



MXP600 Feature User Guide

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Contents

List of Figures.....	11
List of Tables.....	12
Declaration of Conformity.....	13
Preface: Notice to Users (FCC)	14
FCC Licensing Information.....	14
Applying for Canadian License.....	15
Legal and Compliance Statements.....	16
Intellectual Property and Regulatory Notices.....	16
Industry Canada WLAN Statement.....	17
Safety Information.....	17
Chapter 1: Read Me First.....	18
1.1 Notations Used in This Guide.....	18
1.2 Feature and Service Availability.....	18
Chapter 2: Radio and Battery Care.....	19
2.1 Looking after Your Radio.....	19
2.2 Troubleshooting.....	19
2.3 Battery Storage.....	23
2.4 Extending Battery Life.....	23
2.5 Battery Charging Temperature.....	23
2.6 Additional Battery Warnings/Cautions.....	23
2.7 Battery Information.....	23
Chapter 3: MXP600 Radio Overview.....	24
3.1 One-Touch Buttons.....	28
3.1.1 One-Touch Button Features.....	28
3.1.2 One-Touch Dial.....	31
Chapter 4: Getting Started.....	32
4.1 Attaching or Removing the Antenna.....	32
Attaching the Antenna.....	32
Removing the Antenna.....	32
4.2 Installing or Uninstalling the MicroSD Card.....	32
Installing the MicroSD Card.....	32
Uninstalling the MicroSD Card.....	35
4.3 Installing or Uninstalling the SIM Card.....	36
Installing the SIM Card.....	36
Uninstalling the SIM Card.....	39

4.4 Attaching or Removing the Battery.....	40
Attaching the Battery.....	40
Removing the Battery.....	41
4.5 Charging the Battery.....	42
4.6 Turning Your Radio On or Off.....	44
Turning Your Radio On.....	44
Turning Your Radio Off.....	44
4.7 Unlocking Your Radio.....	44
4.8 Unblocking Your Radio.....	45
4.9 Holding Your Radio.....	45
4.10 Recommended Wearing Position.....	46
Chapter 5: Display and Keys.....	49
5.1 Default Home Screen.....	49
5.2 Soft Key.....	50
5.3 Configurable Idle Screen.....	51
5.4 Home Mode Display Text Message.....	51
5.5 Display Features.....	52
Chapter 6: Status Indications.....	53
6.1 Battery Status Indication.....	53
6.2 LED Status Indication.....	54
Chapter 7: Icon Indications.....	55
7.1 Status Icons.....	55
7.2 Talkgroup Icons Selection.....	59
7.3 Menu Icons.....	60
7.4 Text Entry Icons.....	61
7.5 Messages Icons.....	62
7.5.1 Inbox Icons.....	62
7.5.2 Outbox Icons.....	63
7.5.3 Call-Out Icons.....	64
7.5.4 Radio Messaging System Icons.....	65
7.5.5 WAP Icon.....	65
7.6 Bluetooth Icons.....	65
7.7 Wi-Fi Icons.....	66
7.8 Contacts.....	67
Chapter 8: Keypad Overview.....	68
8.1 Alphanumeric and Symbol Keys.....	68
8.2 Idle Keys.....	69
8.3 Functions of Keys.....	69
Chapter 9: General Radio Operation.....	71

9.1 Writing Text.....	71
9.1.1 Selecting Text Entry Modes.....	71
9.1.2 Selecting Text Entry Methods and Languages.....	71
9.1.3 Writing in iTAP Alphanumeric.....	71
9.1.4 Writing in TAP Alphanumeric.....	72
9.1.5 Word Locking.....	73
9.1.6 Adding Words to Dictionary.....	73
9.2 Locking or Unlocking the Keys or Buttons.....	73
9.3 Selecting Talkgroups.....	73
9.3.1 Using Timed Talkgroup Change.....	74
9.3.2 Selecting Talkgroups by Index.....	74
9.4 High or Low Audio Toggle.....	74
9.4.1 Using High Audio.....	75
9.4.2 Using Low Audio.....	75
Chapter 10: Operation Modes.....	76
10.1 Entering TMO or DMO Mode.....	76
Entering TMO Mode.....	76
Entering DMO Mode.....	76
10.2 Selecting DMO Communication Options.....	76
10.3 Enabling Network Monitor.....	77
10.4 Setting Monitor Option.....	77
Chapter 11: Types of Radio Calls.....	78
11.1 Making Calls on the Radio.....	78
11.2 Making Calls from Messages.....	80
Calling Numbers from Messages.....	80
Making Group Calls on the Talkgroup of the Message Sender.....	80
11.3 Receiving Calls on the Radio.....	81
11.4 Dialing Short Numbers.....	81
11.5 Viewing the Talkgroup Speed Number.....	81
11.6 Selecting Talkgroups by Index.....	82
Chapter 12: Viewing DGNA Talkgroups.....	83
Chapter 13: Emergency Operations.....	84
13.1 Entering and Exiting Emergency Mode.....	85
Entering Emergency Mode.....	85
Making Emergency Calls.....	86
Sending Emergency SDS Status.....	87
Initiating Disaster Alert.....	87
Chapter 14: Messages.....	88
14.1 New Messages.....	88

14.1.1 Sending New Messages.....	88
14.1.2 Configuring Delivery Reports.....	89
14.1.3 Viewing Delivery Reports.....	90
14.2 Entering the Inbox.....	91
14.2.1 Receiving New Messages.....	91
14.2.2 Storing Numbers from Messages.....	91
14.3 Entering the Outbox.....	92
14.4 Using Submenus in the Inbox and Outbox.....	92
14.5 Entering the Call-Out Box.....	93
14.6 Radio Messaging System.....	94
14.6.1 Entering the RMS Box.....	94
14.6.2 Sending RMS Statuses.....	94
14.7 Entering the WAP Box.....	94
14.7.1 Viewing WAP Messages.....	94
14.8 User-Defined Templates.....	95
14.8.1 Managing User-Defined Templates.....	95
14.8.2 Sending User-Defined Templates.....	95
14.9 Predefined Templates.....	96
14.9.1 Viewing Predefined Templates.....	96
14.9.2 Sending Predefined Templates.....	96
14.10 Status Messages.....	96
14.10.1 Viewing a Status Message Number.....	97
14.10.2 Sending Status Messages.....	97
14.10.3 Sending Targeted Status Messages.....	97
14.11 Managing Additional Address.....	98
14.12 Setting Call-Out Availability.....	99
Chapter 15: Contacts.....	101
15.1 Creating Contacts.....	101
15.2 Editing Contacts.....	101
15.3 Searching Contacts.....	102
15.4 Deleting Contacts and Numbers.....	103
Deleting Contacts.....	103
Deleting Numbers.....	103
15.5 Checking Capacity.....	103
15.6 Dialing through the Contact List.....	103
Chapter 16: Pictures.....	105
16.1 Starting the Picture Browser.....	105
16.2 Navigating in Multi-Picture View.....	105
16.3 Navigating in Full Screen View.....	106

16.4 Managing Comments in Pictures.....	107
Chapter 17: Man Down (Fall Alert).....	108
17.1 Setting Man Down (Fall Alert).....	108
17.2 Exiting Man Down (Fall Alert).....	108
Chapter 18: Security.....	109
18.1 Selecting Key Index.....	109
18.2 Managing PIN Protect.....	109
Protecting the Radio with a PIN Code.....	109
Changing PIN Codes.....	110
18.3 Managing Keypad Lock.....	110
Locking Keypad.....	110
Unlocking Keypad.....	110
Setting Automatic Keylock Delay.....	110
Setting Keylock on Startup.....	111
18.4 Managing Air Encryption.....	111
Viewing Air Encryption State.....	111
Deleting User Keys.....	111
18.5 Verify Key Validity.....	111
18.6 Setting Covert Mode.....	112
Activating Covert Mode.....	113
Setting Vibrate in Covert Mode.....	113
18.7 Setting Remote Control.....	113
Chapter 19: Setup.....	114
19.1 Setting Detail Vibrate.....	114
19.2 Setting Ring Style.....	115
19.3 Setting Volume.....	115
19.4 Setting Language.....	116
19.5 Setting Data Function.....	116
19.6 Setting Audio.....	117
19.7 Setting Tones.....	118
19.8 Setting Display.....	119
19.9 Setting Time and Date.....	121
19.10 Setting Energy Economy.....	122
19.11 Selecting Transmission Power Class.....	122
19.12 Selecting Accessory Setup.....	123
19.13 Editing Book On Settings.....	123
19.14 Setting Rotary Knob.....	124
19.15 Entering Car Kit Settings.....	125
19.16 Changing the USB Settings Mode.....	126

19.17 Selecting Default Setting.....	127
Chapter 20: Bluetooth.....	128
20.1 Enabling Discoverable Mode.....	128
20.2 Adding Bluetooth Devices.....	128
20.3 Configuring Bluetooth Settings.....	128
20.4 Pairing Bluetooth Devices with Your Radio.....	129
20.5 Pairing with Devices Using NFC Tag.....	129
20.6 Connecting Devices.....	130
20.7 Disconnecting Devices.....	130
20.8 Managing Devices.....	130
20.9 Setting Indoor Location.....	131
20.10 Viewing Detected Beacons.....	131
Chapter 21: Browser.....	132
21.1 Using the Browser.....	132
Setting Up Data.....	132
Entering the Browser.....	132
Entering Browser Menu Panes.....	132
Exiting the Browser.....	132
21.2 Tips for Browsing.....	132
21.2.1 Creating Bookmarks Using the Navigate Pane.....	133
21.2.2 Creating Bookmarks Using the Bookmarks Pane.....	133
21.2.3 Downloading Pages Using Bookmarks.....	133
21.2.4 Creating Hotkeys.....	133
21.2.5 Downloading Pages Using Hotkeys.....	134
21.2.6 Saving Pages for Offline Browsing.....	134
21.2.7 Selecting Saved Pages.....	134
21.3 Managing Bookmarks.....	134
21.4 Managing Saved Pages.....	135
21.5 Managing Documents.....	135
21.6 Searching for Visited URLs.....	136
21.7 Inserting URLs.....	136
Chapter 22: Group Setup.....	137
22.1 Operation Parameters.....	137
22.1.1 Determining Radio Mode At Radio Startup.....	137
22.1.2 Determining Talkgroup At Radio Startup.....	137
22.1.3 Determining Talkgroup When Switching Mode.....	138
22.1.4 Configuring Home Group.....	138
22.2 Scan.....	139
22.2.1 Activating Talkgroup Scanning.....	139

22.2.2 Setting Talkgroups in the Active Scan List.....	139
22.2.3 Setting Scan Lists.....	140
22.2.4 Deleting Talkgroups from Scan Lists.....	140
22.3 My Groups.....	140
22.3.1 Adding Favorite Folders.....	140
22.3.2 Adding Talkgroups to Favorite Folders.....	141
22.3.3 Editing My Folder List.....	141
22.3.4 Deleting Talkgroups from Favorite Folders.....	141
Chapter 23: Individual Setup.....	142
23.1 Enabling or Disabling Call Waiting.....	142
23.2 Setting Call Forwarding.....	142
Chapter 24: Favorites.....	143
24.1 Adding Folders to Favorites.....	143
24.2 Adding Contact Numbers to Favorites.....	143
24.3 Making Private Calls to Favorite Contacts.....	143
24.4 Adding Talkgroups to Favorites.....	144
24.5 Managing Folders in Favorites.....	144
24.6 Deleting Items from Favorites Folder.....	145
Deleting Single Items.....	145
Deleting All Items.....	145
Chapter 25: My Info.....	146
25.1 Viewing Personal Information.....	146
25.2 Viewing Talkgroup Subaddresses.....	147
25.3 Formatting the MicroSD Card.....	147
Chapter 26: Recent Calls.....	148
26.1 Viewing Recent Calls.....	148
26.2 Calling from Recent Calls.....	148
26.3 Storing Recent Calls into the Contact List.....	149
26.4 Deleting Recent Calls.....	149
Chapter 27: Shortcuts.....	151
27.1 Creating Menu Shortcuts.....	151
27.2 Managing Menu Shortcuts.....	151
Chapter 28: Logging On or Off Radio User Identity.....	152
Logging On Radio User Identity.....	152
Logging Off Radio User Identity.....	152
Chapter 29: Networks.....	153
29.1 Selecting Network Operation Mode.....	153
29.2 Network Select.....	153

29.2.1 Selecting Your Network.....	153
29.2.2 Using Select Net Registration.....	154
29.2.3 Using Any Network Registration.....	154
29.3 Talkgroup Network Select.....	154
29.3.1 Selecting Your Talkgroup Network.....	154
29.3.2 Using Select TG Net Registration.....	154
29.3.3 Using Prefer TG Net Registration.....	155
29.3.4 Using Any TG Net Registration.....	155
Chapter 30: Location.....	156
30.1 Enabling GPS or GNSS.....	156
30.2 Viewing Your Position.....	156
30.3 Viewing the Testpage.....	157
30.4 Changing Location Accuracy.....	158
30.5 Backlog.....	158
30.5.1 Enabling or Disabling Backlog.....	158
30.5.2 Viewing Backlog Reports.....	159
30.5.3 Deleting All Backlog Reports.....	159
Chapter 31: Packet Data.....	160
31.1 Viewing Data Statistics.....	160
31.2 Viewing Encryption Status.....	160
Chapter 32: Crypto Menu.....	161
32.1 Enabling or Disabling SIM Card End-to-End Encryption.....	161
32.2 Setting Clear Call Alarm.....	161
32.3 Updating Encryption Keys.....	162
32.4 Viewing OPTA.....	162
32.5 Setting the OPTA Filter.....	162
32.6 Starting Crypto Registration.....	162
32.7 Turning Encrypted Audio On or Off.....	162
32.8 Setting DMO Encryption Mode.....	163
32.9 Selecting Encryption Keys for SDS.....	163
Chapter 33: Wi-Fi.....	164
33.1 Turning Wi-Fi On or Off.....	164
Turning Wi-Fi On.....	164
Turning Wi-Fi Off.....	164
33.2 Connecting to Networks Through Scan.....	164
33.3 Connecting to Networks Through Network List.....	164
33.4 Viewing Network Information.....	165
33.5 Viewing the MAC Address.....	165
33.6 Viewing Certificate Enrollment Status.....	165

Chapter 34: Over The Air Programming.....	167
34.1 Receiving LMR OTAP Update.....	167
34.2 Managing LMR OTAP.....	167
34.3 Receiving Non-Mandatory Wi-Fi OTAP Update.....	167
34.4 Receiving Mandatory Wi-Fi OTAP Update.....	168
34.5 Managing Wi-Fi OTAP	168
Chapter 35: Contact Address.....	169

List of Figures

Figure 1: MXP600 Front View	24
Figure 2: MXP600 Side and Back View	26
Figure 3: MXP600 Top and Bottom View	27
Figure 4: Desktop Charger	43
Figure 5: Car Charger	43
Figure 6: Travel Charger	44
Figure 7: Recommended Wearing Position	47
Figure 8: Wearing Position to Avoid	48
Figure 9: Default Home Screen with Icons	49
Figure 10: Grid view and list view of the Main Menu	52
Figure 11: Charger Mode Screen	53

List of Tables

Table 1: Special Notations	18
Table 2: Displayed Messages	19
Table 3: Battery Information	23
Table 4: Front View Description	24
Table 5: Side and Back View Description	26
Table 6: Top and Bottom View Description	27
Table 7: One-Touch Button Features	28
Table 8: Colors of the Soft Key Area	50
Table 9: Soft Key Changes During a Call	50
Table 10: Battery Icons	53
Table 11: LED Status Indication	54
Table 12: Trunked Mode Operation (TMO) Icons	55
Table 13: Direct Mode Operation (DMO) Icons	55
Table 14: General Icons	56
Table 15: TMO Talkgroup Icons	59
Table 16: DMO Talkgroup Icon and General Icons	60
Table 17: Menu Icons	60
Table 18: Text Entry Mode Icons	61
Table 19: Text Entry Method Icons	62
Table 20: Inbox Icons	62
Table 21: Outbox Icons	63
Table 22: Call-Out Icons	64
Table 23: Radio Messaging System (RMS) Icons	65
Table 24: Wireless Application Protocol (WAP) Icon	65
Table 25: Bluetooth Icons	65
Table 26: Wi-Fi Signal Strength Icons	66
Table 27: Contact Types	67
Table 28: Alphanumeric and Symbol Keys	68
Table 29: Description of Idle Keys	69
Table 30: Functions of Keys	69
Table 31: Messaging Features	88

Declaration of Conformity

Per FCC CFR 47 Part 2 Section 2.1077(a)



Responsible Party

Name: Motorola Solutions, Inc.

Address: 2000 Progress Pkwy, Schaumburg IL, 60196.

Phone Number: 1-800-927-2744

Hereby declares that **MXP600** conforms to FCC Part 15, subpart B, section 15.107(a), 15.107(d), and section 15.109(a)

Class B Digital Device

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

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



NOTE:

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

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

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

For country code selection usage (WLAN devices)



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

Preface

Notice to Users (FCC)

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

- This device may not cause harmful interference.
- The device must accept any interference received, including interference that may cause undesired operation.
- Changes or modifications made to this device, not expressly approved by Motorola Solutions, could void the authority of the user to operate this equipment.

FCC Licensing Information

This device complies with Parts 90 and 15 of the Federal Communications Commission (FCC) Rules.

Operation is subject to the condition that this device does not cause harmful interference. The radio operates on radio frequencies that are regulated by the Federal Communications Commission (FCC). To transmit on these frequencies, you are required to have a license issued by the FCC. Application is made available on FCC Form 601 and Schedules D, H, and Remittance Form 159.

To obtain these FCC forms, request document 000601 which includes all forms and instructions. If you wish to have the document faxed, mailed or have questions, use the following contact information.

Fax

Contact the Fax-On-Demand system at 1-202-418-0177

Mail

Call the FCC forms hotline at 1-800-418-FORM or 1-800-418-3676

Contact

For questions regarding FCC license, contact 1-888-CALL-FCC, 1-888-225-5322, or <http://www.fcc.gov>.

Before filling out your application, you must decide which frequency you can operate on. For questions on determining the radio frequency, call Motorola Solutions Product Services at: 1-800-448- 6686. Changes or modifications not expressly approved by Motorola Solutions may void the user authority granted by the FCC to operate this radio and should not be made. To comply with FCC requirements, transmitter adjustments should be made only by or under the supervision of a person certified as technically qualified to perform transmitter maintenance and repairs in the private land mobile and fixed services as certified by an organization representative of the user of those services.

Replacement of any transmitter component such as crystal, semiconductor, and others not authorized by the FCC equipment authorization for this radio could violate FCC rules.



NOTE: Use of this radio outside the country where it was intended to be distributed is subject to government regulations and may be prohibited.

Applying for Canadian License

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

Prerequisites: Obtain the latest Canadian License Application form at http://www.ic.gc.ca/ic_wp-pa.htm.

Procedure:

- 1 Fill in the items as per the instructions. Be sure to print legibly.
If you need additional space for any item, use the reverse side of the application.
- 2 Make a copy of your files.
- 3 Prepare a cheque or money order payable to the "Receiver General for Canada", for an amount for each radio purchased.
The license is renewed on April 1st each year, and issued for a period of 12 months.
- 4 Mail your completed application along with your cheque or money order to the closest Industry Canada District office.

Legal and Compliance Statements

Intellectual Property and Regulatory Notices

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Open Source Content

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



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

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

Disclaimer

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

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Industry Canada WLAN Statement



CAUTION:

- 1 The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.
- 2 The maximum antenna gain permitted for devices in the bands 5250–5350 MHz and 5470–5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit.
- 3 The maximum antenna gain permitted for devices in the band 5752–5850 MHz shall be such that the equipment still complies with e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate.
- 4 The worst case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in Section 6.2.2 (3) shall be clearly indicated.
- 5 User should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250–5350 MHz and 5650–5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Safety Information

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

ATTENTION!

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

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

<http://www.motorolasolutions.com>

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

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

Chapter 1

Read Me First

This user guide covers operating basic functions and other features of your radio. You can refer to the Product Information Manual for further information on the features.

1.1

Notations Used in This Guide

The user guide is designed to give you more visual clues. The following graphic icons are used throughout the user guide.



DANGER: The signal word DANGER with the associated safety icon implies information that, if disregarded, will result in death or serious injury.



WARNING: The signal word WARNING with the associated safety icon implies information that, if disregarded, could result in death or serious injury, or serious product damage.



CAUTION: The signal word CAUTION with the associated safety icon implies information that, if disregarded, may result in minor or moderate injury, or serious product damage.

CAUTION: The signal word CAUTION may be used without the safety icon to state potential damage or injury that is not related to the product.



IMPORTANT: IMPORTANT statements contain information that is crucial to the discussion at hand, but is not CAUTION or WARNING. There is no warning level associated with the IMPORTANT statement.



NOTE: NOTICE contains information more important than the surrounding text, such as exceptions or preconditions. They also refer the reader elsewhere for additional information, remind the reader how to complete an action (when it is not part of the current procedure, for instance), or tell the reader where something is on the screen. There is no warning level associated with a notice.

The following special notations highlight certain information:

Table 1: Special Notations

Example	Description
Menu key or PTT button	Bold words indicate a name of a key, button, or soft menu item.
<i>Entering TMO</i> tone	Italic words indicate a name of the tone.
Powering Off	Typewriter words indicate the MMI strings or messages displayed on your radio.
Setup → Tones → All Tones	Bold words with the arrow between indicate navigation structure in the menu items.

1.2

Feature and Service Availability

This user guide covers all available features and services for your radio. Your service provider can customize the radio to suit your individual needs. To find out the available features and services for the radio, check with your service provider.

Chapter 2

Radio and Battery Care

Proper usage and care of your radio and battery ensure efficient operation and long life of the product.

2.1

Looking after Your Radio

Never leave your radio or battery in extreme temperatures, for example, behind a windscreen in direct sunlight. Your radio is submersible (compliant with the IP68 standard) – but only with the battery and the antenna attached. To clean your radio, use a moistened or antistatic cloth.



NOTE:

- Ensure no contamination is on the Gore™ Port membrane, that is the area labeled as **VENT** on the back of your radio chassis.
- It is recommended to use Universal Connector Dust Cover (Motorola Solutions part number: PMHN4429_) if your radio is deployed near the seaside or salt water area, when it is without any audio accessory attached on it.

2.2

Troubleshooting

Your radio displays the following messages:

Table 2: Displayed Messages

Message	Message Description
Attachment Failed	Your radio could not perform talkgroup attachment. It keeps on trying. If it does not succeed, try another talkgroup.
Authenticate Failure	Your radio could not register on an authenticated system (for example, the Authentication Key is incorrect, or authentication is disabled).
Call Barred	The call is barred due to Barred Incoming Call or Barred Outgoing Call Profile.
Call Canceled	You have canceled the call.
Call Ended	• Faulty channel. Please try later. • You have ended the call.
Call Forwarding	The radio you are trying to call is not available and the call is being forwarded to another radio.
Call Modified	The call you are participating in has been modified.
Cert. not enrolled	Check for Wi-Fi update triggered from Menu failed because the required certificate is not enrolled on your radio. Contact your service provider.
Call Preempted	Channel being used for priority.

Message	Message Description
Check for Updates Failed	Check for Wi-Fi update triggered from Menu failed. Contact your service provider.
Decryption Failed:	An error occurred while decrypting a message or call.
Emergency In Use Wait For Mic	The Hot Microphone feature is active, but the channel transmit grant has been given to another Emergency call on the same talkgroup. Your radio microphone is not active during this time, but it automatically tries to regain talk permit after a predetermined time.
Emgcy Mic Ended	The Hot Microphone timer automatically expired, or you pressed the PTT button to cancel the Hot Microphone feature.
Emergency Mic On	The Hot Microphone feature is active, and your radio is automatically transmitting hands free emergency audio.
Empty Entry	The speed number you dialed does not exist, or the number exists but the group is non-selectable.
Faulty Unit Error	Self-test failed. An operational fault has been detected with your radio. Record the error number. Turn your radio off and contact service.
File cannot be received, storage unavailable	The file cannot be received because the memory for its storage is inaccessible. See File Storage Not Available.
File Invalid	The picture you are trying to open is damaged.
File Storage Not Available or No Picture Storage	Memory for file storage is inaccessible. Possible reasons: the microSD card is formatted incorrectly or is not installed at all, the internal radio memory is damaged, there is not enough available space to save a file, your radio is connected to a computer in the USB Mass Storage mode, or you try start the Picture Browser when the USB mode is set to PEI .
Gateway available	Your radio has connected to a gateway.
Gateway not available	Your radio cannot connect to a gateway, or connection has been lost.
Invalid Battery	The radio detects non-Motorola Solutions batteries and prompts you on battery authentication. This message is prompted upon power-up, with a tone.
Individual Calls Only	You can make only individual (private) calls.
Invalid ID	The entered number is not valid.
Limited Service	Emergency Calls, Emergency Alarms, and mobility operations (for example, group attachment) are allowed. All other incoming and outgoing call and data services are blocked.
List Empty	There are no programmed entries in the scrolling list. Type the entry.
List Not Attached	All talkgroups in the scan list are not attached.

Message	Message Description
List Partially Attached	The scan list is active, but not all talkgroups are attached to it.
Low Battery	The battery charge level is too low to perform the required operation.
Message Delivered	Indicates mail successfully delivered.
Message Failed	Indicates mail delivery failure.
My Groups Is Empty	You cannot view/delete groups when the My Groups folder is empty.
My Groups Is Full	You are not allowed to add a group to the My Groups folder as it already contains the maximum allowed number of groups.
Network Trouble	Network problems. Please try again later.
New Delivery Status	You have received a new Delivery Status.
No Service	Your radio is outside coverage. Return to coverage.
Not allowed in repeater mode	The service or feature is not available in the Repeater Mode..
No Answer	The called party does not answer.
No Entries	This message is displayed when accessing an empty list.
No Group	- Attachment failed. Your radio detached from current talkgroup. Please wait until it attaches again to the current talkgroup. - Displayed when you are out of the normal coverage area of your selected talkgroup. Please select a new talkgroup that is valid for your working location. - Indicates a favorite group was removed from the My Groups folder.
No List	The network list is empty.
No New or Old Messages	Indicates there are no new or old messages in the Inbox .
No Selected Scan List	You selected an empty network list.
No Service	Your radio is out of coverage.
Not Allowed To Initiate Call	You are not allowed to dial a number which is not in the address book.
Not Allowed To Transmit	Release the PTT button and try again later. You are not allowed to send a text message or a status message to a number which is not in the address book.
Overheating, Please Turn Radio Off	Your radio turns off. Keep it turned off for 5 minutes.
Party Busy	Called radio is busy.
Party Not Available	Called radio is out-of-range or turned off. Please try again later.

Message	Message Description
Please Try Again	You could not call.
Please Wait Connecting	A message during startup.
Radio Disabled	Check with your service provider.
Radio time not updated	Check for Wi-Fi update triggered from Menu failed because radio time is not set. Update your radio time to the current date and time. If error still occurs, contact service.
Registration Failure	Your radio could not register within the system. Please try again later.
Repeater available	Your radio has connected to a repeater.
Repeater not available	Your radio cannot connect to a repeater, or connection has been lost.
SD card is not available	The microSD card is damaged or missing (only applies to radios that support microSD cards).
Service Denied	Invalid number. Call your service provider.
Service Not Available	This service is not available on the current network.
Service Restricted	• This service or feature is restricted by your service provider, it has not been purchased, or it is not available. • Check for Wi-Fi update triggered from Menu failed because there is an in-progress LMR OTAP job. Complete the LMR OTAP job before trying again.
Single TalkGroup Only	There is only one programmed entry in the scrolling list.
TalkGrp... cannot be deleted	Your service provider set this group so you cannot delete it from the favorite talkgroup folder.
This group already exists	The group you are attempting to add exists in the My Groups folder.
Try Again Later	The requested service is temporarily unavailable.
Unit is OK Warn:	Self-test error. A minor fault has been detected. Your radio is still fully operative. If this error recur, note the error code and contact service.
Unit Not Attached	Your radio could not attach to the system. The talkgroup may not be defined in the system. Please try another group.
Warning SD card not formatted correctly	The microSD card installed in your radio is not formatted correctly. To format it, contact your service provider.
Warning: Space for less than 10 picture signatures left!	Radio internal memory is running out of space and no more than 10 Digital Fingerprints can be saved.
Wi-Fi not connected	Check for Wi-Fi update triggered from Menu failed because radio is not connected to any Wi-Fi access point.
Not enough space to store picture signature!	Radio internal memory is full and no Digital Fingerprint can be saved.

2.3

Battery Storage

New Lithium-Ion batteries can be stored in ventilated, cool, and dry areas with some capacity loss in the life cycle.

Charge the battery if the battery is to be stored for a long period of time. Do not store a fully discharged battery.

Remove the battery pack from your radio if your radio is not to be used for a long period of time (few weeks).

2.4

Extending Battery Life

A battery is an expendable part and may need replacing during the life of your radio.

To ensure maximum service life of your radio, always replace the battery with a genuine Motorola Solutions replacement.

2.5

Battery Charging Temperature

The temperature range of battery operation is from 0 °C to +45 °C in charger mode. During charging, if the temperature is out of range, the battery might not be fully charged as the charging is temporarily stopped until the temperature becomes suitable.

2.6

Additional Battery Warnings/Cautions

- To prevent injury, do not allow metal objects to touch the battery contacts.
- Do not disassemble.
- Do not throw in fire.
- Do not dispose of battery in household waste.
- Keep battery out of reach of children.
- Defective battery cannot be reused. In accordance with the national regulation, the defective battery must be disposed of in an environmentally friendly manner.

2.7

Battery Information

Table 3: Battery Information

Battery Model	Normal Voltage	Minimum Capacity	Typical Capacity	Weight
PMNN4801_	3.7 Vd.c	1750 mAh	1900 mAh	61.0 g
PMNN4802_	3.8 Vd.c	3200 mAh	3400 mAh	90.5g
PMNN4582_	3.7 Vd.c	2800 mAh	2900 mAh	92.5 g



NOTE: Certain radio models supports Hot Swap feature. Contact your Motorola Solutions dealer or supplier to learn more about the Hot Swap feature and the supported radio models.

Chapter 3

MXP600 Radio Overview

Familiarize yourself with the buttons and functions on your radio.

The MXP600 radio specifications are available at <https://www.motorolasolutions.com/mxp600radio>.

Figure 1: MXP600 Front View



Table 4: Front View Description

Annotation	Name	Description
1	Display	Features a high resolution of 240 x 320 pixels and 65,536 colors. Supports scalable fonts and high colored images.
2	Top Microphone	Activated in Simplex and high-audio calls such as Group Calls.
3	Earpiece	The earpiece is active in low-audio Duplex calls. The earpiece allows you to hear voice from low-audio calls.
4	Soft Key	The Left or Right soft key selects the option displayed above the key.

Annotation	Name	Description
5	Menu Key	- From the home screen, press to enter the main menu. - Used to enter context-sensitive menus.
6	Navigation Key	To navigate throughout the interface up, down, left, and right.
7	On/Off/End/Home Key	- Press and hold to turn on or off your radio. - Press to end calls. - Press to return to the home screen.
8	Send Key	- Press to initiate or answer Duplex calls, or send messages. - From the home screen, press to enter Recent Dialed Calls.
9	Keypad	Enters alphanumeric characters for dialing, contact entries, and text messages. The keys (0–9, *, and #) support the One-Touch Button feature. Press and hold a key to activate a one-touch function assigned to it.
10	Bottom Microphone	Activated in Duplex and low-audio calls such as Private Calls.
11	Backlight Sensor	The backlight sensor measures ambient light intensity. When the display backlight is active and a low light condition is detected, the keypad is illuminated.
12	Speaker	The speaker is active in high-audio Simplex calls. The speaker allows you to hear voice from high-audio calls.

Figure 2: MXP600 Side and Back View



Table 5: Side and Back View Description

Annotation	Name	Description
13	Programmable Button	Programmable buttons support the One-Touch Button feature.  NOTE: The required time to press and hold a button to activate a One-Touch Button feature is by default set to 0.1 second.
14	Near-Field Communication Tag	Near-Field Communication (NFC) key exchange allows your radio to seamlessly pair with approved Motorola Solutions Bluetooth accessories.
15	Push-To-Talk Button (PTT)	Press and hold to talk in Simplex calls. Release it to listen.
16	GCAI-Mini Connector	Provides connection with accessories.  NOTE: Turn off your radio before connecting accessories.
17	Antenna	Transmits or receives Radio Frequency (RF) signals.

Annotation	Name	Description
18	Rotary Knob	- Rotate to set the volume. - Press and rotate to select a different talk-group.
19	Back Microphone	Activated during Simplex and high-audio calls such as Group Calls. The back microphone allows optional noise cancellation.
20	Battery	Provides battery power for your radio.
21	Battery Latch	Locks or unlocks the battery.
22	RF Connector Dust Cover	Reduces the ingress of dust and dirt

Figure 3: MXP600 Top and Bottom View



Table 6: Top and Bottom View Description

	Name	Description
23	Emergency Button	Press and hold the Emergency button to start Emergency Operations. By default, when your radio is turned off, press and hold to power on in Emergency Operations.
24	LED Status Indicator	Shows the status of your radio. See LED Status Indication on page 54 .
25	Bottom Connector	Used for charging and programming your radio, and connecting data transfer cables.

3.1

One-Touch Buttons

The One-Touch Button (OTB) feature allows you to activate a feature by a long key press of the programmable button.



NOTE:

You can also assign features to the option buttons of RSM accessories.

3.1.1

One-Touch Button Features

Table 7: One-Touch Button Features

Feature	Description
Activation of Covert Mode	Turns Covert Mode on or off.
Add Bluetooth Device	Activates scanning for Bluetooth devices.
Any Network	Selects any network.
Any Talkgroup Network	Selects any talkgroup network.
Bluetooth Smart Proximity Pairing	Activates scanning for Bluetooth Smart Proximity Pairing.
Change Audio Profile	Changes to the specific audio profile.
Change Talkgroup	Changes the talkgroup to the one programmed by your service provider.
Disconnect All Connected Bluetooth Devices	Disconnects all Bluetooth devices connected to your radio.
Display Bluetooth Generic Attribute Profile (GATT) Sensors Battery Levels	Displays the battery levels of all paired Bluetooth GATT-based sensor devices.
Display GATT Service Data	Displays the GATT-based sensor data.
Display Heart Rate	Displays the heart rate value received from the connected GATT-based heart rate sensor.
Display Operational-Tactical Address (OPTA)	Displays the OPTA.
DMO Pre-emptive Short Data Service (SDS)	Sends the next DMO SDS or status message with elevated priority.
Flip Display	Rotates the display by 180°. Flip Display is the default function for the upper Side button.
Home Only	Selects only home network.
Home Talkgroup on Home Network	Selects only home network and home talkgroup network.
Inactive One Touch Key 0	The one-touch function assigned to the 0 key remains inactive until you long press the button twice.
 NOTE: A single long press on the 0 button calls out the + symbol.	

Feature	Description
Initiate Call-Out Fallback	Sends a Call-Out Fallback Alert.
Location Information Protocol (LIP) Report	Sends a message with the location of your radio to a dedicated address.
Lock to Current Network	Selects the current network only.
Phone and Private Automatic Branch Exchange (PABX) Call Setup	Initiates a PABX call to a predefined entry in the contact list.
Phone Call Setup	Initiates a phone call to a predefined entry in the contact list.
Prefer Talkgroup Network Shortcut	Displays the Prefer Talkgroup Network menu.
Private Call Setup	Initiates a simplex or duplex private call to a predefined entry in the contact list or to the last group call originator.
Reset to Default	Resets your radio to its default settings.
Radio Messaging System (RMS) Man-Machine Interface (MMI) Menu	Opens the RMS menu without activating RMS mode.
RMS Mode Activation or Deactivation	Toggles the RMS feature on or off.
Radio User Identity (RUI) Log On or Log Off	Toggles the RUI feature of your radio.
Scan for Bluetooth Devices	Activates scanning for Bluetooth devices after the OTB assigned to the Add Bluetooth Device function is pressed.
Select Talkgroup Network Shortcut	Displays the Select Talkgroup Network menu.
Selecting Audio Profiles	Changes the audio profile of your radio.
Send Double Push PTT Tone (D-PTT)	Sends the D-PTT tone to the currently used talkgroup.
Send Predefined Template (PDT)	Sends a predefined message to a dedicated address.
Send Status Message	Sends a dedicated status message to a dedicated address.
Send User-Defined Template (UDT)	Sends a user-defined message to a dedicated address.
Speaker Enable or Disable per Call	Enables or disables the loudspeaker for a duration of the ongoing call.
Switch to Previously Selected Talkgroup	Changes the talkgroup of your radio to the previously selected talkgroup (DMO or TMO).
SIM Card End-to-End Encryption	Enables or disables End-to-End Encryption on the SIM card.
Timed Talkgroup Change	Makes a predefined talkgroup the selected talkgroup for a specified amount of time. While you are using the predefined talkgroup, the second press of the One-Touch Button results in:

Feature	Description
	• your radio returns to the original talkgroup. • your radio restarts the timer before returning to the previously selected talkgroup. • no action on your radio, depending on the configuration. After the timer expires, your radio returns to the previously selected talkgroup.
Toggle Backlight	Toggles the backlight on or off.
Toggle Backlight Intensity	Regulates the backlight intensity.
Toggle Bluetooth Discoverable Mode	Turns Discoverable Mode on or off.
Toggle Bluetooth GATT Sensor MMI Alerts	Toggles Bluetooth GATT Sensor MMI Alerts on or off.
Toggle BSI Encryption Enabled or Disabled	Enables or disables BSI encryption.
Toggle Call Forwarding	Toggles Call Forwarding on or off.
Toggle Car Kit Speaker Permanent On or Off	Permanently turns the Car Kit speaker on or off.
Toggle DMO or TMO	Toggles between TMO and DMO modes.
Toggle Extra Zoom	Turns Extra Zoom on or off.
Toggle Hi or Low Audio	Toggles audio between the external earpiece and the main speaker. Hi or Low Audio is the default function for the lower Side button. This feature is supported in emergency Full Duplex Private Calls (FDPC) mode. Press the One-Touch Button to toggle high or low audio state during incoming or outgoing emergency FDPC.
Toggle Horn and Lights	Toggles the horn and lights indication. Available only in Car Kit mode if the Horn and Light feature is enabled.
Toggle Howling Suppression	Enables or disables Howling Suppression.
Toggle Man Down (henceforth known as Fall Alert) On or Off	Turns the Man Down (Fall Alert) feature on or off.
Toggle RF Power Class	Toggles the RF Power Class between high and normal.
Toggle Remote Speaker Microphone (RSM) with Earpiece	Activates or deactivates the RSM earpiece.
Toggle Screen Saver	Activates or deactivates the Screen Saver feature.
Toggle Speaker During Call	Enables or disables the loudspeaker during a call. Available only in Car Kit mode.
Toggle Talkgroup Scan	Turns the Talkgroup Scan feature in TMO Mode on or off.
Toggle Transmit Inhibit Mode (TXI)	Turns TXI on or off.

Feature	Description
Turn Bluetooth Indoor Location On or Off	Activates Bluetooth Indoor Location.
Turn Bluetooth On or Off	Turns Bluetooth on or off.
Turn Repeater Mode On or Off	Turns Repeater Mode on or off.
Unassigned	Your radio displays <code>Unassigned Button</code> when no feature is assigned to this button.
Universal Time Display	Displays universal time on the home screen.
Volume Down	Decreases the volume by one level.
Volume Up	Increases the volume by one level.
Wi-Fi	Turns Wi-Fi connection on or off.

3.1.2

One-Touch Dial

The One-Touch Dial feature allows you to call by pressing and holding one of the numeric keys, **1–9**. If you press an unassigned key, your radio displays a negative indication message.



NOTE:

If the One-Touch Button feature is disabled, One-Touch Dial is disabled as a consequence.

In RMS mode, the One-Touch Button feature is disabled.

Chapter 4

Getting Started

Familiarize yourself with basic information on how to use the radio.

4.1

Attaching or Removing the Antenna



NOTE: Use only the antenna intended for your radio. Using other antennas can result in significant range loss due to poor Radio Frequency (RF) performance.

Attaching the Antenna

Procedure:

- 1 Insert the threaded base of the antenna into the antenna terminal on top of your radio.
- 2 Turn the antenna clockwise until tight.

Removing the Antenna

Procedure:

- 1 Turn the antenna anti-clockwise.
- 2 Remove the antenna from your radio.

4.2

Installing or Uninstalling the MicroSD Card



NOTE: Applicable only for SD Card model.

The microSD card slot has a delicate construction. You must avoid installing or uninstalling the microSD card unnecessarily as this action can damage the mechanism of the reader. For copying files from your radio, you can use the USB Mass Storage Mode.

Installing the MicroSD Card

Prerequisites:

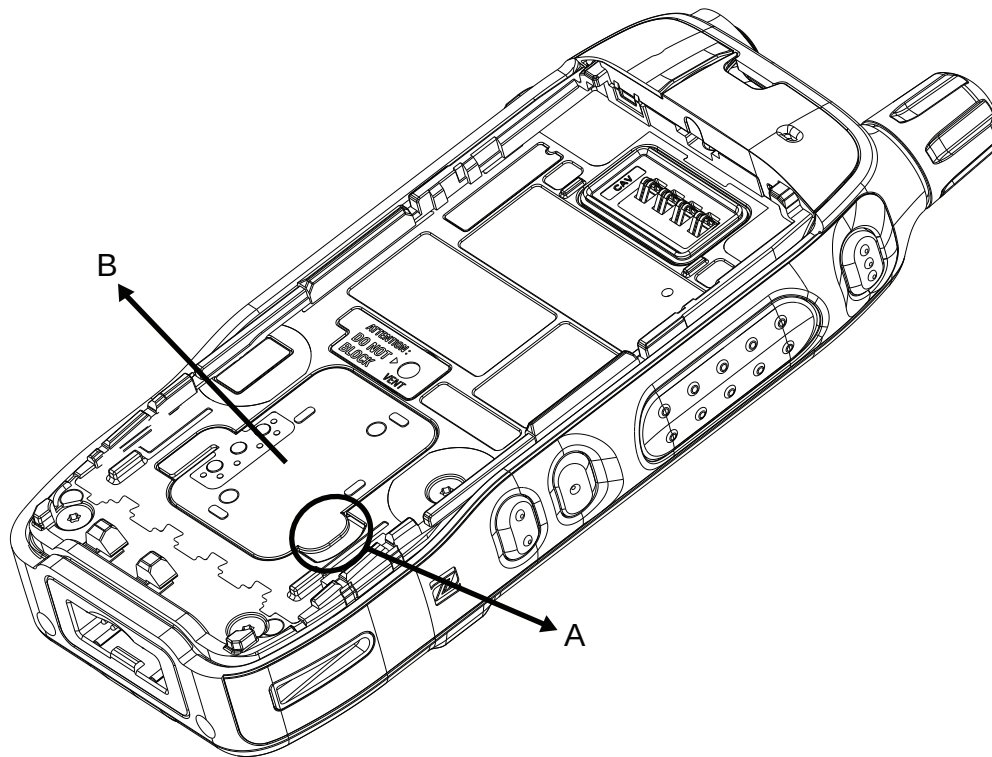
Your radio is equipped with a microSD card slot.

Procedure:

- 1 Remove the battery.
- 2 Flip open the plastic door from the finger scoop area.

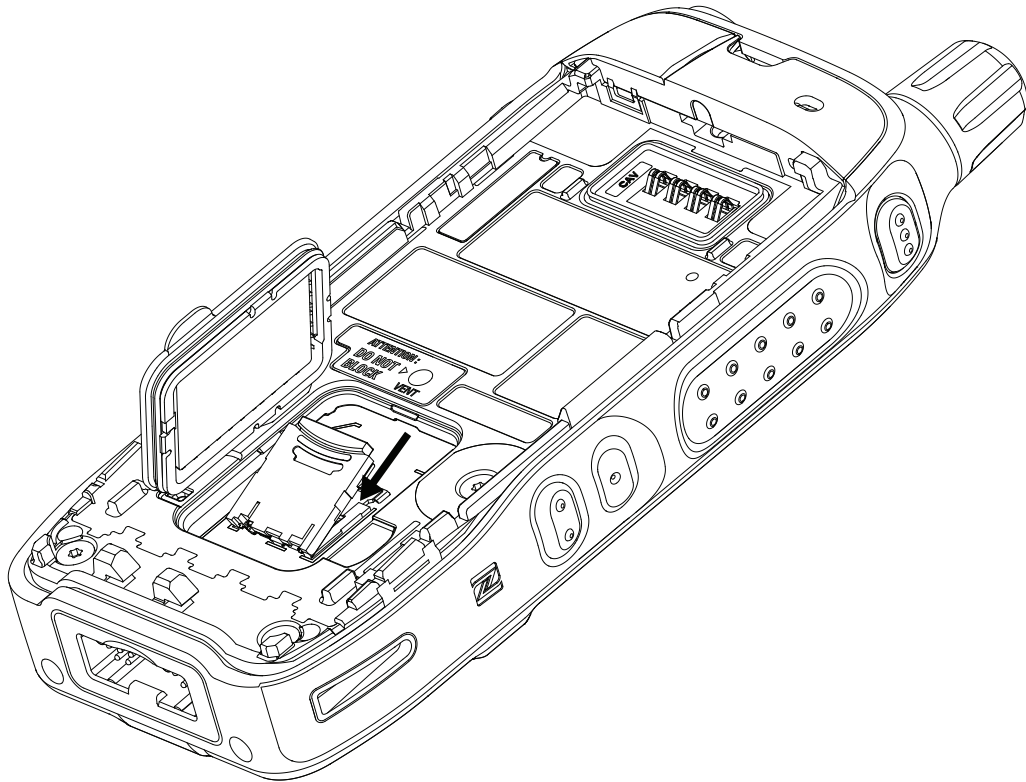


NOTE: Avoid pressing on the plastic door.

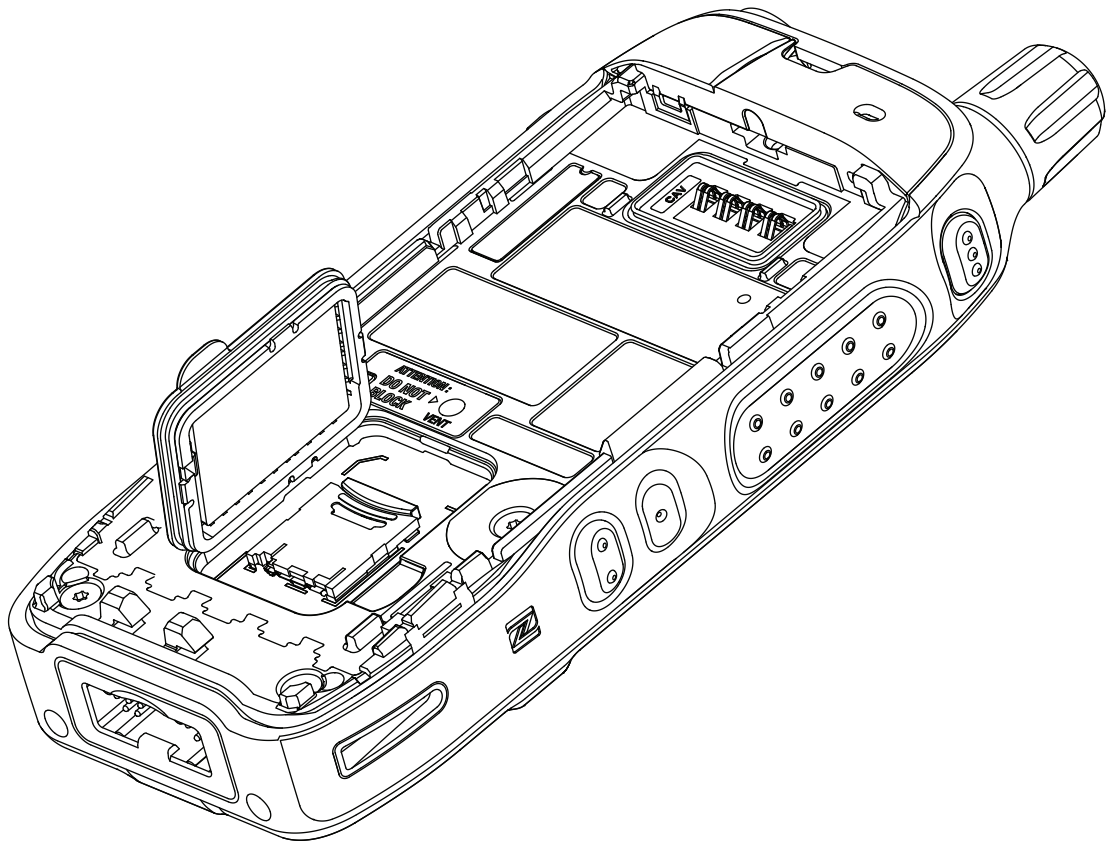


Annotation	Description
A	Finger Scoop Area
B	Plastic door

- 3 Flip open the microSD card holder.
- 4 Insert the microSD card into the microSD card holder ensuring that the gold contact area is facing down.



- 5 Close the microSD card holder and slide it to the lock position.



- 6 Close the plastic door.
- 7 Install the battery.

Uninstalling the microSD Card

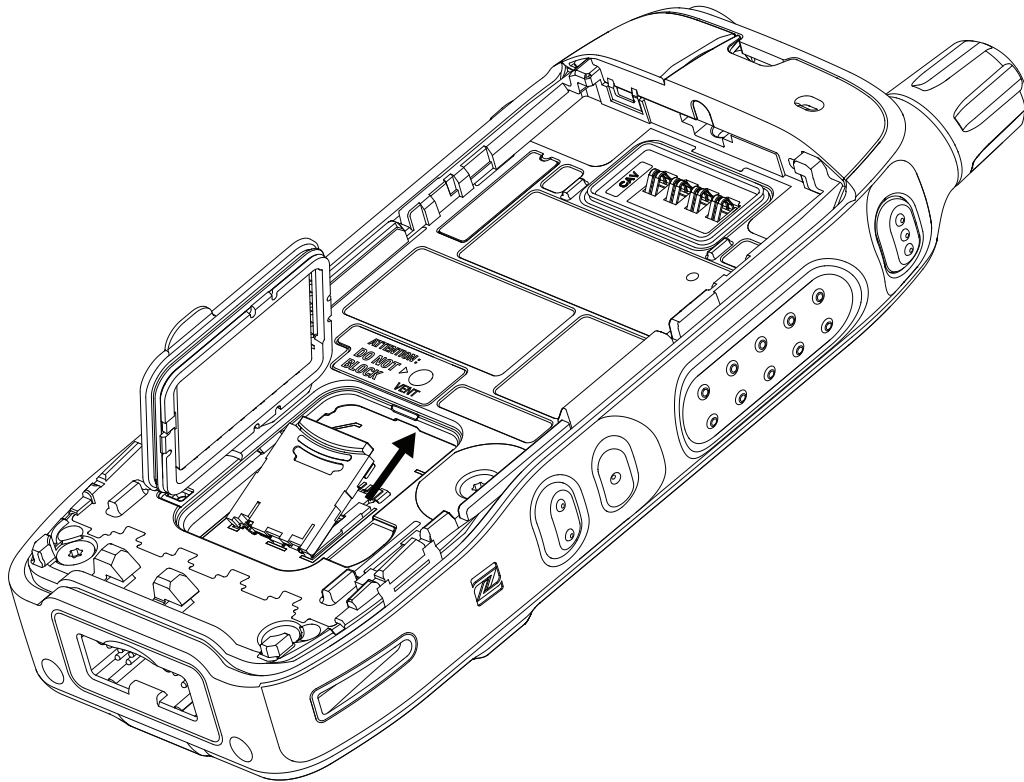
Procedure:

- 1 Remove the battery.
- 2 Flip open the plastic door from the finger scoop area.



NOTE: Avoid pressing on the plastic door.

- 3 Flip open the microSD card holder.
- 4 Remove the microSD card from the microSD card holder.



- 5 Close the microSD card holder and slide it to the lock position.
- 6 Close the plastic door.
- 7 Install the battery.

4.3

Installing or Uninstalling the SIM Card



NOTE: Applicable only for SIM Card model.

The SIM card slot has a delicate construction. You must avoid installing or uninstalling the SIM card unnecessarily as this action can damage the mechanism of the reader. For copying files from your radio, you can use the USB Mass Storage Mode.

Installing the SIM Card

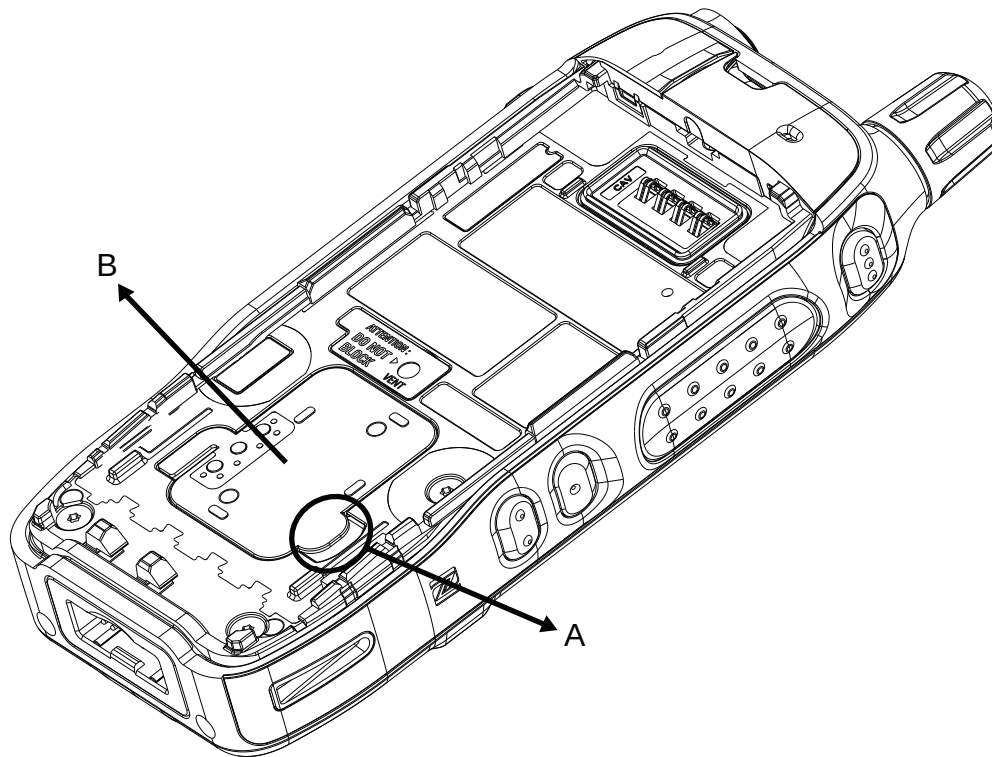
Prerequisites: Your radio is equipped with a SIM card slot.

Procedure:

- 1 Remove the battery.
- 2 Flip open the plastic door from the finger scoop area.

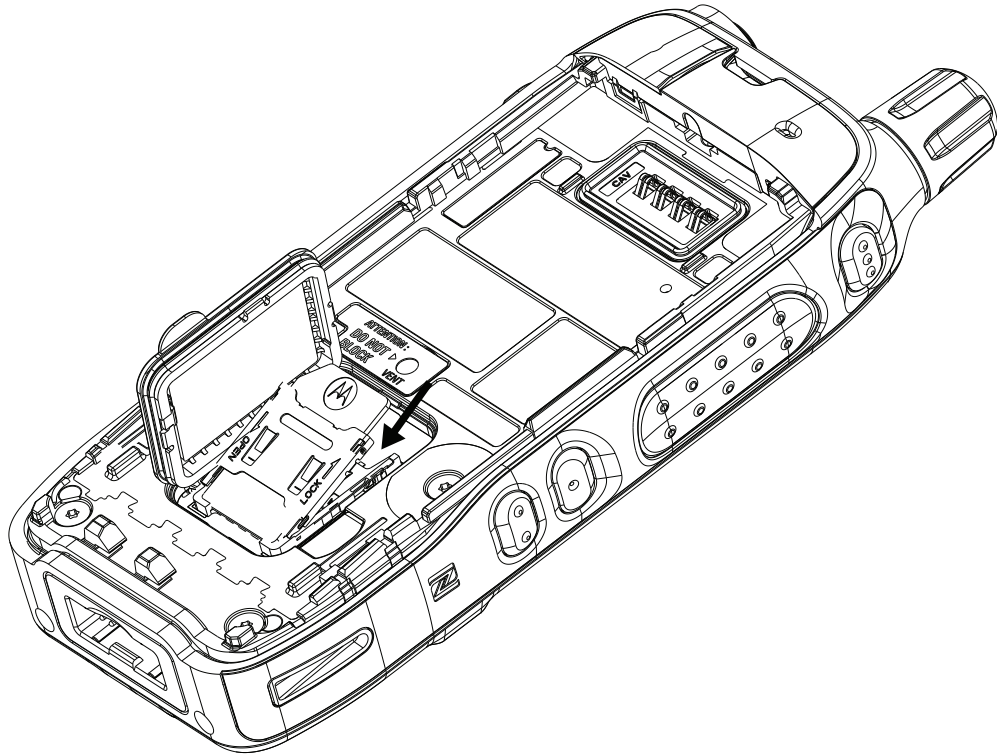


NOTE: Avoid pressing on the plastic door.

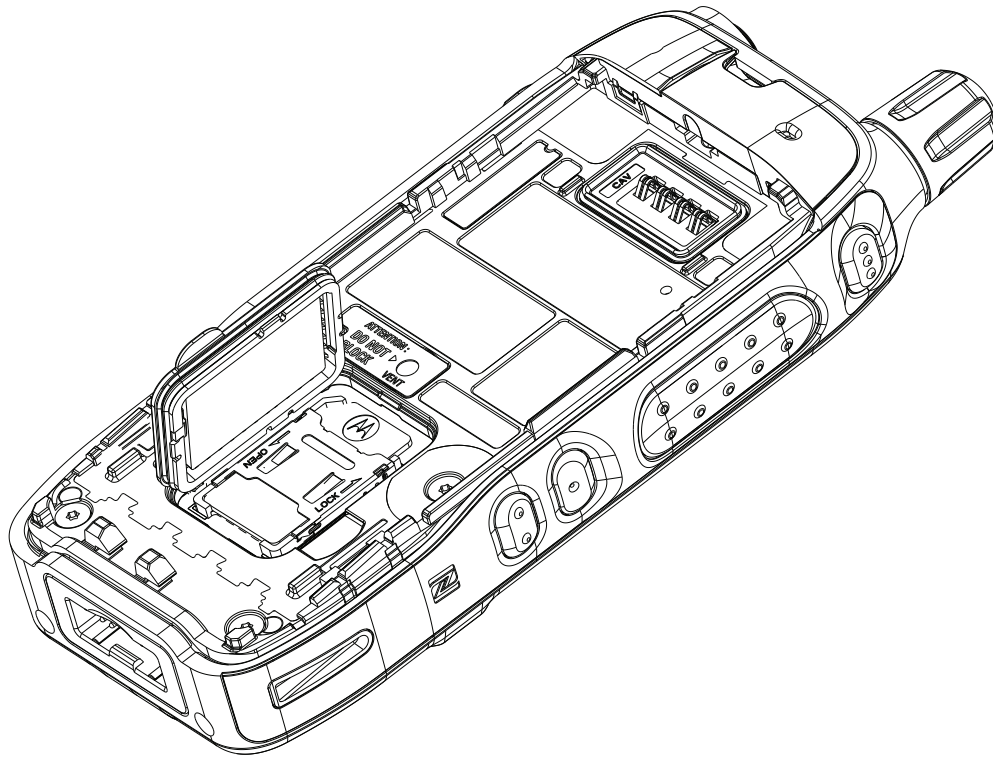


Annotation	Description
A	Finger Scoop Area
B	Plastic door

- 3 Flip open the SIM card holder.
- 4 Insert the SIM card into the SIM card holder ensuring that the gold contact area is facing down.



- 5 Close the SIM card holder and slide it to the lock position.



- 6 Close the plastic door.
- 7 Install the battery.

Uninstalling the SIM Card

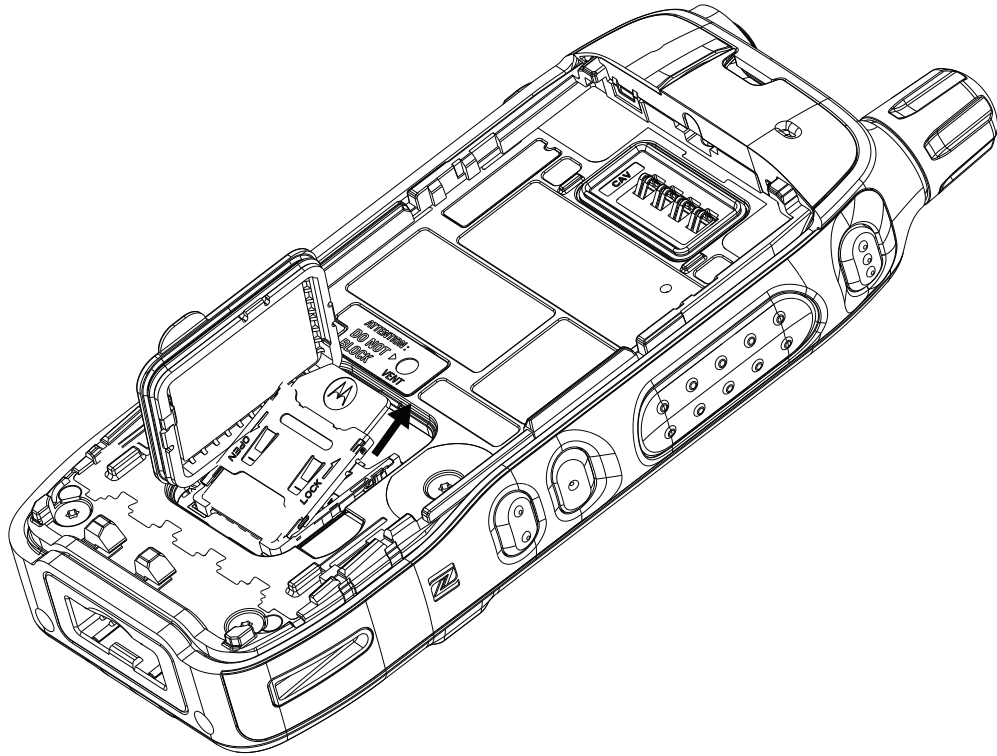
Procedure:

- 1 Remove the battery.
- 2 Flip open the plastic door from the finger scoop area.



NOTE: Avoid pressing on the plastic door.

- 3 Flip open the SIM card holder.
- 4 Remove the SIM card from the SIM card holder.



- 5 Close the SIM card holder and slide it to the lock position.
- 6 Close the plastic door.
- 7 Install the battery.

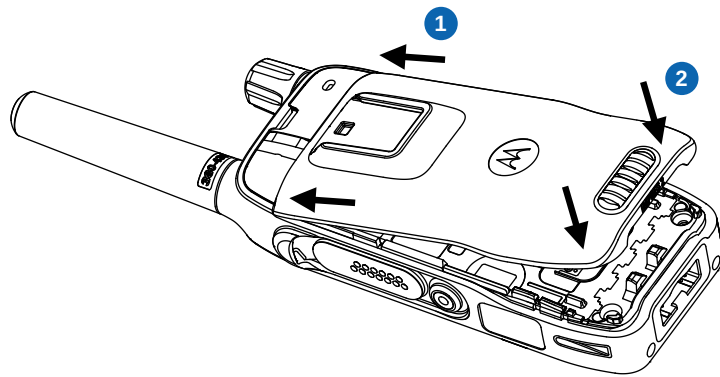
4.4

Attaching or Removing the Battery

Attaching the Battery

Procedure:

- 1 Insert battery into the compartment until the contacts align and the battery hooks in place.
- 2 Press down the battery until it clicks in place.



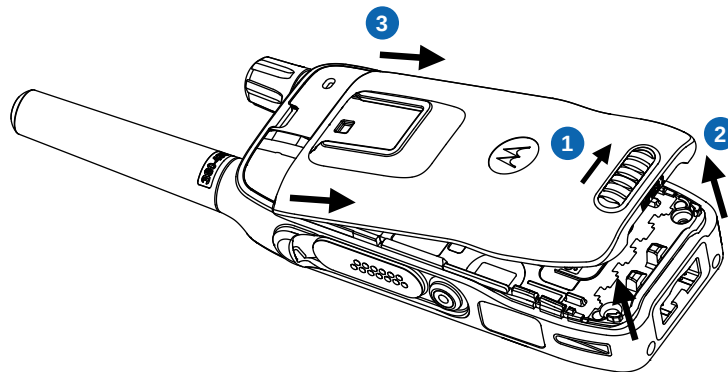
Removing the Battery

Prerequisites:

Turn off your radio.

Procedure:

- 1 Slide the **Battery Latch** to the right and hold it.
- 2 Lift the battery.
- 3 Remove the battery from the compartment.



NOTE: Pressing the latch while slide will cause battery hard to be removed

4.5

Charging the Battery

You can charge a battery separately or attached to your radio. Your radio may switch ON only if the radio is transmitting data wirelessly such as using the Wi-Fi. Otherwise, your radio must be turned off.



IMPORTANT:

Use only Motorola Solutions approved-chargers which provide optimal performance. Using other chargers may fail to fully charge, or can reduce the life of the battery.

Do not charge the battery in a hazardous area.

Do not connect a radio without a battery to the charger.

Procedure:

- 1 Connect the charger to a power source according to the specification of the charger.



NOTE: The charger must be connected to a power outlet that is nearby and easily accessed.

- 2 Depending on the type of charger, use one of the following options:

Option	Actions
Using desktop chargers or Multi-Unit chargers	- a Insert the battery or your radio with a battery into the slot of the charger. - b Ensure that the battery or radio is connected to the charger. - c When charging the battery only, ensure that the LED indication on the charger shows that charging is in progress - d When charging the battery through device, ensure that the LED indication on device shows that charging is in progress.
Using travel or car chargers	- a Connect the charger to your radio with the battery attached. - b Ensure that your radio indicates that charging is in progress.

Figure 4: Desktop Charger



Figure 5: Car Charger



Figure 6: Travel Charger



NOTE: If the LED of a Multi-Unit Charger (MUC) blinks red when charging, you must re-insert your radio. If the LED still blinks red after several reconnection to MUC, the battery may be damaged or have reached end of life.

Postrequisites:

The battery can heat up when charging. After charging and before using your radio, ensure that the battery and your radio are in the operating temperature range.

4.6

Turning Your Radio On or Off

Turning Your Radio On

Procedure:

Press and hold the **On** key.

Your radio performs a self-check and registration routine. After successful registration, your radio is in service.



NOTE: If Covert Mode is activated, your radio turns on without visible and audible notification.

Turning Your Radio Off

Procedure:

Press and hold the **Off** key.

4.7

Unlocking Your Radio

For radios with general PIN authentication, the PIN length is a fixed 4-digit code. For radios with BSI and SECTRA PIN authentication, the PIN length is configurable by your service provider up to a maximum of an 8-digit code. The number of attempts for unlocking is 3 times for both BSI and SECTRA PIN Authentication.

Prerequisites: Your radio displays `Unit Locked Enter Code`.

Procedure:

Enter the PIN code at the prompt.

Your radio enters the default home display.



NOTE: If you are unable to unlock your radio:

- For radios with general PIN authentication, you can only send or receive Emergency Calls and adjust the volume level with the **Rotary Knob**.
- For radios with BSI PIN authentication, you cannot take any action.
- The default value of the PIN is 0000.
- The number of attempts for unlocking is 3 times.

4.8

Unlocking Your Radio

If you have entered the incorrect PIN code for more than three times (by default), use the PIN Unlocking Key (PUK) to unblock your radio.

The PUK is a master code provided by your service provider. For radios with general PUK authentication, the PUK length is a fixed 8-digit code.

For radios with BSI and SPECTRA PIN authentication, the PIN length is configurable by your service provider up to a maximum of an 8-digit code. The number of attempts for unblocking is 10 times for both BSI and SPECTRA PIN Authentication.

Prerequisites: Your radio displays `Unit Blocked Enter PUK`.

Procedure:

- 1 Enter the PUK code at the prompt.

Your radio displays the PIN code prompt.

- 2 Enter the PIN code at the prompt.

If your service provider enables the PIN change option, you can change your PIN code. You must enter your new PIN code twice to change the PIN code.



NOTE: For SPECTRA Radio, once PIN is unblocked by providing the correct PUK, entering new PIN is required.

4.9

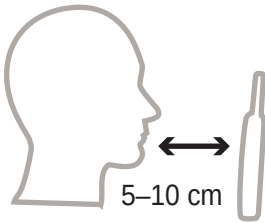
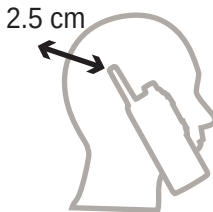
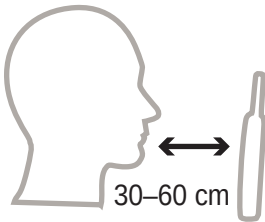
Holding Your Radio

Your radio has three microphones. The top microphone is for simplex dispatcher or private calls. The bottom microphone is for duplex telephone-like calls. The third microphone is at the back of your radio for the optional noise cancellation feature.

Procedure:

Depending on the purpose, hold your radio accordingly to the following options:

Option	Actions
Simplex Calls	• When using high audio, hold your radio vertically with the top microphone 5–10 cm away from your mouth. • Speak into the top microphone.

Option	Actions
 5–10 cm	• Listen through speaker. • Keep the antenna at least 2.5 cm from your head and body.
Duplex Calls  2.5 cm	• When using low audio, hold your radio as you would a telephone. • Speak into the bottom microphone. • Listen through the earpiece. • Keep the antenna at least 2.5 cm from your head and body.
Lapel or Shoulder Use 	• For Group and Private Calls, turn your head towards your shoulder or lapel, and speak into the top microphone. • Listen through the speaker.
Speakerphone Use  30–60 cm	• Place your radio 30–60 cm away from you. • In a noisy environment, move the radio closer to you for better transmission.

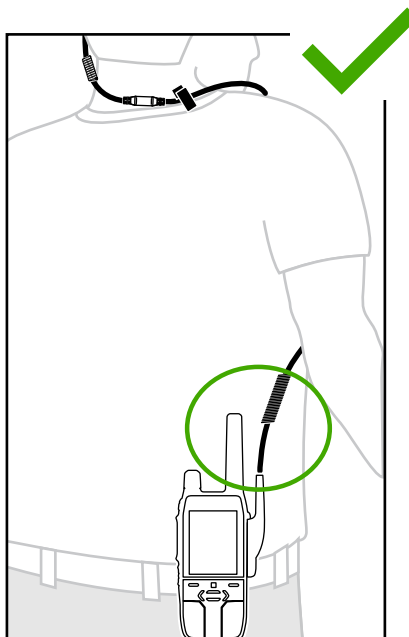
4.10

Recommended Wearing Position

If an accessory is attached to your radio, you can optimize the performance of the antenna by the way you wear your radio with the accessory.

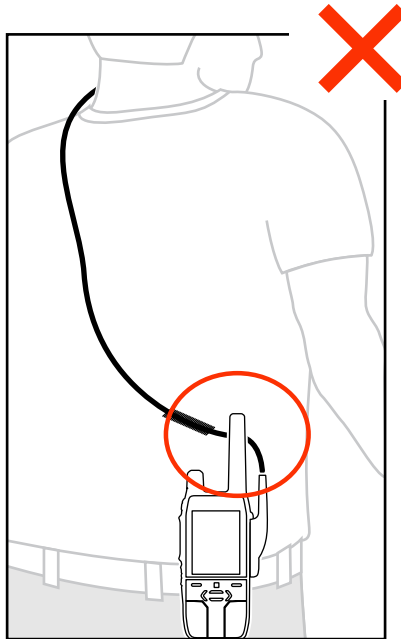
For optimized antenna performance, you must ensure that the accessory cable is away from the antenna of your radio.

Figure 7: Recommended Wearing Position



Avoid overlapping the accessory cable with the antenna of your radio.

Figure 8: Wearing Position to Avoid



Chapter 5

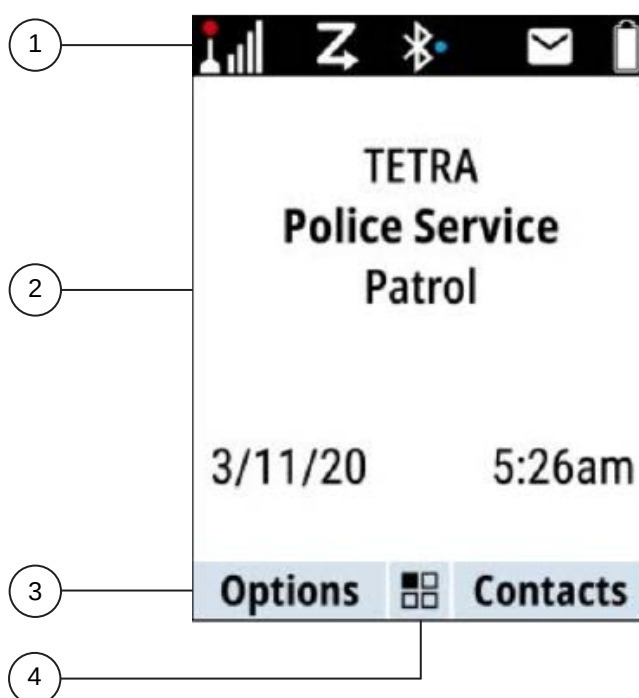
Display and Keys

Familiarize yourself with the default home screen and keys elements of your radio.

5.1

Default Home Screen

Figure 9: Default Home Screen with Icons



Annotation	Description
1	Status icon area
2	Text display area
3	Soft key area
4	Menu/Context sensitive icon

5.2

Soft Key

Table 8: Colors of the Soft Key Area

The colors of the Soft key area changes according to the mode the radio is in.

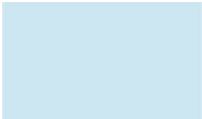
Color		Mode or State
Light Blue		Normal TMO and DMO Modes
Orange		Emergency Mode
Purple		Local Site Trunking Mode
Yellow		Call Out – Standby
Red		Call Out – Alert
Green		Call Out – Accepted
Pale Blue		Radio Messaging Service (RMS)
Gray		Radio User Identity (RUI) or Radio User Assignment (RUA)

Table 9: Soft Key Changes During a Call

During a call, label of the right Soft Key indicates the next possible change. Accessory default setup is:

Soft Key Label	Audio Setting
Spkr	Audio goes to the main speaker (<i>Speaker HIGH</i> is displayed)
Erpce	Audio goes to the earpiece (<i>Speaker LOW</i> is displayed)
PHF	Audio goes to the Personal Hands Free (<i>Speaker LOW</i> is displayed)

5.3

Configurable Idle Screen

Your service provider can configure the information that is displayed on the idle screen below the status icon area.

The displayed information depends on your radio configuration and services supported.

- Audio Profile Name
- BSI Registration Status
- Home Mode
- Individual Short Subscriber Identity (ISSI)
- International Talkgroup Link Alias
- Network (No Service, or Mobile Country Code (MCC)/Mobile Network Code (MNC), or Networks Alias)
- Operational-Tactical Address (OPTA)
- Radio Status
- Range
- RMS/FMS
- Scan List Alias
- Secondary Talkgroup Alias
- Talkgroup Alias
- Time and Date

Order and visibility of these items are also subject of the Configurable Idle Screen settings. Depending on the font size and icon bar, the idle screen displays three or four lines of information. By default, the information displayed on your idle screen are as follows:

Line 1

Network (No Service, or Mobile Country Code (MCC)/Mobile Network Code (MNC), or Networks Alias)

Line 2

Selected Group Folder

Line 3

Selected Group

Line 4, 5

Home Mode Display Text (if available)

5.4

Home Mode Display Text Message

Your radio is provided with a feature that allows your service provider to send special text messages to the display.

The message is limited to 24 characters. The message stays on the home screen until a new home mode display message is received. Power cycle your radio to replace the Home Display message to the predefined one.

5.5

Display Features

Your radio utilizes colors to highlight certain special situations:

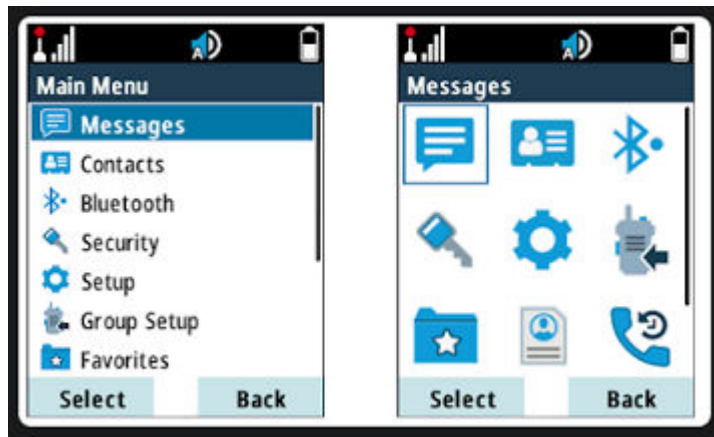
- When your radio is in an emergency mode/call.
- When in the call-out mode (alert received state, standby state, accept the state).
- In the Radio User Assignment (RUA)/Radio User Identity (RUI), when you are logged on or pseudo logged on.

If the display flip is provisioned, your radio can reverse the direction of the display. Hence, the display can be read when holding your radio upside down.

Your radio has three levels of font size that you can choose using the menu.

The Main Menu has two display formats. You can choose to view the Main Menu items in a list or in grid icons. Navigate through the Main Menu using the navigation keys (**Up**, **Down**, **Left**, and **Right** buttons). A handle scrollable bar appears when Main Menu items spans the display view.

Figure 10: Grid view and list view of the Main Menu



Backlight on/off toggling setting applies according to your selected audio profile setting. The backlight can be provisioned to operate in one of the following modes:

Default

The backlight on/off state follows the generic configuration.

Semi-Auto

Pressing a provisioned One-Touch Button toggles the on/off state of the backlight. The backlight is also turned off automatically when the backlight timer runs out.

Auto

Pressing any key automatically turns on the backlight.

Disabled

The backlight is disabled for a dimmed display.

The backlight remains on until the backlight timer runs out, or if a provisioned One-Touch Button is pressed to turn it off. You can also toggle between the modes using the menu. The backlight modes is assigned using the configuration tool, and the setting is applied according to the user profile.

Your radio supports an option to display a screen saver when your radio has been idle for a set time, or when you explicitly activate it. The screen saver consists of an image, which can be provisioned from any GIF image, a text string which can also be provisioned, and the date and time. When the screen saver is being displayed, any key input or incoming service causes the screen saver to deactivate.

Chapter 6

Status Indications

Familiarize yourself with the status indications of your radio.

6.1 Battery Status Indication

Your radio indicates low battery level by playing an audible alert when the battery charge falls to a preset level. The low battery alert can be programmed to be 5, 10, or 20 % of remaining capacity by your service provider. The default setting is 5 %. The service provider also configures how frequently the alert repeats.

When your radio is charging, it displays the Charger Mode screen. The screen displays an appropriate Battery Charge Progress icon and charging progress expressed in percentage.

Figure 11: Charger Mode Screen

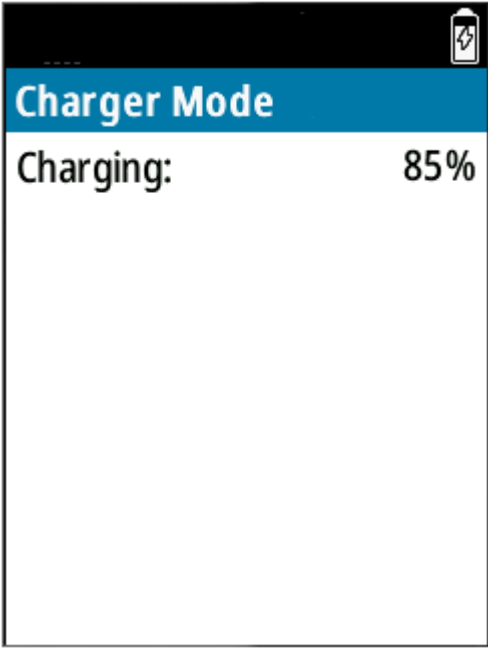


Table 10: Battery Icons

0%–5%	5%–15%	15%–25%	25%–40%	40%–60%	60%–80%	80%–100%
Battery Capacity						
Battery Charging						

6.2

LED Status Indication

Table 11: LED Status Indication

Indication	Status when Not Charging	Status when Charging
Solid green	• In use • Repeating call	Battery is fully charged
Blinking green	• In TMO service or idle • Switching modes from TMO to DMO	Battery is charged at 90%
Solid red	Out of service	Rapid charge
Blinking red	• Connecting to a network • Switching modes from DMO to TMO	Faulty or invalid battery
Solid orange	• Radio is powering on • Transmit inhibit mode in service • Channel busy in DMO • Radio interference in DMO	Not applicable
Blinking orange	Incoming private or phone call	Battery is on standby to rapid charge
No indication	• Radio powered off • Radio in Covert Mode	Not applicable



NOTE:

When you charge your radio in a multi-unit charger and the battery is at the 90–100% charge level, the LED indicators on your radio and on the multi-unit charger differs:

- LED on your radio – blinking green.
- LED on the multi-unit charger – solid green.

If you insert your radio with a deeply discharged battery into the multi-unit charger, the LED on your radio shows blinking red, indicating a charging error. Resolve this error by reinserting your radio.

Chapter 7

Icon Indications

Familiarize yourself with the icons on your radio.

7.1

Status Icons

Status icons appear when your radio is engaged in certain activities or when you have activated certain features.

Depending on your service provider settings, status icons can appear in normal or large size. By default, they are large on the home screen and normal when browsing through your radio menu.

Table 12: Trunked Mode Operation (TMO) Icons

Icon	Name	Description
	In Service	Transmission is available.
	No Service	Transmission is not available.
	Signal Strength	The more bars, the stronger the signal.
	RF Power	High Radio Frequency (RF) Power is enabled. The more bars, the stronger the signal.
	Migration	Your radio is registered to a foreign network.
	Broadcast Call	Your radio is in a Broadcast Call.
	Scan	Talkgroup scanning is activated on your radio.
	Packet Data or Multi-Slot Packet Data (MSPD)	The more blue sections on the icon, the faster the data transfer. - Four gray sections – Context activated and data idle. - One blue section – Packet Data is active. - Two blue sections – Multi-Slot Packet Data is active.

Table 13: Direct Mode Operation (DMO) Icons

Icon	Name	Description
	In Service	The connection status of your radio to a gateway. - Solid – Your radio is linked to a gateway. - Blinking – Your radio is not linked to a gateway.
	Direct Mode Call	Your radio is receiving a Direct Mode call. The more bars, the stronger the signal.
	High RF Power: receiving	The High RF Power option is enabled. Your radio is receiving a call.

Icon	Name	Description
	Direct Mode	Your radio is in Direct Mode, a radio-to-radio communication.
	Repeater Mode	Your radio is operating as a repeater in Repeater Mode. This icon blinks when the radio is in Repeater Background Mode.
	DMO Repeater Communication Mode	The Repeater option in DMO Mode is selected. • Solid – Your radio detects the repeater. For example, your radio receives a presence signal. • Blinking – Your radio does not detect the repeater yet or attachment is happening. • No icon – Radio-to-radio and gateway communication. The GW + Rep option in DMO Mode is selected. • Solid – Your radio detects the repeater and the repeater icon is solid. Your radio detects the gateway and the In Service icon is solid. For example, your radio receives a presence signal.

Table 14: General Icons

Icon	Name	Description
	All Ring Tones Off	• The volume is set to zero when Volume Adj. Mode is set to Common. • Both Simplex and Duplex ring volume is set to zero when Volume Adj. Mode is set to Individual.
	Simplex Ring Muted	• The Simplex ring volume is set to zero. • Duplex ring volume is set to more than zero.
	Duplex Ring Muted	• The Duplex ring volume is set to zero. • The Simplex ring volume is set to more than zero.
	Vibrate Only	To alert you of an incoming message, your radio vibrates.
	Vibrate then Ring	To alert you of an incoming message, your radio vibrates and then rings.
	Low Audio	The audio is set to a minimum level.  NOTE: You can set different icons (A to E) for audio profiles.
	High Audio	The audio is set to a maximum level.  NOTE: You can set different icons (A to E) for audio profiles.
	Permanent Disable in Car Kit.	Audio is disabled in the car kit.

Icon	Name	Description
	Earpiece Connected	An earpiece is connected to your radio.
	GNSS (Global Navigation Satellite Systems)	• Solid – Your radio detects a fixed location. • Blinking – Your radio is acquiring a fixed location. This feature is an optional setting and may not be enabled on your radio.
	RUI Pseudo Log On	You are in pseudo log on state.
	RUI Packet Data	You are in pseudo log on state when the Packet Data feature is activated and an active data session is in progress.
	RUI Packet Data	You are in pseudo logged on state when the Packet Data feature is activated and the external device sets up data connection with your radio.
		
	Battery Strength	The remaining power level of your battery.
	Battery Charging	The battery is charging.
	Emergency	Your radio is in Emergency Operation. • Solid – The Emergency Operation starts. • Blinking – Your radio is in emergency receiving state.
	Disaster Alert Call	Your radio is in a Disaster Alert Call.
	List Scrolling	The Rotary Knob is in list scrolling mode.
	New Message Has Arrived	Your radio receives a new message.
	New Message in Inbox	You have unread messages in your inbox.
	Unread WAP Message	A new page is loaded to the browser.
	Man Down (henceforth known as Fall Alert) Active	The Man Down (Fall Alert) feature is active on your radio.
	Man Down Alert (Fall Alert)	• Blinking – Your radio is in a Pre-Alert mode and signals Man Down (Fall Alert) conditions. • Solid – Your radio enters the Alert mode.
	Man Down (Fall Alert) Failure	The Man Down (Fall Alert) device failed.
	Call-Out	Indicates Call-Out alert.
	Call-Out Alert Arrived	Your radio receives a new Call-Out message.

Icon	Name	Description
	Call-Out Alert Un-read	You have unread alerts in the CO Box .
	Indoor Location Enabled	Indicates that Indoor Location operation is enabled.
	Indoor Location Suspended	Indicates that Indoor Location operation is temporarily suspended.
	Secure Operation	Solid – Your radio is operating in a secure channel. Blinking – Your radio is receiving an encrypted voice call.
	Encryption Off	Blinking – SIM Card End-to-End Encryption is disabled in DMO and TMO.
	SIM End-to-End Encryption in TMO	SIM Card End-to-End Encryption is enabled in TMO.
	SIM End-to-End Encryption in DMO	SIM Card End-to-End Encryption is enabled in DMO. Numbers 1 and 2 indicate the selected type of DMO encryption keys.
	SDS End-to-End Encryption	A Short Data Service (SDS) message or message recipient address is encrypted. In High Security mode, when your radio only processes encrypted information. This icon is always visible when you are in the messages menu such as Inbox .
	Unread (New) WAP Message	You have not entered WAP Box since the last WAP message received. Blinking – The priority is high.
	Keys Locked	Indicates that keys are locked.
	Non-Secured Call in TMO	Blinking – Air encryption is not available when your radio is in TMO and attempts to connect to a gateway.
	Non-Secured Call in DMO	Blinking – Air Encryption is not available when your radio is in DMO. This icon appears after you press the PTT button.
	Non-formatted SD Card	• Solid – The microSD card is not formatted at all, formatted incorrectly, or damaged. • Blinking – The microSD card is being formatted.
	USB Connected	Your radio is connected to the computer through a USB cable. This icon is visible only in Mass Storage mode.
	Bluetooth Connected	Bluetooth is enabled and at least one device is connected to your radio.
	Bluetooth Disconnected	• Solid – Bluetooth is enabled but no devices are connected to your radio. • Blinking – Bluetooth is enabled and your radio is in the Discoverable Mode or connecting to a remote device.
	Remote Control	Your radio is being remotely controlled and some commands are being executed in the background. For example, your radio is

Icon	Name	Description
		being controlled by special SDS messages or triggered to send a GNSS location report.
	Wi-Fi Strength	The more bars, the stronger the Wi-Fi signal.
		
	OTAP over Wi-Fi Available	Indicates that there is an OTAP over Wi-Fi update available.

7.2

Talkgroup Icons Selection

Talkgroup icons are used to indicate that a talkgroup has a special function, show the status of network selection, and/or show the talkgroup properties. A talkgroup without an icon does not have a special function attached to it.

Talkgroup icons are displayed next to the talkgroup alias on idle display and when scrolling through the common or favorite folders.



NOTE: When in Direct Mode Operation (DMO), Trunked Mode Operation (TMO) talkgroups are not shown in common folders.

Table 15: TMO Talkgroup Icons

Icon	Talkgroup in Common Folders	Talkgroup in Favorites Folders	Instance when the Icon is Displayed
	Displayed in TMO	Displayed in TMO and DMO	When the selected talkgroup is a SIM TMO talkgroup, and is not registered to a SIM network. A single network is available.
—	—	Displayed in DMO	When the selected talkgroup is a SIM TMO talkgroup. A single network is available.
	Not displayed	Displayed in TMO and DMO	When the selected talkgroup is a normal TMO talkgroup. A single network is available.
	Displayed in TMO	Displayed in TMO and DMO	Displayed when the selected talkgroup is an ISI or Any network TMO talkgroup. Multiple networks are available.
	Displayed in TMO	Displayed in TMO and DMO	Displayed when the selected TMO ISI talkgroup is not assigned to a home network. Multiple networks are available.
	Displayed in TMO	Displayed in TMO	Displayed when the selected normal TMO talkgroup is not assigned to the current network. A single network is available.

Table 16: DMO Talkgroup Icon and General Icons

Icon	Talkgroup in Common Folders and Favorite Folders
	Displayed when a DMO talkgroup is selected.
	Displayed when your radio is locked to a current single network. The selected ISI talkgroup or Any Net talkgroup allows multiple networks.

7.3

Menu Icons

Menu icons help you to identify the items in the menu at first glance. You can choose to view the Main Menu items in a list or in grid icons.

Table 17: Menu Icons

Icon	Name	Description
	Main Menu Items or Context Sensitive Menu	It is assigned to Menu when the main menu items/context-sensitive menu are active.
	Messages	Send status messages. Send text messages (free text or according to user defined or predefined templates). Received messages in Inbox .
	Contacts	Add, search, edit, or erase entries in the contact list.
	Pictures	Allows you to browse and manage photos.
	Bluetooth	Allows you to manage Bluetooth settings.
	Browser	Starts the WAP browser.
	Man Down (henceforth known as Fall Alert)	Allows you to activate the Man Down (Fall Alert) feature.
	Security	Lets you turn on/off and verify security features, and change passwords.
	Setup	Allows you to customize your radio.
	Group Setup	Contains additional menu items for Scanning Talkgroups features.
	Individual Setup	Contains additional call settings for individual calls.
	Favorites	Contains shortcuts to frequently used talkgroups and contact numbers.
	My Info	Displays information about your radio and its numbers.
	Recent Calls	Contains a list of recent calls.

Icon	Name	Description
	Shortcuts	Allows you to view and manage shortcuts to menu items.
	RUI	Allows you to log in and log out of your radio.
	Networks	Allows you to select a network.
	Location	Displays location of your radio.
	Packet Data	Allows you to send data from your radio to other devices.
	Crypto Menu	Allows you to manage SIM card based End-to-End Encryption.  NOTE: Applicable only for SIM Card model.
	Services	Allows you to manage Broadcast, Assistance, and Disaster Calls.
	Wi-Fi	Allows you to manage the Wi-Fi functions to access a network.
	Wi-Fi OTAP	Allows you to manage Wi-Fi OTAP features.

7.4

Text Entry Icons

In the text entry screen, icons indicate the text entry mode and method that you are using. A character counter displayed on the text entry icon indicates the amount of characters that can be entered.

Press the # key to toggle through the text entry modes.

Table 18: Text Entry Mode Icons

Primary Icon	Secondary Icons	Description
		Indicates all lower-case TAP text entry method.
		Indicates all upper-case TAP text entry method.
		Indicates first letter upper-case TAP text entry method.
		Indicates all lower-case iTAP text entry method.
		Indicates all upper-case iTAP text entry method.
		Indicates first letter upper-case iTAP text entry method.

Table 19: Text Entry Method Icons

Icon	Description
	Latin alphabet – all lower-case
	Latin alphabet – first letter upper-case
	Latin alphabet – all upper-case
	Numeric
	Locks for numeric entry only
	Symbol
	Mandarin Phonetic Symbol
	Japanese Hiragana syllabary
	Korean alphabet
	Chinese pinyin
	Chinese characters strokes

7.5

Messages Icons

Message icons are used as a description or quick indication of the message status.

7.5.1

Inbox Icons

The inbox folder contains up to 100 new or old incoming messages. The **Messages** sub-menu indicates the number of the messages. For example, the indication 2 / 4 means that two unread and four read messages are in the inbox.

Table 20: Inbox Icons

Icon	Description
Regular Messages	
	Message is unread.
	Message is read.
Protected Messages	
	Protected Message is unread.

Icon	Description
	Protected Message is read.
Secured Messages	
	Secured Message is unread.
	Secured Message is read.
Protected and Secured Messages	
	Protected and Secured Message is unread.
	Protected and Secured Message is read.
General	
	The sender's name and number is in the Message View.
	The date and time of message arrival is in the Message View.
	The delivery status for Store and Forward messages is received.

7.5.2

Outbox Icons

The outbox stores up to 100 sent messages that are arranged chronologically.

Table 21: Outbox Icons

Icon	Description
Regular Messages	
	Message delivery is in progress.
	Message delivery is accomplished.
	Message delivery failed.
	Outgoing message is successful.
	Outgoing message failed.
Protected Messages	
	Protected Message delivery is in progress.
	Protected Message delivery is accomplished.
	Protected Message delivery failed.

Icon	Description
	Outgoing Protected Message is successful.
	Outgoing Protected Message failed.
Secured Messages	
	Secured Message delivery is in progress.
	Secured Message delivery is accomplished.
	Secured Message delivery failed.
	Outgoing Secured Message is successful.
	Outgoing Secured Message failed.
Protected and Secured Messages	
	Protected and Secured Message delivery is in progress.
	Protected and Secured Message delivery is accomplished.
	Protected and Secured Message delivery failed.
	Outgoing Protected and Secured Message is successful.
	Outgoing Protected and Secured Message failed.

7.5.3

Call-Out Icons

Table 22: Call-Out Icons

Icon	Description
	Call-Out folder.
	Call-Out Message in the inbox is unread.
	Call-Out Message in the inbox is read.
	Protected Call-Out Message in the inbox is unread.
	Protected Call-Out Message in the inbox is read.
	Call-Out Message in the outbox is read.
	Protected Call-Out Message in the outbox is read.

7.5.4

Radio Messaging System Icons

Table 23: Radio Messaging System (RMS) Icons

Icon	Description
	A new RMS status message is received.
	An RMS status message is sent.
	RMS Box Read Message
	RMS Box Unread Message

7.5.5

WAP Icon

Table 24: Wireless Application Protocol (WAP) Icon

Icon	Description
	WAP message.

7.6

Bluetooth Icons

These icons indicate the type of Bluetooth device paired with your radio, and when listed during discovery and radio scan.

Table 25: Bluetooth Icons

Icon	Description
	Bluetooth data
	Bluetooth earpiece
	Bluetooth accessory with PTT
	Bluetooth sensor

7.7

Wi-Fi Icons

Table 26: Wi-Fi Signal Strength Icons

Icon	Description
	Wi-Fi operation in progress.
Wi-Fi Signal Strength	
	Wi-Fi signal is excellent.
	Wi-Fi signal is good.
	Wi-Fi signal is average.
	Wi-Fi signal is poor.
	Wi-Fi signal is unavailable.
Wi-Fi Signal Strength for Secured Networks	
	Wi-Fi signal is excellent for secured networks.
	Wi-Fi signal is good for secured networks.
	Wi-Fi signal is average for secured networks.
	Wi-Fi signal is poor for secured networks.
	Wi-Fi signal is unavailable for secured networks.
Wi-Fi Signal Strength for Open Networks	
	Wi-Fi signal is excellent for open networks.
	Wi-Fi signal is good for open networks.
	Wi-Fi signal is average for open networks.

Icon	Description
	Wi-Fi signal is poor for open networks.
	Wi-Fi signal is unavailable for open networks.

7.8

Contacts

The **Contacts** menu stores all your contact numbers.

Each contact entry requires the following information:

Name

If you store more than one number to one contact, this entry is required.

Type

Each contact must be assigned to one of the following types:

Table 27: Contact Types

Icon	Description
	Private Cannot have a speed dial number.
	Mobile
	Home
	Work
	PABX
	Other
	Pickers Indicate more than one number in a contact.

(number)

Each contact entry must contain a number.

Speed

Shows the default Speed Dial number. You can accept or change it.

Simplex (Private only)

Shows the hook method for simplex calls.

Duplex (Private only)

Shows the hook method for duplex calls.

Chapter 8

Keypad Overview

Familiarize yourself with the keys on your radio.

8.1

Alphanumeric and Symbol Keys

List of keys and characters in Alphanumeric Mode for TAP or iTAP.

1	2	3		ABC	DEF	.,?!01@"" () / _ ; : & % ' * = < > € £ \$ ¥ ¢ { } [] ^ & #	@ _ /	/ ; ,
4	5	6	GHI	JKL	MNO	" & '	()[]{}	¿ ¡ ~
7	8	9	PQRS	TUV	WXYZ	= < >	€ £ \$ ¥ ¢	# % *
*	0	#	*		#	*	+ - x * ^ \ □ + < > \$ #	#

Numeric Key View

Alphabetic Key View

Symbol Key View

Table 28: Alphanumeric and Symbol Keys

Numeric Keys	Alphabets	Symbols
1	Not applicable	.,?!01@' "- () / : _ ; + & % × * = < > € £ \$ ¥ ¢ [] { } \ ~ ^ ` ¸ ¡ § #
2	A B C a b c	@ _ \
3	D E F d e f	/ , ;
4	G H I g h i	" & '
5	J K L j k l	() [] { }
6	M N O m n o	¿ ¡ ~
7	P Q R S p q r s	= < >
8	T U V t u v	€ £ \$ ¥ ¢
9	W X Y Z w x y z	# % *
0	Not applicable	+ - × * / \ [] = < > § #

8.2

Idle Keys

From an idle display, you have easy access to stored target lists.

Table 29: Description of Idle Keys

Key	Description
Up Navigation	Press to access the Favorite Talkgroup list.
Down Navigation	Press to access the Recent Calls list.
Send	Press to access the Last Dialed Numbers list.
Contacts	Press to access the Address Book.

8.3

Functions of Keys

Table 30: Functions of Keys

Key	Description
Menu	Press to open an active context-sensitive menu.
Select	Press to select the highlighted choice and place the selection in the main text area.
Delete	Press once to delete the last entered character. Press and hold to clear the entire main text area.
Up Navigation	In TAP, press to reject word completion and scroll up. In TAP, press to change the previous letter from lowercase to uppercase.
Down Navigation	In TAP, press to reject word completion and scroll in the text area. In TAP, press to change the previous letter from uppercase to lowercase.
Left Navigation	Press to navigate to the left. Press and hold to repeat. In TAP, if a word completion is available, press to reject the completion.
Right Navigation	Press to navigate to the right. Press and hold to repeat. In TAP, if a word completion is available, press to accept the word.
Send	Press to start calls or send messages. Disabled in browser active state.
End	Press to end calls. Press to deactivate the browser.
0 to 9	In numeric mode, press to enter a digit at insertion point.

Key	Description
Any numeric key	Press and hold to enter TAP or iTAP alphanumeric mode. Press and hold to enter numeric mode. In TAP, press to reject word completion and continue entering text. A new word completion starts after TAP timeout.
0	Press to run through single shift, uppercase, and lowercase functions.
*	Press to insert a space. In TAP, press to reject word completion and insert a space. Press to enter a new word into the user dictionary. Press and hold to enter a carriage return.
#	Press once to run through Symbol , Numeric , Primary , and Secondary entry modes. Press and hold to return to the default entry mode.

Chapter 9

General Radio Operation

Get to know the general operations of your radio.

9.1

Writing Text

This section provides information on entering texts on your radio.

9.1.1

Selecting Text Entry Modes

Prerequisites: Your radio displays the text entry screen.

Procedure:

- 1 Press **Menu**→**Entry Mode**.
- 2 Select one of the following options:
 - **Primary** – for entering alphanumeric characters.
 - **Numeric** – for entering numbers only.
 - **Symbol** – for entering symbols only.
 - **Secondary** – for entering alphanumeric characters (this mode is optional and you have to add it to the list). It is convenient when you use one language, and sometimes wish to switch to another one.



NOTE: In the text entry screen, you can also press **#** key repeatedly to toggle through the entry modes.

9.1.2

Selecting Text Entry Methods and Languages

Prerequisites: Your radio displays the text entry screen.

Procedure:

- 1 Press **Menu**→**Entry Setup**.
- 2 Use the **Right** or **Left** navigation key to select one of the following options:
 - **TAP** – Enter letters, numbers, and symbols by pressing an alphanumeric key one or more times.
 - **iTAP** – Allows the radio to predict each word as you press an alphanumeric key.



NOTE: You can use these methods in the languages programmed in the radio.

9.1.3

Writing in iTAP Alphanumeric

Prerequisites: Your radio displays the text entry screen.

When and where to use: It allows you to write quicker. For example, try to write **David 232!**

Procedure:

- 1 Press **Menu**→**Entry Setup**→**Prim..**.
- 2 Select **iTAPEnglish** and press **Back**.
- 3 Press **Menu**→**Entry Mode**.
- 4 Select **Primary**.
- 5 Press **3** key.

The alternative row opens and shows **D E F 3**.

- 6 Continue entering the letters by pressing one key for each letter. Press **2**, **8**, **4**, and **3** keys.



NOTE: Automatic shift to upper case is used at the beginning of a message, after punctuation followed by space, or for the first letter of a word created as a new contact entry.

The alternative row highlights **David**.

- 7 Press ***** key.
- 8 Press **2** key and scroll the alternative row by pressing **Right** Navigation key to reach **2**.
It automatically changes the entry mode to **Numeric**.

- 9 Press **3** and **2** keys.
- 10 Press and hold **1** key until **0** at the end changes to **..**.

The alternative row highlights **232..**

- 11 Scroll the alternative row by pressing the **Right** Navigation key to reach the required symbol.
- 12 Press **Select**.

You have entered **David 232!**.

9.1.4

Writing in TAP Alphanumeric

Prerequisites: Your radio displays the text entry screen.

Procedure:

- 1 Press **Menu**→**Entry Setup**→**Seco..**.
- 2 Select **TAPEnglish** and press **Back**.
- 3 Press **Menu**→**Entry Mode**.
- 4 Select **Secondary**.
- 5 Press the key labeled with the desired character, once for the first character, twice for the second, and so on.

Example: To enter letter s, press **7** key four times. To enter number 7, press the **7** key five times. If you do not press a key for a few seconds, the character is accepted, and the cursor moves to the next position.

9.1.5

Word Locking

Prerequisites: Your radio displays the text entry screen.

When and where to use: To add the words that are not in the dictionary.

Procedure:

- 1 Press **Menu**→**Entry Setup**→**Prim..**
- 2 Select **iTAPEnglish** and press **Back**.
- 3 Enter the word. Scroll the alternate line for a word option. Each option is successively highlighted and partially locked.
- 4 Enter the second part of the word. The first part remains unchanged (locked). The newly entered letters are highlighted and then locked while you scroll to the next word option.
- 5 Press the * key. The word is placed in the text area with a space and automatically added to the dictionary.

9.1.6

Adding Words to Dictionary

When and where to use: Every language has a dictionary of its own. Words (including alphanumeric abbreviation) can be formed.

Procedure:

- 1 Create the word in the dictionary.

Once you enter a word followed by space, it is automatically stored in the dictionary.



NOTE: The word appears as a choice whenever you press the same key combination in the future.

9.2

Locking or Unlocking the Keys or Buttons

Procedure:

- 1 Press **Menu** key and * key.



NOTE: The **Emergency** button is not locked. Entering Emergency Mode unlocks all keys.

9.3

Selecting Talkgroups

Follow these procedures to select talkgroup manually. If the selected talkgroups is an InterSystem Interface (ISI) talkgroup, your radio can migrate to another talkgroup linked network, changing the talkgroup automatically.

Procedure:

From the home screen, use one of the following methods:

- Press **Left** or **Right** Navigation key. Press **Select** to confirm.
- Select **Options**→**TG by abc**. Enter a talkgroup name and select the talkgroup name from the list.

- Select **Options**→**TG by Folder**. Select a folder (for example, **Favorite**) and then a talkgroup name.



NOTE: Your radio can access up to three levels of the folder structure.

9.3.1

Using Timed Talkgroup Change

This feature allows you to switch a selected talkgroup between the currently selected talkgroup and a predefined talkgroup (TMO or DMO), making the predefined talkgroup the selected talk group for a predefined time by using a One-Touch button. After the timer expires, your radio returns to the previously selected talkgroup.

Prerequisites: Timed Talkgroup Change is assigned to a One-Touch button.

Procedure:

- 1 Press and hold the One-Touch button.
- 2 Your radio switches the selected talkgroup to the predefined talkgroup for a predefined amount of time.

During the predefined time the radio initiates or joins group communication (SDS, status SDS, or call) on the predefined talkgroup as the selected talkgroup.

Your service provider can assign a function to the second press of the One-Touch button to:
 - Return to previously selected talkgroup
 - Restart the predefined time
 - No action
- 3 When the timer expires (potentially after being restarted a number of times) the radio switches to the previously selected talkgroup.

9.3.2

Selecting Talkgroups by Index

Procedure:

- 1 From the home screen, enter talkgroup speed number and *.
- 2 Press **Attach**.



NOTICE: To start a group call, press the PTT button.

9.4

High or Low Audio Toggle

Your radio is able to switch from the external earpiece to the main speaker using One-Touch button and is not required to disconnect the external earpiece or PHF.

The internal speaker is at the middle of your radio for high audio. The internal earpiece is at the top of your radio for low audio. Audio can be routed to either the speaker or the earpiece using the **Audio Toggle** menu or the assigned One-Touch Button. To route the audio using the **Audio Toggle** menu, you must select **Menu**→**Setup**→**Audio**→**Audio Toggle**.

The internal speaker is at the middle of your radio for high audio. The internal earpiece is at the top of your radio for low audio. Audio can be routed to either the speaker or the earpiece using the **High or Low Audio Toggle** from the Radio Quick Settings or the assigned One-Touch Button.

The states of the routed audio are:

Speaker High

indicates that audio is routed to the main speaker.

Speaker Low

indicates that audio is routed to the earpiece or PHF earpiece, and not to the main speaker.

9.4.1

Using High Audio

When and where to use: Placing or receiving a Duplex Private call.

Procedure:

- 1 Hold your radio in a vertical position with its top microphone 5 cm to 10 cm away from your mouth.
- 2 Speak into the top microphone and listen through the internal speaker.
Keep the antenna at least 2.5 cm from your head and body.

9.4.2

Using Low Audio

When and where to use: Placing or receiving a Duplex Private call.

Procedure:

- 1 Hold your radio as you would a telephone.
- 2 Speak into the bottom microphone and listen through the earpiece.
Keep the antenna at least 2.5 cm from your head and body.

Chapter 10

Operation Modes

This section contains information on available modes that your radio can operate in.

10.1

Entering TMO or DMO Mode

Entering TMO Mode

Procedure:

Perform one of the following actions:

- From the home screen, press **Options**. Select **Trunked Mode**.
- Press the **Menu** key, select **Networks**→**Trunked Mode**.

Entering DMO Mode

Procedure:

Perform one of the following actions:

- From the home screen, press **Options**. Select **Direct Mode**.
- Press the **Menu** key, select **Networks**→**Direct Mode**.

10.2

Selecting DMO Communication Options

In Direct Mode Operation (DMO), you have different options to communicate with other radios in the same talkgroup through the gateway or repeater.

Procedure:

- 1 From the home screen, press **Options**.
- 2 Select **Config..**
- 3 Select a DMO communication by using one of the following options:

Option	Actions
To communicate in your radio range only	Select MS-MS .
To communicate with the infrastructure using the first available gateway for that talkgroup	Select Gateway → Automatic .
To communicate with the infrastructure using the specified gateway address for that talkgroup	a Select Gateway → Specific . b If your radio displays <i>Selected Gateway: None</i> , press Edit to enter the current gateway address.

Option	Actions
To use the first available repeater for that talkgroup	Select Repeater .
To use the first available gateway or repeater for that talkgroup	Select GW + Rep.
To use the first available gateway for that talkgroup	Select Automatic .
To use a gateway with the specified gateway address for that talkgroup	a Select Specific. b If your radio displays <i>Selected Gateway: None</i>, press Edit to enter the current gateway address.



NOTE: When your radio cannot communicate with the gateway and repeater even if a talkgroup to use them is configured, your radio attempts MS-MS communication.

When your radio detects the gateway, repeater, or both, the respective icon appears solid.

10.3

Enabling Network Monitor

Procedure:

- 1 From the home screen, press **Options**.
- 2 Select **Network Monitor**.

10.4

Setting Monitor Option

Procedure:

- 1 From the home screen, press **Options**.
- 2 Select **Monitor**.
- 3 Select one of the following options:

Option	Description
Off	Your radio works as a repeater only without operation.
Receive Only	To listen only.
Receive&Transmit	To listen and transmit by pressing the PTT button.

Chapter 11

Types of Radio Calls

Your radio can make Group, Private, Phone and Private Automatic Branch Exchange (PABX), and Broadcast calls in Trunked Mode Operation (TMO), Direct Mode Operation (DMO), or both.

Call Type	Description	DMO	TMO
Group Calls	Group Calls are point-to-multipoint call operations. Your radio must be configured as a member of the talkgroup for you to communicate within the group.	✓	✓
D-PTT Preempt Group Calls	D-PTT Preempt Group Calls are preemptive priority calls that allow superiors to temporarily interrupt and speak in an ongoing group call.	✓	✓
Private Calls	Private Calls are calls from one individual radio to another.	✓ Simplex Calls only	✓ Simplex and Du- plex Calls
Phone or PABX Calls	Phone Calls allow you to call a landline telephone number or a cellular mobile phone number. PABX Calls allow you to call local (office) extension numbers.	✗	✓
Broadcast Calls	Broadcast Group Calls are high-priority group calls from the console operator to all radios at one or more sites. Your radio can monitor a Broadcast Call but you cannot talk back.	✗	✓

11.1

Making Calls on the Radio

Procedure:

- 1 Make calls by using one of the following options:

Option	Actions
Group Calls	To initiate: - a Press and hold the PTT button. - b Wait for the Talk Permit Tone and speak into the microphone. - c To listen, release the PTT button. To end the call, do one the following actions before the talk permit is granted (depending on the configuration set by your service provider): • Release the PTT button. • Press the END key (default).

Option	Actions
D-PTT Preempt Group Calls	In a group call: - Press the PTT button twice on your radio or the Remote Control Unit (RCU). - Speak into the microphone.
Simplex Private Calls	To initiate: - From the home screen, enter a number. - Press Ctype until you see Private call type. Optional: Select Menu→E2E Mode→E2E On/E2E Off→Done.  NOTE: Applicable only for models with E2EE Radio Hardware. E2EE Radio Hardware allows you to change between E2E Encrypted Call or Non Encrypted Call modes. - If Private Call Hook Customization is enabled, select Menu→Hook Method→<required hook method>→Done. - Press and hold the PTT button. - Wait for the Talk Permit Tone and speak into the microphone. - To listen, release the PTT button. To end the call, press the End key.
Duplex Private Calls	To initiate: - From the home screen, enter a number. - Press Ctype until you see Private call type. Optional: Select Menu→E2E Mode→E2E On/E2E Off→Done.  NOTE: Applicable only for models with E2EE Radio Hardware. E2EE Radio Hardware allows you to change between E2E Encrypted Call or Non Encrypted Call modes. - If Private Call Hook Customization is enabled, select Menu→Hook Method→<required hook method>→Done. - To start the call, press the Send key. To end the call, press the End key.
Phone or PABX Calls	To initiate: - From the home screen, perform one of the following actions: - Enter a number and press Ctype until you see Phone or PABX call type. - Enter the predefined Phone or PABX speed dial number and # key. - To start the call, press the Send key. To end the call, press the End key.
Broadcast Calls	To initiate: From the menu, select Services→Broadcast.

Option	Actions
	b To start the call, press the PTT button. To end the call, press the End key.

11.2

Making Calls from Messages

You can call a number embedded in the message in the Inbox or Outbox folder or start a group call with the message sender of a talkgroup using the Embedded Number feature. The Embedded Number feature is enabled by your service provider.

Calling Numbers from Messages

When and where to use: To return a voice call to the sender of a message or to any number that is embedded in the message text.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**Inbox**.
- 3 Highlight the required message and select **Read**.
- 4 Press the **PTT** button.
The radio displays a list of numbers, including the number of the sender.
- 5 To call, select the required number and do one of the following:
 - Press the **PTT** button.
 - Press the **Send** key.
- 6 Press **Ctype** to select one of the following type of calls:
 - **Private**
 - **Phone**
 - **PABX**
- 7 Do one of the following to initiate the call:
 - Press the **PTT** button.
 - Press the **Send** key.

Making Group Calls on the Talkgroup of the Message Sender

When and where to use: To make a group call with the message sender of a talkgroup.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**Inbox**.
- 3 Select the required message and press the **PTT** button.

11.3

Receiving Calls on the Radio

Procedure:

Receive calls by using one of the following options:

Option	Actions
Group Call in Idle	To respond, press and hold the PTT button.
Group Call in Ongoing Group Call	When your radio receives a group call with higher priority while in an active group call, respond by performing one of the following actions: a To end the current group call and start the incoming one, select Join . b To cancel the incoming group call, select End .
Individual Call	a To respond to private calls, perform one of the following actions: a Press the PTT button. b Press the Send key. b To end the call, press the End key.

11.4

Dialing Short Numbers

You can dial part of the full number of a recipient and your radio automatically completes the number.

Prerequisites: Using an example with the full number of the radio is 4282564.

Procedure:

- 1 Dial 564 instead of the full number.
- 2 To start the call, press **PTT** or the **Send** key.

11.5

Viewing the Talkgroup Speed Number

With Talkgroup Speed Dial, you can join a talkgroup by dialing the index of the talkgroup. You need not choose the talkgroup from talkgroup folders and lists.

Procedure:

- 1 From the home screen, press **Options**.
- 2 Search talkgroups by using one of the following options:

Option	Actions
Searching talkgroups from the folder	a Select TG by Folder →<required talkgroup folder>. b Highlight the required talkgroup.

Option	Actions
Searching talkgroups by entering the name	a Select TG by abc. b To narrow down the name of the talkgroup, enter up to 15 characters. c Highlight the required talkgroup.

3 Press **Menu** and select **View**.

Example: Your radio displays `SpeedNum1*`, which means that the speed number of this talkgroup is 1.

11.6

Selecting Talkgroups by Index

Dialing by index search from the following list:

- Talkgroup ID/Index
- User defined Index

Procedure:

- 1** From the home screen, enter the talkgroup speed number and *.
- 2** Press **Attach**.

You can start a group call by pressing the **PTT** button.

Chapter 12

Viewing DGNA Talkgroups

DGNA allows the network operator to dynamically manage talkgroups on your radio over the air interface by transmitting data to your radio.

Prerequisites: Your radio receives the DGNA message.

Procedure:

- 1 To view the added talkgroups details, press **View**.
- 2 Scroll through the list to select the required talkgroup.
- 3 To select the DGNA group, press **Attach**.

Chapter 13

Emergency Operations

Emergency Operations are used in critical situations.

Emergency Operation Services:

- Emergency Alarm
- Emergency Call (Group, Private, or Phone)
- Emergency Status
- Emergency Alert

Emergency Services are initiated in:

- Emergency Mode
- Silent Emergency Mode

Pressing the **Emergency** button triggers Emergency Operation. When you press the **Emergency** button, your radio activates one or more of the emergency services (depending on provisioned settings).

- Entry into Emergency Mode or Silent Emergency Mode
- Sending of Emergency Alarm (or other status message)
- Starting Hot Mic operation
- Start an Emergency individual call
- Powering up the terminal

The following lists the Emergency features available on your radio.

Emergency Alarm

A special status message that is sent when your radio enters Emergency Operations to the Console to alert the operator regarding emergency condition.

Emergency Call

Calls initiated in Emergency mode are known as Emergency Calls. Emergency Call is the highest pre-emptive priority call. Available Emergency Call types:

- Emergency Call – There are 2 types of Emergency Calls available:
 - Tactical Group Call – Your radio sends an emergency alarm and/or makes an Emergency Call on the current channel.
 - Non-tactical Group Call – Your radio reverts to the preprogrammed emergency channel to send an alarm and/or make an Emergency Call.
- Emergency Private Call or Integrated Services Digital Network (ISDN)
- A simplex or duplex call with emergency priority.
- Emergency Full Duplex Private Calls (FDPC) supports high/low audio state.

Emergency Status

Enables your radio to send a status message with a preprogrammed value to the destination address set by your service provider. Status is not re-sent when Emergency Alarm or Hot Microphone is configured.

HotMic Operation

There are 2 types of HotMic available:

Hot Mic

Automatically grants your radio with a talk permit for a provisioned amount of time without needing to press the PTT button during Emergency Operation.

HotMic operation is applicable for:

- Tactical and non-tactical Emergency groups.
- Half-Duplex and Full-Duplex Private Calls.

Alternating Hot Mic

An enhancement of the Hot Microphone where your radio alternately enters transmission phases (your microphone is active) and reception phases (you can only listen) for an amount of time precisely determined by your service provider.

Silent Emergency Operation

Enables your radio to enter Emergency Operations with no audible indications or keypad tones.

All the display indications are as in the home mode.

Your radio will stay in or switch to TMO when Silent Emergency Mode is activated.

Emergency Alert

Allows your radio to send emergency alerts to other radios within DMO and TMO without TMO coverage by pressing the **Emergency** button.

Emergency Destination in LST

This is a Software Selling Feature.

Allows your radio to send emergency requests to a different destination while in local site trunking mode.

13.1

Entering and Exiting Emergency Mode

Entering Emergency Mode

Procedure:

Enter emergency mode by using one of the following options:

Option	Actions
Emergency Mode with Alarm	To enter: • Press and hold the Emergency button. • Dial a predefined number. To exit: Press the End key.
Silent Emergency Mode	To enter: Press and hold the Emergency button. To exit: Press the Menu and Right Navigation keys simultaneously.
Emergency Destination in LST	To enter: Press and hold the Emergency button.

Making Emergency Calls

Procedure:

- 1 Make emergency calls by using one of the following options:

Option	Actions
Group Call	To enter: Press and hold the Emergency button. To talk: Press and hold the PTT button to talk and wait for the <i>Talk Permit</i> tone. To exit: Press the Menu and Right Navigation keys simultaneously.
Emergency Private Call/ISDN	To enter: Press the Emergency button. To exit: • Release the PTT button. • Press the End key (default).  NOTE: Available only when Emergency Private Call is enabled on your radio and the predefined ISSI is configured.
Emergency Hot Mic	To enter: Press and hold the Emergency button. To restart transmission, press Emergency button. To talk: Speaks clearly into the microphone. To exit: • If configured, press the PTT button. If the PTT button is held, your radio will continue PTT operation in Emergency Group Call mode. • Press the End key. • Press the End soft key.
Emergency Alternating Hot Mic	To enter: Press the Emergency button. To talk: Speaks clearly into the microphone. Press the End key to end transmission early. To exit: • If configured, press the PTT button. • Press the Right soft key (only during the transmission phase). • Exit Emergency Operations.

Sending Emergency SDS Status

Prerequisites: Pre-defined SSI and status number is configurable.

Procedure:

Press and hold the **Emergency** button.

Initiating Disaster Alert

Procedure:

- 1** From the home screen, press the **Menu** key.
- 2** Select **Services**→**Disaster Alert**.
- 3** To start the call press **PTT** button.

Your radio displays Disaster Alert In Use.

Chapter 14

Messages

The Messages feature allows you to send, receive, and store and forward text messages.

You can manage messages with the following messaging features. Collaborative Messaging and Radio Messaging System (RMS) are additional features. Check with your service provider for configuration.

Table 31: Messaging Features

Messaging Feature	Description
Send	Compose and send messages to a group, individual, or external subscriber number.
Receive	Receive incoming messages with notification and quick access.
Store and Forward	Save incoming and outgoing messages for editing later. Stored outgoing messages are sent to the receiver when connection is restored.
Collaborative Messaging	External devices connected through Bluetooth or cable can send and receive messages when your radio application is enabled.
Radio Messaging System	Receive and send messages through the TETRA network. The RMS Box is available in the Messages menu if RMS is enabled.

 **NOTE:** This is a Software Selling Feature.

14.1

New Messages

The New Message menu allows you to create and send new messages. You can also request for Delivery Reports upon sending a message to a recipient.

14.1.1

Sending New Messages

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**New Message**.
- 3 Send messages by using one of the following options:

Option	Actions
Sending Messages to Private or Phone	a Create a message and press Send . b Select Private or Phone .

Option	Actions
	c Enter the recipient number or choose from contacts by pressing abc.  NOTE: For Private target selection, you can enter either Individual Short Subscriber Identity (IS-SI), Individual TETRA Subscriber Identity (IT-SI), or Group Short Subscriber Identity (GSSI) of the recipient. ISSI or ITSI is a unique and individual ID assigned to each radio. GSSI in Dimetra is called Group ID or Talk-group ID.
Sending Messages to Groups	a Create a message and press Send. b Select Group. c Select a group that you want to send the message to.
Sending Store and Forward Messages	a Press the Menu key and select Message Set-up→On/Offline users. b Create a message and press Send. c Select Private or Phone. d Enter the recipient number or choose from contacts by pressing abc.

4 Perform one of the following actions:

- Select **Send**.
- Press the **Send** key.
- Press the **PTT** button.

14.1.2

Configuring Delivery Reports

Prerequisites: Contact your service provider to enable Delivery Reports.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**New Message**.
- 3 Press **Menu** key and select **Delivery Report**.
- 4 Select one of the following options:

Option	Description
None	No delivery reports are required.
Received	Delivery reports are required when the recipient receives your messages.

Option	Description
Consumed	Delivery reports are required when the recipient reads your messages.
Both	Delivery reports are required when the recipient receives and reads your messages.

14.1.3

Viewing Delivery Reports

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Navigate to the required message by selecting **Messages**→**Inbox** or **Outbox**.
- 3 Select **Read**.
- 4 Press **Menu**→**Delivery Status**.

Your radio shows the following behavior depending on the timing in which your message is delivered.:

Delivery Report Received Timing	Radio Behavior
Shortly after the message is sent	• Displays one of the following notifications: Message Sent A Delivery Report is not requested and a Store and Forward message is received in the Store and Forward server. Message Delivered A Delivery Report is requested and the recipient receives the message. Message Read The Consumed Delivery Report is requested and the recipient opens the message. Message Failed The Delivery Report is requested and the recipient does not receive the message within the stipulated time. • Saves the Delivery Report and a copy of the message in the Outbox.
After a longer period	Saves the Delivery Report and a copy of the message in the Outbox .
After a longer period and functionality of the Delivery Report Notifications is configured by your service provider	• Saves the Delivery Report and a copy of the message in the Outbox. • Temporarily saves the Delivery Report message in the Inbox. The notification disappears after it is read. • Displays the New Message icon. • Displays the New Delivery Status notification screen (if possible).

14.2

Entering the Inbox

The inbox stores incoming messages.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**Inbox**.

14.2.1

Receiving New Messages

When you receive a new message, your radio shows the following indications:

- Plays a tone.
- Displays the New Message icon and animation.

Procedure:

- 1 Receive new messages by selecting one of the following options:

Option	Description
Read	To read the whole message.
Back	To dismiss the message.



NOTE: If you dismiss the message, you can access the message later from the Inbox.

14.2.2

Storing Numbers from Messages

You can save the sender's number or embedded number from a message to a new or existing contact.

Prerequisites:

Contact your service provider to enable the Embedded Number feature.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**Inbox**.
- 3 Highlight the required message and select **Read**.
- 4 Press the **PTT** button.
- 5 Radio displays a list of the numbers (including the senders number).
- 6 Highlight the required number and press **Store**.
- 7 Highlight required contact and press **View**.
- 8 Store the number by using one of the following options:

Option	Actions
Saving as a new contact	- a Select [New Contact] and fill out the required fields. - b Press Done.

Option	Actions
Saving in an existing contact	a Select Edit. b Choose the Type of the new number and press Done.

14.3

Entering the Outbox

The outbox stores outgoing messages.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**Outbox**.

14.4

Using Submenus in the Inbox and Outbox

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**Inbox** or **Outbox**.
- 3 Highlight the required message and press the **Menu** key.
- 4 Apply submenu features by using one of the following options;

Option	Actions
Saving the message as a template	a Select Store. b Change the default name of the template and press OK.
Deleting the message	a Select Delete. b To confirm, select Yes.
Deleting all messages in the Inbox or Outbox	a Select Delete All. b To confirm, select Yes.
Invoking the edit screen with the original message as default text, and the message originator as the recipient	a Select Reply and edit the text. b To send, perform one of the following options: • Select Send. • Press the PTT button. • Press the Send key.  NOTE: Applicable only for Inbox.
Invoking the edit screen with previously entered text to the same recipient	a Select Resend and edit the text. b To send, perform one of the following options: • Select Send.

Option	Actions
	- Press the PTT button. - Press the Send key.
Invoking the edit screen with an old message and send it to a different recipient	a Select Forward and edit the text. b To send, perform one of the following options: - Select Send. - Press the PTT button. - Press the Send key.
Refreshing the list of messages to display new messages	Select Refresh .
Displaying the date and time of the message when it is in one of the following status: - Sent - Delivered - Read - Expired and undelivered - Expired and unread - Failed due to an unknown error	Select Delivery Status .  NOTE: Applicable only for Outbox.
Protecting the message and avoid deleting or overwriting it	Select Protect .
Removing protection from the message	Select Unprotect .  NOTE: Message protection is enabled in the Inbox and Call Out Inbox. You can only delete unprotected messages.

14.5

Entering the Call-Out Box

The Call-Out (CO) Box contains incoming and outgoing Call-Out messages. Your radio plays a Call-Out tone according to the configured indication profile. The indication profile is configured based on the severity level of a matching Group Short Subscriber Identity (GSSI) and Sub-Address Group Call-Out.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**CO Box**.

14.6

Radio Messaging System

The Radio Messaging System (RMS) feature allows your radio to receive and send RMS messages.



NOTE:

This is a Software Selling Feature.

This feature is only available when enabled by your service provider.

14.6.1

Entering the RMS Box

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**RMS Box**.

14.6.2

Sending RMS Statuses

Prerequisites: Contact your service provider to enable the **Send RMS/FMS** menu item.



NOTE: If the **Send RMS/FMS** menu is disabled, your radio can only receive Radio Messaging System (RMS) messages.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**Send RMS/FMS**.
- 3 Perform one of the following actions:
 - Press and hold a required key (for RMS status 0–9).
 - Press the required two keys combination (for RMS status 10–99).
 - Scroll to the required RMS status.
 - Type out a message using RMS Free Text (available in SDS-TL only).

14.7

Entering the WAP Box

Each Wireless Application Protocol (WAP) Push message can be loaded immediately or stored as a message in **WAP Box**.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**WAP Box**.

14.7.1

Viewing WAP Messages

The Wireless Application Protocol (WAP) is used to access the mobile web from a radio through a WAP browser. The WAP Push feature allows WAP content to be sent to a radio. WAP Push messages are encoded messages that include links to WAP addresses.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**WAP Box**.
- 3 Select the required message.
- 4 View the message in the browser by selecting **Go to**.

14.8

User-Defined Templates

A template box stores user-defined message templates.

14.8.1

Managing User-Defined Templates

When and where to use: To manage your saved templates.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**Templates**.
- 3 Highlight the required template and press **Menu**.
- 4 Manage templates by using one of the following options:

Option	Actions
Viewing the template	Select View .
Deleting the template	Select Delete .
Editing the template	- a Select Edit Text. - b Edit the text. - c Press the Menu key and select: • Save Changes – To save the edited template. • Store – To save the edited template as a new template.
Editing the name of the template	- a Select Edit Name. - b Edit the template name and press OK.

14.8.2

Sending User-Defined Templates

When and where to use: To send your saved templates.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**Templates**.
- 3 Highlight the required template name and press **Send**.
- 4 Send the message by using one of the following options:

Option	Actions
Sending the message to a talk-group	Select the required talkgroup from the TalkGroup List .
Sending the message to an address in your contact list	a Press abc . b Select the name of the recipient.
Sending the message to a contact or talkgroup that is not configured in the radio	a Enter the contact number. b Press Send .

14.9

Predefined Templates

Predefined message templates are programmed into your radio.

14.9.1

Viewing Predefined Templates

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**Predefined**.
- 3 Highlight the required template and press **Menu** key.
- 4 Select **View**.

14.9.2

Sending Predefined Templates

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**Predefined**.
- 3 Highlight the required template.
You can edit the predefined template before you send it. Press the **Menu** key and select **Edit**. The edit screen opens with the template text. You are only allowed to replace the existing text.
- 4 To send the template, perform one of the following actions:
 - Select **Send**.
 - Press the **PTT** button.
 - Press the **Send** key.

14.10

Status Messages

There are two types of status messages: statuses and targeted statuses. Your service provider determines which type is enabled on the radio.

14.10.1

Viewing a Status Message Number

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**Send Status**.
- 3 Press the **Menu** key and select **View**.

14.10.2

Sending Status Messages

When and where to use: Status messages are sent to either a selected talkgroup or a programmed private number. Only one option can be enabled at a time.

- If sending statuses to talkgroups is enabled, switch to the talkgroup to which you want to send a status message.
- If sending statuses to private numbers is enabled, no action is needed. The private number is set up by your service provider.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**Send Status**.
- 3 Send status messages by using one of the following options:

Option	Actions
Sending existing status messages in your radio	- a Select the required status message. - b Perform one of the following actions: • Press Select. • Press the PTT button. • Press the Send key.
Sending status messages using a status number or if the status list is empty	- a Enter a 5-digit status message number. - b Press Send.

14.10.3

Sending Targeted Status Messages

When and where to use: Targeted Status Messages are sent to any talkgroup defined for your radio or any private number from the contact list or entered manually.



NOTE: This feature is not supported on Dimetra networks.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**Send Status**.
- 3 Send status messages using one of the following options:

Option	Action
Sending existing status messages in your radio	a Select the required status message. b Press the Send key.
Sending status messages using a status number or if the status list is empty	a Enter a 5-digit status message number. b Press Send .

- 4 Select a recipient using one of the following options:

Option	Actions
Sending to a private number	a Enter the number or press abc to select the name from your contact list. b Press the Send key.
Sending to a talkgroup	Select the required talkgroup from the TalkGroup List

The display shows one of the following delivery reports:

- Status Sent
- Status Failed

14.11

Managing Additional Address

The Additional Address feature allows the radio to send Radio Messaging System (RMS) messages and Local Information Protocol (LIP) reports to additionally defined recipients.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Messages**→**Additional Address**.
- 3 Manage additional addresses by using one of the following options:

Option	Actions
Enabling or disabling Additional Address	a Select Enable . b Select one of the following options: • On – To activate. • Off – To deactivate.
Selecting additional addresses	a Select Select Address . b Scroll to select the alias of the Additional Address and press Select .
Viewing additional addresses	a Select Select Address . b Scroll to select the alias of the Additional Address you wish to view. c Press the Menu key.

Option	Actions
	d Select one of the following options: • Edit – for User Defined Additional Address alias. • View – for Pre-defined Additional Address alias. The display shows the Alias, the ISSI/ITSI/GSSI and the Status of the address (Pre-Defined or User Defined).
Entering new additional addresses	a Select Select Address. b Select [New Address]. c Press Change key. d Enter new values of the Alias and ISSI/ITSI/GSSI fields, press Done key. The new alias appears in the list of available aliases. There is no possibility to have two Additional Address items with the same Additional Address Alias.
Editing additional addresses	 NOTE: Applicable only for User-Defined positions. a Select Select Address. b Scroll to select the alias of the Additional Address you wish to edit. c Press Menu key. d Select Edit. e Press Change key. f Enter new values of the Alias and ISSI/ITSI/GSSI fields, press Done key. The changed alias appears in the list of available aliases. There is no possibility to have two Additional Address items with the same Additional Address Alias.
Deleting additional addresses	 NOTE: Applicable only for User-Defined positions. a Select Select Address. b Scroll to select the alias of the Additional Address you wish to delete. c Press Menu key. d Select Delete and confirm deletion by the OK key.

14.12

Setting Call-Out Availability

Prerequisites: Contact your service provider to enable the Call-Out Availability feature.

Procedure:

- 1** From the home screen, press the **Menu** key.
- 2** Select **Messages**→**Call-Out Availability**.
- 3** Select one of the following options:
 - **Available**
 - **Not available**

Chapter 15

Contacts

Contacts feature offers “address-book” capabilities on your radio. Each entry matches the alias (name) and ID (number) that used to initiate a call.

Contacts from your radio can placed into multiple folders inside your address book. Folder name can be edited when creating the folder or when adding or editing a new contact (if configured).



NOTE: You can enter a maximum of 15 characters when naming the folder.

Contact entries are sorted alphabetically according to entry alias. Each alias can be associated with up to five IDs of different call forms.

15.1

Creating Contacts

Procedure:

- 1 From the home screen, press **Contacts** key.
- 2 Select **[New Contact]**.
- 3 Highlight **Name** and press **Change**. Enter the name of your contact and press **OK**.
- 4 Highlight **Folder** and press **Change**.



NOTE: If you save a new contact and change its contact folder, the contact is saved in both “All” folder and the selected contact folder. If you save the new contact without change its contact folder, the contact appears in “All” folder only.

- 5 Highlight **Type** and press **Change**. Select the required type of your contact.



NOTE:
You can also use the **Left** and **Right** Navigation keys to select the type of your contact.
If **Private** is selected, you can set the hook method for **Simplex** and **Duplex** calls (if the respective Private Call Hook Customization is enabled).

- 6 Highlight **#** (number) and press **Change**. Enter the number of your contact and press **Ok**.
- 7 If needed, highlight **Speed #** and press **Change**. Enter the speed dial number (1–1000) and press **OK**.



NOTE: If the entered number exist, the radio displays **Overwrite?**. Press **Yes** to confirm, or **No** to enter the speed dial number again.

- 8 Press **Done**.

You have created a contact with one number. To add more numbers, repeat steps [step 5–step 7](#).

15.2

Editing Contacts

Procedure:

- 1 From the home screen, press **Contacts** key.
- 2 Select the contact you want to edit.

- 3 Press the **Menu** key.
- 4 Press **Edit**.
- 5 Select one of the following entries and press **Change** to edit it:

- **Name**
- **Folder**



NOTE:

- When **No Folder** is selected, the contact is removed from its original folder.
 - When changing a contact to a folder where the contact already exists, no changes are made.
 - When changing a contact to a new folder, the contact is added to the new folder and removed from the previous folder.
 - When a folder has reached its maximum capacity, a notification is displayed.
- **Type**
 - **#** (number)
 - **Speed #**
 - **Simplex**
 - **Duplex**



NOTE: **Simplex** and **Duplex** options are only available if the contact **Type** is Private and the respective Private Call Hook Customization is enabled.

- 6 Press **Done**.

15.3

Searching Contacts

Procedure:

To search for contacts, perform one of the following options:

Options	Actions
Search from Contacts Menu	a From the home screen, press the Con-tacts key. b Type in your contact using the keypad.
Search from Contacts Folder	a From the home screen, press the Con-tacts key. b Select a folder. c Type in your contact using the keypad.

15.4

Deleting Contacts and Numbers

Deleting Contacts

Procedure:

- 1 From the home screen, press **Contacts** key.
- 2 Highlight a contact you want to delete.
- 3 Press the **Menu** key.
- 4 Select **Delete Contact**.
- 5 Select **Yes**.

Deleting Numbers

Procedure:

- 1 From the home screen, press **Contacts** key.
- 2 Select a contact you want to edit.
- 3 Highlight the required number you want to delete.
- 4 Press **Menu**.
- 5 Select **Delete number**.



NOTE: If an entry contains only one number, deleting the number deletes the entry.

- 6 Press **Yes**.

15.5

Checking Capacity

When and where to use: To see how many numbers are stored in the radio.

Procedure:

- 1 From the home screen, press **Contacts** key.
- 2 Press the **Menu** key.
- 3 Select **Capacity**.
- 4 Select one of the following options:
 - **Private**
 - **Phone/PABX**
 - **Contact**

15.6

Dialing through the Contact List

Procedure:

- 1 From the home screen, press **Contacts** key.
- 2 Select the required contact or enter up to 12 characters of the contact name.

- 3 If the contact has more than one number, use **Left** and **Right** Navigation keys to select the required number.
- 4 To initiate a simplex call, press the **PTT** button with a **Private** number. Otherwise use the **Send** key to initiate a duplex call.

Chapter 16

Pictures

The Pictures menu activates the Picture Browser for saved pictures in the microSD card or internal radio memory.

16.1

Starting the Picture Browser

Procedure:

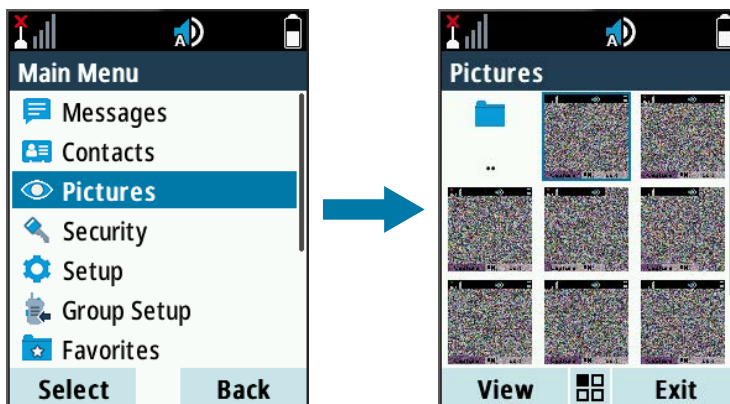
- 1 From the home screen, press the **Menu** key.
- 2 Select **Pictures**.

The Picture Browser starts.

16.2

Navigating in Multi-Picture View

Procedure:



- 1 Navigate the Picture Browser in Multi-Picture View by using one of the following options:

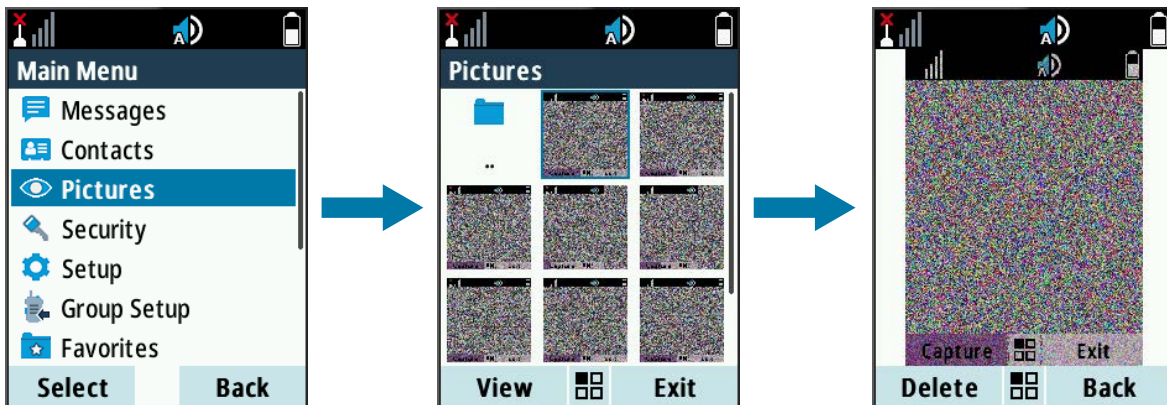
Option	Actions
Highlighting another item	- Press the Navigation keys or rotate the Rotary Knob. - To move from the first to the last item, press the Left/Down Navigation key or rotate the Rotary Knob anticlockwise. - To move from the last to the first item, press the Right/Down Navigation key or rotate the Rotary Knob clockwise.
Displaying content of a folder	a Highlight the folder and press Select.

Option	Actions
	b Highlight the folder and press the Rotary Knob .
Returning to the previous folder or going up a level	Highlight the folder in the upper left corner of the display (with three dots) and press Select .
Displaying a picture in full screen view	a Highlight the picture and press View . b Highlight the picture and press the Rotary Knob .
Returning to the main menu	Press Exit .
Viewing more options for pictures	Highlight the picture and press the Menu key.

16.3

Navigating in Full Screen View

Procedure:



- 1 Navigate the Picture Browser in Full Screen View by using one of the following options:

Option	Actions
Displaying the previous picture	Press the Left navigation key.
Displaying the next picture	Press the Right navigation key.
Zooming-in a picture by one level	Perform one of the following actions: • Press the * key. • Rotate the Rotary Knob clockwise.  NOTE: Zoom up to five levels.
Moving the displayed area of the zoomed picture	Press the Navigation keys.
Returning to the Full Screen View from the zoomed view	Perform one of the following actions: • Press Cancel. • Press the Rotary Knob.

Option	Actions
Returning to the Multi-Picture View	Perform one of the following actions: • Press Back. • Press the Rotary Knob.
Removing a picture	Press Delete .

16.4

Managing Comments in Pictures

A comment can have a maximum of 144 characters. If the Digital Fingerprint feature is active or the picture exceeds 3 MB, adding and editing comments are disabled.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Pictures**.
- 3 Highlight the required picture and press the **Menu** key.
- 4 Select **Comment**.
- 5 Perform one of the following actions:
 - Enter a new comment.
 - Edit an existing comment.
- 6 Confirm changes by pressing **Save**.

Chapter 17

Man Down (Fall Alert)



NOTE: This is a Software Selling Feature.

Man Down (henceforth known as Fall Alert) alerts when no movement occurs for a set time or the radio stays at an angle of tilt below a defined value. The radio alerts you when:

- Its tilt exceeds a predefined angle value.
- No movement is detected in a predefined time interval.

17.1

Setting Man Down (Fall Alert)

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Man Down** (henceforth known as Fall Alert).
- 3 Select one of the following options:
 - **On** – Activates the feature.
 - **Off** – Deactivates the feature.

17.2

Exiting Man Down (Fall Alert)

Procedure:

To exit Man Down (henceforth known as Fall Alert), do one of the following:

- Press and hold the **Exit** soft key.
- Press the **PTT** button.

Chapter 18

Security

Security menu stores all your security settings.

18.1

Selecting Key Index



NOTE: Applicable only for ETEE model (microSD card based), use MR2021.1 and above for HSM card model.

You are allowed to change the index set name of the active key in the radio using the End-to-End Index Set Change feature. The feature End-to-End Index Set Change is enabled by your service provider.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Security**→**E2E options**→**Sel Key Idx**.

18.2

Managing PIN Protect

PIN Protect allows you to configure PIN code authentication at the next power on.



NOTE: To increase security, set your own PIN code. By default the PIN code are all zeros (depending on the length of the PIN code). For radios with general PIN authentication, the PIN length is a fixed 4-digit code. For radios with BSI and SPECTRA PIN authentication, the PIN length is configurable by your service provider up to a maximum of 8-digit code. Customers are strongly advised to change the default PIN code in order to protect devices from unauthorized access.

Protecting the Radio with a PIN Code

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Security**→**PIN Protect**.
- 3 Select **On**.
- 4 Enter the PIN code.

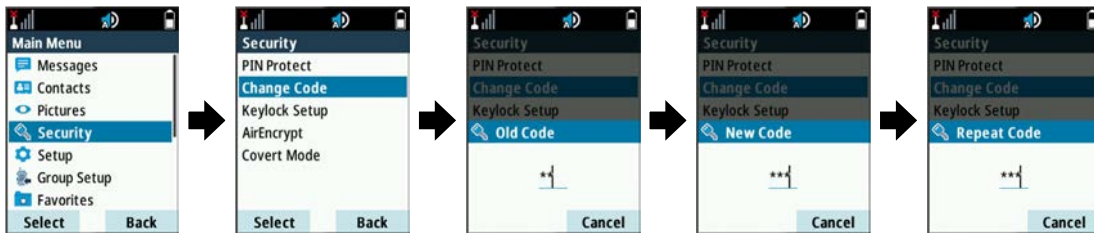
Postrequisites: Each time you turn on the terminal, PIN code is required.

Changing PIN Codes



NOTE: This feature is only available when enabled by your service provider.

Procedure:



- 1 From the home screen, press the **Menu** key.
- 2 Select **Security**→**Change Code**.
- 3 Radio prompts for the **Old Code**.
- 4 If the entered code matches the old code, radio prompts for the new code twice.

Your radio displays **Code Accepted**.

18.3

Managing Keypad Lock

Keypad Lock lock the keypad on your radio.



NOTE: By default, the **Power** and **Emergency** buttons are always operative when the keypad is locked.

Locking Keypad

Procedure:

Perform one of the following actions:

- Press **Menu** and select **Security**→**Keylock Setup**→**Lock Keypad**.
- Press the predefined menu shortcut.

Unlocking Keypad

Procedure:

Press **Menu**→*****.

Setting Automatic Keylock Delay

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Security**→**Keylock Setup**→**Delay**.
- 3 Use **Up** and **Down** Navigation keys to change the minutes and press **Done**.

Setting Keylock on Startup

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Security**→**Keylock Setup**→**Start Locked**.
- 3 Select one of the following options:

Option	Description
On	Enables keypad lock on the radio at next power on.
Off	Disables keypad lock on the radio at next power on.

18.4

Managing Air Encryption



NOTE: This is a Software Selling Feature.

Air Encryption enables encryption of entire communication between the radio and infrastructure, which results in increased security of calls, messages, and data.

Viewing Air Encryption State

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Security**→**AirEncrypt**.

Your radio displays:

- Air Encryption Is Off – The Air Encryption is not activated.
- Air Encryption Is On – The Air Encryption is activated.

Deleting User Keys



IMPORTANT: The key deletion takes up to 30 seconds. During this period, the battery must not be removed. Removing the battery during this period may lead to radio malfunction.

Prerequisites: Ensure that the user key deletion is enabled in the codeplug.

Procedure:

Press *→*→0→0→#→#.

Encryption and/or Authentication keys are deleted. The radio enters Temporary Disable state and the service provider must manually restore it.

18.5

Verify Key Validity

Key (K) is a secret key the infrastructure uses to authenticate your radio in the system providing service confidentiality between your radio and the system. Static Cipher Key (SCK) is a secret key used for the Air Interface Encryption Class 2. It is used to encrypt calls and data in TMO and DMO. The SCKs used in TMO are called TMSCKs and SCKs used in DMO are called DMSCKs.

When and where to use: To ensure that the authentications in your radio are valid and can be used for encryption.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Security**.
- 3 Select one of the following options:

Option	Actions
K Validity	Your radio displays: • <code>K is Valid</code> – The infrastructure can authenticate your radio. • <code>K is Invalid</code> – The infrastructure is unable to authenticate your radio. Contact your service provider to restore the key to your radio.
TMSCK Validity	Your radio displays: • <code>TMSCK is Valid</code> – The radio can work encrypted in TMO. • <code>TMSCK is Invalid</code> – The radio cannot work encrypted in TMO. Contact your service provider to restore SCKs to your radio.
DMSCK Validity	Your radio displays: • <code>DMSCK is Valid</code> – The radio can work encrypted in DMO. • <code>DMSCK is Invalid</code> – The radio cannot work encrypted in DMO. Please contact your service provider to restore SCKs to your radio.
DMO SCK	 IMPORTANT: Changing this setting may cause radios not to operate correctly. a Press Next . b Select one of the following options: • Yes – To change the key. • No – To leave the key.

18.6

Setting Covert Mode



NOTE: This is a Software Selling Feature.

Covert Mode enables you to completely shut down all visible and audible alerts and notifications, making the radio unnoticeable even in a silent and dark environment.

Activating Covert Mode

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Security**→**Covert Mode**.
- 3 Select one of the following options:

Option	Description
On	• All tones are set to off. • Backlight and the LED are disabled immediately • Group audio is routed to the earpiece. • Your radio displays: <i>Covert Mode On</i>.
Off	• All settings for tones, backlight and audio are restored. • Your radio displays: <i>Covert Mode Off</i>.

Setting Vibrate in Covert Mode

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Security**→**Covert Mode**→**Vibrate**.
- 3 Select one of the following options:

Option	Description
On	Restore all vibrations.
Off	Disable all vibrations.

18.7

Setting Remote Control

There are two types of remote control, Short Data Service (SDS) Remote Control and Status Remote Control. Only one type of remote control can be active on your radio.



NOTE: SDS Remote Control is a Software Selling Feature.

When and where to use: To toggle remote control

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Security**→**Remote Control**.
- 3 Select **On** to enable, or **Off** to disable remote control.

Chapter 19

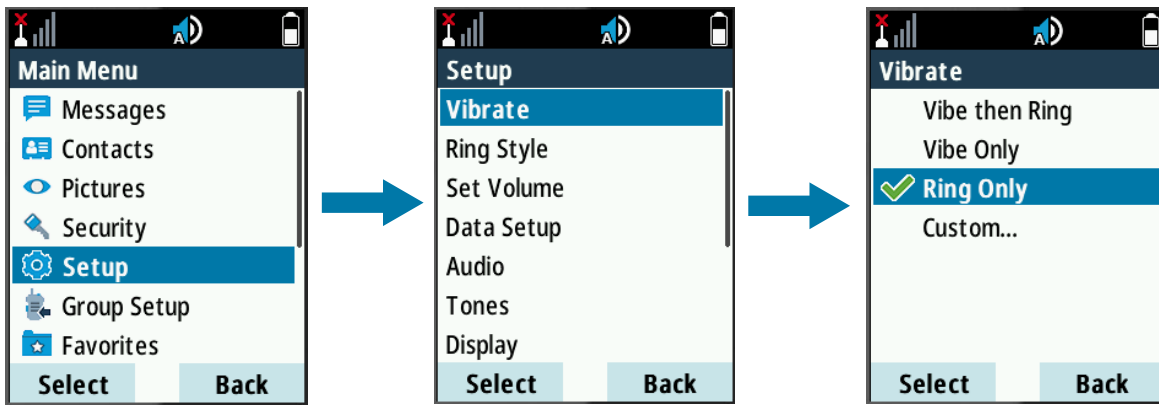
Setup

The Setup menu allows you to change the general configuration on your radio.

19.1

Setting Detail Vibrate

Procedure:



- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Vibrate**→**Custom....**
- 3 Depending on the type of calls, configure vibrate settings by performing one of the following actions.

Option	Actions
Phone, PABX, and Duplex Private Call	- Select Duplex Calls. - Select one of the following options: • Vibe then Ring • Vibe Only • Ring Only
Simplex Private Call	- Select Simplex Calls. - Select one of the following options: • Vibe then Ring • Vibe Only • Ring Only
Group Call	- Select Group Call. - Select one of the following options:

Option	Actions
	• Vibe On • Vibe Off
Status Messages and Text Messages	a Select Mail Rcvd. b Select one of the following options: • Vibe then Ring • Vibe Only • Ring Only

19.2

Setting Ring Style

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Ring Style**.
- 3 Select one of the following options:

Option	Description
Duplex	To set a new ring style for all incoming duplex calls.
Simplex	To set a new ring style for all incoming simplex calls.
DMO Simplex	To set a new ring style for all incoming Direct Mode Operation (DMO) simplex calls.

The display shows the current ring style used.

- 4 Scroll to the desired style and press **Select**.
The new ring style is played immediately for a few seconds. If necessary, adjust the volume level.

19.3

Setting Volume

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Set Volume**.
- 3 Select **Speaker** or **Earpiece**.
- 4 Select one of the following options:

Option	Description
Voice Vol	Sets the volume level for voice.
Duplex Vol	Sets the volume level for duplex ringtones.
Simplex Vol	Sets the volume level for simplex ringtones.

Option	Description
Keypad Vol	Sets the volume level for keypad tones.
Tones Vol	Sets the volume level for alert tones.
Call-Out Vol	Sets the volume level for Call-Out tones (if enabled).



NOTE: If the display shows only one option **Volume**, you can adjust all of the above settings at once. You have the option to change the settings individually when the **Volume Adj. Mode** is set to **Individual**.

- 5 Press **Right** or **Left** Navigation key to change the value.



NOTE: When the battery level is low it is not recommended to attach the 4 Ω speaker to the radio as it can cause reset or shutdown of the radio.

19.4

Setting Language

Prerequisites: Your service provider sets the available list of languages.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Language**.
- 3 Select desired language.

19.5

Setting Data Function

You can set up your radio to transmit and receive data from an external device.



NOTE:

When set to Voice Only, the built-in data modem is disabled to conserve battery power.

Prerequisites:

Connect your radio accessory connector to an external device using the PMKN4127 or PMKN4129 cable.

The external device must run an application complying with TETRA standards.

Enter Trunked Mode Operation (TMO) only and not Transmit Inhibit Mode (TXI).

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Data Setup**.
- 3 Select one of the following options:

Option	Description
Voice Only	Your radio receives and transmits voice calls only.
Data Only	Your radio acts as a modem. It rejects incoming and outgoing voice calls (except for Emergency Calls), status and text messages.
Voice & Data	Your radio acts as a modem but voice calls have priority over data calls and can interrupt them.

19.6

Setting Audio

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Audio**.
- 3 Set audio by using the following options:

Option	Actions
Adjusting audio parameters in the current operating environment	- a Select Audio Profile. - b Select a required profile.
Setting the howling suppression mode	- a Select Howling Suppr. - b Select the required setting.  NOTE: Howling suppression increases the stability of the acoustic feedback loop. Your service provider can set up the state of the howling suppression on powering up the radio. Depending on the settings, the radio can either disable the howling suppression or set the last remembered state.
Setting the noise suppression mode	- a Select Noise Suppr. - b Select one of the following options: • Disabled - Disable noise suppression. • Basic - Enable basic noise suppression. • Advanced¹ - Enable dual microphone noise suppression. • Wind Suppr.¹ - Enable dual microphone noise suppression with wind suppression capability.
Controlling audio routing between the speaker and ear-piece for private or group call	- a Select Audio Toggle. - b Select one of the following options: • Always Loud - For high audio to come from the speaker. • Spkr Cntrl - For audio to go through the ear-piece or speaker.
Setting the volume to Individual or Common	- a Select Volume Adj. Mode. - b Select Individual or Common.
Setting extra loud volume on accessories	a Select Extra Loud Accry.

¹ Option is only available when the Software Selling Feature Dual Microphone Noise Suppression is enabled.

Option	Actions
	b Select Enabled or Disabled .  NOTE: When enabled, warning messages will be prompted.

19.7

Setting Tones

Your radio has two tone packs that is Classic Tones (default) and New Tones.

Prerequisites: Contact your service provider to enable a tone pack.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Tones**.
- 3 Set tones by using the following options:

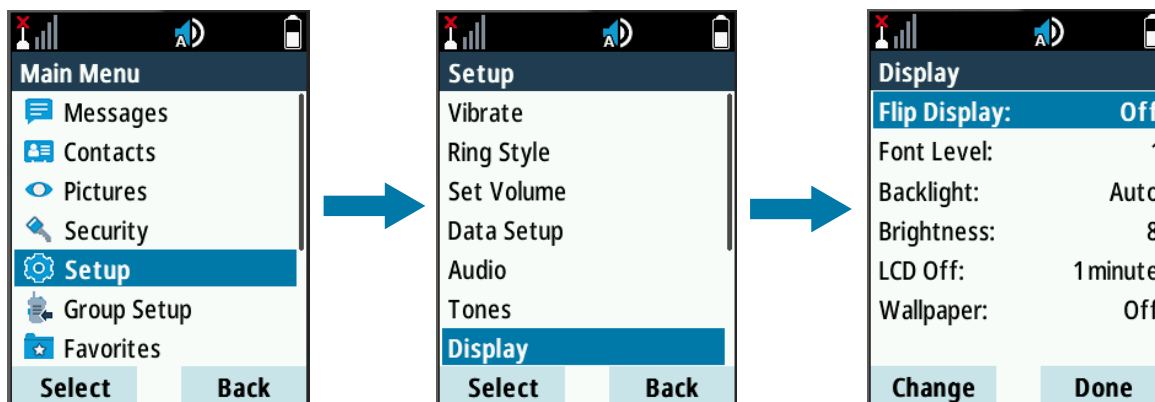
Option	Actions
Keypad Tone	a Select Keypad Tone . b Select On or Off .
All Tones	a Select All Tones . b Select On or Off .
Tone indication when pressing the PTT button	a Select Talk Permit . b Select one of the following options: • No Tone - No tone heard upon pressing the PTT button. • Short Tone - Short tone heard upon pressing the PTT button. • Normal Tone - Normal tone heard upon pressing the PTT button. or .
Tone indication when a recipient is ready to receive transmission	a Select Clear to send . b Select Tone On or Tone Off .
Tone indication for missed calls, unread messages, and low battery level	a Select Periodic Alert . b To activate or deactivate periodic tones, select Alert . c To indicate the time between each periodic tone, select Period .
D-PTT tone when your radio is idle or in a Group Call	a Select D-PTT Tones . b To activate or deactivate D-PTT tones, select D-PTT Mode .

Option	Actions
	c To indicates how many times the D-PTT tone is played, select Tone Style .

19.8

Setting Display

Procedure:



- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Display**.
- 3 Set the display by using the following options:

Option	Actions
Adjusting font size	a Select Font Level. b Perform one of the following actions: • For small font size, select 1. • For medium font size, select 2. • For large font size, select 3.
Configuring the screen saver on the home screen	a Select Screen Saver. b Perform one of the following actions: • To display the screen saver when your radio is inactive for a pre-determined period, select Activate→Auto. • To disable the screen saver, select Activate→Disabled. • To set the text on the screen saver, select Text.  NOTE: The color display tones down to eight colors in screen saver mode.

Option	Actions
Adjusting backlight	a Select Backlight. b Perform one of the following actions: • To illuminate backlight when your radio is turning on, charging, receiving signals, and when pressing keys on your radio or connected accessory, select Auto. • To illuminate backlight when your radio is turning on, charging, or when the backlight One-Touch button is pressed, select Semi Auto. • To disable backlight for a dimmed display, select Disabled.  NOTE: The color display tones down to eight colors when you disable backlight for a dimmed display.
Adjusting the brightness for display and keypad according to ambient light	a Select Brightness. b Perform one of the following actions: • To manually adjust the brightness level, select Level. • To enable or disable automatic adjustment to ambient light, select Automatic.
Adjusting the display timer	a Select LCD Off. b Set the timer to determine how long the display remains on in idle by selecting one of the following options: • Disabled • 30 seconds • 1 minute • 2 minutes • 5 minutes • 15 minutes • 30 minutes  NOTE: When you set the timer to Disabled, the display remains on all the time.
Enabling or disabling the wallpaper for the home screen	a Select Wallpaper. b Select On or Off.
Changing the display of main menu items	a Select Menu Layout. b Perform one of the following actions: • To display menu items in a list, select List.

Option	Actions
	To display menu items in 3 x 3 grid icons, select Grid.

19.9

Setting Time and Date



NOTE: If the Home Display Text Message feature is enabled, Home Mode Display Text may cover time and date, depending on the Configurable Idle Screen settings. Infrastructure synchronizes the time and date. When not within the infrastructure signal range you can set the values manually.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Time & Date**.
- 3 Set the time and date by using the following options:

Option	Actions
Displaying the time and date on your home screen	- Select Display. - Perform one of the following actions: - To display the time and date, select Time & Date. - To display the time only, select Time Only. - To display the date only, select Date Only. - To disable the time and date display, select Off.
Formatting the time	- Select Format→Format Time. - Select one of the following options: 12-Hour 24-Hour
Formatting the date	- Select Format→Format Date. - Select one of the following options: DD/MM/YY MM/DD/YY DD-MON-YY YY/MM/DD
Setting the time and date manually	- Select Set. - Select one of the following options and adjust the value with the Navigation keys or keypad. Set Time

Option	Actions
	• Set Date • Time Offset c Press Done.  NOTE: The offset value is adjusted with 15 minute steps, up to 14 hours ahead or behind.
Setting automatic updates for the time and date	a Select System Update. b Perform one of the following actions: • To use internal time and offset, ignoring updates from the infrastructure, select Off. • To update time from the offset programmed by your service provider from the infrastructure time, select Time Only. • To update time and offset received from the infrastructure, select Time & Offset.

19.10

Setting Energy Economy

Energy Economy (EE) is a mode of operation to save battery life.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Energy Economy**.
- 3 Set Energy Economy by using the following options:

Option	Actions
Enabling or disabling Energy Economy	a Select EE Selection. b Select On or Off.
Viewing the Energy Economy status	Select EE Status .

19.11

Selecting Transmission Power Class



NOTE: This is a Software Selling Feature.

Transmission Power feature enables your radio to choose whether to transmit with Class 3, Class 3L, or Class 4. The RF Power icon indicates when the radio uses this feature.

When and where to use: Use this procedure when you are entering the area that requires higher signal strength.

Procedure:

- 1 From the home screen, press the **Menu** key.

- 2 Select **Setup**→**RF Power**.
- 3 Select one of the following options:

Option	Description
Hi RF Power	Activates Transmission Power Class.
Normal RF Pwr	Deactivates Transmission Power Class.



NOTE:

- Changing RF Power Class to **Normal RF Pwr** during calls may result in dropping the call. The power level may be not sufficient to sustain the transmission.
- Battery consumption is higher when **Hi RF Power** is selected.

19.12

Selecting Accessory Setup

You can connect IMPRES, CORE, Other, or Secondary accessories to the radio side connector.



NOTE: Availability of Accessories Setup might vary depends on configuration

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Accry Setup**.
- 3 Select one of the following options:

Option	Description
Auth. RSM	Select an accessory from the list of authenticated third-party RSM.
Auth. EARP/PHF	Select an accessory from the list of authenticated third-party headset (receive-only earpiece or with PTT PHF).
Secondary Accry	Specify if the accessory is connected to the RSM.
Bluetooth Headset	Select an accessory from the list of available Bluetooth headsets.



NOTE: Depending on the configurations, Accry Setup will list out additional items.

19.13

Editing Book On Settings

The Book on Setup menu item allows you to edit RUA/RUI feature settings to automatically accept or reject book on requests.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Book on Setup**.
- 3 Select one of the following options:

Option	Description
Book on Accept	Your radio accepts all book on requests.
Book on Reject	Your radio rejects all book on requests without any notification.

19.14

Setting Rotary Knob

The Rotary Knob menu item allows you to set all the related functionality of the **Rotary Knob**.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Rotary Knob**.
- 3 Set the rotary knob by using the following options:

Option	Actions
Setting the mode for the Rotary Knob	- a Select Rotary Mode. - b Perform one of the following actions: • To enable both volume and scroll modes, select Dual. • To control volume, select Volume. • To change talkgroups or scroll through menus, select Scroll.
Setting the lock function for the Rotary Knob	- a Select Rotary Lock. - b Perform one of the following actions; • To lock the Rotary Knob, select Locked. • To unlock the Rotary Knob, select Unlocked. • To disable the lock function, select Disabled.
Setting the Rotary Knob function when the keypad is locked	- a Select In Keypad Lock. - b Perform one of the following actions: • For volume setting and scrolling, select Lock None. • For scrolling only, select Lock Volume. • For volume setting only, select Lock Scroll. • To disable both volume setting and scrolling, select Lock Both.
Enabling or disabling continuous scrolling in a talkgroup list	- a Select Wrap Around. - b Select On or Off.
Setting the scrolling range in a talkgroup list	- a Select Scroll Range. - b Perform one of the following actions: • For scrolling through talkgroups in the current folder only, select Stay In Range.

Option	Actions
	For scrolling through all talkgroups and folders, select Scroll To Next.
Enabling or disabling a confirmation prompt before selecting a talkgroup	a Select Confirm TG Sel.. b Select On or Off.
Setting the Side Button function	a Select Function Keys. b Perform one of the following actions: - To set the function according to the Rotary Mode, select Side. - To set the function for volume setting, select Volume Adjust.. - To set the function to predefined One-Touch Button features, select OTB Feature.

19.15

Entering Car Kit Settings

The car kit connects accessories to your radio in a car and enables you to operate your radio hands-free. You can connect visor microphones, external speakers, handsets, external Push-to-Talk (PTT), and external emergency buttons through the car kit.



NOTE: An external TETRA or GPS antenna connected to the cradle improves signal reception.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Car Kit**.
- 3 Set the car kit by using the following options:

Option	Actions
Activating or deactivating external speakers	a Select Spkr On/Off. b Select Speaker On or Speaker Off.
Enabling or disabling extra sound and light notification on incoming private calls	a Select Horn&Lights. b Select On or Off.
Enabling or disabling vibration	a Select Vibrate. b Perform one of the following actions: - To disable vibration, select Always Ring Only. - To enable vibration as defined in the Vibrate menu, select Normal Settings.
Setting the radio display when connected to a car kit	a Select Display→Flip Display.

Option	Actions
	b Perform one of the following actions: • For normal display, select Off. • For flipped display, select On.
Defining the backlight function when connected to a car kit	a Select Backlight . b Perform one of the following actions: • To turn on backlights by pressing any button, select Auto. • To keep backlights off, select Disabled. • To turn on or off backlights by pressing a function button, select Semi Auto. • To keep backlights on, select On.
Defining accessories connected to a car kit	a Select Accessory Setup . b Select one of the following options: • GCAI Accessory • Visor Microphone • External Speaker  NOTE: Visor microphones and external speakers must be configured to operate your radio with a car kit.

19.16

Changing the USB Settings Mode

USB Settings allows you to set the mode that your radio enters when connected to a computer.

Prerequisites:

Your radio only supports the following characters to compose file names:

- Numeric digits
- English alphabetic characters
- Space
- Non-alphabetic characters: ! # \$ % & ' () - @ ^ _ ` { } ~.



NOTE: Before using non-alphabetic characters, ensure that your computer system supports them.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**USB Settings**.
- 3 Press **Change**.
- 4 Select one of the following options:

Option	Description
Mass Storage	Manage pictures that are stored in the internal flash memory or microSD card on a computer. Installing additional applications is not required. When you connect your radio to the computer, you can manage pictures from the My Pictures and My Received Files folders.
Peripheral Equipment Interface (PEI)	Enables communication with your radio using standard protocols from the European Telecommunications Standards Institute (ETSI). You can manage pictures, radio settings, and services. This mode provides access for external applications.

19.17

Selecting Default Setting

The Default Settings sub-menu item resets your radio back to default settings.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Def. Settings**.
- 3 To confirm, press **Yes**.

Chapter 20

Bluetooth

The Bluetooth menu allows you to manage the Bluetooth feature.

20.1

Enabling Discoverable Mode

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Bluetooth**→**Discoverable**.

Your radio remains discoverable to other Bluetooth-enabled devices for the configured time.

20.2

Adding Bluetooth Devices

Prerequisites:

For sensor devices and radio control devices, contact your service provider to add them into the radio codeplug.

Examples of sensor devices are barcode scanners and heart rate sensors.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Bluetooth**→**Add Device**.

20.3

Configuring Bluetooth Settings

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Bluetooth**→**Settings**.
- 3 Select one of the following options:

Option	Description
Bluetooth	Enables or disables Bluetooth.
Name	Edits the name of your radio. This name is visible to other remote devices.
Discoverable	Defines how long your radio remains discoverable.
Indications	Enables or disables audible indications from your radio during Bluetooth actions.
Audio	Determines the audio connection mode for headsets.

Option	Description
	• Power Optimized – The Bluetooth audio link is released when there is no active call. This option increases the battery life time, but causes a delay in the call setup time for group calls. This delay can cause audio loss on some headsets. • GC Optimized – The Bluetooth audio link is kept open all the time. This option ensures that audio in group calls is not delayed and the audio link is not lost, but shortens the battery life time.  NOTE: This setting does not affect the Motorola Solutions headset with PTT (NNTN8143_ or NNTN8191_) as it is always in the GC Optimized mode.

20.4

Pairing Bluetooth Devices with Your Radio

Pairing is a process that creates a link between two Bluetooth-enabled devices. Once paired, devices remember each other and every subsequent connection between them is authenticated automatically.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Bluetooth**→**Add Device**.
The device that you want to connect with must be in pairing mode.
- 3 Highlight the required device and select **Connect**.
Improve the connection between an accessory and your radio by pressing the **PTT** button on the accessory.
- 4 If needed, enter a PIN code or a passkey.



NOTE: If you enter an incorrect PIN code and the subsequent pairing take too long or result in an error message, power cycle the Bluetooth device. Your radio accepts three attempts.

20.5

Pairing with Devices Using NFC Tag

Near-Field Communication (NFC) is a wireless technology used to ease pairing between two NFC-enabled devices. Your radio and the device must be close together.

Procedure:

- 1 Touch the NFC tag of the device to the NFC tag of your radio.
The device prompts you to confirm pairing with the radio.
- 2 Select pairing confirmation on the device.

Bluetooth standard pairing process occurs between your radio and the device.

20.6

Connecting Devices



NOTE: If Secure Connection Only is enabled for your radio, your radio only connects to accessories that support secure connection. Your radio can only pair with one device using secure connection.

Prerequisites:

- To connect to specific devices, contact your service provider to configure your radio.
- Use only pre-approved sensor devices such as barcode scanners and heart rate sensors.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Bluetooth→Devices**.
- 3 Highlight the required device and press **Menu/OK**.



NOTE:

Depending on languages installed on the radio, some characters in names of devices might not be displayed properly.

Radio-initiated automatic reconnection with several remote Bluetooth devices at the same time cannot be guaranteed to be successful in 100%, due to the fundamental nature of Bluetooth. In case the reconnection fails after a power cycle, reconnect the device manually.

- 4 Select **Connect**.

20.7

Disconnecting Devices

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Disconnect devices from your radio by using one of the following options.

Option	Actions
Disconnecting a device	a Select Bluetooth→Devices . b Highlight the required device and press Disconnect .
Disconnecting all devices	Select Bluetooth→Disconnect All .

20.8

Managing Devices

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Bluetooth→Devices**.
- 3 Highlight the required device and press the **Menu** key.
- 4 Select one of the following options:

Option	Description
Name	Displays the name of the device. The name is editable only if your service provider did not pre-set it.
Type	Displays the type of device. This menu item cannot be configured.
Delete	Removes the device from the list of paired devices.

20.9

Setting Indoor Location



NOTE: Your service provider can enable this feature.

The use of the Indoor Location feature may have a small and negligible impact on other Bluetooth functions on your radio.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Bluetooth**→**Indoor Location**.
- 3 Select **Change**.
- 4 Select **On** or **Off** to activate or deactivate Indoor Location.

Your radio is now able to detect Bluetooth location beacons when Indoor Location is activated.

20.10

Viewing Detected Beacons

Prerequisites: Turn on Indoor Location. If Indoor Location is turned off, the screen displays *Service Restricted*.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Bluetooth**→**Indoor Location**.
- 3 Select **Beacons Found**.
- 4 Select the preferred beacon.

The screen displays details of the beacon.

Chapter 21

Browser

Browser menu activates a WAP browser to browse the Internet from your radio.

21.1

Using the Browser

Setting Up Data

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Setup**→**Data Setup**.
- 3 Select to **Data Only** or **Voice & Data**.

Entering the Browser

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Browser**.
- 3 To exit the browser, press and hold the **End** key.

Entering Browser Menu Panes

Procedure:

- 1 Press the **Menu** key.
Your radio displays the Navigate pane or the last browser menu pane.
- 2 If you navigate to a web page that has two or more soft keys options, the **Options** pane appears. Perform one of the following actions:
 - In the **Options** pane, scroll to other panes by pressing the **Left** or **Right** navigation keys.
 - Select **Browser Menu** and scroll to the required pane.

Exiting the Browser

Procedure:

To exit the browser, press and hold the **End** key.

21.2

Tips for Browsing

Tips for methods that help with easy browsing.

21.2.1

Creating Bookmarks Using the Navigate Pane

Procedure:

- 1 Open the browser and browse to the required page.
- 2 Enter the browser menu by pressing **Menu**.
- 3 Select **Mark Page**.
The screen displays the title and URL of the marked page
- 4 Press **Save** or **Select**.
- 5 Select **Menu**.
- 6 Perform one of the following actions:
 - Confirm the created bookmark by selecting **Save**.
 - Edit the title, folder, choice, and URL of the created bookmark by selecting **Edit**.

21.2.2

Creating Bookmarks Using the Bookmarks Pane

Procedure:

- 1 Open the browser and scroll to the **Bookmarks** pane.
- 2 Select **Organise** or **More...**
The **Organise** option is for when no bookmarks are saved.
- 3 Select **Menu**.
- 4 Scroll to **New Bookmark**.
- 5 Enter the title and URL of the bookmark, and select the location of the bookmark.
- 6 Press **Save**.

21.2.3

Downloading Pages Using Bookmarks

Procedure:

- 1 Open the browser and scroll to the **Bookmarks** pane.
- 2 Scroll to the required bookmark and select **Go**.

The bookmark downloads the selected page.

21.2.4

Creating Hotkeys

Procedure:

- 1 Open the browser and scroll to the **Bookmarks** pane.
- 2 Scroll to the required bookmark and press **Menu**.
- 3 Select **Hotkeys** and an unassigned key.
The available keys are **1** to **9**.

4 Select **Assign**.

The display shows the bookmark and assigned hotkey.

21.2.5

Downloading Pages Using Hotkeys

Procedure:

- 1 Open the browser.
- 2 Download a bookmarked page by pressing and holding the corresponding hotkey.

21.2.6

Saving Pages for Offline Browsing

Procedure:

- 1 Open the browser and browse to the required page.
- 2 Press **Menu**.
- 3 Scroll to the **Tools** pane.
- 4 Select **Save Page**.
If required, you can edit the suggested page title.
- 5 Scroll down and select **Save**.

Your radio saves the page into the **Bookmarks Saved Pages** folder.

21.2.7

Selecting Saved Pages

Procedure:

- 1 Open the browser and scroll to the **Bookmarks** pane.
- 2 Select **Organise** or **More...**
The **Organise** option is for when no bookmarks are saved.
- 3 Enter the **Saved Pages** folder by selecting **Go**.
- 4 Select a saved page and press **OK**.

The display shows the saved page. Depending on the saved page, you can browse the web from there.

21.3

Managing Bookmarks

Procedure:

- 1 From the Bookmarks pane, select **Organise** or **More...**
The **Organise** option is for when no bookmarks are saved.
- 2 Scroll to a bookmark and press **Menu**.
- 3 Select one of the following options:

Option	Description
Back	To display the bookmarked page.
Details	To modify the title and URL of the bookmark.
Delete	To delete the bookmark.
New Bookmark	To create a bookmark.
New Folder	To create a folder.
Move	To move the bookmark to a new folder.
Delete All	To delete all bookmarks.
Hotkeys	To assign hotkeys to bookmarks.

21.4

Managing Saved Pages

Procedure:

- 1 From the Bookmarks pane, select the **Saved Pages** folder.
- 2 Scroll to a saved page and press **Menu**.
- 3 Select one of the following options:

Option	Description
Back	To display the saved page.
Details	To modify the title and URL of the saved page.
Update Page	To replace the saved version with the current version that must be downloaded from the server.
Delete	To delete the page from the cache.
Delete All	To delete all saved pages from the caches.
Cancel	To exit and return to the previous page.

21.5

Managing Documents

Procedure:

- 1 From the Tools pane, select **More...**
- 2 Scroll to a document and press **Menu**.
- 3 Select one of the following options:

Option	Description
Show URL	To display the URL of the current page.
Save Page	To create a snapshot of the document.
Find Text	To find a text string in the document.
Copy Text	To copy text from the document to the clipboard.

21.6

Searching for Visited URLs

You can search up to nine recently visited pages from the History pane.

Procedure:

- 1 From the History pane, select the URL.
- 2 Press **OK**.

21.7

Inserting URLs

The Text Input pane is visible when text entry fields are active. This pane allows you to input alphanumeric characters and symbols.

Procedure:

- 1 From the browser, select the URL.
- 2 Open the Text Input pane by pressing the **abc** softkey.
- 3 Insert the URL by pressing the following softkeys:

Option	Description
abc	To insert alphabetic characters in lower case.
ABC	To insert alphabetic characters in upper case.
123	To insert numeric characters and symbols.

- 4 Select **www** for HTTP mode.
- 5 Select **.com** or other required extensions.

The display shows the URL with the selected extension.

Chapter 22

Group Setup

The Group Setup menu item allows you to set the operation parameters, scanning and my groups folder.

22.1

Operation Parameters

Operation Parameter is used to define the radio mode and the talkgroup at the radio startup, and when changing modes TMO to DMO and TMO to Repeater.

22.1.1

Determining Radio Mode At Radio Startup

When and where to use: To set radio mode at startup.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Group Setup**→**Operations Parameters**→**Startup**.
- 3 Select one of the following options:

Option	Description
TMO	Your radio powers up in Trunked Mode Operation (TMO).
DMO	Your radio powers up in Direct Mode Operation (DMO).
Last Selected	Your radio powers up in the mode it was in when last powered down.

22.1.2

Determining Talkgroup At Radio Startup

When and where to use: To determine the talkgroup of your radio at radio startup.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Group Setup**→**Operations Parameters**→**Home Group Startup**.
- 3 Select one of the following options:

Option	Description
Last Selected	Your radio enters the last selected TMO or DMO talkgroup before power down.
Home Group	Your radio enters the Home Group (TMO or DMO) at power-up, depending on the radio mode entered at power up.

22.1.3

Determining Talkgroup When Switching Mode

When and where to use: To determine the talkgroup of your radio when switching from TMO to DMO or Repeater mode.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Group Setup**→**Operations Parameters**→**Home Group TMO to DMO/Repeater**.
- 3 Select one of the following options:

Option	Description
Last Selected	Your radio enters the last selected DMO talkgroup when in DMO. If Group Mappings are configured, they take precedence. The DMO Talkgroup mapped to the current TMO Talkgroup is used.
Group Mappings	Your radio enters the DMO Home Group unless a Group Mapping is configured. If Group Mappings are configured, they take precedence. The DMO Talkgroup mapped to the current TMO Talkgroup is used
Home Group	Your radio enters the DMO Home Group, ignoring possible group mappings.

22.1.4

Configuring Home Group

When and where to use: To configure the home groups on your radio.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Group Setup**→**Operations Parameters**.
- 3 Perform one of the following actions:

Option	Action
To configure the TMO Home Group or Home Folder	Select TMO Home Group .
To configure the DMO Home Group	Select DMO Home Group .

22.2

Scan

The Scan menu item allows you to activate or deactivate scanning, view the active scan list, and edit the scan lists. This feature is available only for Trunked Mode Operation. Your radio joins any group call as long as this group is defined in the scan list and scan is turned on.

22.2.1

Activating Talkgroup Scanning

When and where to use: If you want to monitor any TMO Group Call in the defined talkgroup list.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Group Setup**→**Scan**→**Scanning**.
- 3 Select **Select List** and then a list name.
Your radio displays list name selected.
- 4 Select **Scanning**→**On**.

Your radio is scanning on the predefined scan list.

22.2.2

Setting Talkgroups in the Active Scan List

When and where to use: If you want to edit talkgroups in the active scan list.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Group Setup**→**Scan**→**Active List**.
 **NOTE:** If *Scanning is Off* is displayed, go to **Group Setup**→**Scan**→**Scanning**→**On** to enable scanning.
- 3 Select **View** and highlight the required talkgroup.
- 4 Press **Menu**.
- 5 Select one of the following options:

Option	Description
Delete	Erases this group from the active scan list.
Priority	Sets the priority status of the talkgroup: • Low • Medium • High

22.2.3

Setting Scan Lists

When and where to use: If you want to set up any scan list.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Group Setup**→**Scan**→**Scan Lists**.
- 3 Highlight the required scan list and press **Menu** to see additional settings:

Option	Description
Rename	Enters new name for that scan list.
Capacity	Displays the number of assigned and unassigned talkgroups for the scan list.
Clear	Deletes all the talkgroup assigned to that scan list.
Add Group	Adds a talkgroup to the scan list. Select one talkgroup from your talkgroup folders and assign appropriate priority.
Edit	Changes the priority of the required talkgroup or deletes it.

22.2.4

Deleting Talkgroups from Scan Lists

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Group Setup**→**Scan**→**Scan Lists**.
- 3 Highlight the required scan list and press **Menu**→**Edit**.
- 4 Highlight the required talkgroup and press **Menu**→**Delete**.

22.3

My Groups

The My Groups sub-menu allows you to select or edit your favorite group list.

22.3.1

Adding Favorite Folders

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Group Setup**→**My Groups**.
- 3 Select **[New Folder]**.
- 4 Enter the name and select **OK**.

22.3.2

Adding Talkgroups to Favorite Folders

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Group Setup**→**My Groups**.
- 3 Select **<FolderName>**.
- 4 Select **[New Group]**.
- 5 Select the required talkgroup by Folder or by alphabetic search.

22.3.3

Editing My Folder List

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Group Setup**→**My Groups**.
- 3 Highlight required favorite folder.
- 4 Press **Menu**.
- 5 Edit the folder by using the following options:

Option	Actions
Renaming the folder	- a Select Rename Folder. - b Enter the new name of the folder and press OK.
Deleting the folder	- a Select Delete Folder. - b Press Yes.  NOTE: You cannot delete the last favorite folder.

22.3.4

Deleting Talkgroups from Favorite Folders

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Group Setup**→**My Groups**.
- 3 Select required favorite folder.
- 4 Delete talkgroups by using one of the following options:

Option	Actions
Deleting a talkgroup	Highlight the talkgroup and select Delete .
Deleting all talkgroups	Press Menu and select Delete All .

Chapter 23

Individual Setup

Individual setup menu allows you to set call settings for individual calls.

23.1

Enabling or Disabling Call Waiting

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Individual Setup**→**Trunked Mode**→**Call Waiting**.
- 3 Perform one of the following actions:
 - To enable Call Waiting, select **On**.
 - To disable Call Waiting, select **Off**.

23.2

Setting Call Forwarding

Prerequisites:

Enter Trunked Mode Operation (TMO).

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Individual Setup**→**Trunked Mode**→**Call Forwarding**.
- 3 Set Call Forwarding by using the following options:

Option	Actions
Enabling Call Forwarding	Select Config Sending → On .
Disabling Call Forwarding	Select Config Sending → Off .
Setting predefine condition messages	a Select Config . b Select one of the following options: • Always • Busy • No Answer • Not Reachable
Displaying last forward call	Select Last Result .

Chapter 24

Favorites

Favorites contains shortcuts to frequently used talkgroups and contact numbers that are organized in favorite folders.

When and where to use: You can quickly access favorite folders from the home screen by:

Procedure:

- 1 Press **Up** Navigation key to access the folders.
- 2 Use Navigation Keys or **Rotary Knob** to scroll through items inside the folders.

24.1

Adding Folders to Favorites

Prerequisites: **Favorites** contains less than three favorite folders.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Favorites**→[**New Folder**]

24.2

Adding Contact Numbers to Favorites

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Contacts**
- 3 Highlight a contact that you want to add to **Favorites** and using the **Left** or **Right** Navigation key select the required number.
- 4 Press the **Menu** key and select **Add to Favorites**.
- 5 Select a folder you want to add the contact number to and press **Select**.

24.3

Making Private Calls to Favorite Contacts

Procedure:

- 1 To select a contact number you want to call, from the home screen do one of the following:
 - Press the **Up** Navigation key.
 - Go to **Options**→**TG by Folder**, select the required favorite folder, and highlight the contact number.
- 2 Depending on the mode, make private calls by using one of the following options:

Option	Actions
Making simplex calls in TMO or DMO	a Press and hold the PTT button.

Option	Actions
	b Wait for the Talk Permit tone before talking. c Release the PTT button to listen.
Making duplex calls in TMO	a Press the Send key to initiate the call. b You hear a ringing tone until the called party answers the call.

- 3 To end the call, press the **End** key.

24.4

Adding Talkgroups to Favorites

Prerequisites:

To add a DMO talkgroup, ensure that the radio is in DMO.

To add a TMO talkgroup, ensure that the radio is in TMO.

Procedure:

- 1 From the home screen, press **Options**.
- 2 Select one of the following options:
 - **TG by Folder** – contains talkgroups arranged by folders.
 - **TG by abc** – contains talkgroups arranged alphabetically.
- 3 Find and highlight a talkgroup that you want to add to **Favorites**.
- 4 Press the **Menu** key and select **Add to Favorites**.
- 5 Select a folder you want to add the talkgroup to and press **Select**.

24.5

Managing Folders in Favorites

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Favorites**.
- 3 Highlight a required folder.
- 4 Press the **Menu** key.
- 5 Manage folders by performing one of the following options:

Option	Actions
Renaming the folder	a Press Rename Folder to change the folder name. b Press OK to confirm renaming the folder.
Deleting the folder	a Press the Delete Folder to remove selected folder. b Press Yes to confirm deletion.

24.6

Deleting Items from Favorites Folder

Deleting Single Items

You can choose to delete individual item or delete all items from the favorite folder.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Favorites**.
- 3 Select a folder containing the item you want to remove.
- 4 Highlight the item and select **Delete**.

Deleting All Items

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Favorites**.
- 3 Select a required folder.
- 4 Press the **Menu** key and select **Delete All**.

Chapter 25

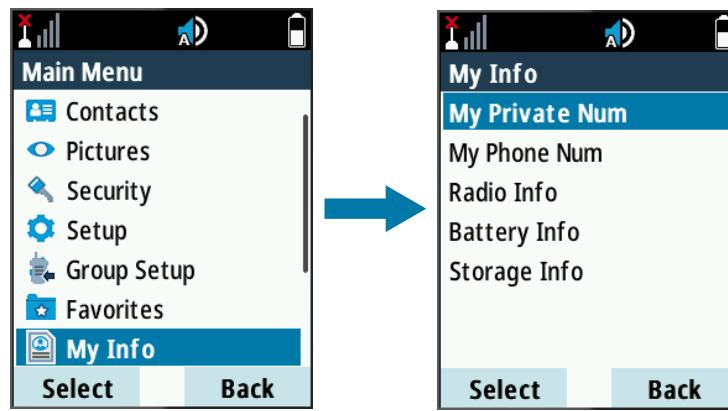
My Info

My info menu enables you to view your private, phone, and radio information.

25.1

Viewing Personal Information

Procedure:



- 1 From the home screen, press the **Menu** key.
- 2 Select **My Info**.
- 3 Select one of the following options:

Option	Description
My Private Num	To view the private number of your radio.
My Phone Num	To view the phone number of your radio.
Radio Info	To view other information such as manufacturer, product type, ISSI, TEI, Serial Number, and OPTA.
Battery Info	To view the power level of the battery.
Storage Info→Radio Storage	To view the amount of free and total space of the internal memory.
Storage Info→SD card Storage	To view the amount of free and total space of the microSD card.
SIM Info	To view the arbitrary textual information of a smart card.



NOTE:

You can edit the displayed phone number by selecting **Edit**.

You can view the storage space of the microSD card only if the card is correctly formatted. Your radio must not be connected to the computer in the Mass Storage Mode.

25.2

Viewing Talkgroup Subaddresses

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **My Info**→**Talkgroup Info**.
- 3 To view a subaddress, select the talkgroup from the talkgroup list.

25.3

Formatting the MicroSD Card

You can format microSD cards that are non-formatted or incorrectly formatted. If the microSD card is correctly formatted, this option is not visible in the menu.



NOTE: Formatting removes all files saved in the microSD card.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **My Info**→**Storage Info**→**Format SD card**.
- 3 Confirm formatting by pressing **Yes**.

Chapter 26

Recent Calls

Recent call menu allows you to view the call history of last dialed numbers, answered call numbers, and missed call numbers.

26.1

Viewing Recent Calls

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Recent Calls**.
- 3 View recent calls by using the following options:

Option	Actions
Viewing dialed calls	- a Select Dialed. - b Press Menu key and select View to view your dialed number.
Viewing received calls	- a Select Received. - b Press Menu key and select View to view your received call.
Viewing missed calls	- a Select Missed. - b Press Menu key and select View to view your missed call.

Call time information is only available if the time and date are set in the radio. Call duration is not available in the missed calls list.

26.2

Calling from Recent Calls

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Recent Calls**.
- 3 Select one of the following options:
 - **Dialed**
 - **Received**
 - **Missed**
- 4 Highlight the required call.
- 5 Perform one of the following actions:

Option	Actions
Making private calls	a Press PTT button to make the call.
Making phone calls	a Press Send key to make the call.

Phone calls are only supported in Trunked Mode Operation (TMO).

26.3

Storing Recent Calls into the Contact List

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Recent Calls**.
- 3 Select on of the following options:
 - **Dialed**
 - **Received**
 - **Missed**
- 4 Press **Store**.
If **Store** is not assigned to the **Left** soft key, the number is already stored in your contact list.
- 5 Store the number by using one of the following options:

Option	Actions
Storing the number as a new entry	Select [New Contact] .
Storing the number as an existing entry	a Select the entry. b Press View . c Select Edit .

- 6 Highlight the contact type field.
- 7 Display the required contact type for the number by scrolling to the left or right.
- 8 Select **Done**.

26.4

Deleting Recent Calls

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Recent Calls**.
- 3 Select on of the following options:
 - **Dialed**
 - **Received**
 - **Missed**
- 4 Highlight the required call and press **Menu**.
- 5 Delete calls by using one of the following topions:

Option	Actions
Deleting a call	a Select Delete .
Deleting all calls	a Press Delete All .

Chapter 27

Shortcuts

Shortcuts menu allows you to set up shortcuts to access frequently used menu items.

27.1

Creating Menu Shortcuts

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Scroll to the item that you want to create a shortcut for.
- 3 Highlight the item.
- 4 Press and hold **Menu**.
A confirmation message is displayed.
- 5 Select **Yes**.
The key for the shortcut is displayed.
- 6 Press **Done**.

27.2

Managing Menu Shortcuts

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Shortcuts**.
- 3 Highlight a required shortcut and press **Menu**.
- 4 Manage menu shortcuts by using the following options:

Option	Actions
Changing the assigned key	- a Select Edit. - b Enter the required number from 1 to 20. - c Press OK.
Deleting a shortcut	Select Delete → Yes .
Deleting all shortcuts	Select Delete All → Yes .

Chapter 28

Logging On or Off Radio User Identity

Logging On Radio User Identity

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **RUI** → **Log on**.
- 3 Perform one of the following actions:

Option	Action
Selecting an existing user ID	- a Select User ID. - b Select your user ID from the list.
Creating a user ID	- a Select [New User ID]. - b Enter your user ID.

- 4 Select **User PIN**.
- 5 Enter your credentials and press **OK**.

Logging Off Radio User Identity

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **RUI** → **Log off**.
- 3 Press **Accept**.

Chapter 29

Networks

The Networks menu allows you to switch between the radio operation modes.

29.1

Selecting Network Operation Mode

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Networks**.
- 3 Select one of the following options:

Option	Description
Network Sel	Selects the network to which the radio is allowed to register.
Trunked Mode	Switches to the mode using infrastructure.
Direct Mode	Switches to the mode without using infrastructure.
Repeater Mode	Switches to the Repeater Mode.
TXI Mode	Activate to stop sending any radio transmission.  NOTE: If your radio is in TXI Mode , you cannot switch from Direct Mode to Trunked Mode or Repeater Mode .
TG Net Sel	Selects one or multiple networks determined by the selected talkgroup.

29.2

Network Select

The Network Select sub-menu allows you to select a network to register your radio.

29.2.1

Selecting Your Network



NOTE: **Network Sel** is available only in TMO or Gateway mode, otherwise your radio displays *Service Restricted* message.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Networks**→**Network Sel**→**Home Only**.
Your radio registers to the home network.

29.2.2

Using Select Net Registration

Use this feature to migrate to another predefined network when you are out of the range of your network and your radio displays the *No Service* message.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Networks**→**Network Sel**→**Select Net**.
- 3 Select the required network from the list.

Your radio registers to the selected network.

29.2.3

Using Any Network Registration

Use this feature when your radio loses the home network coverage and you want to increase the number of networks it can scan and register.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Networks**→**Network Sel**→**Any Network**.

Your radio selects and registers to the network automatically from the predefined list.

29.3

Talkgroup Network Select

The Talkgroup Network Select sub-menu allows you to select one or multiple networks to register your radio accordingly to the selected talkgroup.

29.3.1

Selecting Your Talkgroup Network



NOTE: **TG Net Sel** is available when the selected talkgroup is a Any Net talkgroup or a InterSystem Interface (ISI) talkgroup, otherwise your radio display *Service Restricted* message.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Networks**→**TG Net Sel**→**Home Only**.

Your talkgroup registers to the home network.

29.3.2

Using Select TG Net Registration

When and where to use: If the talkgroup selected is an Any Net talkgroup, this menu displays multiple networks allowed for registration. If the talkgroup selected is an ISI talkgroup, this menu displays

multiple talkgroup linked networks. Use this feature to migrate to another predefined network, when you are out of the range of your network and your radio displays the **No Service** message.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Networks**→**TG Net Sel**→**Select TG Net**.
- 3 Select the required network from the list.

29.3.3

Using Prefer TG Net Registration

When and where to use: If the talkgroup selected is an Any Net talkgroup, this menu displays multiple networks allowed for registration. If the talkgroup selected is an ISI talkgroup, this menu displays multiple talkgroup linked networks. Use this feature to select a network that is most preferred. The selected network is the first priority for scanning and registration.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Networks**→**TG Net Sel**→**Prefer TG Net**.
- 3 Select the required network from the list.

29.3.4

Using Any TG Net Registration

When and where to use: Your radio has lost its network coverage and wants to increase the number of networks it can scan and register. If the talkgroup selected is an Any Net talkgroup, this menu displays all networks allowed for scanning and registration. If the talkgroup selected is an ISI talkgroup, this menu displays all talkgroup linked networks allowed for scanning and registration.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Networks**→**TG Net Sel**→**Any TG Net**.

Your radio selects and registers to the network automatically from the predefined list.

Chapter 30

Location

The Location menu allows you to enable the Global Positioning System (GPS) or Global Navigation Satellite System (GNSS). You can also view your position and testpage, and change the accuracy of the location.

30.1

Enabling GPS or GNSS



NOTE: Your service provider can enable this feature.

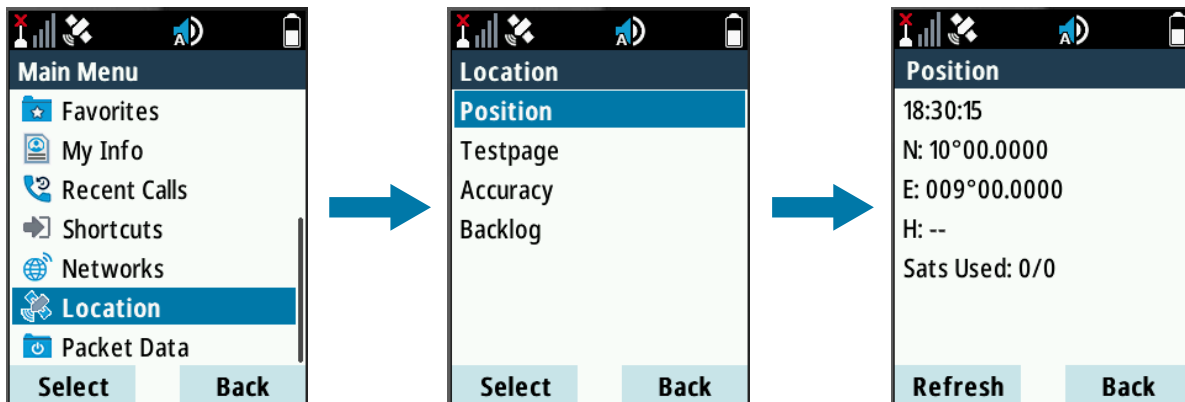
Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Location**→**Interface**→**On**.

30.2

Viewing Your Position

Procedure:



- 1 From the home screen, press the **Menu** key.
- 2 Select **Location**→**Position**.
The display shows your last calculated position.
- 3 To refresh your position, select **Position** and press **Refresh**.

Postrequisites:

Sometimes, the GPS or GNSS feature is unable to complete calculating a location.

Enhance the GPS or GNSS performance by performing the following actions:

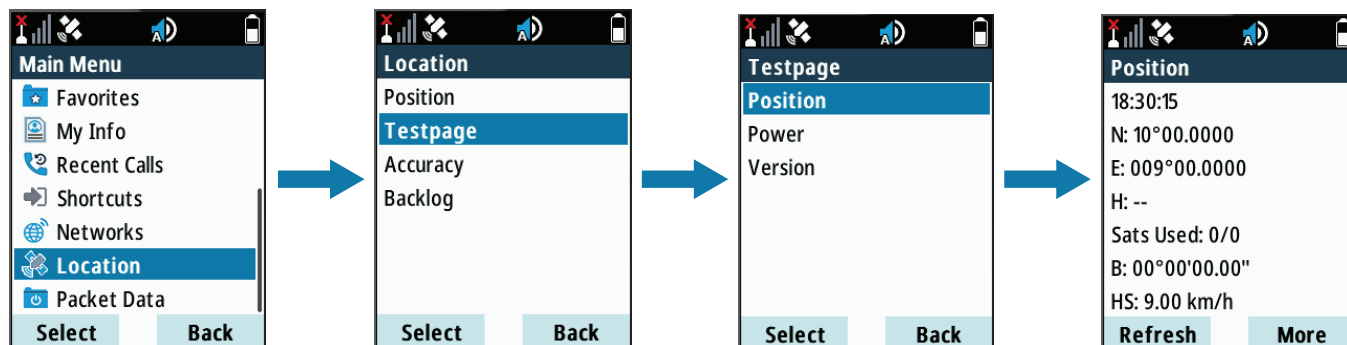
- Stay in the open.
- Enhance reception by repositioning your radio.

- Stand still.

30.3

Viewing the Testpage

Procedure:



- 1 From the home screen, press the **Menu** key.
- 2 Select **Location**→**Testpage**.
- 3 Select one of the following options:

Option	Description
Position	To view detailed information of your current position. Your radio displays: • Time • N for latitude • E for longitude • H for height • Sats Used for several tracked satellites • B for bearing • HS for horizontal speed • LC for level of confidence
Power	To view detailed information of a satellite. Your radio displays: • PRN code • Status • Mode • C/N for carrier-to-noise ratio
Version	To view detailed information of the software version. Your radio displays: • SW for software version • HW for hardware version

Option	Description
	• ASIC for application-specific integrated circuit • RC for release code

30.4

Changing Location Accuracy



NOTE: The accuracy of the Global Positioning System (GPS) or Global Navigation Satellite System (GNSS) Location Service depend on the coverage and selected accuracy mode.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Location**→**Accuracy**.
- 3 Select one of the following options:

Option	Description
Medium	To optimize power consumption but with less accurate positioning.
High	To have more accurate positioning but with more power consumption.



NOTE: **Medium** is the default mode. If your radio is connected to an external charging device, your radio automatically enters the **High** mode.

30.5

Backlog

Backlog sub-menu allows you to enable or disable, view, and delete backlog reports.



NOTE: The backlog of location reports is only available when Local Information Protocol (LIP) is enabled.

30.5.1

Enabling or Disabling Backlog

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Location**→**Backlog**→**Enablement**.
- 3 Select one of the following options:

Option	Description
On	To enable recording the location report backlog.
Off	To disable recording the location report backlog.

30.5.2

Viewing Backlog Reports

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Location**→**Backlog**→**Reports**.

The display shows the number of backlog reports that are stored.

30.5.3

Deleting All Backlog Reports

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Location**→**Backlog**→**Delete All**.

Chapter 31

Packet Data



NOTE: This is a Software Selling Feature.

Packet Data menu allows you to view the data statistics and encryption status of your radio.

31.1

Viewing Data Statistics

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Packet Data**.



NOTE: Data services are only available in TMO Mode. The data option must be set to **Voice Data** or **Data Only**.

- 3 Select one of the following options:

Option	Description
Sent Data	Displays the number of KBs sent and throughput since current Packet Data activation.
Received Data	Displays the number of KBs received and throughput since current Packet Data activation.
Bandwidth	Shows the active data session percentage.
Failed Transfer	The percentage of failed sent/received packets.



NOTE: N.A. – Standby packet data session.

31.2

Viewing Encryption Status

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Packet Data**→**Encryption**.

The encryption state of the ongoing packet data session is displayed:

- Packet Data Channel Clear
- Packet Data Channel Encrypted
- Encryption N/A (clear)

Chapter 32

Crypto Menu



NOTE: Applicable only for SIM Card model.

Crypto menu allows you to manage SIM card based End-to-End Encryption.

32.1

Enabling or Disabling SIM Card End-to-End Encryption

Prerequisites:

Perform the following actions:

- Insert the SIM card into your radio.
- Ensure that you are not in an active call.
- Ensure that you do not press the **PTT** button.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Crypto Menu**→**Crypto Function**.
- 3 Select one of the following options:

Option	Description
Encryption On	To enable encryption.
Encryption Off	To disable encryption.

The display shows a message and icon of the encryption status.

32.2

Setting Clear Call Alarm

The **Clear Call Alarm** menu is used to configure an alarm tone to notify on any clear transmission.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Crypto Menu**→**Clear Call Alarm**.
- 3 Select **Simplex Calls** or **Duplex Calls**.
- 4 Select one of the following options:

Option	Description
Off	To disable the alarm.
Single	To enable the alarm to ring once at the beginning of a clear call.

Option	Description
Continuous	To enable the alarm to ring periodically throughout a clear call.

32.3

Updating Encryption Keys

Prerequisites:

- End-to-End Encryption is enabled.
- Ensure that you are not in an active call or in Direct Mode Operation (DMO).

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Crypto Menu**→**Upd Encr Keys**→**Upd Group Key**.

32.4

Viewing OPTA

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Crypto Menu**→**Show OPTA**.

32.5

Setting the OPTA Filter

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Crypto Menu**→**OPTA Filter**.
- 3 Scroll to characters that must be masked when the OPTA name is displayed and press **Select**.
- 4 Press **Done** to confirm the settings.

32.6

Starting Crypto Registration

Prerequisites: Ensure that your radio is not in an active call or in Direct Mode Operation (DMO).

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Crypto Menu**→**Crypto Registr**→**Start Registr**.

32.7

Turning Encrypted Audio On or Off

When and where to use: To determine if audio is muted in erroneous decryption.

Procedure:

- 1 From the home screen, press the **Menu** key.

- 2 Select **Crypto Menu**→**Audio Settings**.
- 3 Select one of the following options:

Option	Description
Encr Audio On	To turn on encrypted audio.
Encr Audio Off	To turn off encrypted audio.

32.8

Setting DMO Encryption Mode

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Crypto Menu**→**DMO Encr Mode**.
- 3 Select one of the following options:

Option	Description
DMO 1	To enable crypto mode bit 1.
DMO 2	To enable crypto mode bit 2.

32.9

Selecting Encryption Keys for SDS

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Crypto Menu**→**SDS Encr Mode**.
- 3 Select encryption keys by using one of the following options:

Option	Actions
Selecting the encryption key for individually addressed SDS	- a Select Individual SDS. - b Select Global Key or Group Key.
Selecting the encryption key for group addressed SDS	- a Select Group SDS. - b Select Global Key or Group Key.

Chapter 33

Wi-Fi

The Wi-Fi menu enables operating Wi-Fi functions to access a network.

33.1

Turning Wi-Fi On or Off

Prerequisites: Contact your service provider to enable the Wi-Fi feature for your radio.

Turning Wi-Fi On

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Wi-Fi**→**Wi-Fi: Off**→**On**.

The display shows a notification of the Wi-Fi status.

Turning Wi-Fi Off

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Wi-Fi**→**Wi-Fi: On**→**Off**.

The display shows a notification of the Wi-Fi status.

33.2

Connecting to Networks Through Scan

Prerequisites: Turn on Wi-Fi.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Wi-Fi**→**Scan**.
When the scan is complete, your radio displays a list of Wi-Fi networks within range.
- 3 Select the required network and press **Connect**.



NOTE: Your radio can only connect to networks that are predefined in the codeplug. If you attempt to connect to non-defined networks, the display shows a negative notification.

When your radio is connected to the network, the display shows a positive notification.

33.3

Connecting to Networks Through Network List

Prerequisites: Turn on Wi-Fi.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Wi-Fi→Network List**.
- 3 From the list of predefined networks, highlight the required network.



NOTE: The Network List lists all predefined networks. However some of the listed networks may not be within Wi-Fi range of your radio.

- 4 Press **Connect**.

When your radio is connected to the network, the display shows a positive notification.

33.4

Viewing Network Information

Prerequisites: Connect to a network.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Wi-Fi→Network Information**.

The display shows information of the connected network.

33.5

Viewing the MAC Address

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Wi-Fi→MAC Address**.

The display shows the MAC address of the Wi-Fi chip.

33.6

Viewing Certificate Enrollment Status

The certificate enrollment validates your radio to be able to use certain radio features such as Wi-Fi OTAP or 802.1x EAP-TLS. The certificate enrollment only needs to be performed one time, and automatically starts when you first configure and connect your radio Wi-Fi to an access point with internet connection. Your radio is already preloaded with the required root certificates and settings for the enrollment.

Prerequisites:

Turn on Wi-Fi.

When and where to use: To check the status of the certificate enrollment.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Wi-Fi→Cert. Management**.

Your radio displays the following information.

Category	Description
Device Key	Indicate whether the Radio Device Key Pair is present in the radio.
Base	Indicates the enrollment status of the Base Certificate in the radio.
Wi-Fi OTAP	Indicates the enrollment status of the Wi-Fi Over-the-Air Programming (OTAP) Service Certificate.
Wi-Fi Enterprise	Indicates the enrollment status of the Wi-Fi Enterprise Service Certificate.

If enrollment is successful

Your radio displays `Enrolled` for each respective certificate.

If enrollment failed or enrollment not started

Your radio displays `Not Enrolled` for each respective certificate. You can trigger a re-enrollment using the **Retry** button.



NOTE: The **Retry** button will not be visible if the certificate enrollment was rejected by the server.

Chapter 34

Over The Air Programming



NOTE: This is a Software Selling Feature.

Over The Air Programming (OTAP) enables remote radio reconfiguration over TETRA network and Wi-Fi network.

34.1

Receiving LMR OTAP Update

Prerequisites: Your radio display shows an **OTAP** prompt with `Reboot required. Accept update?` text for a new configuration update.

Procedure:

- 1 Select **Accept** to accept or **Reject** to reject the new configuration update.



NOTE: A timer is set when the prompt is displayed. Request is automatically rejected if there is no user response to the prompt when the timer runs out.

When the OTAP installation prompt is accepted, your radio updates with the new configuration as received over OTAP. Visible indication guidance and update status is provided during the update. When the OTAP installation prompt is rejected, your radio returns to idle mode.

34.2

Managing LMR OTAP

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **LMR OTAP**.
- 3 Select one of the following options:

Option	Description
Update Preference	Currently only User Confirmation to Update Now is available.
Last Updated	Shows the last installed LMR OTAP information and status of the installation.

34.3

Receiving Non-Mandatory Wi-Fi OTAP Update

Prerequisites: Your radio display shows an **Wi-Fi OTAP** prompt with `Reboot required. Accept update?` text for a new configuration update.

Procedure:

Install updates by using one of the following options:

Option	Actions
Installing updates immediately	Select Now .
Installing updates later	a Select Later. Your radio shows <code>New radio settings before upgrade completion will not be preserved</code>. b Perform one of the following actions: - To return to Wi-Fi OTAP prompt, select Back. - To postpone the update, select Confirm. The <i>Wi-Fi Update Available</i> icon is indicated at the status bar.

When the OTAP installation prompt is accepted, your radio updates with the new configuration as received over OTAP. Visible indication guidance and update status is provided during the update. When the OTAP installation prompt is rejected, your radio returns to idle mode.

34.4

Receiving Mandatory Wi-Fi OTAP Update

Prerequisites: Your radio display shows an **Wi-Fi OTAP** prompt with `Reboot in 10 for auto update` text for a new configuration update.

Procedure:

- 1 Your radio reboots to complete installation once the countdown timer expires.



NOTE: All LMR services are unavailable during the countdown period.

34.5

Managing Wi-Fi OTAP



NOTE: This feature is only available when enabled by your service provider.

Procedure:

- 1 From the home screen, press the **Menu** key.
- 2 Select **Wi-Fi OTAP**.
- 3 Select one of the following options:

Option	Description
Check for Updates	Checks for new available updates.
Install Update	Installs the postponed update. The Wi-Fi OTAP prompt appears.
Last Updated	Shows the last installed Wi-Fi OTAP information and status of the installation.

Chapter 35

Contact Address

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