MOTOROLA SOLUTIONS

MOTOTRBO™
PROFESSIONAL DIGITAL TWO-WAY RADIO

DM4000/DM4000e Series
Mobile Radio User Guide

MN008319A01-AC

Contents

Legal and Support

Intellectual Property and Regulatory Notices

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

The European Union's WEEE directive and the UK's WEEE regulation require that products sold into EU countries and the UK must have the crossed-out wheelie bin label on the product (or the package in some cases). As defined by the WEEE directive, this crossed-out wheelie bin label means that customers and end users in EU and UK countries should not dispose of electronic and electrical equipment or accessories in household waste.

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

Disclaimer

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

Legal and Compliance Statements

Important Safety Information

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

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

Citizens Band License

The use of the Citizens Band radio service is licensed in Australia by the Australian Communications and Media Authority (ACMA) Radiocommunications (Citizens Band Radio Stations) Class Licence and in New Zealand by the Ministry of Economic Development New Zealand (MED) General User Radio Licence (GURL) for Citizens Band Radio, and operation is subject to the conditions contained in those licences.

In Australia, a Citizens Band transmitter shall not be operated on UHF emergency channels 5 and 35 and no voice transmissions are permitted on data (telemetry/telecommand) channels 22 and 23, except in an emergency. The radio that complies to this Standard will inhibit voice operation on channels 22 and 23. In the event that additional telemetry/telecommand channels are approved by the ACMA, these channels shall be added to those currently listed where voice transmission is inhibited.

Always listen on a channel (or observe a channel-busy indicator) to ensure it is not already being used before transmitting.

Citizens Band Repeater Operation

A repeater is a station established at a fixed location that receives radio signals from one Citizens Band station and automatically retransmits the signal to another station using the corresponding output channel. UHF Citizens Band repeaters can be found in all states and enable the range of vehicle to vehicle communications to be significantly increased. Avoid operating on locally used repeater input channels (which are in the range of channels 31 to 38, and channels 71 to 78 when they are authorized) or locally used repeater receiving channels (which will be in the range channels 1 to 8, and channels 41 to 48 when they are authorized), unless long-distance communication via the repeater facility is specifically required.

📝 **NOTE:** In Australia, channel 11 is the customary calling channel for establishing communication and channel 40 is the customary road vehicle channel.

25 kHz Land Mobile Band to 12.5 kHz Narrow Band Transition

The existing use of 25 kHz analogue land mobile channels is to cease by 1 November 2015. This period is in accordance with the minimum period (five years) specified in the Radio Regulations for giving notice of revocation of a licence of an undefined duration.

Land mobile frequency bands with an offset channel plan (E, EN, and ENX bands) require a different treatment to manage the introduction of digital land mobile radio (due to potential adjacent channel interference risks). The following items apply to these bands:

- Users of E band (25 kHz channels) wanting to transition to digital prior 1 November 2015, can migrate to the EE band (also in the VHF range) or any other band open for digital land mobile radio licensing.

- E band users wanting to continue operating analogue services after the five year transition period can migrate to 12.5 kHz analogue channels in the EN band (also in the VHF range) or any other band open for narrow band analogue land mobile radio.

- Introduction of digital land mobile radio in the EN and ENX bands prior to 1 November 2015 will be considered on a case by case basis. Licensing of digital land mobile radio in these bands will be possible in areas where E band users have vacated the band, or when rigorous engineering analysis guarantees no risk of interference to other band users.

For the list of currently authorized channels, please refer to the following websites:

- https://www.acma.gov.au/licences/citizen-band-radio-stations-class-licence (Australia)

- https://www.rsm.govt.nz/licensing/frequencies-for-anyone/citizen-band-radio-gurl/ (New Zealand)

Maritime Radio Use in the VHF Frequency Range

This section is only applicable for United States and Canada only.

Special Channel Assignments

Emergency Channel

If you are in imminent and grave danger at sea and require emergency assistance, use VHF Channel 16 to send a distress call to nearby vessels and the United States Coast Guard. Transmit the following information, in this order:

1. "MAYDAY, MAYDAY, MAYDAY."

2. "THIS IS _____, CALL SIGN _____." State the name of the vessel in distress 3 times, followed by the call sign or other identification of the vessel, stated 3 times.

3. Repeat "MAYDAY" and the name of the vessel.

4. "WE ARE LOCATED AT _____." State the position of the vessel in distress, using any information that will help responders to locate you, e.g.:

    - latitude and longitude

    - bearing (state whether you are using true or magnetic north)

    - distance to a well-known landmark

    - vessel course, speed or destination

5. State the nature of the distress.

6. Specify what kind of assistance you need.

7. State the number of persons on board and the number needing medical attention, if any.

8. Mention any other information that would be helpful to responders, such as type of vessel, vessel length and/or tonnage, hull color, etc.

9. "OVER."

10. Wait for a response.

11. If you do not receive an immediate response, remain by the radio and repeat the transmission at intervals until you receive a response. Be prepared to follow any instructions given to you.

Non-Commercial Call Channel

For non-commercial transmissions, such as fishing reports, rendezvous arrangements, repair scheduling, or berthing information, use **VHF Channel 9**.

Operating Frequency Requirements

A radio designated for shipboard use must comply with Federal Communications Commission Rule Part 80 as follows:

- on ships subject to Part II of Title III of the Communications Act, the radio must be capable of operating on the 156.800 MHz frequency.

- on ships subject to the Safety Convention, the radio must be capable of operating:

  ○ in the simplex mode on the ship station transmitting frequencies specified in the 156.025–157.425 MHz frequency band, and

  ○ in the semiduplex mode on the two frequency channels specified in the table below.

NOTE: Additional information about operating requirements in the Maritime Services can be obtained from the full text of FCC Rule Part 80 and from the US Coast Guard.

Table 1: VHF Marine Channel List

Channel Number	Frequency (MHz)	
	Transmit	Receive
1	156.050	160.650
2	156.100	160.700
*[1]	156.150	160.750
4	156.200	160.800
5	156.250	160.850
6	156.300	–
7	156.350	160.950
8	156.400	–
9	156.450	156.450
10	156.500	156.500
11	156.550	156.550
12	156.600	156.600
13**[2]	156.650	156.650
14	156.700	156.700
15**[2]	156.750	156.750
16	156.800	156.800
17**[2]	156.850	156.850
18	156.900	161.500

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[1] Simplex channels 3, 21, 23, 61, 64, 81, 82, and 83 cannot be **lawfully used** by the general public in US waters.

[2] Low power (1 W) only.

19	156.950	161.550
20	157.000	161.600
*1	157.050	161.650
22	157.100	161.700
*1	157.150	161.750
24	157.200	161.800
25	157.250	161.850
26	157.300	161.900
27	157.350	161.950
28	157.400	162.000
60	156.025	160.625
*1	156.075	160.675
62	156.125	160.725
63	156.175	160.775
*1	156.225	160.825
65	156.275	160.875
66	156.325	160.925
67**2	156.375	156.375
68	156.425	156.425
69	156.475	156.475
71	156.575	156.575
72	156.625	–
73	156.675	156.675
74	156.725	156.725
75	***3	***3
76	***3	***3
77**2	156.875	–
78	156.925	161.525
79	156.975	161.575
80	157.025	161.625
*1	157.075	161.675
*1	157.125	161.725
*1	157.175	161.775
84	157.225	161.825
85	157.275	161.875
86	157.325	161.925

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3 Guard band.

| 87 | 157.375 | 161.975 |
| 88 | 157.425 | 162.025 |

NOTE: A – in the Receive column indicates that the channel is transmit only.

Declaration of Compliance for the Use of Distress and Safety Frequencies

The radio equipment does not employ a modulation other than the internationally adopted modulation for maritime use when it operates on the distress and safety frequencies specified in RSS-182 Section 7.3.

Technical Parameters for Interfacing External Data Sources

Table 2: Technical Parameters for Interfacing External Data Sources

	RS232	**USB**	**SB9600**
Input Voltage (Volts Peak-to-peak)	18 V	3.6 V	5 V
Max Data Rate	28 kb/s	12 Mb/s	9.6 kb/s
Impedance	5000 ohm	90 ohm	120 ohm

Warranty and Service Support

Limited Warranty

MOTOROLA SOLUTIONS COMMUNICATION PRODUCTS

I. WHAT THIS WARRANTY COVERS AND FOR HOW LONG:

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

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

Motorola Solutions, at its option, will at no charge either repair the Product (with new or reconditioned parts), replace it (with a new or reconditioned Product), or refund the purchase price of the Product during the warranty period provided it is returned in accordance with the terms of this warranty. Replaced parts or boards are warranted for the balance of the original applicable warranty period. All replaced parts of Product shall become the property of Motorola Solutions.

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

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

Motorola Solutions cannot be responsible in any way for any ancillary equipment not furnished by Motorola Solutions which is attached to or used in connection with the Product, or for operation of the Product with any ancillary equipment, and all such equipment is expressly excluded from this warranty. Because each system which may use the Product is unique, Motorola Solutions disclaims liability for range, coverage, or operation of the system as a whole under this warranty.

II. GENERAL PROVISIONS

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

III. STATE LAW RIGHTS:

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

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

IV. HOW TO GET WARRANTY SERVICE

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

V. WHAT THIS WARRANTY DOES NOT COVER

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

2. Defects or damage from misuse, accident, water, or neglect.

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

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

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

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

7. Rechargeable batteries if any of the seals on the battery enclosure of cells are broken or show evidence of tampering.

8. Rechargeable batteries if 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.

9. Freight costs to the repair depot.

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

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

12. Normal and customary wear and tear.

VI. PATENT AND SOFTWARE PROVISIONS

Motorola Solutions will defend, at its own expense, any suit brought against the end user purchaser to the extent that it is based on a claim that the Product or parts infringe a United States patent, and Motorola Solutions will pay those costs and damages finally awarded against the end user purchaser in any such suit which are attributable to any such claim, but such defense and payments are conditioned on the following:

1. Motorola Solutions will be notified promptly in writing by such purchaser of any notice of such claim,

2. Motorola Solutions will have sole control of the defense of such suit and all negotiations for its settlement or compromise, and

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

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VII. GOVERNING LAW

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

VIII. For Australia Only

This warranty is given by Motorola Solutions Australia Pty Limited (ABN 16 004 742 312) of Tally Ho Business Park, 10 Wesley Court. Burwood East, Victoria.

Our goods come with guarantees that cannot be excluded under the Australia Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Motorola Solutions Australia's limited warranty above is in addition to any rights and remedies you may have under the Australian Consumer Law. If you have any queries, please call Motorola Solutions Australia at 1800 457 439. You may also visit our website: http://www.motorolasolutions.com/XA-EN/Pages/Contact_Us for the most updated warranty terms.

Chapter 1

Read Me First

This user guide covers the basic operations of the radio models offered in your region.

Notations Used in This Manual

Throughout the text in this publication, you notice the use of **Warning**, **Caution**, and **Notice**. These notations are used to emphasize that safety hazards exist, and the care that must be taken or observed.

WARNING: An operational procedure, practice, or condition, and so on, which may result in injury or death if not carefully observed.

CAUTION: An operational procedure, practice, or condition, and so on, which may result in damage to the equipment if not carefully observed.

NOTE: An operational procedure, practice, or condition, and so on, which is essential to emphasize.

Special Notations

The following special notations are used throughout the text to highlight certain information or items:

Table 3: Special Notations

Example	Description
Menu key or **PTT** button	Bold words indicate a name of a key, button, or soft menu item.
Your radio shows `Bluetooth On`.	Typewriter words indicate the MMI strings or messages displayed on your radio.
\<required ID\>	The courier, bold, italic, and angle brackets indicate user input.
Setup → Tone → All Tones	Bold words with the arrow in between indicate the navigation structure in the menu items.

Feature and Service Availability

Your dealer or administrator may have customized your radio for your specific needs.

NOTE:
- Not all features in the manual are available in your radio. Contact your dealer or administrator for more information.

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

- What are the functions of each button?
- Which optional accessories may suit your needs?
- What are the best radio usage practices for effective communication?
- What maintenance procedures promote longer radio life?

1.1
Software Version

All the features described in the following sections are supported by the software version:

R02.24.01.1000 or later.

Contact your dealer or administrator for more information.

Chapter 2

Introduction

This user guide is written as per the highest tier model offered to the region.

The following table describes ways to access features for different radio models. You receive different indications depending on the radio model.

Table 4: The Feature Access and Indications of Different Radio Model

	Alphanumeric Display	**Numeric Display**
Radio Model	**Figure 1: DM4600/DM4600e, DM4601/ DM4601e**	**Figure 2: DM4400/DM4400e, DM4401/ DM4401e**
Feature Access	● Menu ● Programmable Button ● Keypad Microphone	● Programmable Button ● Keypad Microphone
Feature Indication	● Tone ● LED indicator ● Display ● Voice Announcement or Text-to-Speech	● Tone ● LED indicator ● Voice Announcement or Text-to-Speech

📝 **NOTE:** To understand which feature is available with the **Programmable Button**, you can refer to the topic.

Chapter 3

Radio Care

This section describes the basic handling precaution of the radio.

Table 5: IP Specification

IP Specification	Description
IP54	Allows your radio to withstand adverse field conditions such as being exposed to water splashed from all directions or dust protected for 2–8 hours.

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

- Keep your radio clean and exposure to water should be avoided to help ensure proper functionality and performance.

- To clean the exterior surfaces of the radio, use a diluted solution of mild dishwashing detergent and fresh water (for example, one teaspoon of detergent to one gallon of water).

- These surfaces should be cleaned whenever a periodic visual inspection reveals the presence of smudges, grease, and/or grime.

  ⚠️ **CAUTION:** The effects of certain chemicals and their vapors can have harmful results on certain plastics. Avoid using aerosol sprays, tuner cleaners, and other chemicals.

- When cleaning your radio, do not use a high-pressure jet spray on radio as this may cause water to leak into your radio.

Chapter 4

Getting Started

This chapter provides instructions on how to prepare your radio for use.

4.1
Turning the Radio On

Procedure:

Press the **Power** button.

Result:
Your radio shows the following indications:

● If the Tones/Alerts function is enabled, a tone sounds.

● The green LED illuminates.

● The display screen illuminates.

Postrequisites:
If your radio does not turn on, ensure that the battery is charged and properly attached. Contact your dealer if your radio still does not turn on.

4.2
Turning the Radio Off

Procedure:

Press and hold the **Power** button.

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

4.3
Adjusting the Volume

Procedure:

Perform one of the following actions:

● To increase the volume, turn the **Volume/Channel** knob clockwise.

● To decrease the volume, turn the **Volume/Channel** knob counterclockwise.

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

Chapter 5

Radio Overview

Radio overview explains the buttons, icons, and LED indications of your radio.

Figure 3: Alphanumeric Display Model
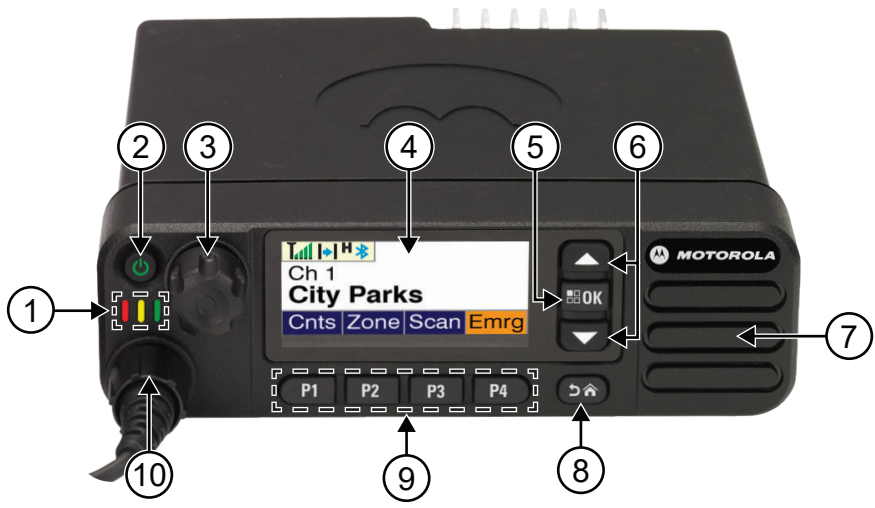
Table 6: Callout Legend

Label	Feature	Description
1	LED Indicators	The red, yellow, and green light-emitting diodes indicate operating status.
2	Power button	To turn your radio on and off.
3	Volume/Channel knob	Rotate to adjust volume.
		Press and hold to change channel.
4	Liquid Crystal Display (LCD)	160 x 72 display provides visual information of the radio.
5	Menu/OK button	To access Menu feature.
		In the menu, use this key to select.
6	Channel Up or Down button	Navigate to the next channel.
		In the menu, it is the up or down navigation button.
7	Speaker	Outputs all tones and audio that are generated by the radio (for example, features like keypad tones and voice audio).
8	Back/Home button	Press to return to previous screeen.
		Press and hold to return to Home screen.
9	Programmable Button 1 to 4. (P1, P2, P3, and P4)	These buttons are field programmable using the Customer Programmer Software (CPS).

Label	Feature	Description
10	Microphone Connector	Interface point for the microphone to be used with the radio.

Figure 4: Numeric Display Model
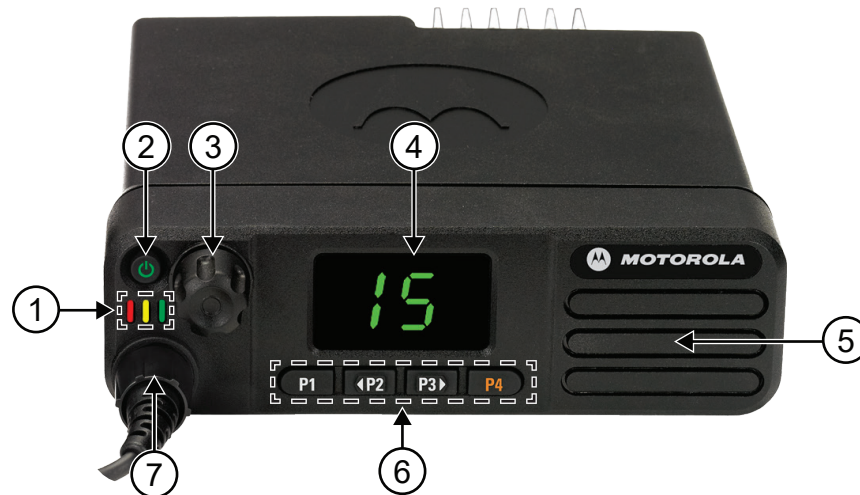
Table 7: Callout Legend

Label	Feature	Description
1	LED Indicators	The red, yellow, and green light-emitting diodes indicate operating status.
2	Power button	To turn your radio on and off.
3	Volume/Channel knob	Rotate to adjust volume. Press and hold to change channel.
4	LED Numeric Display	The display shows two-digit numeric information.
5	Speaker	Outputs all tones and audio that are generated by the radio (for example, features like keypad tones and voice audio).
6	Programmable Button 1 to 4. (P1, P2, P3, and P4)	These buttons are field programmable using the Customer Programmer Software (CPS).
7	Microphone Connector	Interface point for the microphone to be used with the radio.

5.1
Keypad Microphone Overview

You can attach a Keypad Microphone to your radio. Some features required a Keypad Microphone to perform.

Figure 5: RMN5127_ IMPRES Keypad Microphone
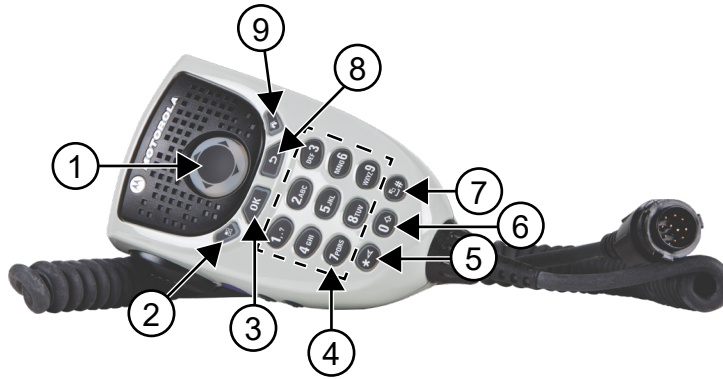
Table 8: Keypad Microphone Overview

Label	Button Name	Description
1	4-Way Navigation button	Provide menu navigation and selection interface.
2	Menu button	To access the Menu feature.
3	OK button	In the menu, use this key to select.
4	Number keys	Keys that allows the user to input characters for various text based operations.
5	* or delete key	During numeric entry, press this key to enter *.
		During text entry, press this key to delete a character.
6	0 key	Press and hold this key to enable or disable Caps Lock.
7	# or space key	During numeric entry, press this key to enter #.
		Press and hold this key to change text entry method.
8	Back button	Return to previous screen.
9	Home button	Return to Home screen.

5.2

Programmable Buttons

You can program the programmable buttons as shortcuts to the following radio functions through programming software.

NOTE: Contact your dealer for more information.

Table 9: Assignable Radio Functions

Function	Description
Acoustic Feedback (AF) Suppressor	Allows you to toggle the AF Suppressor feature to on or off.
All Alert Tones	Allows you to toggle all tones and alerts to on or off.

Function	Description
Analog Scrambling	Allows you to toggle the Analog Scrambling feature to on or off.
Analog Scrambling Code	Allows you to toggle the Analog Scrambling Code feature to on or off.
Audio Ambience	Allows you to select an environment the radio is operating in.
Audio Profiles	Allows you to select the preferred audio profiles.
Backlight	Allows you to toggle the display backlight to on or off.
Backlight Brightness	Allows you to adjust the brightness level.
Bluetooth® Audio Switch	Allows you to toggle the audio routing between an internal radio speaker and an external Bluetooth-enabled accessory.
Bluetooth Connect	Allows you to initiate a Bluetooth find-and-connect operation.
Bluetooth Disconnect	Allows you to terminate all existing Bluetooth connections between your radio and any Bluetooth-enabled devices.
Bluetooth Discoverable	Allows you to enable your radio to enter Bluetooth Discoverable Mode.
Brightness	Allows you to adjust the brightness level.
Busy Queue Cancellation	When a non-Emergency call is initiated in a Busy Queue, this allows you to exit the busy mode. When a Emergency call is accepted in a Busy Queue, you cannot cancel it.
Call Alert.	Allows you to direct access to the contacts list and select the required contact to send a call alert.
Call Forwarding	Allows you to toggle the Call Forwarding to on or off.
Call Log	Allows you to select the call log list.
Cancel	Allows you to cancel an ongoing call. If the call type is Group Call, then only the call initiator can use this button to cancel an ongoing call. If the call type is Private Call, then both the call initiator and receiver can use this button to cancel an ongoing call (applicable to Display model only).
Channel Announcement	Allows you to play zone and channel announcement voice messages in the current channel.
Channel Down	Allows you to navigate to the previous channel.
Channel Up	Allows you to navigate to the next channel.
Confirm	Allow you to confirm a feature.
Contacts	Provides direct access to the contacts list.
Display Mode	Allows you to toggle to day or night mode
Emergency Off	Allows you to terminate an outgoing emergency call.
Emergency On	Allows you to set up an emergency call.
Ext PA On or Off	Allows you to toggle audio routing between the connected PA loud-speaker amplifier and the internal PA system of the radio.
Global Navigation Satellite System (GNSS) On or Off	Allows you to toggle the satellite navigation system on or off.
Horn & Lights On or Off	Allows you to toggle the Horn and Lights feature between on or off.

Function	Description
Indoor Location	Allows you to toggle the Indoor Location to on or off.
Intelligent Audio	Allows you to toggle intelligent audio to on or off.
Manual Dial	Allows you to initiate Private Call by entering the subscriber ID.
Manual Site Roam	Allows you to start the manual site search.
Mic AGC	Allows you to toggle the internal microphone automatic gain control (AGC) to on or off.
Monitor	Allows you to monitor a channel.
Mute Mode	Allows you to turn Mute Mode on or off.
Notifications	Allows you to direct access to the notification list.
Nuisance Delete	Allows you to temporarily remove an unwanted channel from the scan list, except the Selected Channel. The nuisance deleted channel will be restored into the scan list, for instance, when radio is powered off and back on again (not applicable in Capacity Plus).
One Touch Access	Allows you to direct access to the predefined call features.
Option Board Feature	Allows you to toggle the option board feature(s) to enable or disable the option board-enabled channels.
Permanent Monitor	Allows you to monitor a selected channel for all radio traffic until function is disabled (not applicable in Capacity Plus).
Phone	Allows you to direct access to the phone contact list.
Phone Exit	Allows you to terminate a phone call (applicable to Non-Display or Numeric Display model, Digital mode only).
Power Level	Allows you to toggle the transmit power to high or low.
Privacy	Allows you to toggle the privacy to on or off.
Public Address	Allows you to toggle Public Address System on or off.
Radio Check	Allows you to check if the radio is active in the system.
Radio Enable or Disable	Allows a target radio to be remotely enabled or disabled.
Radio Name	Displays the radio alias on the radio display.
Remote Monitor	Allows you to turn on the microphone of a target radio without giving any indications.
Repeater or Talkaround	Allows you to toggle between using a repeater and directly communicating with another radio.
Reset Home Channel	Allows you to select a new home channel.
Reviving or Enabling radios	Allows you to revive or enable any radio in the system.
Ring Alert Type	Allows you to direct access the Ring Alert Type setting.
Roam Request	Allows you to request to search for a different site.
Scan	Allows you to toggle the scan to on or off.
Silence Home Channel Reminder	Allows you to mute the Home Channel Reminder.
Site Info	Allows you to view the current Capacity Max or Other Systems site name and ID.

Function	Description
Site Lock	Allows you to enable the site lock to search only in current site or disable the site lock to search in other sites as well.
Status	Allows you to select the status list menu.
Stunning or Disabling radios	Allows you to enable or disable any radio in the system.
Telemetry Control	Allows you to control the output pin on a local or remote radio.
Text Message	Allows you to select the text message menu.
Toggle Call Priority Level	Allows you to enable your radio to enter Call Priority Level High or Normal.
Transmit Inhibit	Allows you to block all transmission from the radio.
TX Interrupt Remote Dekey	Allows you to stop an on-going voice call by dekeying the transmitting radio or terminate the repeater call hang time in order to free up the channel. This button can also be used to end a Remote Monitor session.
Trill Enhancement	Allows you to toggle the trill enhancement to on or off.
Unassigned	Indicates that the button function has not yet assigned.
Voice Announcement	Allows you to toggle the Voice Announcement to on or off.
Voice Operating Transmission (VOX)	Allows you to toggle the VOX to on or off.
Wi-Fi	Allows you to toggle the Wi-Fi to on or off.
Zone Selection	Allows you to select from a list of zones.
Zone Toggle	Allows you to switch between 2 zones.

5.3
Icons

Icons are only available for radio with display.

Your radio display shows the radio status, text entries, and menu entries.

5.3.1
Display Icons

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

Table 10: Display Icons

Icon	Description
	Bluetooth Connected
	Bluetooth Not Connected

Icon	Description
	Call Log
	Contact
	DGNA
	Emergency
	Flexible Receive List
	GNSS Available
	GNSS Not Available
	High Volume Data
	Indoor Location Available[4]
	Indoor Location Unavailable[4]
	Message
	Monitor
	Mute Mode[4]
	Notification
	Option Board
	Option Board Non-Function
	Over-the-Air Programming Delay Timer
	Power Level

---

[4] Only applicable for models with the latest software and hardware.

Icon	Description
	Priority Talkgroup 1 or 2
	Received Signal Strength Indicator (RSSI)
	Response Inhibit
	Ring Only
	Scan [5]
	Scan Priority 1 or 2 [5]
	Service & Support
	Shared Frequency
	Sign In to Remote Server
	Sign Out from Remote Server
	Secure
	Silent Ring
	Site Roaming [6]
	Status
	Talkaround [5]
	Tones Disable
	Unsecure

---

[5] Not Applicable in Capacity Plus.
[6] Not applicable in Capacity Plus-Single-Site.

Icon	Description
	Vibrate
	Vibrate and Ring
	Wi-Fi[7]

5.3.2
Wave Icons

The following icons appear on the status bar at the top of the radio display if your radio is WAVE enabled.

Table 11: WAVE Display Icons

Icons	Description
	WAVE Connected
	WAVE Disconnected

5.3.3
Advanced Menu Icons

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

Table 12: Advanced Menu Icons

Icon	Description
	Checkbox (Checked)
	Checkbox (Empty)
	Solid Black Box

---

[7] Only applicable for DM4601e.

5.3.4
Bluetooth Devices Icons

The following icons appear next to items in the list of Bluetooth-enabled devices available to indicate the device type.

Table 13: Bluetooth Device Icons

Icon	Description
	Bluetooth Audio Device
	Bluetooth Data Device
	Bluetooth PTT Device
	Bluetooth Sensor Device

5.3.5
Call Icons

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

Table 14: Call Icons

Icon	Description
	Bluetooth PC Call
	Call Priority High
	DGNA Call
	Dispatch Call
	Group Call/All Call
	Non-IP Peripheral Individual call
	Non-IP Peripheral Group call

Icon	Description
	Option Board Individual Call
	Option Board Group Call
	Phone Call as Group or All Call
	Phone Call as Private Call
	Private Call

5.3.6

Job Tickets Icons

The following icons appear momentarily on the display in the Job Ticket folder.

Table 15: Job Ticket Icons

Icon	Description
	All Jobs
	New Jobs
	In Progress
	Send Failed
	Sent Successfully
	Priority 1
	Priority 2
	Priority 3

5.3.7
Mini Notice Icons

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

Table 16: Mini Notice Icons

Icon	Description
!	Failed Transmission (Negative)
✔	Successful Transmission (Positive)
▦	Transmission in Progress (Transitional)

5.3.8
Sent Items Icons

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

Table 17: Sent Item Icons

Icon	Description
or	In Progress
or	Individual or Group Message Read
or	Individual or Group Message Unread
or	Send Failed
or	Sent Successfully

5.4
LED Indications

The LED Indicator shows the operational status of your radio.

A qualified technician can permanently disable the LED indication by preprogramming it.

Table 18: LED Indications

Indication	Status
Blinking Red	● The radio has failed the self-test upon powering up.

Indication	Status
	- The radio is receiving an emergency transmission. - The radio is transmitting in low battery state. - The radio has moved out of range if Auto-Range Transponder System is configured. - Mute Mode is enabled.
Rapidly Blinking Red	- The radio is receiving Over-the-Air file transfer (Option Board firmware file, Network Frequency file, or Option Board Codeplug file) when in Connect Plus. - The radio is upgrading to a new Option Board firmware file when in Connect Plus.
Solid Yellow	- The radio is in Bluetooth Discoverable Mode. - The radio is monitoring a conventional channel.
Blinking Yellow	- The radio has yet to respond to a Call Alert. - Radio is receiving a Call Alert or Scan is enabled. Radio is idle (radio will remain muted to any activity). - The radio is scanning for activity. - The radio has Flexible Receive List enabled. - All Capacity-Plus–Multi-Site channels are busy.
Double Blinking Yellow	- The radio has Auto Roaming enabled. - The radio is actively searching for a new site. - The radio has yet to respond to a Group Call Alert. - The radio is locked. - The radio is not connected to the repeater while in Capacity Plus. - All Capacity-Plus channels are busy.
Solid Green	- The radio is powering up. - The radio is transmitting. - The radio is sending a Call Alert or an emergency transmission.
Blinking Green	- The radio is receiving a call or data. - The radio is retrieving the Over-the-Air Programming transmissions. - The radio is detecting activity over the air. **NOTE:** The activity may or may not affect the programmed channel of the radio due to the nature of the digital protocol.
Double Blinking Green	The radio is receiving a privacy-enabled call or data.

Chapter 6

System Overview

System overview explains what type of systems and modes available in the radio.

6.1
Capacity Max

Capacity Max is MOTOTRBO control channel based trunked radio system.

MOTOTRBO digital radio products are marketed by Motorola Solutions primarily to business and industrial users. MOTOTRBO uses the European Telecommunications Standards Institute (ETSI) Digital Mobile Radio (DMR) standard, that is, two-slot Time Division Multiple Access (TDMA), to pack simultaneous voice or data in a 12.5 kHz channel (6.25 kHz equivalent).

6.2
Connect Plus

Connect Plus is a full trunking solution based on DMR technology. Connect Plus uses a dedicated control channel for channel requests and allocations.

6.3
Other Systems

Other Systems include Conventional Analog and Digital modes, IP site connect, and Capacity Plus.

6.3.1
Conventional Analog and Digital Modes

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

Certain features are unavailable when switching from digital to analog mode and analog to digital mode, whereas some are available in both.

There are minor differences on how each feature works but they do not affect the performance of your radio.

6.3.2
IP Site Connect

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

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

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

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

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

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

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

6.3.3
Capacity Plus

Capacity Plus is a cost effective and entry-level digital trunked system. It expands the capacity and extends the coverage for single and multi-sites. The single and multi-sites dynamic trunking offers better capacity and coverage.

> **NOTE:** If you try to access a feature not applicable to Capacity Plus–Single-Site or Capacity Plus–Multi-Site by using a programmable button, you hear a negative indicator tone.

Capacity Plus–Single-Site

Capacity Plus–Single-Site is a single-site trunking configuration of the MOTOTRBO radio system, which uses a pool of channels to support hundreds of users and up to 254 groups.

This configuration allows your radio to efficiently utilize the number of available programmed channels while in Repeater Mode.

Your radio also has features that are available in conventional digital mode, IP Site Connect, and Capacity Plus.

Capacity Plus–Multi-Site

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

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

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

Automatically
  Your radio scans through all available sites when the signal from the current site is weak or unable to detect any signal and locks on to the repeater with the strongest RSSI value.

Manually
  Your radio searches for the next site in the roam list that is currently in range which may not have the strongest signal, and locks on to it.

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

> **NOTE:** You cannot manually add or delete an entry in the roam list.

Chapter 7

WAVE

Wide Area Voice Environment (WAVE™) provides a method of making calls between two or more radios.

WAVE allows you to communicate across different networks and devices using Wi-Fi. WAVE calls are made when the radio is connected to an IP network through Wi-Fi.

Your radio supports different system configurations:

- WAVE OnCloud/OnPremise
- WAVE Tactical/5000

The method to initiate a WAVE Call is different for each system type. Refer to the appropriate section depending on the system configuration of your radio.

> **NOTE:** This feature is applicable to specific models only.

7.1
WAVE OnCloud/OnPremise

7.1.1
Switching from Radio Mode to WAVE Mode

Procedure:

From the menu, select **WAVE**.

Result:
The yellow LED double blinks.

The display shows a momentary notice of `Switching to WAVE`, then shows `Preparing WAVE`.

> **NOTE:** Your radio automatically enables Wi-Fi after you switch to WAVE mode.

If your radio successfully switches to WAVE mode, your radio shows the following indications:

- The blinking yellow LED turns off.
- The display shows the WAVE connected icon, `Talkgroup Alias` and ***\<Channel Index\>***.

If your radio fails to switch to WAVE mode, your radio shows the following indications:

- A negative tone sounds.
- The red LED blinks.
- The display shows the WAVE disconnected icon and `No Connection` or `Activation: Fail`, depending on the error type.

> **NOTE:** Synchronization occurs when new settings are updated to your radio. When you enter the WAVE mode, your radio displays `Syncing....` When the synchronization completes, your radio returns to the home screen.

7.1.2
Switching from WAVE Mode to Radio Mode

Procedure:

From the menu, select **Radio Mode**.

Result:
The yellow LED double blinks.

The display shows a momentary notice of `Switching to Radio` and then shows `Preparing Radio`.

If your radio successfully switches to radio mode, your radio shows the following indications:

- The blinking yellow LED extinguishes.
- The WAVE connected icon disappears on the status bar. The display shows *`<Talkgroup Alias>`* and *`<Channel Index>`*.

7.2
WAVE Tactical/5000

7.2.1
Setting Active WAVE Channels

NOTE: WAVE channels are configured through CPS. Your radio automatically enables Wi-Fi and logs in to the WAVE server once you enter WAVE channel.

Procedure:

From the menu, select **WAVE Channels** → *`<required WAVE channels>`* → **Set As Active**.

Result: The display shows a positive mini notice.

7.2.2
Viewing WAVE Channels Information

Procedure:

From the menu, select **WAVE Channels** → *`<required WAVE channels>`* → **View Details**.

Result: The display shows the WAVE channel details.

7.2.3
Viewing WAVE Endpoints Information

Procedure:

From the menu, select **Endpoints** → *`<required WAVE Endpoint>`* → **View Details**.

Result: The display shows the WAVE Endpoint details.

7.2.4
Changing WAVE Configurations

Procedure:

1. From the menu, select **Utilities** → **Radio Settings** → **WAVE**.

2. Perform one of the following actions:

    ● To change the server address, select **Server Address**.

    ● To change the user ID, select **User ID**.

    ● To change the password, select **Password**.

3. Select **Apply**.

Result: The display shows the positive mini notice momentarily before returning to the `Radio Settings` screen.

Registration

Supported systems:

☑ Capacity Max ☐ Connect Plus ☐ Other Systems

Your radio may receive registration-related messages from your Capacity Max system.

Registration

Your radio sends registration message to a system when you turn on your radio, change talkgroup, or site roam. If your radio fails to register on site, your radio automatically attempts to roam to another site, and temporarily removes the registration site attempted from the roaming list.

When site searches successfully, your radio shows the following indications:

- A tone sounds.
- The yellow LED double blinks.
- The display shows `Registering`.

When site registered successfully, your radio shows `Site` *`<Number>`*.

Out of Range

When your radio unable to detect a signal from the system or from the current site, your radio shows the following indications:

- A repetitive tone sounds.
- The RED blinks.
- The display shows `Out of range`.

Talkgroup Affiliation Failed

When your radio fails to attempt affiliation to the talkgroup specified in the channels or Unified Knob Position (UKP) during registration, your radio shows `UKP Alias`.

Registration Denied

When registration with the system is not accepted, your radio shows the following indications:

- The yellow LED double blinks.
- The display shows `Registration Denied`.

Chapter 9

Zone and Channel Selections

A zone is a group of channels. You can program each channel with different features that support different groups of users.

Table 19: Number of Supported Zones and Channels

Zones	Channels per Zone	Assignable Position
250	160	16

9.1
Selecting Zones

Procedure:

From the menu, select **Zone** → *<required Zone>*.

Result: The display shows *<Zone>* `Selected`.

9.2
Selecting Zones Using Alias Search

Procedure:

1. From the menu, select **Zone**.

2. Enter the required characters for the alias.

Result:
The display shows *<Zone>* `Selected`.

> **NOTE:** The alias search is case-insensitive. If there are two or more entries with the same name, the display shows the entry listed first in the list.

.

9.3
Selecting Channels

Procedure:

1. Press and hold the **Volume/Channel** knob until the channel selection state is displayed.

2. To choose channel, turn the **Volume/Channel** knob or press the **Channel Up or Down** button.

3. Perform one of the following actions:

   - To select the channel, press the **Volume/Channel** knob or **Menu/OK** button.

   - To return to Home screen, press the **Back/Home** button or wait for the menu timer to expire.

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

9.4

Selecting Channels Using Direct Channel Dial

Procedure:

At the home screen, enter the *<required channel number>* → **Menu/OK**.

Chapter 10

Site Overview

A site provides coverage for a specific area.

In a multi-site network, the system will automatically search for a new site when the signal level from the current site drops to an unacceptable level.

10.1
Site Restriction

Supported systems:

☑ Capacity Max ☑ Connect Plus ☐ Other Systems

For site restriction, your radio dealer has the ability to decide which network sites to be used by your radio.

Your radio does not need to be reprogrammed to change the list of allowed and disallowed sites.

If your radio attempts to register at a disallowed site, your radio receives indication that the site is denied and then searches for a different network site.

When experiencing site restrictions, your radio shows the following indications:

- The yellow LED blinks double indicating site search.
- The display shows `Register Denied` or `Site` **`<Number>`** `Not Allowed`.

10.2
Site Trunking

Supported systems:

☑ Capacity Max ☐ Connect Plus ☐ Other Systems

Site Trunking is only available with Capacity Max system. A site must be able to communicate with the Trunk Controller to be considered as System Trunking.

If the site cannot communicate with the Trunk Controller in the system, a radio enters Site Trunking mode. While in Site Trunking, the radio provides a periodic audible and visual indication to the user to inform the user of their limited functionality.

When a radio is in Site Trunking, the radio displays `Site Trunking` and a repetitive tone sounds.

The radios in Site Trunking are still able to make group and individual voice calls as well as send text messages to other radios within the same site. Voice consoles, logging recorders, phone gateways, and data applications cannot communicate to the radios at the site.

Once in Site Trunking, a radio that is involved in calls across multiple sites will only be able to communicate with other radios within the same site. Communication to and from other sites would be lost.

> **NOTE:** If there are multiple sites that cover the current location of the radio and one of the sites enters Site Trunking, the radio roams to another site if within coverage.

10.3
Requesting for the Site Roam

Supported systems:

☑ Capacity Max   ☑ Connect Plus   ☑ Other Systems

A Roam Request tells the radio to search for a different site, even if the signal from the current site is acceptable.

If there are no sites available:

- Your radio displays `finding site`.
- The radio continues to search through the list of sites.
- The radio returns to the previous site, if the previous site is still available.

Procedure:

    Press the programmed **Roam Request** button.

Result: Your radio shows the following indications:

- A tone sounds.
- The display shows `Site ID <Site Number>`.

10.4
Turning the Site Lock On

Supported systems:

☑ Capacity Max   ☑ Connect Plus   ☑ Other Systems

Procedure:

    Press the programmed **Site Lock** button.

Result: Your radio shows the following indications:

- A positive tone sounds.
- The display shows `Site Locked`.
- The radio searches in the current site only.

10.5
Turning the Site Lock Off

Supported systems:

☑ Capacity Max   ☑ Connect Plus   ☑ Other Systems

Procedure:

    Press the programmed **Site Lock** button.

Result: Your radio shows the following indications:

- A negative tone sounds.

- The display shows `Site Unlocked`.

- The radio searches a list of other sites including the current sites.

10.6
Enabling the Manual Site Search

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

Procedure:

From the menu, select **Utilities → Radio Settings → Site Roaming → Active Search**.

Result: Your radio shows the following indications:

- A tone sounds.

- The green LED blinks.

- The display shows `Finding Site`.

If your radio finds a new site, your radio shows the following indications:

- A positive tone sounds.

- The LED extinguishes.

- The display shows `Site` **`<Number>`** `Found`.

If your radio fails to find a new site, your radio shows the following indications:

- A negative tone sounds.

- The LED extinguishes.

- The display shows `Out of Range`.

If a new site is within the range, but your radio is unable to connect to it, your radio shows the following indications:

- A negative tone sounds.

- The LED extinguishes.

- The display shows `Channel Busy`.

10.7
Accessing Neighbor Sites List

Supported systems:

☑ Capacity Max ☐ Connect Plus ☐ Other Systems

Procedure:

From the menu, select **Utilities → Radio Info → Neighbor Sites**.

Chapter 11

Types of Radio Calls

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑Other Systems

There are several ways that you can make a call with your radio depending on the types of calls and system available on your radio.

Table 20: Types of Radio Calls

Call Type	Capacity Max	Connect Plus	Other System
Group Call A Group Call is a point-to-multipoint call operation. Your radio must be configured as a member of the group for you to communicate with each other.	✓	✓	✓
Broadcast Call A Broadcast Call is a one-way voice call from any user to an entire talk-group. The Broadcast Call feature allows only the call initiating user to transmit to the talkgroup, while the recipients of the call cannot respond.	✓	✗	✓
Private Call A Private Call is a call from an individual radio to another individual radio. There are two types of Private call which are: ● Off Air Call Set-Up (OACSU)[8] ● Full Off Air Call Set-Up (FOACSU) [9]	✓	✓	✓
All Call An All Call is a call from an individual radio to every radio on the site or every radio at a group of sites. It is used to make important announcement.	✓	✓	✓

[8] OACSU sets up the call after performing a radio presence check and completes the call automatically.
[9] FOACSU sets up the call after performing a radio presence check. FOACSU calls require user acknowledgment to complete the call and allows the user to either Accept or Decline the call.

Call Type	Capacity Max	Connect Plus	Other System
Selective Call A Selective Call is a call from an individual radio to another individual radio. It is a Private Call on an analog system.	✖	✖	✔
Unaddressed Call An Unaddressed Call is a group call to one of the 16 predefined group IDs.	✖	✖	✔
Open Voice Chanel Mode (OVCM) An OVCM is a call from a radio that is not preconfigured to work in a particular system during a group or individual call. The OVCM group call supports broadcast calls.	✖	✖	✔

When a call is interrupted, you hear a continuous Talk Prohibit Tone. Releasing the **PTT** button allows you to receive the call.

Channel Free Indication feature can be programmed on your radio by your dealer. If the Channel Free Indication feature is enabled, you hear a short alert tone when the recipient releases the **PTT** button, indicating the channel is free for you to respond.

11.1
Making Calls on the Radio

Procedure:

Perform one of the following actions based on the type of calls:

Option	Actions
Making group calls, private calls, unaddressed calls, or selective calls	a. Select a channel. b. To call, press and hold the **PTT** button. c. Wait for the Talk Permit Tone to end, and speak into the microphone. d. To listen, release the **PTT** button.
Making WAVE group calls	a. Select a WAVE talkgroup. b. To call, press and hold the **PTT** button.
Making broadcast calls or all calls	a. Select a channel. b. To call, press and hold the **PTT** button. c. Wait for the Talk Permit Tone or PTT Sidetone to end, and speak into the microphone.

If your radio does not detect voice activity for a predetermined period, the call ends.

11.2

Making Calls with Contact List

Procedure:

Perform one of the following actions based on the type of calls:

Option	Actions

Making group calls or private calls with Contact List	a. From the menu, select **Contacts**.
	b. Perform one of the following actions:
	    • To do alias search, enter the required characters for the alias.
	    • To search for the alias manually, scroll down the contact list with the **4-Way Navigation** button.
	c. To call, press and hold the **PTT** button.
	d. Wait for the Talk Permit Tone to end, and speak into the microphone.
	e. To listen, release the **PTT** button.

Making broadcast calls or all calls with Contact List	a. From the menu, select **Contacts**.
	b. Perform one of the following actions:
	    • To do alias search, enter the required characters for the alias.
	    • To search for the alias manually, scroll down the contact list with the **4-Way Navigation** button.
	c. To call, press and hold the **PTT** button.
	d. Wait for the Talk Permit Tone to end, and speak into the microphone.

11.3

Making Calls with Manual Dial

The following steps are applicable to Private Call only.

Procedure:

1. From the menu, select **Contacts** → **Manual Dial** → **Radio Number**.
2. To enter or edit the ID, enter the required numbers.
3. To call, press and hold the **PTT** button.
4. Wait for the Talk Permit Tone to end, and speak into the microphone.
5. To listen, release the **PTT** button.

11.4
Making Calls with Programmable Number Keys

Procedure:

Perform one of the following actions based on the type of calls:

Option	Actions
Making group calls or private calls with Programmable Number Keys	**a.** From the home screen, to make a call to the predefined alias, press and hold the programmed number key. **b.** To call, press and hold the **PTT** button. **c.** Wait for the Talk Permit Tone to end, and speak into the microphone. **d.** To listen, release the **PTT** button.
Making broadcast calls or all calls with Programmable Number Keys	**a.** From the home screen, to make a call to the predefined alias, press and hold the programmed number key. **b.** To call, press and hold the **PTT** button. **c.** Wait for the Talk Permit Tone to end, and speak into the microphone.

11.5
Receiving and Responding to Calls on the Radio

When you receive calls, your radio shows the following indications:

- The green LED blinks.
- Your radio unmutes and the incoming call sounds through the speaker.
- The display shows the ID and alias and call status.

> **NOTE:** You cannot respond to a Broadcast Call or All Call. For Broadcast Call, the display shows `Talkback Prohibit` and the Talkback Prohibit tone sounds when the **PTT** button is pressed.

Procedure:

1. To respond, press and hold the **PTT** button.
2. Wait for the Talk Permit Tone to end, and speak into the microphone.
3. To listen, release the **PTT** button.

11.6
Accepting or Declining Private Calls

When you receive Private Calls configured as Full Off Air Call Set-Up (FOACSU), your radio shows the following indications:

- The green LED blinks.

- The display shows the alias and the Private Call icon.

Accepting Private Calls

Procedure:

1. To accept Private Calls, perform one of the following actions:
   - Select **Accept**.
   - Press and hold the **PTT** button.
2. Wait for the Talk Permit Tone to end, and speak into the microphone.
3. To listen, release the **PTT** button.

Declining Private Calls

Procedure:

To decline Private Calls, perform one of the following actions:

- Select **Reject**.
- Select the **Back/Home** button.

Chapter 12

Phone Calls

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

A Phone Call is a call in between an individual radio or a group of radios and a telephone.

Depending on how the radio is configured, the following features may or may not be made available:

- Access code.
- Dual Tone Multi Frequency (DTMF) tone.
- De-access code.
- Displaying of caller alias or ID on receiving a phone call.
- Ability to reject or accept a phone call.

The Phone Call capability can be enabled by assigning and setting up phone numbers on the system. Contact your dealer to determine how your radio has been programmed.

12.1
Making Phone Calls

Procedure:

1. From the menu, select **Phone** → **<required ID>** → **<Access Code>**.

2. To call, press and hold the **PTT** button.

3. To listen, release the **PTT** button.

4. While you are in the Phone call, you can perform any of the following actions if required:

   - Enter extra digits by using the **Keypad**.
   - To end the call, select the **Back/Home** button.
   - To deaccess a code, enter the deaccess code by using the **Keypad** when the display shows De-Access Code:.

Result: If the call ends successfully, your radio shows the following indications:

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

12.2
Making Phone Calls with Contact List

Procedure:

1. From the menu, select **Contacts**.

2. Perform one of the following actions:

   - To do alias search, enter the required characters for the alias.

- To search for the alias manually, scroll down the contact list with the **Channel Up or Down** button.

3. Select **Call Phone** → **<Access Code>**.

4. To call, press and hold the **PTT** button.

5. To listen, release the **PTT** button.

6. While you are in the Phone call, perform one of the following actions:

   - Enter extra digits by using the **Keypad**.

   - To end the call, select the **Back/Home** button.

   - To deaccess a code, enter the deaccess code when the display shows `De-Access Code:`.

Result: If the call ends successfully, your radio shows the following indications:

- A tone sounds.

- The display shows `Call Ended`.

12.3
Making Phone Calls with Manual Dial

Procedure:

1. From the menu, select **Contacts** → **Manual Dial** → **Phone Number**.

2. Enter the phone number and **<Access Code>**.

3. To call, press and hold the **PTT** button.

4. To listen, release the **PTT** button.

5. While you are in the Phone call, perform one of the following actions:

   - Enter extra digits by using the **Keypad**.

   - To end the call, select the **Back/Home** button.

   - To deaccess a code, enter the deaccess code when the display shows `De-Access Code:`.

Result: If the call ends successfully, your radio shows the following indications:

- The display shows `Call Ended`.

12.4
Dual Tone Multi Frequency

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

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

12.4.1
Initiating the DTMF Tone

Procedure:

1. Press and hold the **PTT** button.

2. To initiate a DTMF tone, perform one of the following actions:

- Enter the **<desired number>**.

- Press the ***** or **#** button.

> 📝 **NOTE:** Disabling all radio tones and alert will automatically turn off the DTMF tone.

12.5
Receiving and Responding to Phone Calls

When you receive a phone call, your radio shows the following indications:

- The green LED blinks.

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

- The display shows the Phone Call icon and the call status.

Procedure:

1. To respond to the phone call, press and hold the **PTT** button.

2. Wait for the Talk Permit Tone to end, and speak into the microphone.

3. To listen, release the **PTT** button.

4. To end the call, select the **Back/Home** button.

> 📝 **NOTE:** Your radio is not able to terminate a phone call as a group call. The telephone user must end the call. The recipient user is only allowed to talk back during the call.

Result: If the call ends successfully, your radio shows the following indications:

- A tone sounds.

- The display shows `Call Ended`.

Chapter 13

Call Preemption

Supported systems:

☑ Capacity Max   ☐ Connect Plus   ☐ Other Systems

Call Preemption allows your radio to interrupt any ongoing calls and initiate a higher priority call.

With the Call Preemption feature, the system interrupts any ongoing calls whereby trunked channels are unavailable.

Thus your radio initiates a higher priority call such as an emergency call or all call. If no other Radio Frequency (RF) channels are available, emergency call will interrupt all call as well.

Chapter 14

Voice Interrupt

Supported systems:

☑ Capacity Max ☐ Connect Plus ☐ Other Systems

Voice Interrupt allows your radio to end any ongoing calls.

The Voice Interrupt feature uses the reverse channel signaling to interrupt any ongoing calls. You are allowed to make a voice transmission during the interruption.

The Voice Interrupt feature improves the probability of delivering a new call to the recipients when a call is in progress.

Voice Interrupt is accessible if this feature has been programmed in your radio. Contact your dealer for more information.

14.1
Enabling the Voice Interrupt

Procedure:

1. To interrupt the transmission during an on-going call, press and hold the **PTT** button.
2. Wait for the Talk Permit Tone to end, and speak into the microphone.

Chapter 15

Initiating Transmit Interrupt

Supported systems:

☑ Capacity Max   ☐ Connect Plus   ☑ Other Systems

Procedure:

To interrupt an ongoing call, perform one of the following actions:

● Press the **PTT** button.

● Press the **Emergency** button.

● For Other Systems, perform data transmission.

● For Other Systems, press the programmed **TX Interrupt Remote Dekey** button.

Result:
The receiving radio displays `Call Interrupted`.

Chapter 16

Advanced Features

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

16.1
Auto Fallback

Supported systems:

☐ Capacity Max   ☑ Connect Plus   ☐ Other Systems

If failures occur in the Connect Plus system, Auto Fallback is a system feature that allows you to continue making and receiving non-emergency calls on the selected Group Contact.

If a failure occurs in the system, your radio attempts to roam to a different Connect Plus site. Your radio searches for an operable Connect Plus site or a Fallback Channel.

A Fallback Channel is a repeater that is normally part of an operable Connect Plus site. This repeater cannot communicate with either the site controller or Connect Plus network at that moment. In Auto Fallback mode, the repeater operates as a single digital repeater. Auto Fallback Mode supports non-emergency Group Calls only. No other call types are supported in Auto Fallback Mode.

If the site returns to a normal trunking operation while you are in the range of your Fallback repeater, your radio automatically exits Auto Fallback Mode. When your radio successfully registers, a tone sounds.

If you are in the range of an operable site that is not in Fallback Mode, you can search and register on an available site by pressing the Roam Request button. If no other site is available, your radio returns to Auto Fallback Mode. If you are out of coverage of your Fallback repeater, your radio enters the Search Mode. The display shows `Searching`.

16.1.1
Indications of Auto Fallback Mode

When your radio is using a Fallback channel, you hear the intermittent Fallback Tone approximately once every 15 seconds (except while transmitting). The display periodically shows a brief message, `Fallback Channel`. Your radio only permits PTT on the selected Group Contact (Group Call, Multigroup Call, or Site All Call). It does not allow you to make other types of calls.

16.1.2
Calls in Fallback Mode

Calling in Fallback Mode is similar to making regular Group Calls. You can select Group, Multi-group, or Site All Call contacts. While your radio is operating on the Fallback Channel, the Multi-group operates similarly to other Groups. Only radios that are selected for that Multi-group can communicate on that channel. Calls are not networked to other sites or other repeaters.

Emergency voice calls or Emergency Alerts are not available in Fallback mode. If you press the emergency button in Fallback mode, the radio provides an invalid key press tone. Display-equipped radios also show the message, `Feature not available`.

Private and Phone calls are not available in Fallback mode. If you attempt a call to a private contact, you will receive a denial tone.

Enhanced Traffic Channel Access (ETCA) is not supported in Auto Fallback Mode. If the **PTT** button is pressed on two or more radios at the same time, both radios may transmit until the **PTT** button is released. In this scenario, it is possible that none of the transmissions are understood by the receiving radios.

16.2
Auto-Range Transponder System

Supported systems:

☐ Capacity Max   ☐ Connect Plus   ☑ Other Systems

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

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

Your radio provides indications as follows:

Table 21: Auto-Range Transponder System Indications

Indication	Description
First-Time Alert	- A tone sounds. - The display shows `In Range` after the channel alias.
ARTS-in-Range Alert	- A tone sounds, if programmed. - The display shows `In Range` after the channel alias.
ARTS-Out-of-Range Alert	- A tone sounds. - The red LED rapidly blinks. - The display shows `Out of Range` alternating with the Home screen.

16.3
Bluetooth®

Supported systems:

☑ Capacity Max   ☑ Connect Plus   ☑ Other Systems

This feature allows your radio to connect to any Bluetooth enabled device through Bluetooth connection.

Your radio supports both Motorola Solutions and Commercially available Off-The-Shelf (COTS) Bluetooth enabled devices. For example, headset, scanner, sensor device, and PTT-Only Device (POD).

The Bluetooth operates within a range of 10 meter (32 feet) line of sight. The Bluetooth function of your radio has a maximum power of 2.5 mW (4 dBm) at the 10 m range.

This is an unobstructed path between your radio and your Bluetooth enabled device. For high degree of reliability, Motorola Solutions recommends to not separate the radio and the Bluetooth enabled device.

If the voice and tone quality gets distorted or unclear, place your radio and the Bluetooth enabled device close to each other to re-establish clear audio reception.

Your radio can support up to three simultaneous Bluetooth connections with Bluetooth-enabled devices of unique types. Your radio connects to the Bluetooth-enabled device within range with either the strongest signal strength or last connected device.

> **NOTE:**
>
> - Use the latest Bluetooth accessories (v5.0 and above) for enhanced connection security.
> - Always adopt Bluetooth security best practices when using Bluetooth devices.

16.3.1
Turning the Bluetooth On

Procedure:

From the menu, select **Bluetooth** → **My Status** → **On**.

Result: If Bluetooth is turned on, the display shows a ✔ beside `On`.

16.3.2
Turning the Bluetooth Off

Procedure:

From the menu, select **Bluetooth** → **My Status** → **Off**.

Result: If Bluetooth is turned off, the display shows a ✔ beside `Off`.

16.3.3
Connecting to Bluetooth Devices

Procedure:

1. From the menu, select **Bluetooth**.
2. Perform one of the following actions:
   - To connect to an existing device, select **Devices** → *`<required device>`* → **Connect**.
   - To connect to a new device, select **Devices** → **Find Devices** → *`<required device>`* → **Connect**.
   - To connect to a device in discoverable mode, select **Find Me**.

Result:
If the Bluetooth device is successfully connected to the radio, your radio shows the following indications:

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

If the Bluetooth device is unsuccessfully connected to the radio, your radio shows the following indications:

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

> **NOTE:** The Bluetooth connection tone is enabled by default. You can disable the Bluetooth connection tone through the radio programming software.

16.3.4
Disconnecting from Bluetooth Devices

Procedure:

From the menu, select **Bluetooth** → **Devices** → **<required device>** → **Disconnect**.

Result:
If the Bluetooth device is successfully disconnected from the radio, your radio shows the following indications:

- A tone sounds.
- The display shows **<Device>** `Disconnected`.

> **NOTE:** The Bluetooth connection tone is enabled by default. You can disable the Bluetooth connection tone through the radio programming software.

16.3.5
Switching Audio Route between Internal Radio Speaker and Bluetooth Device

Procedure:

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

Result:
When the audio is routed to the Internal Radio Speaker, the display shows `Route Audio to Radio`.

When the audio is routed to the Bluetooth device, the display shows `Route Audio to Bluetooth`.

16.3.6
Viewing Device Details

Procedure:

From the menu, select **Bluetooth** → **Devices** → **<required device>** → **View Details**.

16.3.7
Deleting Device Names

Procedure:

From the menu, select **Bluetooth** → **Devices** → **<required device>** → **Delete**.

Result: The display shows `Device Deleted`.

16.3.8
Adjusting Bluetooth Mic Gain Values

Procedure:

1. From the menu, select **Bluetooth** → **BT Mic Gain**.
2. To increase or decrease the values, use the **Channel Up or Down** → **Menu/OK** button.

16.4
Call Alert Operation

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

Call Alert paging enables you to alert the recipient to call you back when they can. This feature is applicable for subscriber aliases or IDs only.

For Capacity Max, the Call Alert feature allows radio users or dispatchers to alert recipients to call back the caller when available. Voice communication is not involved in this feature. Off Air Call Set-Up (OACSU) private calls allows you to respond immediately. Full Off Air Call Set-Up (FOACSU) private calls requires you to acknowledge the call. OACSU type calls are recommended for the Call Alert feature.

16.4.1
Making Call Alerts

Procedure:

Perform one of the following actions:

Option	Actions
Making Call Alerts with Contact List	From the menu, select **Contacts** → ***\<required ID or alias\>*** → **Call Alert**.
Making Call Alerts with Manual Dial	**a.** From the menu, select **Contacts** → **Manual Dial**. **b.** Enter the ID. **c.** Select **Call Alert**.

Result:
If the request is successful, the display shows a positive mini notice.

If the request is unsuccessful, the display shows a negative mini notice.

16.4.2
Responding to Call Alerts

When you receive a Call Alert, your radio shows the following indications:

- A repetitive tone sounds.
- The yellow LED blinks.
- The display shows a notification list of the Call Alert and the ID of the caller.

Procedure:

Depending on the configuration by your dealer, perform one of the following actions:

- Respond to the caller with a Private Call by pressing the **PTT** button.
- Continue with Talkgroup communication by pressing the **PTT** button. To respond to the Call Alert, navigate to the Missed Call log in the Call Log menu.

16.5

Call Indicator Settings

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

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

16.5.1

Activating or Deactivating Call Ringers

You can activate or deactivate call ringers for Private Calls, Text Messages, Call Alerts, Telemetry Status with Text (for Capacity Max and other systems), and Selective Calls (for other systems).

Activating Call Ringers

Procedure:

1. From the menu, select **Utilities → Radio Settings → Tones/Alerts → Call Ringers**.

2. Select the required tone.

Result:
If you activate call ringers, your radio display shows a ✔ and the selected tone.

Deactivating Call Ringers

Procedure:

1. From the menu, select **Utilities → Radio Settings → Tones/Alerts → Call Ringers**.

2. Select **Off**.

Result:
If you deactivate call ringers, your radio display shows a ✔ beside `Off`.

16.5.2

Assigning Ring Styles

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

You can program your radio to play one of the 11 predefined ring tones when receiving Private Calls, Call Alerts, or Text Messages.

Procedure:

From the menu, select **Contacts → *\<required ID or alias\>* → View/Edit → Ringer → *\<required tone\>*.**

Result:
The display shows a positive mini notice.

16.5.3
Ring Alert Type

Supported systems:

☐ Capacity Max ☑ Connect Plus ☐ Other Systems

You can program your radio to vibrate when receiving calls. Your radio vibrates once or repetitively depending on the selected ring style.

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

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

NOTE: If All Tones status is enabled, your radio displays the ring alert type. If All Tones status is disabled, your radio displays the All Tone Mute icon.

16.5.3.1
Selecting Ring Alert Types

Procedure:

1. From the menu, select **Utilities → Radio Settings → Tones/Alerts → Ring Alert Type**.

2. Select one of the following options:

    - **Silent**

    - **Ring**

16.5.4
Escalating Alarm Tone Volume

You can program your radio to continually alert you when the radio calls remain unanswered. This alert automatically increases the alarm tone volume over time. This feature is called Escalert.

Procedure:

From the menu, select **Utilities → Radio Settings → Tones/Alerts → Escalert**.

Result:
If Escalert is enabled, the display shows a ✔ beside `Enabled`.

If Escalert is disabled, the ✔ disappears beside `Enabled`.

16.6
Call Log Features

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

Your radio tracks all recent outgoing, answered, and missed Private Calls. The call log feature is used to view and manage recent calls.

Missed Call Alerts can be included in call logs depending on the system configuration on your radio. You can perform the following tasks in each call list:

- View Details
- Delete Calls
- Store Aliases or IDs to Contacts (for Capacity Max and Other Systems)

16.6.1
Viewing Recent Calls

Procedure:

1. From the menu, select **Call Log**.

2. Select one of the following lists:

   - **Missed**
   - **Answered**
   - **Outgoing**

3. View calls by scrolling through the list.

Result: The display shows the most recent entry.

16.6.2
Storing Aliases or IDs from the Call List

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

Procedure:

1. From the menu, select **Call Log** → *<required list>* → *<required ID or alias>* → **Store**.

2. When you see a blinking cursor, enter the rest of the characters of the alias.

   You can store an ID without an alias.

Result:
The display shows a positive mini notice.

16.6.3
Deleting Calls from the Call List

Procedure:

From the menu, select → **Call Log** → *<required list>* → *<required ID or alias>* → **Delete Entry?** → **Yes**.

> **NOTE:** If you select **No**, your radio returns to the previous screen. If the list is empty, a tone sounds and the display shows `List Empty`.

Result: The display shows `Entry Deleted`.

16.6.4
Deleting All Calls from the Call List

Procedure:

From the menu, select → **Call Log** → *<required list>* → *<required ID or alias>* → **Delete All**.

> ✎ **NOTE:** If you select **No**, your radio returns to the previous screen. If the list is empty, a tone sounds and the display shows `List Empty`.

16.6.5
Viewing Details from the Call List

Procedure:

From the menu, select → **Call Log** → *<required list>* → *<required ID or alias>* → **View Details**.

16.7
Call Queue

Supported systems:

☑ Capacity Max ☐ Connect Plus ☐ Other Systems

When there are no resources available to process a call, Call Queue enables the call request to be placed in the system queue for the next available resources.

16.7.1
Receiving Call Queues

Procedure:

Press and hold the **PTT** button until you hear the Call Queue Tone.

Result:
A tone is heard and the display shows `Call in Queue.`

If the call is successful, your radio shows the following indications:

- A positive indicator tone sounds.

- The green LED blinks.

- The display shows the call type icon, ID, or alias.

You have up to 4 seconds to press and hold the **PTT** button to begin voice transmission.

If the call is unsuccessful, your radio shows the following indications:

- A negative indicator tone sounds.

- The display shows the failure notice screen.

- Radio terminates the call and exits the call setup.

16.8
Contacts Settings

Supported systems:

☑ Capacity Max   ☑ Connect Plus   ☑ Other Systems

The Contacts menu provides an address book function on your radio. Each entry corresponds to an ID for making calls. The entries are alphabetically sorted.

Each entry supports different call types depending on your settings. The contact entries display Call Type, Call Alias, and Call ID information.

You can assign entries to programmable number keys as quick dial. You see a check mark before each number key that is assigned to an entry. If the check mark is before the `Empty` interface, a number key is not assigned to the entry.

Personal Computer (PC) Calls and Dispatch Calls are data-related. These calls are only available with an application.

For Connect Plus, you can add or edit subscriber IDs. Only your dealer can delete the subscriber IDs. Access to Contact Lists depends on the zone configuration:

- If only one zone is configured for the radio, the Contact List directly displays the list from the current selected zone.

- If multiple zones are configured for the radio, the Zone Contact folder displays all zones with identical network IDs as the current selected zone. You can access the contacts in these zones.

16.8.1
Adding New Contacts

Procedure:

1. From the menu, select **Contacts** → **New Contact** → *`<required contact type>`*.

   The contact type options are **Radio Contact** or **Phone Contact**.

2. Enter the contact number.

3. Enter the contact name.

4. Select the required ringer type.

Result:
A positive tone sounds. The display shows a positive mini notice. For Connect Plus, the display shows `Contact Saved`.

16.8.2
Setting Default Contacts

Supported systems:

☐ Capacity Max   ☐ Connect Plus   ☑ Other Systems

Procedure:

From the menu, select → **Contacts** → *`<required ID or alias>`* → **Set as Default**.

Result:

If the setting is successful, your radio shows the following indications:

- A positive indicator tone sounds.

- The display shows a positive mini notice.

- The display shows a ✔ beside the selected contact.

16.8.3
Assigning Entries to Programmable Number Keys

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

Procedure:

1. From the menu, select **Contacts** → **<required ID or alias>** → **Program Key**.

2. Select the chosen number key.

3. If the chosen number key is already assigned to an entry, perform one of the following actions:

   - To overwrite the existing number key assignment, select **Yes**.

   - To retain the existing number key, select **No** and select another number key.

   If you overwrite the existing number key assignment, your radio shows the following indications:

   - A positive tone sounds.

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

16.8.4
Removing Associations Between Entries and Programmable Number Keys

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

Procedure:

1. From the menu, select **Contacts** → **<required ID or alias>** → **Program Key** → **Empty**.

   The display shows `Clear from all keys`.

2. Select **Yes**.

Result:
A positive tone sounds. The display shows `Contact Saved` and then automatically returns to the previous menu.

> **NOTE:** When an entry is deleted, the association between the entry and programmed number key is removed.

16.9
Dynamic Caller Alias

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

This feature allows you to dynamically edit a Caller Alias from your radio front panel.

NOTE:
A keypad microphone is required to perform this feature.

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

The Caller Aliases list can store up to 500 Caller Aliases of transmitting radio. You can view or make Private Calls from the Caller Aliases list. When you turn off your radio, the history of receiving Caller Aliases is removed from the Caller Aliases list.

16.9.1
Viewing the Caller Aliases List

You can access the Caller Aliases list to view the transmitting Caller Alias details.

Procedure:

From the menu, select **Caller Aliases** → ***\<preferred list\>*** → **View Details**.

16.9.2
Initiating Private Calls From the Caller Aliases List

Procedure:

1. From the menu, select **Caller Aliases** → ***\<required Caller Alias\>***.

2. To call, press and hold the **PTT** button.

16.10
Dynamic Group Number Assignment

Supported systems:

☑ Capacity Max ☐ Connect Plus ☐ Other Systems

Dynamic Group Number Assignment (DGNA) is a feature that allows the third-party console to assign and remove talkgroup dynamically to a radio from over the air.

When the console assigns DGNA to your radio, your current channel is in DGNA mode and shows the followings:

- A tone sounds.

- The display shows `<DGNA Talkgroup Alias> Assigned` momentarily before returning to the home screen.

- The DGNA icon appears in the status bar.

- The home screen displays DGNA talkgroup alias.

When the console removes DGNA from your radio, your radio restores the previous talkgroup and shows the followings:

- A tone sounds.

- The display shows `<DGNA Talkgroup Alias> Removed` momentarily before returning to the home screen.

- The DGNA icon disappears from the status bar.

- The home screen displays the previous talkgroup alias.

Depending on how your radio is programmed, you can view, edit, and listen to the original scan lists channels and the non-DGNA talkgroups.

When your radio is in DGNA mode, press and hold the **PTT** button action allows you to communicate only with the current DGNA talkgroup. To communicate with the previous non-DGNA talkgroup, program the programmed **One Touch Access** button.

> **NOTE:** Check with your dealer or system administrator to determine how your radio has been programmed.

16.10.1
Making DGNA Calls

Prerequisites: Ensure your current channel is in DGNA mode.

Procedure:

To call, press and hold the **PTT** button.

Result: Your radio shows the following indications:

- A DGNA tone sounds.

- The display shows the DGNA icon and the alias.

16.10.2
Making Non-DGNA Calls

Procedure:

Perform one of the following actions:

- If your radio is in DGNA mode, press the programmed **One Touch Access** button.

  > **NOTE:**
  > If your radio is not in DGNA mode and you press the **One Touch Access** button, your radio sounds a negative tone, indicating error. The display remains unchanged.

- If your radio is not in DGNA mode, press and hold the **PTT** button.

  > **NOTE:**
  > When a PTT button is press before a negative tone sounds, your radio returns to the home screen. When your radio is in the home screen, a PTT press makes a call to the DGNA talkgroup.

Result:
Your radio shows the following indications:

- A positive tone sounds.

- Voice Announcement sounds.

- The display shows `<Talkgroup Alias>` and `Press PTT` momentarily.

16.10.3

Receiving and Responding to DGNA Calls

When you receive a DGNA call, your radio shows the following indications:

- A DGNA tone sounds.

- The display shows the DGNA icon and aliases.

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

Procedure:

1. To call, press and hold the **PTT** button.

2. To listen, release the **PTT** button.

16.11

Emergency Operation

Supported systems:

☑ Capacity Max   ☑ Connect Plus   ☑ Other Systems

Emergency Alarms are used to indicate critical situations. You can initiate an Emergency Alarm at any time even when there is activity on the current channel.

You can only assign one type of Emergency Mode to the Emergency button for each channel. Your radio supports the following Emergency Modes:

Table 22: Emergency Modes

Emergency Mode	Description
Emergency Alarm	An Emergency Alarm is not a voice call. This alarm is an emergency notification sent to radios that are programmed to receive them.
Emergency Alarm with Call	Your radio transmits an Emergency Alarm. When the Emergency Alarm is acknowledged, the group of radios can communicate over the assigned emergency channel. Press and hold the **PTT** button to talk.
Emergency Alarm with Voice to Follow	Your radio transmits an Emergency Alarm. When the Emergency Alarm is acknowledged, your radio microphone is automatically activated which is known as Hot Mic. Hot Mic allows you to communicate with the group of radios without pressing the **PTT** button. **NOTE:** • If the Emergency Cycle Mode is enabled, repetitions of Hot Mic and receiving period are made for a programmed duration. • If you press and hold the **PTT** button during the programmed Hot Mic receiving period, your radio proceeds to make a call and stops Hot Mic receiving period timer. Your radio remains in emergency mode. Once **PTT** button is released, Hot Mic receiving period timer restarts. • If the Emergency Alarm request fails, the radio does not retry to send the request, and enters the Hot Mic directly.

Emergency Mode	Description
Silent Emergency Alarm	Your radio transmits an emergency notification without any audio or visual indicators.
Silent Emergency Alarm with Call	Your radio transmits an emergency notification without any audio or visual indicators. Your radio suppresses all audio and visual indicators of the emergency until you press and hold the **PTT** button to talk.
Silent Emergency Alarm with Voice to Follow	Your radio transmits an emergency notification without any audio or visual indicators. When the Emergency Alarm is acknowledged, the Hot Mic is activated. You can communicate with the group of radios without pressing the **PTT** button. **NOTE:** The indicators only appear when you press the **PTT** button.

Your dealer can set the Emergency On or Off function and button-press duration of the Emergency button. Contact your dealer for more information.

Your dealer can program the Emergency Search tone. When the tone is programmed, the Emergency Search tone sounds. The tone mutes when your radio transmits or receives voice, and stops when your radio exits Emergency mode.

16.11.1
Sending Emergency Alarms

Procedure:

Press the programmed **Emergency On** button or **Emergency** foot switch.

Result:

If the alarm is successfully sent, your radio shows the following indications:

- The Emergency tone sounds.
- The green LED blinks.
- The display shows `Alarm Sent`.

If the alarm is unsuccessful after all retries, your radio shows the following indications:

- A negative tone sounds.
- The display shows `Alarm Failed`.

16.11.2
Sending Emergency Alarms with Call

Procedure:

1. Press the programmed **Emergency On** button or **Emergency** foot switch.

   If the alarm is successfully sent, your radio shows the following indications:

   - The Emergency tone sounds.
   - The green LED blinks.
   - The display shows `Alarm Sent`.

2. To call, press and hold the **PTT** button.

3. Wait for the Talk Permit Tone to end, and speak into the microphone.

4. To listen, release the **PTT** button.

   If your radio does not detect voice activity for a predetermined period, the call ends.

16.11.3
Sending Emergency Alarms with Voice to Follow

Procedure:

1. Press the programmed **Emergency On** button or **Emergency** foot switch.

   If the alarm is successfully sent, the Emergency tone sounds and Hot Mic is activated.

2. Speak into the microphone without pressing the **PTT** button.

   Your radio automatically stops transmitting when:

   - The cycling duration between hot mic and receiving calls expires if Emergency Cycle Mode is enabled.
   - The hot mic duration expires if Emergency Cycle Mode is disabled.

16.11.4
Responding to Emergency Alarms

The recipient can only support one Emergency Alarm at a time. If more than one alarm is received, the second Emergency Alarm overrides the first alarm.

When you receive an Emergency Alarm, your radio shows the following indications:

- A tone sounds.
- The red LED blinks.
- The display shows the Emergency Alarm List, Emergency Talkgroup ID, and ID of the transmitting radio.

Prerequisites: Enable the Emergency Alarm Indication.

Procedure:

1. When the Emergency Alarm List appears, perform one of the following actions:
   - For Capacity Max and Other Systems, select the required ID.
   - For Connect Plus, stop the Emergency Call indications by pressing any button.

2. Transmit non-emergency voice to the same group that the Emergency Alarm targeted by pressing the **PTT** button.

   NOTE: Only the sender of the emergency alarm can transmit emergency voice. All recipients and other radios transmit non-emergency voice to allow other radios to send and receive Emergency Alarms in the same group.

3. Wait for the Talk Permit Tone to end, and speak into the microphone.

4. To listen, release the **PTT** button.

Result:
When the sender of the emergency responds, your radio shows the following indications:

- For Capacity Max, the red LED blinks.
- For Connect Plus and Other Systems, the green LED blinks.

- The display shows the **Group Call** icon, Emergency Talkgroup ID, and the ID of the transmitting radio.

> **NOTE:** For Capacity Max, if the Emergency Call Indication is enabled, the display shows the Emergency Call icon instead.

16.11.5
Responding to Emergency Alarms with Call

When you receive an Emergency Alarm with Call, your radio shows the following indications:

- If the Emergency Call Indication and Emergency Call Decode Tone are enabled, the Emergency Call Tone sounds.

- The display shows the Emergency Call icon, Emergency Talkgroup ID, and ID of the transmitting radio.

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

Procedure:

1. Respond to the call by performing one of the following actions:

Option	Actions
For Capacity Max or Other Systems	Press and hold the **PTT** button.
For Connect Plus	a. Stop the Emergency Call indications by pressing any button. b. Start voice transmission in the Emergency Group by pressing and holding the **PTT** button.

2. Wait for the Talk Permit Tone to end, and speak into the microphone.

3. To listen, release the **PTT** button.

Result:
When the sender of the emergency responds, your radio shows the following indications:

- For Capacity Max, the red LED blinks.

- For Connect Plus and Other Systems, the green LED blinks.

- The display shows the **Group Call** icon, Emergency Talkgroup ID, and the ID of the transmitting radio.

16.11.6
Ignore Emergency Revert Call

Supported systems:

☐ Capacity Max   ☑ Connect Plus   ☐ Other Systems

This feature enhancement provides an option for your radio to disregard an active Emergency Revert Call.

To enable Ignore Emergency Revert Call, your radio must be configured through the Connect Plus Customer Programming Software (CPCPS).

When the feature is enabled, the radio does not display Emergency Call indications and does not receive any audio on the default Emergency Revert Group ID.

Contact your dealer for more information.

16.11.7
Saving Emergency Details to the Alarm List

Supported systems:

☐ Capacity Max ☑ Connect Plus ☐ Other Systems

If you save emergency details to the Alarm List, you can view the details again later.

Procedure:

1. When the display shows the Alarm List, press the **Back/Home** button.

   The display shows Exit Alarm List.

2. To save emergency details to the Alarm List, select **Yes**.

16.11.8
Reinitiating Emergency Mode

☐ Capacity Max ☐ Connect Plus ☑ Other Systems

Procedure:

Perform one of the following actions:

● Change the channel while the radio is in Emergency mode.

   > **NOTE:** You can reinitiate emergency mode only if you enable emergency alarm on the new channel.

● Press the programmed **Emergency On** button during an emergency initiation or transmission state.

Result: The radio exits the Emergency mode, and reinitiates Emergency.

16.11.9
Exiting the Emergency Mode

Your radio automatically exits emergency mode when you are having the following scenarios:

● An acknowledgment is received from the system (for emergency alarms only).

● All retries to send the alarm are exhausted.

● Turning off your radio. When you turn on your radio, the emergency will not reinitiate automatically.

● Change your current channel to a channel with no Emergency.

Procedure:

Press the programmed **Emergency Off** button.

Result:
If you exited the Emergency successfully, your radio shows the following indications:

● The tone ceases.

● The red LED extinguishes.

- For Capacity Max, when acknowledgment is received, the display of the transmitting radio shows `Cancel Emer Success`, **else** `Cancel Emer Failed`.

  > **NOTE:** If the Cancel Emergency configuration is enabled on the transmitting radio, the emergency alarm in your receiving radio ceases and the status is added to the Alarm List of the receiving radio.

16.11.10
Deleting Alarm Items from the Alarm List

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

Procedure:

From the menu, select **Alarm List** → **<required alarm item>** → **Delete**.

16.12
Entering the Front Panel Programming

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

You can customize certain feature parameters in the Front Panel Programming (FPP) to enhance the use of your radio.

Procedure:

1. From the menu, select **Utilities** → **Program Radio**.

2. Enter your current eight-digit password.

3. Select the required setting.

16.13
Home Channel Reminder

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

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

When this feature is enabled and your radio is not set to the home channel for some time, the following indications occur periodically:

- A tone and the Home Channel Reminder announcement sounds.

- The display shows `Non Home Channel`.

16.13.1

Responding to the Home Channel Reminder

Procedure:

Perform the following actions:

- Return to the home channel.

- Mute the reminder temporarily.

- Set a new home channel.

16.13.2

Muting the Home Channel Reminder

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

Procedure:

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

Result:
The display shows `HCR Silenced`.

16.13.3

Setting New Home Channels

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

Procedure:

From the menu, select **Utilities** → **Radio Settings** → **Home Channel** → `<required channel>`.

Result:
The display shows a ✔ beside the selected home channel alias.

16.14

Indoor Location

Supported systems:

☑ Capacity Max   ☑ Connect Plus   ☑ Other Systems

> **NOTE:** Indoor Location feature is applicable for models with the latest software and hardware. Check with your dealer or system administrator for more information.

You can use Indoor Location to keep track of the location of radio users. When Indoor Location is activated, the radio is in a limited discoverable mode. Dedicated beacons are used to locate the radio and determine the position.

16.14.1

Turning the Indoor Location On

Procedure:

From the menu, select **Bluetooth → Indoor Location → InLoc Status**.

Result:

If Indoor Location successfully turns on, your radio shows the following indications:

- A positive tone sounds.

- The display shows `Indoor Location On`.

- The Indoor Location Available icon appears on the home screen.

If Indoor Location does not turn on, your radio shows the following indications:

- A negative tone sounds.

- The display shows `Turning On Failed`.

16.14.2

Turning the Indoor Location Off

Procedure:

From the menu, select **Bluetooth → Indoor Location → InLoc Status**.

Result:

If Indoor Location successfully turns off, your radio shows the following indications:

- A positive tone sounds.

- The display shows `Indoor Location Off`.

- The Indoor Location Available icon disappears from the home screen.

If Indoor Location does not turn off, your radio shows the following indications:

- A negative tone sounds.

- The display shows `Turning Off Failed`.

16.14.3

Accessing Indoor Location Beacons Information

Procedure:

From the menu, select **Bluetooth → Indoor Location → Beacons**.

Result:

The display shows information of the beacons.

16.15

Job Tickets

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

This feature allows your radio to receive messages from the dispatcher listing out tasks to perform.

> **NOTE:** This feature can be customized through the radio programming softwares according to user requirements. Contact your dealer for more information.

There are two folders that contain different Job Tickets:

My Tasks folder
    Personalized Job Tickets assigned to your signed in user ID.

Shared Tasks folder
    Shared Job Tickets assigned to a group of individuals.

You can respond to Job Tickets in order to sort into Job Ticket Folders. By default, the folders are **All**, **New**, **Started**, and **Completed**. Contact your dealer for an additional 10 folders.

Job Tickets are retained even after the radio turns off and on again.

All Job Tickets are located in the **All** folder. Depending on how your radio is programmed, Job Tickets are sort by their priority level followed by time received. New Job Tickets, Job Tickets with recent changes in state, and Job Tickets with the highest priority are listed first.

After reaching the maximum number of Job Tickets, the next Job Ticket automatically replaces the last Job Ticket in your radio. Depending on your radio model, your radio supports a maximum of 100 or 500 Job Tickets. Your radio automatically detects and discards duplicated Job Tickets with the same Job Ticket ID.

Depending on the importance of the Job Tickets, the dispatcher adds a Priority Level to them. There are three priority levels. Priority 1 has the highest priority and Priority 3 has the lowest priority. There are also Job Tickets with no priority.

Your radio updates accordingly when dispatcher makes the following changes:

● Modify content of Job Tickets.

● Add or edit Priority Level of Job Tickets.

● Move Job Tickets from folder to folder.

● Canceling of Job Tickets.

16.15.1

Accessing the Job Tickets Folder

Procedure:

From the menu, select **Job Tickets** → `<required folder>` → `<required Job Ticket>`.

16.15.2

Logging In the Remote Server

You can log in or out the remote server with your user ID.

Procedure:

From the menu, select **Log In**.

If you are already logged in, the menu displays **Log Out**.

Result:
If the log in is successful, your radio shows the following indications:

● A positive tone sounds.

● The display shows a positive mini notice.

If the log in is unsuccessful, your radio shows the following indications:

- A negative tone sounds.

- The display shows a negative mini notice.

16.15.3
Creating Job Tickets

Your radio can create Job Tickets that are based on a Job Ticket template, and send out tasks that must be performed. The Customer Programming Software (CPS) is required to configure the Job Ticket template.

Procedure:

From the menu, select **Job Tickets** → **Create Ticket**.

16.15.4
Sending Job Tickets Using Job Tickets Templates

Prerequisites: At the **Create Ticket** screen, depending on your configuration, choose the correct Job Tickets Template.

Procedure:

Perform one of the following actions:

Option	Actions
Sending Job Tickets using a single Job Ticket Template	**a.** Enter the required room number. **b.** Select **Room Status** → *<required option>* → **Send**.
Sending Job Tickets using a multiple Job Tickets Template	Select *<required option>* → **Send**.

Result:

If the request is successful, your radio shows the following indications:

- A positive tone sounds.

- The display shows a positive mini notice.

If the request is unsuccessful, your radio shows the following indications:

- A negative tone sounds.

- The display shows a negative mini notice.

16.15.5
Responding to Job Tickets

Procedure:

1. From the menu, select **Job Tickets** → *<required folder>* → *<required Job Ticket>*.

2. Access the sub-menu by pressing the **Menu/OK** button and select the required job ticket.

   Alternatively, you can also press the corresponding number key **1** to **9**, for Quick Reply.

Result:

If the respond is successful, your radio shows the following indications:

- A positive tone sounds.

- The display shows a positive mini notice.

If the respond is unsuccessful, your radio shows the following indications:

- A negative tone sounds.

- The display shows a negative mini notice.

16.15.6
Deleting Job Tickets

Procedure:

1. From the menu, select **Job Tickets** → *<required folder>* → **All**.

2. Perform one of the following actions:

   - To delete the required Job Ticket, select the *<required Job Ticket>* → **Menu/OK** → **Delete**.

   - To delete all Job Tickets, select **Delete All** → **Yes**.

Result:
If the request is successful, your radio shows the following indications:

- A positive tone sounds.

- The display shows a positive mini notice.

If the request is unsuccessful, your radio shows the following indications:

- A negative tone sounds.

- The display shows a negative mini notice.

16.16
Lone Worker

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

This feature prompts an emergency if there is no user activity (button press or channel selector activation) for a predefined time.

When there is no user activity for a predefined time, the radio prewarns you using an audio indicator once the inactivity timer expires.

If there is no acknowledgment from you before the predefined reminder timer expires, the radio initiates an emergency condition as programmed by the dealer.

16.17
Monitor Feature

Supported systems:

☐ Capacity Max ☐ Connect Plus ☑ Other Systems

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

NOTE: This feature is not applicable in Capacity Plus–Single-Site and Capacity Plus–Multi-Site.

16.17.1
Monitoring Channels

Procedure:

1. Press and hold the programmed **Monitor** button.

   Your radio shows the following indications:

   - You hear the radio activity.

   - The yellow LED illuminates.

   - The display shows the **Monitor** icon.

2. To call, press and hold the **PTT** button.

3. To listen, release the **PTT** button.

16.17.2
Permanent Monitor

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

16.17.2.1
Setting the Permanent Monitor

Procedure:

Press the programmed **Permanent Monitor** button.

Result:
When your radio enters the mode, your radio shows the following indications:

- An alert tone sounds.

- The yellow LED illuminates.

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

When your radio exits the mode, your radio shows the following indications:

- An alert tone sounds.

- The yellow LED extinguishes.

- The display shows `Permanent Monitor Off.`

16.18
Priority Monitor

Supported systems:

☑ Capacity Max ☐ Connect Plus ☐ Other Systems

Priority Monitor allows your radio to receive transmission from talkgroups with higher priority during talkgroup call. This feature is only applicable to members in Receive Group List.

> **NOTE:** This feature can only be accessed when Talkgroup Scan feature is enabled.

Priority talkgroups are Priority 1 (P1) and Priority 2 (P2). Your radio receives transmission according to the following priority:

1. Emergency Call for P1 Talkgroup.

2. Emergency Call for P2 Talkgroup.

3. Emergency Call for non-priority Talkgroup in the Receive Group List.

4. All Call.

5. P1 Talkgroup Call.

6. P2 Talkgroup Call.

7. Non-priority Talkgroup in the Receive Group List.

16.18.1
Receive Group List

Receive Group List allows you to create and assign members on the talkgroup scan list. You can have a maximum of 16 members in a list.

> **NOTE:** To add member into the list, the talkgroup must first be configured in the radio.

For Capacity Max, when your radio is programmed to edit the scan list, you can perform the following actions:

- Add, remove, and edit priority for talkgroups.

- Add, remove, and edit affiliation talkgroups.

For Other Systems, when your radio is programmed to edit the scan list, you can perform the following actions:

- Add or remove talkgroups.

- Add, remove, and edit priority for talkgroups.

- Add, remove, and edit affiliation talkgroups.

- Replace the existing scan list with a new scan list.

If a talkgroup is programmed as Permanent Talkgroup, you are unable to edit the talkgroup from the scan list.

16.19
Remote Monitor

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

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

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

The Remote Monitor microphone selection of the target radio follows the programmed Hot Mic setting. There are two Hot Mic sources:

Hot Mic Source	Microphone Selection
Front Accessory Microphone	The Bluetooth microphone is used for Remote Monitor.
	If there is no Bluetooth microphone connected, the front microphone is used.
	If there is no front microphone connected, the rear microphone is used.
Rear Accessory Microphone	The rear microphone is used for Remote Monitor.
	If there is no rear microphone connected, the Bluetooth microphone is used.
	If there is no Bluetooth microphone connected, the front microphone is used.

If initiated, the green LED blinks once on the target radio. This feature automatically stops after a programmed duration or when there is user operation on the target radio.

For Other Systems, Remote Monitor comprises of two types:

- Remote Monitor without Authentication
- Remote Monitor with Authentication

When your radio turns on the microphone of a target radio with user authentication, a passphrase is required. The passphrase is programmed into the target radio through the radio programming softwares.

16.19.1
Initiating the Remote Monitor

Procedure:

Perform one of the following actions:

Option	Actions
Initiating Remote Monitor with Contact List	From the menu, select **Contacts** → *<required ID or alias>* → **Remote Mon.**.
Initiating Remote Monitor with Manual Dial	a. From the menu, select **Contacts** → **Manual Dial** → **Radio Number**. b. Either enter the ID or alias, or edit the previous dialed ID. c. Select **Remote Mon.**.

Result:
If the request is successful, your radio shows the following indications:

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

If the request is unsuccessful, your radio shows the following indications:

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

16.20
Mute Mode

Supported systems:

☑ Capacity Max   ☑ Connect Plus   ☑ Other Systems

Mute Mode provides an option to silence all audio indicators on your radio.

When Mute Mode is initiated, all audio indicators are muted except higher priority features such as emergency operations.

When Mute Mode is exited, your radio resumes playing ongoing tones and audio transmissions.

Mute Mode can be enabled for a predefined duration by setting the Mute Mode Timer. The duration of the timer is configured through the radio menu and can range between 0.5–6 hours. Mute Mode is exited once the timer expires.

If the timer is left at **0**, the radio remains in Mute Mode for an indefinite period until the radio is moved to a face-up position or the programmed **Mute Mode** button is pressed.

16.20.1
Turning the Mute Mode On

Procedure:

Press the programmed **Mute Mode** button.

Result:
If Mute Mode is enabled, your radio shows the following indications:

- A positive tone sounds.
- The red LED blinks and continues blinking until Mute Mode is exited.
- The display shows `Mute Mode On`.
- The home screen shows the Mute Mode icon.
- Your radio mutes.
- If the Mute Mode Timer has been set, the timer begins counting down the duration that it is configured.

16.20.2
Setting the Mute Mode Timer

Procedure:

1. From the menu, select **Utilities** → **Radio Settings** → **Mute Timer**.
2. Edit the numeric value of each digit.

16.20.3
Exiting the Mute Mode

When the Mute Mode Timer expires, your radio automatically exits Mute Mode. You can also exit Mute mode manually.

Procedure:

Exit Mute Mode manually by performing one of the following actions:

- Press the programmed **Mute Mode** button.

- Press and hold the **PTT** button and speak into the microphone.

- Switch to any unprogrammed channel.

Result:
If Mute Mode is disabled, your radio shows the following indications:

- A negative tone sounds.

- The blinking red LED extinguishes.

- The display shows `Mute Mode Off`.

- The Mute Mode icon disappears from the home screen.

- Your radio unmutes and restores the speaker state.

- The Mute Mode Timer stops even if the timer has not expired.

16.21
Notification List

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

Your radio has a Notification list that collects all unread events on the channel, such as text messages, telemetry messages, missed calls, and call alerts.

The display shows the Notification icon when the Notification list has one or more events.

The list supports a maximum of 40 unread events. When the list is full, the next event automatically replaces the oldest event. After the events are read, they are removed from the Notification list.

The maximum number of notifications are 30 text messages and 10 missed calls or call alerts. This maximum number depends on individual feature (job tickets, text messages, missed calls, or call alerts) list capability.

16.21.1
Accessing the Notification List

Procedure:

From the menu, select **Notification**.

Result: The display shows all the available events.

16.22
Over-the-Air Programming

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

Your dealer can remotely update your radio through Over-the-Air Programming (OTAP) without any physical connection. Some settings can also be configured by using OTAP.

When your radio undergoes OTAP, the green LED blinks.

When your radio receives high volume data, your radio shows the following indications:

- If you press the **PTT** button, a negative tone sounds.

- The display shows the High Volume Data icon.

- The channel becomes busy.

When OTAP completes, your radio shows one of the following responses depending on the configuration:

- A tone sounds. The display shows `Updating Restarting`. Your radio restarts.

- Your radio displays the **Restart Now** or **Postpone** options. If you select **Postpone**, your radio returns to the previous screen. The display shows the OTAP Delay Timer icon until the automatic restart occurs.

When your radio turns on after automatic restart, your radio shows the following indications:

- If the program update is successful, the display shows `Sw Update Completed`.

- If the program update is unsuccessful, a tone sounds, the red LED blinks once, and the display shows `Sw Update Failed`.

NOTE:
If the programming update is unsuccessful, the update failure indications appear every time you turn on your radio. Contact your dealer to reprogram your radio with the latest software to eliminate the update failure indications.

16.23
Priority Call

Supported systems:

☑ Capacity Max ☐ Connect Plus ☐ Other Systems

Priority Call allows the system to preempt one of the ongoing non-priority calls and initiate the requested high priority call when all channels are busy.

With all channels occupied with high priority calls, the system does not preempt any calls, and places the requesting high-priority call into call queue. If the system fails to place the requesting high-priority call into call queue, it declares failure.

The default settings for Priority Call are preconfigured. When the following features are used, the call priority level reverts automatically to the preconfigured setting.

- All voice calls

- DMR III Text Message/Text Message

- Job Ticket

- Remote monitor

16.23.1
Switching the Priority Call Level

Procedure:

Press the programmed **Toggle Call Priority Level** button.

Result:
If High Priority is enabled, your radio shows the following indications:

- A voice announcement sounds.

- The display shows `Next Call: High Priority`.

- The Call Priority High icon appears on the home screen.

If Normal Priority is enabled, your radio shows the following indications:

- A voice announcement sounds.

- The display shows `Next Call: Normal Priority.`

- The Call Priority High icon disappears on the home screen.

16.24

Scan

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

Depending on the supported system available on your radio, your radio may have different behavior on Scan.

Talkgroup Scan

Talkgroup Scan is available for Capacity Max.

This feature allows your radio to monitor and join calls for groups defined by a Receive Group List.

When scan is enabled, your radio unmute to any member in its Receive Group List. When scan is disabled, your radio does not receive transmission from any members of the Receive Group List, except for All Call, Permanent Talkgroup, and the selected Talkgroup.

Channel Scan

Channel Scan is available for Other Systems.

When you start a scan, your radio scans through the programmed scan list for the current channel looking for voice activity. If you are on a digital channel, and your radio locks onto an analog channel, your radio automatically switches from digital mode to analog mode during the call and the same behavior occurs if you are on analog channel.

Table 23: Scan Methods

Method	Description
Main Channel Scan (Manual)	Your radio scans all the channels or groups in your scan list. When scanning, your radio may, depending on the settings, automatically start on the last scanned active channel or group, or on the channel where scan was initiated.
Auto Scan (Automatic)	Your radio automatically starts scanning when you select a channel or group that has Auto Scan enabled.

When you miss a call from a talkgroup or a channel that is in your scan list, you might be having the following situations:

- Scan feature is not on.

- Scan list member has been disabled through the menu.

- You are already participating in another call.

- For Multi-site system, no member of the scanned group is registered at your current site.

> **NOTE:** If your radio joins a call for a Zone Scan List member from a different Zone and Call Hang Timer expires before you are able to respond, you must navigate to the Zone and Channel of the Scan List Member and start a new call to respond.

16.24.1
Turning the Scan On

Procedure:
1. For Capacity Max and Connect Plus, from the menu, select **Scan** → **Turn On**.
2. For Other Systems, from the menu, select **Scan** → **Scan State** → **Turn On**.

Result:
If scan is turned on, your radio shows the following indications:

- A positive indicator tone sounds.
- The yellow LED blinks.
- The display shows `Scan On` and the scan icon.

16.24.2
Turning the Scan Off

Procedure:
1. For Capacity Max and Connect Plus, from the menu, select **Scan** → **Turn Off**.
2. For Other Systems, from the menu, select **Scan** → **Scan State** → **Turn Off**.

Result:
If scan is turned off, your radio shows the following indications:

- A negative indicator tone sounds.
- The LED extinguishes.
- The display shows `Scan Off` and the scan icon disappears.

16.24.3
Scan Talkback

Supported systems:

☑ Capacity Max ☑ Connect Plus ☐ Other Systems

The Talkback feature allows you to respond to a transmission while scanning.

Depending on how you configure the Scan Talkback feature, you will see two different scenarios if you press the PTT button when your radio scans into a call from the selectable group scan list.

Table 24: Scan Talkback Type

Type	Description
Scan Talkback Disabled	During an ongoing scanned call, if the **PTT** button is pressed, the scanned call is terminated and a new call is launched.
Scan Talkback Enabled	During an ongoing scanned call, if the **PTT** button is pressed, you can talkback to the scanned call.

NOTE:
If you face the following scenarios:

1. Scan into a call for a group that is not assigned to a channel position in the currently selected zone.

2. Miss the Hang Time of the call.

Perform the following actions:

1. Switch to the proper zone.

2. Select the channel position of the group to talk back to that group.

16.24.4

Nuisance Channels

Supported systems:

☐ Capacity Max ☐ Connect Plus ☑ Other Systems

Nuisance Channel is a channel that generates unwanted call continually.

You can temporarily remove the unwanted channel from the scan list and restore it back later on. This capability does not apply to the channel designated as the Selected Channel.

16.24.4.1

Deleting Nuisance Channels

Prerequisites: Your radio is scanned into the Nuisance Channel.

Procedure:

1. Press the programmed **Nuisance Delete** button until you hear a tone.

2. Release the programmed **Nuisance Delete** button.

16.24.4.2

Restoring Nuisance Channels

Procedure:

Perform one of the following actions:

- Restart your radio.

- Turn off and then turn on the scan.

- Change the channel using the **Channel Up or Down** button.

16.24.5
Vote Scan

Supported systems:

☐ Capacity Max   ☐ Connect Plus   ☑ Other Systems

Vote Scan provides wide coverage in areas with 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.

During a vote scan, your radio shows the following indications:

- The yellow LED blinks.
- The display shows the Vote Scan icon.

16.24.6
Scan Lists

Supported systems:

☐ Capacity Max   ☐ Connect Plus   ☑ Other Systems

You can create and assign individual channels or groups in Scan Lists. Your radio scans for voice activity by cycling through the channel or group sequence specified in the scan list for the current channel or group. Scan List also known as Receive Group List.

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 analog and digital entries.

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

> 📝 **NOTE:** This feature is not applicable to Capacity Plus.

16.24.6.1
Viewing the Scan List

Procedure:

1. From the menu, select **Scan** → **Scan List**.

2. Perform one of the following actions:

   - To do alias search, enter the required characters for the alias.

   - To search for the alias manually, scroll down the contact list with the **Channel Up or Down** button.

16.24.6.2
Editing the Scan List

Procedure:

1. From the menu, select **Scan** → **View/Edit List** → *<required group name>*.

2. Perform one of the following actions:

   - To enable the group in the scan list, select **Enable**.

   - To disable the group in the scan list, select **Disable**.

16.24.6.3
Editing Priority for the Scan List

Procedure:

1. To view and edit the priority of the talkgroup, from the menu, select **Scan** → **View/Edit List** → **<required alias>** → **Edit Priority**.

2. Perform one of the following actions:

   - To edit the required alias as Priority 1, select **Priority 1**.

   - To edit the required alias as Priority 2, select **Priority 2**.

   - To edit the required alias as no priority, select **None**.

3. If another talkgroup has been assigned to Priority 1 or Priority 2, you can overwrite the current priority when the display shows `Overwrite Existing?`.

   - To overwrite, select **Yes**.

   - To return to previous screen, select **No**.

16.24.6.4
Adding New Entries to the Scan List

Procedure:

1. From the menu, select **Scan** → **Scan List** → **Add Member** → **<required alias>**.

2. Perform one of the following actions:

   - To add the new alias as Priority 1, select **Priority 1**.

   - To add the new alias as Priority 2, select **Priority 2**.

   - To add the new alias as no priority, select **None**.

3. If another talkgroup has been assigned to Priority 1 or Priority 2, you can overwrite the current priority when the display shows `Overwrite Existing?`.

   - To overwrite, select **Yes**.

   - To return to previous screen, select **No**.

4. Perform one of the following actions:

   - To add another, select **Yes**.

   - To save the current list, select **No**.

16.24.6.5
Deleting Entries from the Scan List

Procedure:

1. From the menu, select **Scan** → **Scan List** → **<required alias>** → **Delete**.

2. Perform one of the following actions:

- To delete the alias, select **Yes**.

- To return to previous screen, select **No**.

16.24.6.6
Adding or Deleting a Group Using the Add Member Menu

Supported systems:

☐ Capacity Max ☑ Connect Plus ☐ Other Systems

Procedure:

1. From the menu, select **Scan → *<Add Members>*.**

2. Perform one of the following actions:

    - To add a group that is assigned to a channel selector position in the zone to the scan list, proceed to step 3.

    - To add a group that is assigned to a channel selector position in a different Connect Plus zone to the scan list, scroll through the Connect Plus zone that have the same Network ID as the current zone.

3. Locate the Connect Plus zone and select **Menu/OK** button.

    NOTE: If the zone does not have any groups that can be added to the scan list, the radio displays `No Candidates`.

4. Select the required group from the list of scan candidate and select **Menu/OK** button.

    If the group is currently on the scan list of the selected zone, a plus sign displays before the group alias, else you can add that group to the scan list.

5. Perform one of the following actions:

    - To add a group, select **Add**.

    - To delete a group, select **Delete**.

Result:
Your radio shows the following indications:

- The group is deleted successfully, when the plus sign no longer displays before the group alias.

- The group is added successfully, when the plus sign displays before the group alias.

- When the group is full, the display shows `List Full`.

16.24.7
Flexible Receive List

Supported systems:

☐ Capacity Max ☐ Connect Plus ☑ Other Systems

The Flexible Receive List feature allows you to create and assign members on the receive talkgroup list.

Your radio can support a maximum of 16 members in the list.

NOTE: This feature is only applicable to Capacity Plus.

16.24.7.1
Turning the Flexible Receive List On

Procedure:

From the menu, select **Utilities** → **Radio Settings** → **Flexible Rx List** → **Turn On**.

Result: Your radio shows the following indicators:

- A positive tone sounds.
- The display shows `Flexible Rx List On`.

16.24.7.2
Turning the Flexible Receive List Off

Procedure:

From the menu, select **Utilities** → **Radio Settings** → **Flexible Rx List** → **Turn Off**.

Result: Your radio shows the following indicators:

- A negative tone sounds.
- The display shows `Flexible Rx List Off`.

16.24.8
Multi-Talkgroup Affiliation

Supported systems:

☑ Capacity Max ☐ Connect Plus ☐ Other Systems

Your radio can be configured for up to seven talkgroups at a site.

Up to seven talkgroups can be assigned as affiliation talkgroups from the 16 talkgroups in the Receive Group List. The selected talkgroup and the priority talkgroups are automatically affiliated.

16.24.8.1
Adding the Talkgroup Affiliation

Procedure:

1. From the menu, select **Scan** → **View/Edit List** → `<required ID or alias>` → **Edit Affiliation**.
2. To add the Talkgroup Affiliation, select **On**.

Result:
If affiliation is successfully added to the system, the display shows positive mini notice.

If maximum of seven talkgroups are selected for affiliation, the display shows `List Full`.

> **NOTE:**
> In the **View/Edit List**, ⬤ beside the talkgroups indicates registration in progress or adding talkgroup affiliation has failed.
>
> The ✔ beside the talkgroups indicates the talkgroup affiliation is successful.
>
> .

16.24.8.2
Removing the Talkgroup Affiliation

Procedure:

1. From the menu, select **Scan** → **View/Edit List** → **<required ID or alias>** → **Edit Affiliation**.

2. To remove the Talkgroup Affiliation, select **Off**.

Result: In the **View/Edit List**, ✔ disappears beside the selected Talkgroup ID.

16.25
Radio Check

Supported systems:

☐ Capacity Max   ☑ Connect Plus   ☑ Other Systems

If enabled, this feature allows you to determine if another radio is active in a system without disturbing the user of that radio. No audible or visual notification is shown on the target radio.

This feature is only applicable for subscriber IDs.

16.25.1
Sending Radio Checks

Procedure:

From the menu, select **Contacts** → **<required ID or alias>** → **Radio Check**.

Result:
If the target radio is active in the system, your radio shows the following indications:

- A tone sounds.
- The display shows `Target Radio Available`.

If the target radio is inactive in the system, your radio shows the following indications:

- A tone sounds.
- The display shows `Target Radio Not Available`.

16.25.2
Sending Radio Check With Manual Dial

Procedure:

1. From the menu, select **Contacts** → **Manual Dial** → **Radio Number**.

2. Perform one of the following actions:

   - Enter the ID or alias and press **OK** button.
   - Enter the previously dialed ID or alias and press **OK** button.

3. Select **Radio Check**.

Result:
If sending radio check successful, your radio shows the following indications:

- A positive tone sounds.

- The display shows a positive mini notice.

If sending radio check unsuccessful, your radio shows the following indications:

- A negative tone sounds.

- The display shows a negative mini notice.

16.26

Radio Kill

Supported systems:

☑ Capacity Max ☐ Connect Plus ☐ Other Systems

This feature is an enhanced security measure to restrict unauthorized access to a radio.

Radio Kill causes a radio to be rendered inoperable. For example, you may want to kill a stolen or misplaced radio to prevent unauthorized usage.

When powered on, a killed radio displays `Radio Killed` on the screen momentarily to indicate the killed state.

> **NOTE:** A killed radio can only be revived at a Motorola Solutions service depot. Contact your dealer for more information.

16.27

Received Signal Strength Indicator

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

This feature allows you to view the Received Signal Strength Indicator (RSSI) values.

The display shows the RSSI icon at the top right corner.

16.27.1

Viewing RSSI Values

Procedure:

Using the IMPRES Keypad Microphone (RMN5127_) **4-way Navigation** button, from the home screen, select the **Left** button three times and immediately press **Right**.

Result: The display shows the current RSSI values.

16.28

Response Inhibit

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

This feature helps prevent your radio from responding to any incoming transmissions.

📝 **NOTE:** Contact your dealer for more information.

If enabled, your radio does not generate any outgoing transmissions in respond to incoming transmissions, such as Radio Check, Call Alert, Radio Disable, Remote Monitor, Automatic Registration Service (ARS), and responding to Private Messages.

Your radio cannot receive Confirmed Private Calls when this feature is enabled. However, your radio is able to manually send transmission.

16.28.1
Setting the Response Inhibit

Procedure:

Press the programmed **Response Inhibit** button.

Result:
If the Response Inhibit is successfully turned off, your radio shows the following indications:

- A positive tone sounds.
- The display shows a momentary positive mini notice.

If the Response Inhibit fails to turn off, your radio shows the following indications:

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

16.29
Rental Timer

Supported systems:

☑ Capacity Max   ☑ Connect Plus   ☑ Other Systems

The Rental Timer feature allows the radio rental dealer to set the permitted rental period of your radio and automatically disable the radio beyond the duration specified on the timer.

The radio can be programmed with a maximum rental period of 999 hours and a maximum rental period extension of 99 hours.

The timer calculates the radio usage time and disables the radio when the usage time reaches the predetermined rental period.

After the rental period expires, the radio ceases to function until the dealer resets the rental timer.

16.29.1
Accessing Rental Timer Information

Procedure:

From the menu, select **Utilities** → **Rental Timer** → **Information**.

Result: The display shows the hours.

16.29.2
Rental Expiry Reminder

The Rental Expiry Reminder feature provides a reminder when the rental period is expiring.

The radio provides a display and an audio reminder of the timer expiry.

For the audio reminder frequency, the voice announcement sounds as the followings:

● Every 1 hour after the first reminder, until the last 2 hours before the rental period expires.

● Twice for the last 2 hours before the rental period expires.

● Twice during the last 3 minutes, 2 minutes and 1 minute before the rental period expires.

For the display reminder, your radio display shows a momentary notice reminder referring to the number of hours before before the rental period expires.

For the last 3 minutes before expiry, your radio display shows a momentary notice reminder referring to the number of minutes before the rental period expires.

16.29.3
Extending the Rental Period

The radio can be programmed with a maximum of 99 hours rental period extension.

Procedure:

Perform one of the following actions:

Options	Actions
Extending the rental period through the menu	a. From the menu, select **Utilities → Rental Timer → Extension**. b. Press the **Menu/OK** button. **NOTE:** You can only extend the rental period once. The extension check box is greyed out after you enable the feature.
Extending the rental period through the buttons	Press the **P1 Front Button** three times and **P2 Front Button** three times continuously. **NOTE:** You can only extend the rental period once. A negative indicator tone sounds if you press the buttons again.

16.30
Security

Supported systems:

☐ Capacity Max ☑ Connect Plus ☑ Other Systems

This feature allows you to stun or revive any radio in the system.

For example, you may disable stolen radio to prevent unauthorized users from using and revive or enable the radio when it is recovered.

When a radio is stunned, the radio cannot request nor receive any user initiated services on the system that performed the stun procedure. However, the radio can switch to another system. The radio continues to send GNSS location reports and can be monitored remotely when it was stunned or disabled.

For Other Systems, you can stun or revive a radio with or without authentication.

Authenticated Radio Disable is a selling feature and requires verification when you enable or disable a radio. When your radio disables a target radio with user authentication, a passphrase is required. The passphrase is preprogrammed in the target radio through the Customer Programming Software (CPS).

NOTE: Contact your dealer to enable this feature.

16.30.1
Disabling Radios

Procedure:

Perform one of the following actions:

Option	Actions
Disabling the Radio with Contact List	From the menu, select **Contacts** → *<required ID or alias>* → **Radio Disable**.
Disabling the Radio with Manual Dial	a. From the menu, select **Contacts** → **Manual Dial**. b. Enter the ID. c. Select **Radio Disable**.

Result:

If the request is successful, your radio shows the following indications:

- A positive indicator tone sounds.
- For Connect Plus, the display shows `Radio Disable Successful.`

If the request is unsuccessful, your radio shows the following indications:

- A negative indicator tone sounds.
- For Connect Plus, the display shows `Radio Disable Failed.`

16.30.2
Enabling Radios

Procedure:

1. Perform one of the following actions:

Option	Actions
Enabling the Radio with Contact List	From the menu, select **Contacts** → *<required ID or alias>* → **Radio Enable**.
Enabling the Radio with Manual Dial	a. From the menu, select **Contacts** → **Manual Dial**. b. Enter the ID. c. Select **Radio Enable**.

2. For Other Systems, enter the passphrase if required.

Result:
If the request is successful, your radio shows the following indications:

- A positive indicator tone sounds.
- For Connect Plus, the display shows `Radio Enable Successful.`
- For Other Systems, the display shows a positive mini notice.

If the request is unsuccessful, your radio shows the following indications:

- A negative indicator tone sounds.
- For Connect Plus, the display shows `Radio Enable Failed.`
- For Other Systems, the display shows a negative mini notice.

16.31
Service and Support

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

You can identify the types of service and support that your radio needs through the service code.

NOTE: Service and Support features are only applicable for DM4000e Series Mobile Radios.

For Alphanumeric Display model, your radio shows the notification alert and service code on the radio display.

For Numeric Display model, respective service code messages are only available through Voice Announcement.

NOTE: If the Voice Announcement feature is not enabled in the radio programming software, service mode and service related announcements are not available for your Numeric Display model.

For more information about the Service Code, refer to the MOTOTRBO™ Radios Service Codes Troubleshooting Guide, MN009539A01 at https://learning.motorolasolutions.com.

16.31.1
Accessing Notifications

You can identify the types of service and support that your radio needs through the notifications.

Procedure:

Perform one of the following actions:

Option	Actions
Accessing Single Notification Alert	If you receive a notification alert and the respective service code, perform one of the following actions: - To delete the service code, press **Menu/OK → Yes**. - To return to the previous screen, press the **Back/Home** button.

Option	Actions
Accessing Multiple Notification Alert	If you receive a notification alert and a selection of notifications, perform the following actions: **a.** To view the service code details, select the *<relevant notification>*. **b.** Perform one of the following actions. - To delete the service code, press **Menu/OK → Yes**. - To return to the previous screen, press the **Back/Home** button.

16.31.2
Accessing Service and Support

Procedure:

Perform one of the following actions:

Option	Actions
Accessing The Service Codes From the **Service & Support** Menu	**a.** From the menu, select **Service & Support** → *< type of service code>* → *<relevant notification>*. **b.** Perform one of the following actions: - To delete the service code, press **Menu/OK → Yes**. - To return to the previous screen, press the **Back/Home** button.
Viewing The Get Support Link	**a.** From the menu, select **Service & Support** → **Get Support**. **b.** Type the URL into a web browser.

Option	Actions
Accessing Service Mode **NOTE:** Only applicable for Numeric Display model.	**a.** Press and hold the **P1** button for 5 seconds within 10 seconds after your radio is turned on. **b.** Perform one of the following actions: ● To listen to all service messages, press the **P1** button again. ● To delete all service messages, press and hold the **P2** button until you hear a valid tone indicating successful deletion of all service messages. **c.** To exit service mode, perform radio power cycle. **NOTE:** When the radio is in the service mode, normal radio operations are disabled.

16.31.3

Viewing Service Contact

Viewing Service Contact feature is only available for the Alphanumeric Display model.

Procedure:

From the menu, select **Service & Support** → **Service Contact**.

Result: Your radio shows the service contact details.

16.32

Stun or Revive

Supported systems:

☑ Capacity Max ☐ Connect Plus ☐ Other Systems

This feature allows you to stun or revive any radio in the system. For example, you may want to stun a stolen radio to prevent unauthorized usage, and revive the radio when it is recovered.

A radio can be stunned or revived either through the console or through a command initiated by another radio.

When a radio is stunned, the radio cannot request nor receive any user initiated services on the system that performed the Stun procedure. However, the radio can switch to another system. The radio continues to send GNSS location reports and can be monitored remotely when it was stunned.

16.32.1
Stunning Radios

Procedure:

Perform one of the following actions:

Option	Actions
Stunning or disabling radios with Contact List	From the menu, select **Contacts** → *<required ID or alias>* → **Radio Disable**.
Stunning or disabling radios with Manual Dial	a. From the menu, select **Contacts** → **Manual Dial** → **Private Call**. b. Enter the ID. c. Select **Radio Disable**.

Result:
The green LED blinks and the display shows `Radio Disable: <ID>`.

If the radio is successfully stunned, your radio shows the following indications:

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

If the radio is unsuccessfully stunned, your radio shows the following indications:

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

16.32.2
Reviving Radios

Procedure:

1. Perform one of the following actions:

Option	Actions
Reviving or enabling radios with Contact List	From the menu, select **Contacts** → *<required ID or alias>* → **Radio Enable**.
Reviving or enabling radios with Manual Dial	a. From the menu, select **Contacts** → **Manual Dial** → **Private Call**. b. Enter the ID. c. Select **Radio Enable**.

2. For Other Systems, enter the passphrase if required.

Result:
The green LED illuminates and the display shows `Radio Enable: <ID>`.

If the radio is revived successfully, your radio shows the following indications:

- A positive indicator tone sounds.

- The display shows a positive mini notice.

If the radio is revived unsuccessfully, your radio shows the following indications:

- A negative indicator tone sounds.

- The display shows a negative mini notice.

16.33
Status Message

Supported systems:

☑ Capacity Max ☐ Connect Plus ☐ Other Systems

This feature allows your radio to send status messages to other radios.

The Quick Status list is configured using the radio programming softwares and comprises up to a maximum of 99 statuses.

The maximum length for each status message is 16 characters.

Contact your dealer for more information.

> **NOTE:** Every status has a corresponding digital value ranging from 0–99. An alias can be specified to each status for ease of reference.

16.33.1
Viewing Status Messages

Procedure:

From the menu, select **Status** → **Inbox** → *<required status message>*.

Result: Your radio displays the content of the selected status message.

16.33.2
Sending Status Messages

Procedure:

Perform one of the following actions:

Option	Actions
Sending a Status Message	From the menu, select **Status** → **Quick Status** → *<required status message>* → *<required ID or alias>*.
Sending a Status Message with Contact List	From the menu, select **Contacts** → *<required ID or alias>* → **Send Status** → *<required status message>*.

Option	Actions
Sending a Status Message with Manual Dial	**a.** From the menu, select **Contacts** → **Manual Dial** → **Radio Number**. **b.** Enter the ID or alias and press the **Menu/OK** button. **c.** Select **Send Status** → *<required status message>*.

Result:

If your status message is sent successfully, your radio shows the following indications:

- A positive indicator tone sounds.
- The LED extinguishes.
- The display shows a positive mini notice and a ✔ beside the sent status message.

If your status message is fails, your radio shows the following indications:

- A negative indicator tone sounds.
- The LED extinguishes.
- The display shows a failure notice.

16.33.3
Responding to Status Messages

Procedure:

From the menu, select **Status** → **Inbox** → *<required status message>* → **Reply** → *<required status message>*.

16.33.4
Deleting Status Messages

Procedure:

1. From the menu, select **Status**.

2. Perform one of the following actions:

   - To delete a status message, select **Inbox** → *<required status message>* → **Menu/OK** → **Delete** → **Yes**.
   - To delete all status messages, select **Inbox** → **Delete All** → **Yes**.

16.34
Text Messaging

Supported systems:

☑ Capacity Max   ☑ Connect Plus   ☑ Other Systems

Your radio is able to receive data from another radio or a text message application.

There are two types of text messages, Digital Mobile Radio (DMR) Short Text Message and text message. The maximum length of a DMR Short Text Message is 23 characters. The maximum length of a text message

is 280 characters, including the subject line. The subject line only appears when you receive messages from e-mail applications.

> **NOTE:**
> The maximum character length is only applicable for models with the latest software and hardware. For radio models with older software and hardware, the maximum length of a text message is 140 characters. Contact your dealer for more information.

16.34.1
Viewing Text Messages

Procedure:

1. From the menu, select **Messages**.

2. Perform one of the following actions:

   - For Text Messages or Telemetry Status, select **Inbox → *<required messages>***.

   - For Saved Text Messages, select **Drafts → *<required messages>***.

   - For Sent Text Messages, select **Sent Items → *<required messages>***.

Result:
If the Inbox, Drafts, or Sent Items folder is empty:

- If the Keypad Tone is enabled, a tone sounds.

- The display shows `List Empty`.

If the Inbox, Drafts, or Sent Items folder is not empty, the display shows a subject line if the message is from an email application.

For Telemetry Status, you cannot reply to the message and your display shows `Telemetry: <Status Text Message>`.

16.34.2
Composing Text Messages

Procedure:

1. From the menu, select **Messages → Compose**.

2. Compose your message.

3. Perform one of the following actions:

   - To save a text message, select **Back/Home → Save**.

   - To discard a text message, select **Back/Home → Discard**.

     > **NOTE:** If you accidentally select the **Back/Home** button, you can select `Edit` to continue composing your text message.

   If your text message is saved, you can view and edit your text message in the Draft folder.

   If your text message is discarded, your text message is deleted.

16.34.3
Sending Text Messages

Prerequisites: Compose your message.

Procedure:

Perform one of the following actions:

Option	Actions
Sending Text Messages	1. From your composed message, select the **Menu/OK** button. 2. Perform one of the following actions: ○ Select the ***\<required ID or alias\>***. ○ Select **Manual Dial** and enter the ID.
Sending Sent Text Messages	From your sent message, select **Menu/OK** → **Resend**.
Sending Quick Text Messages	1. From the menu, select **Messages** → **Quick Text**. 2. Perform one of the following actions: ○ Select the ***\<required ID or alias\>***. ○ Select **Manual Dial** and enter the ID.
Resending Text Messages	Select **Resend**.

Result:
If your text message is successfully sent, your radio shows the following indications:

- A tone sounds.
- The display shows positive mini notice.

If your text message fails to send, the display shows the following options:

- `Resend`
- `Forward`
- `Edit`

16.34.4
Responding to Text Messages

When you receive a text message, your radio displays the following items:

- The Notification List with the ID or alias of the sender.

● The Message icon.

> 📝 **NOTE:** If you press the **PTT** button, your radio exits the Text Message alert screen and makes a Private or Group Call to the sender.

Procedure:

Perform one of the following actions:

Option	Actions

Responding to Text Messages from the Notification List	Perform one of the following actions:
	● To read the text message, select **Read**.
	● To read the text message later, select **Read Later**.
	● To delete the text message, select **Delete**.
	● To reply, perform the following actions:
	   a. Press **Menu/OK** button twice.
	   b. Select the *<required message>*.

Responding to Text Messages	From the menu, select **Messages** → **Inbox** → *<required message>* → **Reply**.
Responding to Text Messages with Quick Text	From the menu, select **Messages** → **Inbox** → *<required message>* → **Reply** → **Quick Reply**.

16.34.5
Forwarding Text Messages

Procedure:

1. From the **Resend** option screen, select **Messages**.
2. To forward a Text Message from the Inbox or Sent Item folder, select *<required message>* → **Forward**.

Result:

If your text message is successfully forwarded, your radio shows the following indications:

● A positive tone sounds.

● The display shows positive mini notice.

If your text message fails to forward, the display shows the following indications:

● A negative tone sounds.

● The display shows negative mini notice.

16.34.6
Deleting Text Messages

Procedure:

1. From the menu, select **Messages**.
2. Perform one of the following actions:

- To delete text messages, select **Inbox** → *<required text message>* → **Menu/OK** → **Delete**.
- To delete all text messages, select **Inbox** → **Delete All**.
- To delete sent text messages, select **Sent Items** → *<required text message>* → **Menu/OK** → **Delete**.
- To delete all sent text messages, select **Sent Items** → **Delete All**.
- To delete saved text messages, select **Drafts** → *<required text message>* → **Menu/OK** → **Delete**.

16.34.7
Setting Text Message Alert Tones

Supported systems:

☑ Capacity Max   ☐ Connect Plus   ☑ Other Systems

Procedure:

1. From the menu, select **Contacts** → *<required ID or alias>* → **Message Alert**.
2. Perform one of the following actions:
   - To have momentary tone, select **Momentary**.
   - To have repetitive tone, select **Repetitive**.

16.35
Transmit Inhibit

Supported systems:

☐ Capacity Max   ☐ Connect Plus   ☑ Other Systems

The Transmit Inhibit feature allows you to block all transmissions from your radio.

16.35.1
Enabling or Disabling the Transmit Inhibit

Procedure:

Select **Utilities** → **Radio Settings** → **Tx Inhibit**.

Result:
If the Transmit Inhibit is enabled, a ✔ appears beside `Enabled`.

If the Transmit Inhibit is disabled, the ✔ disappears beside `Enabled`.

> **NOTE:** The status of the Transmit Inhibit does not change after the radio turns on.

16.36
Wi-Fi Operation

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

Wi-Fi® is a registered trademark of Wi-Fi Alliance®. You can set up and connect Wi-Fi network to update your radio firmware, codeplug, language pack, and Voice Announcement.

> **NOTE:** This feature is applicable to the following models only:
>
> - DM4601e
>
> - DM4401e

Your radio supports the following Wi-Fi networks.

WEP/WPA/WPA2 Personal Wi-Fi network
Uses pre-shared key/password based authentication. Pre-shared key/password can be entered by using the menu or MDM.

WPA/WPA Enterprise Wi-Fi network
Designed for enterprise networks and requires a RADIUS authentication server. Your radio must be pre-configured with a certificate if certificate-based authentication is deployed and client certificate verification is required.

> **NOTE:** Configure your Wi-Fi system according to the latest industry security recommendations or use Enterprise Wi-Fi.

16.36.1
Turning Wi-Fi On

Procedure:

1. From the menu, select **WiFi → WiFi On/Off**.

2. To turn on Wi-Fi, select the **Menu/OK** button.

Result: If Wi-Fi is turned on, the display shows a ✔ beside `Enabled`.

16.36.2
Turning Wi-Fi Off

Procedure:

From the menu, select **WiFi → WiFi On/Off**.

Result: If Wi-Fi is turned off, the ✔ disappears beside `Enabled`.

16.36.3
Turning Wi-Fi On Remotely Using a Designated Radio

> **NOTE:** Only radio with specific CPS setting supports this function, check with your dealer or system administrator for more information.

Procedure:

1. Perform one of the following actions:

Option	Actions
Selecting the required ID or alias with Contact List	From the menu, select **Contacts → <required ID or alias>**.

Option	Actions
Selecting the required ID or alias with Manual Dial	a. From the menu, select **Contacts → Manual Dial → Radio Number**. b. Enter the ID. c. Select the **Menu/OK** button.
Selecting the required group ID or alias with Contact List	From the menu, select **Contacts** → *<required group ID or alias>* → **Wi-Fi Control**.

2. Select **Wi-Fi Control**.

3. To turn on Wi-Fi, select **On**.

Result:

For individual control, your radio shows the following indications:

- If Wi-Fi is tuned on, the display shows a positive mini notice.

- If Wi-Fi fails to tun on, the display shows a negative mini notice.

For group control, your radio shows the following indications:

- If successful, the display shows `Sent Successfully`.

- If unsuccessful, the display shows a negative mini status.

16.36.4
Turning Wi-Fi Off Remotely Using a Designated Radio

> **NOTE:** Only radio with specific CPS setting supports this function, check with your dealer or system administrator for more information.

Procedure:

1. Perform one of the following actions:

Option	Actions
Selecting the required ID or alias with Contact List	From the menu, select **Contacts** → *<required ID or alias>*.
Selecting the required ID or alias with Manual Dial	a. From the menu, select **Contacts → Manual Dial → Radio Number**. b. Enter the ID. c. Select the **Menu/OK** button.
Selecting the required group ID or alias with Contact List	From the menu, select **Contacts** → *<required group ID or alias>* → **Wi-Fi Control**.

2. Select **Wi-Fi Control**.

3. To turn off Wi-Fi, select **Off**.

16.36.5
Connecting to a Network Access Point

When you turn on Wi-Fi, your radio scans and connects to a network access point.

Procedure:

1. From the menu, select **WiFi** → **Networks** → **<required Network Access Point>** → **Connect**.

    📝 **NOTE:** For WPA-Enterprise Wi-Fi, if a network access point is not preconfigured, the **Connect** option is not available.

2. Perform one of the following actions:

    - For WPA-Personal Wi-Fi, enter the password.

    - For WPA-Enterprise Wi-Fi, the WPA is configured using the radio programming softwares.

    If the password is correct, your radio automatically connects to the selected network access point.

    If the password is incorrect, the display shows `Authentication Failure`, and automatically returns to the previous menu.

Result:
If the connection is successful, your radio displays a positive notice and the network access point is automatically saved into your profile list.

If the connection is unsuccessful, your radio displays a negative notice screen and returns to the previous menu.

16.36.6
Checking Wi-Fi Connection Status

Procedure:

Press the programmed **Wi-Fi Status** button.

Result:
If Wi-Fi connection is turned on and connected to a network, your radio shows the following indications:

- A voice prompt indicates that Wi-Fi is turned on.

- The display shows `WiFi On, Connected`.

If Wi-Fi connection is turned on but not connected to any network, your radio shows the following indications:

- A voice prompt indicating that Wi-Fi is turned on.

- The display shows `WiFi On, Disconnected`.

If Wi-Fi connection is turned off, your radio shows the following indications:

- A voice prompt indicating that Wi-Fi is turned off.

- The display shows `WiFi Off`.

16.36.7

Refreshing Network Lists

Procedure:

From the menu, select **WiFi** → **Networks** → **Refresh**.

Result: Your radio displays the latest network list.

16.36.8

Adding a Network

📝 **NOTE:** This task is not applicable to WPA-Enterprise Wi-Fi networks.

Procedure:

1. From the menu, select **WiFi** → **Networks** → **Add Network**.

2. Enter the Service Set Identifier (SSID).

3. Select **Open**.

4. Enter the password.

5. Select the **Menu/OK** button.

Result: The display shows a mini positive notice.

16.36.9

Viewing Details of Network Access Points

Procedure:

From the menu, select **WiFi** → **Networks** → *<required Network Access Points>* → **View Details**.

Result:
For WPA-Personal Wi-Fi networks, your radio shows the following details:

● For a connected network access point, your radio displays information on:

  ○ Service Set Identifier (SSID)

  ○ Security Mode

  ○ Media Access Control (MAC) address

  ○ Internet Protocol (IP) address

● For a non-connected network access point, your radio displays information on

  ○ SSID

  ○ Security Mode

For WPA-Enterprise Wi-Fi networks, your radio shows the following details:

● For a connected network access point, your radio displays information on

  ○ SSID

  ○ Security Mode

  ○ Identity

  ○ Extended Authentication Protocol (EAP) Method

- ○ Phase 2 Authentication

- ○ Cert Name

- ○ MAC address

- ○ IP address

- ○ Gateway

- ○ DNS1

- ○ DNS2

- For a non-connected network access point, your radio displays information on

- ○ SSID

- ○ Security Mode

- ○ Identity

- ○ EAP Method

- ○ Phase 2 Authentication

- ○ Certificate Name

16.36.10

Removing Network Access Points

NOTE: This task is not applicable to WPA-Enterprise Wi-Fi networks.

Procedure:

From the menu, select **WiFi → Networks → `<required Network Access Point>` → Remove → Yes**.

Result: The display shows a positive mini notice.

Chapter 17

Utilities

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

17.1
Talkaround

Supported systems:

☐ Capacity Max   ☐ Connect Plus   ☑ Other Systems

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

The talkaround setting is retained even after powering down.

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

17.1.1
Toggling Between Repeater and Talkaround Mode

Procedure:

1. From the menu, select **Utilities** → **Radio Settings** → **Talkaround**.
2. Select the **Menu/OK** button to toggle between Talkaround or Repeater mode.

Result:
When Talkaround mode is enabled, a ✔ appears beside `Enabled`.

When Talkaround mode is disabled, the ✔ disappears beside `Enabled`.

17.2
Setting the Automatic Call Forwarding

Supported systems:

☐ Capacity Max   ☐ Connect Plus   ☑ Other Systems

Procedure:

1. From the menu, select **Utilities** → **Radio Settings** → **Call Forward**.
2. Perform one of the following actions:
   - To enable Call Forwarding, select the **Menu/OK** button.
   - To disable Call Forwarding, select the **Menu/OK** button.

Result:
If the Call Forwarding is enabled, a ✔ appears beside `On`.

17.3
Setting Dual Knob Operation Preference

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

Procedure:

From the menu, select **Utilities** → **Radio Settings** → **Dual Knob** → *<required settings>*.

17.4
Setting Radio Tones and Alerts

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

Procedure:

1. From the menu, select **Utilities** → **Radio Settings** → **Tones/Alerts**.
2. Select one of the following options:
   - **All Tones**
   - **Talk Permit**
   - **Keypad Tone**
   - **Power Up Tone**
   - **Vol.Offset** → *<required volume>*.

Result: A ✓ appears beside the setting.

17.5
Setting Power Levels

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

Procedure:

1. From the menu, select **Utilities** → **Radio Settings** → **Power**.
2. Perform one of the following actions:
   - To enable communication with radios located at a considerable distance from you, select **High**.
   - To enable communication with radios in closer proximity, select **Low**.

     NOTE: This feature is not applicable in Citizens Band channels that are in the same frequency.

17.6

Adjusting Display Settings

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

Procedure:

1. From the menu, select **Utilities** → **Radio Settings** → **Display**.

2. Select one of the following options:

   - **Day Mode/Night Mode**

   - **Menu Timer**

   - **Intro Screen**

3. For brightness, from the menu, select **Utilities** → **Radio Settings** → **Brightness**.

17.7

Setting Squelch Levels

Supported systems:

☐ Capacity Max ☐ Connect Plus ☑ Other Systems

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

Procedure:

1. From the menu, select **Utilities** → **Radio Settings** → **Squelch**.

2. Perform one of the following actions:

   - For a normal squelch level, select **Normal Squelch**.

   - To filter out unwanted calls or background noise, select **Tight Squelch**.

   📝 **NOTE:** This feature is not applicable in Citizens Band channels that are in the same frequency.

17.8

Setting Languages

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

Procedure:

From the menu, select **Utilities** → **Radio Settings** → **Languages** → **<required language>**.

Result: A ✔ appears beside the selected language.

17.9
Setting LED Indicators

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

Procedure:

1. From the menu, select **Utilities** → **Radio Settings** → **LED Indicator**.

2. Perform one of the following actions:

   ● To enable LED Indicator, select **Menu/OK** button.

   ● To disable LED Indicator, select **Menu/OK** button.

Result:
If the LED Indicator is enabled, a ✔ appears beside `Enabled`.

If the LED Indicator is disabled, your radio shows the following indications:

● The ✔ disappears beside `Enabled`.

● The display backlight and keypad backlight are automatically turned off.

17.10
Password Lock

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

You can set a password to restrict access to your radio. Each time you turn on your radio, you must enter the password.

Your radio supports a four-digit password input.

Your radio is unable to receive calls in locked state.

17.10.1
Accessing Radios with Password

Prerequisites: Turn on your radio.

Procedure:

1. Enter your four-digit password.

2. Select the **Menu/OK** button.

Result:
If you enter the password correctly, your radio turns on.

If you enter the password incorrectly, a tone sounds, the yellow LED illuminates, and the display shows `Wrong Password`.

> **NOTE:**
> You may repeat the steps to enter the password. You are given three attempts before your radio enters into a locked state for 15 minutes. The display shows `Radio Locked`.
>
> During locked state, your radio responds to inputs from the **Power** button and the programmed **Backlight** button only.
>
> If you restart your radio during the locked state, the timer restarts.

17.10.2
Unlocking Radios in Locked State

Procedure:

To unlock your radio in locked state, perform one of the following actions:

Option	Actions
Unlocking Radios in Locked State if your radio is turned on	**a.** Wait for 15 minutes. **b.** Access the radio by following the steps in Accessing Radios with Password.
Unlocking Radios in Locked State if your radio is turned off	**a.** Turn on your radio. > **NOTE:** Your radio restarts the 15 minutes timer for locked state. **b.** Wait for 15 minutes. **c.** Access the radio by following the steps in Accessing Radios with Password.

17.10.3
Setting the Password Lock

Procedure:

1. From the menu, select **Utilities** → **Radio Settings** → **Passwd Lock** → *<required password>*.

   > **NOTE:** When using this feature for the first time, the display shows `New Password Setup` to set a new password. You must set a new password before setting the Password Lock feature.

2. Perform one of the following actions:
   - To enable Password Lock, select **Turn On**.
   - To disable Password Lock, select **Turn Off**.

17.10.4
Changing Passwords

Procedure:

1. From the menu, select **Utilities** → **Radio Settings** → **Passwd Lock** → *<required password>* → **Change PWD**.

2. Enter a new four-digit password.

3. To confirm the new password, re-enter the same four-digit password.

Result:
If the password is successfully changed, the display shows `Password Changed`.

If the password change is unsuccessful, the display shows `Password Do Not Match` and returns to the previous menu.

17.11
Voice Announcement

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

This feature enables the radio to audibly indicate the current Zone or Channel assigned. This audio indicator can be customized per customer requirements.

17.11.1
Setting the Voice Announcement

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

Procedure:

1. From the menu, select **Utilities → Radio Settings → Voice Announcement**.

2. Perform one of the following actions:

   ● To enable Voice Announcement, select the **Menu/OK** button.

   ● To disable Voice Announcement, select the **Menu/OK** button.

Result:
If the Voice Announcement is enabled, a ✔ appears beside `Enabled`.

If the Voice Announcement is disabled, the ✔ disappears beside `Enabled`.

17.12
Text-to-Speech

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

This feature enables the radio to audibly indicate the following features:

● Current Channel

● Current Zone

● Programmed button feature on or off

● Content of received text messages

● Content of received Job Tickets

> **NOTE:**
> If Text-to-Speech is enabled, the Voice Announcement feature is automatically disabled. If Voice Announcement is enabled, then the Text-to-Speech feature is automatically disabled.

17.12.1
Setting the Text-to-Speech

Procedure:

1. From the menu, select **Utilities** → **Radio Settings** → **Text-to-Speech**.

2. Select one of the following options:
   - **All**
   - **Messages**
   - **Job Tickets**
   - **Channel**
   - **Zone**
   - **Program Button**

Result: A ✔ appears beside the selected setting.

17.13
Setting the Microphone Automatic Gain Control

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

Procedure:

1. From the menu, select **Utilities** → **Radio Settings**

2. Perform one of the following actions:
   - For Analog Microphone Automatic Gain Control, select **Mic AGC-A**.
   - For Digital Microphone Automatic Gain Control, select **Mic AGC-D**.

3. Perform one of the following actions:
   - To enable Mic AGC, select the **Menu/OK** button.
   - To disable Mic AGC, select the **Menu/OK** button.

Result:
If the Mic AGC is enabled, a ✔ appears beside `Enabled`.

If the Mic AGC is disabled, the ✔ disappears beside `Enabled`.

17.14
Setting the Intelligent Audio

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

Procedure:

1. From the menu, select **Utilities** → **Radio Settings** → **Intelligent Audio**.

2. Perform one of the following actions:

   - To enable Intelligent Audio, select **On**.

   - To disable Intelligent Audio, select **Off**.

     NOTE:
     Your radio automatically adjusts the audio volume to overcome current background noise in the environment.

     Intelligent audio feature is a receive-only feature.

     This feature is not applicable during a Bluetooth session.

17.15
Setting the Acoustic Feedback Suppressor

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

Procedure:

1. From the menu, select **Utilities** → **Radio Settings** → **AF Suppressor**.

2. Perform one of the following actions:

   - To enable AF Suppressor, select the **Menu/OK** button.
   - To disable AF Suppressor, select the **Menu/OK** button.

17.16
Setting the Trill Enhancement

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

Procedure:

1. From the menu, select **Utilities** → **Radio Settings** → **Trill Enhance**.

2. Perform one of the following actions:

   - To enable Trill Enhancement, select **On**.
   - To disable Trill Enhancement, select the **Off**.

17.17
Setting the Microphone Distortion

Supported systems:

☑ Capacity Max   ☑ Connect Plus   ☑ Other Systems

Procedure:

1. From the menu, select **Utilities** → **Radio Settings** → **Mic Distortion**.

2. Perform one of the following actions:

   - To enable Mic Distortion, select the **Menu/OK** button.

   - To disable Mic Distortion, select the **Menu/OK** button.

Result:
If the Mic Distortion is enabled, a ✔ appears beside `Enabled`.

If the Mic Distortion is disabled, the ✔ disappears beside `Enabled`.

17.18

Setting the Text Entry

Supported systems:

☑ Capacity Max   ☐ Connect Plus   ☑ Other Systems

You can configure different text entries on your radio.

Procedure:

1. From the menu, select **Utilities** → **Radio Settings** → **Text Entry**.

2. Perform one of the following actions:

Option	Actions
Setting your radio to learn common word sequences that you often enter	Select **Word Predict**.
Setting your radio to perform word correction	Select **Word Correct**.
Setting your radio to capitalize the first letter in the first word for every new sentence	Select **Sentence Cap**.
Setting custom words	- To view custom words, select **My Words** → **List of Words**. - To edit a custom word, select **My Words** → **Edit**. - To add a custom word, select **My Words** → **Add New Word**. - To delete a custom word, select **My Words** → `<required word>` → **Delete**. - To delete all custom words, select **My Words** → **Delete All**.

Result:

- If you select **Word Predict**, **Word Correct**, or **Sentence Cap**, a ✔ appears beside `Enabled`.

- If you select **My Words**, the display shows a transitional mini notice.

17.19

Setting the Option Board

Supported systems:

☑ Capacity Max   ☐ Connect Plus   ☑ Other Systems

Procedure:

Press the programmed **Option Board** button.

17.20

Privacy

Supported systems:

☑ Capacity Max   ☑ Connect Plus   ☑ Other Systems

This feature prevents 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 clear.

Your radio must have privacy enabled on the channel to send a privacy-enabled transmission, although this is not a requirement for receiving a transmission.

Some radio models may not offer Privacy feature, or may have different configuration. Contact your dealer for more information.

> **NOTE:**
> Only one type of privacy can be assigned at a time.
>
> This feature is not applicable in Citizens Band channels that are in the same frequency.

The following table describes the type of privacy and the settings that appear on your radio.

Table 25: Privacy Types and Settings

Type	Setting
Basic Privacy	`Privacy`
Enhanced Privacy	`Enhanced Privacy`

17.20.1

Setting Privacy

Procedure:

1. From the menu, select **Utilities** → **Radio Settings**.

2. Depending on the configured type of privacy, select your privacy setting.

3. Perform one of the following actions:

   - To enable Privacy, select the **Menu/OK** button.

   - To disable Privacy, select the **Menu/OK** button.

Result:
If Privacy is enabled, a ✔ appears beside `Enabled`.

If Privacy is disabled, the ✔ disappears beside `Enabled`.

17.20.2
Privacy-Enabled Calls

Your radio must have the Privacy feature enabled for the currently selected channel position to send a privacy-enabled transmission. While on a privacy-enabled channel, the radio is still able to receive clear transmissions.

When privacy is enabled for the currently selected channel position, all voice transmission made by your radio is scrambled. The calls include Group Call, Multigroup Call, talkback during scanned calls, Site All Call, Emergency Call, and Private Call. Only receiving radios with the same Key Value and Key ID as your radio can unscramble the transmission.

To unscramble privacy-enabled call or data transmission, your radio must be programmed to have the same type of Privacy Key as the transmitting radio. If your radio receives a scrambled call that is of a different Privacy Key, you hear a garbled transmission.

17.21
Voice Operating Transmission

Supported systems:

☐ Capacity Max ☐ Connect Plus ☑ Other Systems

Voice Operating Transmission (VOX) allows you to initiate hands-free voice-activated calls on a programmed channel. When your VOX-capable accessory detects voice, your radio automatically transmits for a programmed period.

> **NOTE:**
> This feature is not applicable in Citizen Band channels that are in the same frequency.
>
> Contact your dealer or administrator for more information.

17.21.1
Setting the Voice Operating Transmission

Procedure:

1. From the menu, select **Utilities → Radio Settings → VOX**

2. Perform one of the following actions:

   - To enable VOX, select **On**.
   - To disable VOX, select **Off**.

Result: If VOX is turned on, the display shows a ✔ beside `On`.

17.22
Setting the Audio Ambience

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

Procedure:

1. From the menu, select **Utilities → Radio Settings → Audio Ambience**.

2. Perform one of the following actions:

   ● For default factory settings, select **Default**.

   ● To increase the volume of the speaker in noisy surroundings, select **Loud**.

   ● To reduce the acoustic feedback when communicating with a group of radios that are near each other, select **Work Group**.

Result:
The display shows a ✔ beside the selected setting.

17.23
Setting the Audio Profiles

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

Procedure:

1. From the menu, select **Utilities → Radio Settings → Audio Profiles**.

2. Perform one of the following actions:

   ● To disable the previous selected audio profile and return to the default factory settings, select **Default**.

   ● For audio profiles that compensate noice-induced hearing loss in adults above 40 years old, select **Level 1**, **Level 2**, or **Level 3**.

   ● If you prefer audio profiles with tinnier, more nasal, or deeper sounds, select **Treble Boost**, **Mid Boost**, or **Bass Boost**.

Result:
The display shows a ✔ beside the selected setting.

17.24
Setting the Global Navigation Satellite System

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

Procedure:

1. From the menu, select **Utilities → Radio Settings → GNSS**.

2. Perform one of the following actions:

   ● To enable GNSS, select the **Menu/OK** button.

   ● To disable GNSS, select the **Menu/OK** button.

Result:

When GNSS is enabled, a ✔ appears beside `Enabled`.

When GNSS is disabled, a ✔ disappears beside `Enabled`.

17.25

Turning Horns/Lights On

Supported systems:

☑ Capacity Max   ☑ Connect Plus   ☑ Other Systems

Your radio is able to notify you of an incoming call through the horns and lights feature. When activated, an incoming call sounds the horn and turns on the light of your vehicle. This feature needs to be installed through your radio rear accessory connector by your dealer.

Procedure:

From the menu, select **Utilities** → **Radio Settings** → **Horns/Lights** → **Turn On**.

Result: If horns and lights feature is turned on, the display shows a ✔ beside `Enabled`.

17.26

Turning Horns/Lights Off

Procedure:

From the menu, select **Utilities** → **Radio Settings** → **Horns/Lights** → **Turn Off**.

Result: If horns and lights feature is turned off, the ✔ disappears beside `Enabled`.

17.27

Turning the Public Address System On

Supported systems:

☑ Capacity Max   ☐ Connect Plus   ☑ Other Systems

Procedure:

From the menu, select **Utilities** → **Radio Settings** → **Public Address**.

Result: If Public Address System is turned on, the display shows a ✔ beside `Enabled`.

17.28

Turning the Public Address System Off

Supported systems:

☑ Capacity Max   ☐ Connect Plus   ☑ Other Systems

Procedure:

From the menu, select **Utilities** → **Radio Settings** → **Public Address**.

Result: If Public Address System is turned off, the ✔ disappears beside `Enabled`.

17.29
Turning the External Public Address System On

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

Procedure:

From the menu, select **Utilities → Radio Settings → External Public Address**.

Result: If External Public Address System is turned on, the display shows a ✔ beside `Enabled`.

17.30
Turning the External Public Address System Off

Supported systems:

☑ Capacity Max ☐ Connect Plus ☑ Other Systems

Procedure:

From the menu, select **Utilities → Radio Settings → External Public Address**.

Result: If External Public Address System is turned off, the ✔ disappears beside `Enabled`.

17.31
Accessing the Radio Information

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

Procedure:

1. From the menu, select **Utilities → Radio Info**.

2. To access the radio information, perform one of the following actions:

   - To check on your radio ID and alias, select **My ID**.
   - To check on the firmware and Codeplug versions, select **Versions**.
   - To check on the GNSS information, select **GNSS Info**.
   - To check on the site information, select **Site Info**.
   - To check on the latest software update information, select **SW Update**.

     NOTE: Applicable to Capacity Max and Other Systems.

17.31.1
Accessing the Connect Plus specific Radio Information

Supported systems:

☐ Capacity Max   ☑ Connect Plus   ☐ Other Systems

Procedure:

1. From the menu, select **Utilities** → **Radio Info**.

2. To access the radio information, perform one of the following actions:

   - To check on the Degree of Tilt (Accelerometer), select **Accelerometer**.

     NOTE: The measurement on the display shows the degree of tilt at the moment you press **Menu/OK** button to select **Accelerometer**. If you change the angle of your radio after that will not change the measurement shown on the display.

   - To check on the index number of your radio-model specific hardware, select **Model Index**.

   - To check on the Cyclic Redundancy Check (CRC) of the Option Board OTA Codeplug File, select **OB OTA CPcrc**.

   - To check on the Network ID and site Number, select **Site Number**.

17.32
Identifying the Cable Type

Supported systems:

☑ Capacity Max   ☑ Connect Plus   ☑ Other Systems

Procedure:

From the menu, select **Utilities** → **Radio Settings** → **Cable Type**.

Result:
The display shows a ✔ beside the current cable.

17.33
Radio File Updates

Supported systems:

☐ Capacity Max   ☑ Connect Plus   ☐ Other Systems

Connect Plus provides the ability to update certain files such as Option Board Firmware File and Network Frequency File through Over-The-Air (OTA).

If your radio is enabled for Connect Plus OTA file transfer, your radio might automatically joins a file transfer without first notifying you. While your radio is collecting file packets, the LED rapidly blinks red and your radio displays the High Volume Data icon on the Home Screen status bar.

There are several ways to initiate the file transfer process. The first example applies to all OTA file types. The other examples apply only to the Network Frequency File and Option Board Firmware File:

- The dealer reinitiates the OTA file transfer.

- The Option Board pre-defined timer expires, which causes the Option Board to automatically resume the process of collecting packets.

- The timer has not yet expired, but you request the file transfer to resume through the menu option.

When your radio finishes downloading the files, your radio will either upgrade immediately, or wait until you power cycle your radio. For the Network Frequency File, the update is done automatically without restarting your radio. For the Option Board Codeplug File, the update is done automatically and caused a brief interruption to the service as the Option Board loads the new codeplug information and re-acquires a network site.

The process of upgrading to a new Option Board firmware file takes several seconds, and it requires the Option Board to reset the radio. Once the upgrade starts, your radio will not be able to make or receive calls until the process is completed. During the process, your radio display prompts you not to turn off your radio.

17.33.1
Checking Firmware File Update

Prerequisites: The Option Board firmware file is not Up to Date.

Procedure:

1. From the menu, select **Utilities** → **Radio Info** → **Updates** → **Firmware**.
2. Perform one of the following actions:
   - To check for the version of the pending Option Board firmware file, select **Version**.
   - To view the percentage of the firmware file received, select **%Received**.
   - To download the firmware file, select **Download** → **Yes**.

Result: If the Option Board firmware file is up-to-date, the display shows `Firmware is Up to Date`.

17.33.2
Checking the Frequency File Update

Prerequisites: The Frequency file is not Up to Date.

Procedure:

1. From the menu, select **Utilities** → **Radio Info** → **Updates** → **Frequency**.
2. Perform one of the following actions:
   - To check for the version of the pending Frequency file, select **Version**.
   - To view the percentage of the Frequency file received, select **%Received**.
   - To download the Frequency file, select **Download** → **Yes**.

Result: If the Frequency file is up-to-date, the display shows `Freq. File is Up to Date`.

17.34
Viewing Enterprise Wi-Fi Certificate Details

Supported systems:

☑ Capacity Max ☑ Connect Plus ☑ Other Systems

Procedure:

From the menu, select **Utilities** → **Certificate Menu** → *<required certificate>*.

Chapter 18

Authorized Accessories List

Motorola Solutions provides a list of accessories to improve the productivity of your radio.

Table 26: Antenna

Part Number	Description
HAF4019_	800/900, 806–941 MHz, 1/4 Wave
HAF4020_	800/900, 806–941 MHz, 3.0 dB Gain
HAF4023_	800/900, 806–941 MHz, 5.0 dB Gain
HAF4027_	800/900, 806–941 MHz, 5.0 dB Gain, Through-Hole Mount, Mini-U
PMAD4107_	UHF, 350–400 MHz, 1/4 Wave, Through-Hole Mount, BNC

Table 27: Antenna for use with base PMAN4003_ only

Part Number	Description
HAE6027_	UHF, 494–512 MHz, 3.0 dB Gain, Through-Hole Mount
HAE6028_	UHF, 470–494 MHz, 3.0 dB Gain, Through-Hole Mount
HAE6029_[10]	UHF, 403–527 MHz, 2.0 dB Gain, Through-Hole Mount
HAE6030_	UHF, 470–527 MHz, 1/4 Wave, Through-Hole Mount
PMAE4039_	UHF, 403–430 MHz, 1/4 Wave
PMAE4041_	UHF, 450–470 MHz, 1/4 Wave
PMAE4040_	UHF, 406–420 MHz, 3.5 dB Gain
PMAE4042_	UHF, 450–470 MHz, 3.5 dB Gain
PMAE4043_	UHF, 450–470 MHz, 5.0 dB Gain

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[10] Use with standard antenna bases.