alteration, modification, or adjustment.

D) Breakage or damage to antennas unless caused directly by defects in material workmanship.

E) A Product subjected to unauthorized Product modifications, disassembles or repairs (including, without limitation, the addition to the Product of non-MOTOROLA supplied equipment) which adversely affect performance of the Product or interfere with MOTOROLA's normal warranty inspection and testing of the Product to verify any warranty claim.

F) Product which has had the serial number removed or made illegible.

G) Rechargeable batteries if:

(1) any of the seals on the battery enclosure of cells are broken or show evidence of tampering.

(2) 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.

H) Freight costs to the repair depot.

I) A Product which, due to illegal or unauthorized alteration of the software/firmware in the Product, does not function in accordance with MOTOROLA’s published specifications or the FCC certification labeling in effect for the Product at the time the Product was initially distributed from MOTOROLA.

J) Scratches or other cosmetic damage to Product surfaces that does not affect the operation of the Product.

K) Normal and customary wear and tear.

VI. PATENT AND SOFTWARE PROVISIONS:

MOTOROLA 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 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:

A) that MOTOROLA will be notified promptly in writing by such purchaser of any notice of such claim;

B) that MOTOROLA will have sole control of the defense of such suit and all negotiations for its settlement or compromise; and

C) should the Product or parts become, or in MOTOROLA's opinion be likely to become, the subject of a claim of infringement of a United States patent, that such purchaser will permit MOTOROLA, 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.

MOTOROLA 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 MOTOROLA, nor will MOTOROLA have any liability for the use of ancillary equipment or software not furnished by MOTOROLA which is attached to or used in connection with the Product. The foregoing states the entire liability of MOTOROLA with respect to infringement of patents by the Product or any parts thereof.

Laws in the United States and other countries preserve for MOTOROLA certain exclusive rights for copyrighted MOTOROLA software such as the exclusive rights to reproduce in copies and distribute copies of such MOTOROLA software. MOTOROLA software may be used in only the Product in which the software was originally embodied and such software in such Product may not be replaced, copied, distributed, modified in any way, or used to produce any derivative thereof. No other use including, without limitation, alteration, modification, reproduction, distribution, or reverse engineering of such MOTOROLA software or exercise of rights in such MOTOROLA software is permitted. No license is granted by implication, estoppel or otherwise under MOTOROLA patent rights or copyrights.

VII. GOVERNING LAW:

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

TecniTrān
Telecomunicaciones
www.tecnitran.es info@tecnitran.es
Teléfono: 91 610 66 78
Síguenos en

MOTOROLA

Motorola Solutions, Inc.

MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under license.
All other trademarks are the property of their respective owners.
© 2013 Motorola Solutions, Inc. All rights reserved.
July 2013.

www.motorolasolutions.com/mototrbo

68012008064-A