Mobile Release 10.6

MTM5400

FEATURE USER GUIDE



March 2012 EN

© 2012 Motorola Solutions, Inc. All rights reserved.

68015000180-E

Contents

1 General Information 1-1
1.1 Safety Information 1-1
1.2 Copyrights 1-1
1.3 Icon Conventions 1-2
2 Getting Started 2-1
2.1 Using this Guide 2-1
2.2 Product Specific Information 2-2
2.3 Controls and Indicators 2-3
2.4 Display 2-5
2.5 Status Icons 2-6
2.6 Powering On the Radio 2-9
2.7 Unlocking Your Radio 2-9
2.7.1 Unblocking Your Radio 2-10
2.8 Locking/Unlocking the Keys/Buttons 2-10
2.9 Entering TMO / DMO Mode 2-10
2.10 Transmit Inhibit Mode 2-11
2.11 Selecting a Talkgroup 2-11
2.12 Using Timed Talkgroup Change 2-12
2.13 Activating Talkgroup Scanning 2-12
2.14 Writing Text 2-13
2.14.1 Selecting Text Entry Mode 2-13
2.14.2 Selecting Text Entry Method and Language 2-13
2.14.3 Text Entry Icons 2-14
2.14.4 Keys Usage 2-14
2.14.5 Writing in iTAP Alphanumeric 2-16
2.14.6 Writing in TAP Alphanumeric 2-17
2.14.7 Word Locking 2-17
2.14.8 Adding Words to the Dictionary 2-18
2.15 Broadcast Call 2-18
2.16 Ambience Listening (AL) Call 2-18
2.17 One-Touch Button Feature 2-18
2.18 Terminal Disable/Enable 2-19
2.19 Terminal Permanent Disable 2-19
2.20 During the Call 2-20
2.21 Home Display Text Message 2-20
3 Modes 3-1
3.1 Using Networks 3-1
3.2 Trunked Mode Operation 3-1
3.2.1 Entering TMO Mode 3-2
3.2.2 Selecting a Talkgroup 3-2
3.2.3 Making a Group Call 3-3
3.2.4 Receiving a Group Call in Idle 3-3
3.2.5 Receiving a Group Call during an Ongoing Group Call 3-3
3.2.6 Dynamic Group Number Assignment (DGNA) 3-3
3.2.7 DGNA Reception 3-4
3.2.8 DGNA Auto Select Group 3-4
3.2.9 Viewing DGNA Talkgroups 3-4
3.2.10 Broadcast Call Initiated by User 3-4
3.2.11 Initializing Broadcast Call 3-4
3.2.12 Phone and PABX Calls 3-5
3.2.13 Private Call 3-5
3.2.14 Assistance Call 3-5
3.3 Local Site Trunking 3-5
3.3.1 Entering Local Site Trunking 3-6
3.3.2 Exiting Local Site Trunking 3-6

3.4 Direct Mode Operation 3-6
3.4.1 Entering DMO Mode 3-7
3.4.2 Selecting a Talkgroup 3-7
3.4.3 Making a Group Call 3-7
3.4.4 Receiving a Group Call in Idle 3-8
3.4.5 Private Call 3-8
3.4.6 Private Call With Presence Check 3-8
3.4.7 Communication through Repeater 3-8
3.4.8 Communication through Gateway 3-9
3.4.9 Selecting DMO Group Call Options 3-9
3.5 Transmit Inhibit Mode 3-10
3.6 Emergency Mode 3-11
3.6.1 Emergency Operation 3-11
3.6.2 Silent Emergency Mode 3-12
3.6.3 Emergency Group Call 3-12
3.6.4 Emergency Private Call 3-13
3.6.5 Emergency MS-ISDN Call 3-13
3.6.6 Emergency Alarm 3-13
3.6.7 Hot Microphone 3-13
3.6.8 Alternating Hot Microphone 3-14
3.6.9 Entering Emergency Mode 3-14
3.6.10 Emergency Mode by Dialing 3-14
3.6.11 Exiting Emergency Mode 3-15
3.6.12 Making an Emergency Group Call 3-15
3.6.13 Receiving an Emergency Group Call 3-15
3.6.14 Disaster Alert Call 3-15
3.6.15 Initializing Disaster Alert Call 3-16
3.7 Repeater Mode 3-16
3.7.1 Entering Repeater Mode 3-17
3.7.2 Setting Monitor Option 3-17
3.8 Gateway Mode 3-17
3.8.1 Entering Gateway Mode 3-18
3.8.2 Standby Mode 3-18
3.8.3 Forwarding a Group Call 3-18
3.8.4 Setting Monitor Option 3-18
3.8.5 Emergency Calls in Gateway Mode 3-18
4 GPS Location Service 4-1
4.1 Enhancing GPS Performance 4-2
4.2 Enabling GPS 4-2
4.3 GPS Icon 4-3
4.4 GPS Different Location Displays 4-3
4.5 Viewing Your Position 4-4
4.6 GPS — Things to Keep in Mind 4-4
5 Main Menu 5-1
5.1 Scrolling through the Menu 5-1
5.2 Menu Icons 5-2
5.3 Menu Structure 5-2
5.4 Messages 5-6
5.4.1 New Message 5-6
5.4.1.1 Sending a Message to Private/Phone 5-6
5.4.1.2 Sending a Message to Group 5-6
5.4.1.3 Sending a Store and Forward Message 5-7
5.4.2 Inbox 5-7
5.4.2.1 Entering the Inbox 5-8
5.4.2.2 Receiving New Message 5-8
5.4.2.3 Using Submenu in Inbox and Outbox 5-8
5.4.2.4 Embedded Number 5-9
5.4.2.5 Storing a Number from a Message 5-9
5.4.2.6 Calling a Number in a Message 5-10

5.4.2.7 Making a Group Call on a Talkgroup of the Message Originator 5-10
5.4.2.8 Immediate Message 5-10
5.4.3 Outbox 5-11
5.4.4 CO Box 5-11
5.4.5 WAP Box 5-11
5.4.6 Templates 5-11
5.4.6.1 Sending a User-Defined Template 5-11
5.4.6.2 Setting User-Defined Templates 5-12
5.4.7 Predefined Templates 5-12
5.4.7.1 Viewing Predefined Templates 5-12
5.4.7.2 Sending Predefined Templates 5-13
5.4.8 Send Status 5-13
5.4.8.1 Viewing a Status Message Number 5-13
5.4.8.2 Sending a Status Message to a Group 5-13
5.4.8.3 Targeted Status 5-14
5.4.8.4 Sending a Targeted Status Message 5-14
5.5 Contacts 5-14
5.5.1 Creating a Contact 5-15
5.5.2 Editing a Contact 5-16
5.5.3 Deleting a Number 5-16
5.5.4 Deleting a Contact 5-16
5.5.5 Checking Capacity 5-17
5.5.6 Dialing through the Contact List 5-17
5.6 Security 5-17
5.6.1 PIN Protect 5-18
5.6.1.1 Protecting the Radio with a PIN Code 5-18
5.6.1.2 Unblocking Your Radio 5-18
5.6.1.3 Changing PIN Code 5-18
5.6.2 Keylock Setup 5-19
5.6.2.1 Keypad Lock Notification 5-19
5.6.2.2 Setting Automatic Keylock Delay 5-19
5.6.2.3 Setting Keylock on Startup 5-19
5.6.3 Air Encryption 5-20
5.6.3.1 Viewing Air Encryption State 5-20
5.6.3.2 Air Encryption Key Deletion 5-20
5.6.4 K Validity 5-20
5.6.4.1 Verifying K Validity 5-20
5.6.5 TMSCK Validity 5-21
5.6.5.1 Verifying TMSCK Validity 5-21
5.6.6 DMSCK Validity 5-21
5.6.6.1 Verifying DMSCK Validity 5-21
5.6.7 DMO SCK 5-22
5.6.7.1 Changing DMO SCK 5-22
5.6.8 Covert Mode 5-22
5.6.8.1 Activating Covert Mode 5-23
5.7 Setup 5-23
5.7.1 Ring Style 5-23
5.7.1.1 Setting Ring Style 5-23
5.7.2 Set Volume 5-24
5.7.2.1 Setting Volume 5-24
5.7.3 Language 5-24
5.7.3.1 Setting Language 5-25
5.7.4 Data Setup 5-25
5.7.4.1 Setting Data Function 5-25
5.7.5 Audio 5-25
5.7.5.1 Volume Adjustment Mode 5-25
5.7.5.2 Setting Volume Adjustment Mode 5-26
5.7.6 Tones 5-26
5.7.6.1 Keypad Tone 5-26

5.7.6.2 Setting Keypad Tone 5-26
5.7.6.3 All Tones 5-26
5.7.6.4 Setting All Tones 5-27
5.7.6.5 Talk Permit 5-27
5.7.6.6 Setting Talk Permit 5-27
5.7.6.7 Clear to Send 5-27
5.7.6.8 Setting Clear to Send 5-27
5.7.6.9 Periodic Alert 5-27
5.7.6.10 Setting Periodic Alert 5-28
5.7.6.11 D-PTT Tones 5-28
5.7.6.12 Setting D-PTT Tones 5-28
5.7.7 Display 5-28
5.7.7.1 Setting Text Size 5-28
5.7.7.2 Setting Screen Saver 5-29
5.7.7.3 Setting Backlight 5-29
5.7.7.4 Setting Wallpaper 5-29
5.7.8 Time and Date 5-30
5.7.8.1 Setting Time and Date on the Display 5-30
5.7.8.2 Setting Time Format 5-30
5.7.8.3 Setting Time Manually 5-31
5.7.8.4 Setting Date Format 5-31
5.7.8.5 Setting Date Manually 5-31
5.7.8.6 Setting Time Offset 5-32
5.7.8.7 Setting Automatic Update for the Time and Date 5-32
5.7.9 Accry (Accessory) Type 5-32
5.7.9.1 Selecting Accessory Type 5-32
5.7.10 Book On 5-33
5.7.10.1 Editing Book On Settings 5-33
5.7.11 Rotary Knob 5-33
5.7.11.1 Setting Rotary Knob Mode 5-33
5.7.11.2 Setting Rotary Lock 5-34
5.7.11.3 Setting In Keypad Lock 5-34
5.7.11.4 Setting Rotary Knob Wrap Around 5-35
5.7.11.5 Setting Rotary Knob Scroll Range 5-35
5.7.11.6 Setting Rotary Knob Talkgroup Selection 5-35
5.8 Group Setup 5-36
5.8.1 Scan 5-36
5.8.1.1 Activating Talkgroup Scanning 5-36
5.8.1.2 Setting Talkgroups in the Active Scan List 5-36
5.8.1.3 Setting Scan Lists 5-37
5.8.1.4 Editing Scan Lists 5-37
5.8.2 My Groups 5-38
5.8.2.1 Adding Favorite Folder 5-38
5.8.2.2 Adding a Talkgroup to a Favorite Folder 5-38
5.8.2.3 Editing My Folder List 5-38
5.8.2.4 Deleting a Talkgroup from the Favorite Folder 5-39
5.9 My Info 5-39
5.9.1 Viewing/Modifying Personal Information 5-39
5.10 Recent Calls 5-40
5.10.1 Viewing Recent Calls 5-40
5.10.2 Calling from Recent Calls 5-41
5.10.3 Storing Recent Calls to Contacts 5-41
5.10.4 Deleting Recent Calls 5-42
5.11 Shortcuts 5-42
5.11.1 Creating a Menu Shortcut 5-42
5.11.2 Editing a Menu Shortcut List 5-43
5.12 RUI 5-43
5.12.1 Logging On 5-44
5.12.2 Logging Off 5-44

5.13 Networks 5-44
5.13.1 Selecting Your Network 5-45
5.13.2 Using the Select Net Registration 5-45
5.13.3 Using the Foreign Network Registration 5-45
5.13.4 Using Any Network 5-45
5.13.5 Using the Migrate To Registration 5-46
5.13.6 Selecting Network Operation Mode 5-46
5.14 Location 5-47
5.14.1 Viewing Your Position 5-47
5.15 Packet Data 5-47
5.15.1 Viewing Data Statistics 5-48
5.15.2 Viewing Encryption Status 5-48
6 WAP 6-1
6.1 WAP Browser 6-1
6.2 Entering/Exiting the Browser 6-1
6.3 Entering the Browser Menu Panes 6-2
6.4 Tips for Browsing 6-2
6.4.1 Creating a Bookmark through Navigate Pane 6-2
6.4.2 Creating a Bookmark through Bookmarks Pane 6-3
6.4.3 Using a Bookmark 6-3
6.4.4 Creating a Hotkey 6-3
6.4.5 Using a Hotkey 6-4
6.4.6 Saving a Page 6-4
6.4.7 Selecting a Saved Page 6-4
6.5 Disabled Packet Data Service 6-4
6.6 Disabled Browser Entry 6-5
6.7 Keys Usage 6-5
6.8 Browser Menu Panes Overview 6-6
6.9 Navigate Pane 6-7
6.10 Advanced 6-7
6.11 Bookmarks Pane 6-8
6.11.1 Working with the Options Pane for a Selected Bookmark 6-8
6.11.2 Working with the Saved Pages Folder 6-8
6.12 History Pane 6-9
6.12.1 Navigating to the Recently Visited URL 6-9
6.13 Tools Pane 6-9
6.14 Options Pane 6-9
6.15 Image Pane 6-10
6.16 Text Input Pane 6-10
6.17 WAP Push 6-10
6.17.1 New WAP Messages 6-11
6.17.2 Viewing a WAP Message 6-11
7 Features 7-1
7.1 Call-Out 7-1
7.1.1 Types of Call-Out Alerts 7-1
7.1.2 Call-Out Modes Interaction 7-2
7.1.3 Call-Out Service Phases 7-2
7.2 RUA/RUI 7-2
7.3 DTMF Overdial 7-3
7.4 Talkgroup Dialing by Index 7-3
7.4.1 Viewing Talkgroup Speed Number 7-3
7.4.2 Selecting Talkgroup by Index 7-3
7.5 One-Touch Dial 7-4
7.6 Phone/PABX Speed Dial 7-4
7.6.1 Using Phone/PABX Speed Dial 7-4
7.7 Phone and PABX Calls 7-4
7.7.1 Making a Phone or PABX Call 7-4
7.8 Private Call 7-5
7.8.1 Making a Private Call 7-5

7.9 Short Number Dial 7-5
7.10 Dual Control Head 7-6
7.10.1 Master Single Control Head Mode 7-6
7.10.2 Slave Standalone Mode 7-6
7.10.3 Dual Control Head Link 7-6
7.10.4 Dual Control Head Keys Interactions 7-6
7.10.5 Dual Control Head Voice 7-7
7.11 Voice Operating Transmission (VOX) Control 7-7
7.12 Pseudo Call Forward 7-7
Appendix A Tones A-1
Appendix B LED Indications B-1
Appendix C Troubleshooting C-1

List of Figures

Figure 3-1 Trunked Mode Operation 3-2
Figure 3-2 Direct Mode Operation 3-7
Figure 3-3 Repeater Mode Operation 3-16
Figure 3-4 Gateway Mode Operation 3-17

List of Tables

Table 2-1 Special Notations 2-1
Table 2-2 Product Specific Information 2-2
Table 2-3 Controls and Indicators 2-4
Table 2-4 Display 2-5
Table 2-5 Colors of the SOFT Keys 2-6
Table 2-6 Status Icons 2-6
Table 2-7 Text Entry Screen Icons 2-14
Table 2-8 Keys Usage 2-15
Table 2-9 Other Keys 2-15
Table 2-10 One-Touch Button Features 2-18
Table 2-11 During the Call 2-20
Table 4-1 Different Location Displays 4-3
Table 5-1 Menu Icons 5-2
Table 5-2 Menu Structure 5-2
Table 5-3 Inbox Icons 5-7
Table 5-4 Outbox Icons 5-11
Table 5-5 Contact Types 5-15
Table 6-1 Browser Keys Usage 6-5
Table 6-2 Browser Menu Panes 6-6
Table 6-3 Additional Menu Panes 6-6
Table 6-4 Browser Text Input Icons 6-10
Table A-1 Radio Tones A-1
Table B-1 LED Indications B-1
Table C-1 Displayed Messages C-1

1 General Information

Topics Covered in this Chapter

- Safety Information
- Copyrights
- Icon Conventions

1.1 Safety Information



CAUTION

Before using these products, read the operating instructions for safe usage contained in the Product Safety and RF Exposure booklet 6804113J25 for APAC & LACR and 6866537D37 for EMEA.

Your radio is restricted to occupational use only to satisfy ICNIRP RF energy exposure requirements. Before using the products, read the RF energy awareness information and operating instructions in the Product Safety and RF Exposure booklet to ensure compliance with RF energy exposure limits.

Keep this User Guide and the Product Safety and RF Exposure booklet in a safe place and make it available to other operators in case the accessories are passed on to other people.

1.2 Copyrights

The Motorola products described in this document may include copyrighted Motorola computer programs. Laws in the United States and other countries preserve for Motorola certain exclusive rights for copyrighted computer programs. Accordingly, any copyrighted Motorola computer programs contained in the Motorola products described in this document may not be copied or reproduced in any manner without the express written permission of Motorola.

© 2012 Motorola Solutions, Inc. All Rights Reserved.

No part of this document may be reproduced, transmitted, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, without the prior written permission of Motorola Solutions, Inc.

Furthermore, the purchase of Motorola products shall not be deemed to grant either directly or by implication, estoppel or otherwise, any license under the copyrights, patents or patent applications of Motorola, except for the normal nonexclusive, royalty-free license to use that arises by operation of law in the sale of a product.

Disclaimer

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

Trademarks

MOTOROLA, MOTO, MOTOROLA SOLUTIONS, and the Stylized M Logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under license. All other trademarks are the property of their respective owners.

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



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

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

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

Open Source Software (OSS) Legal Notices

For details on OSS Legal Notices visit Motorola Online (emeaonline.motorola.com) or browse the CPS Plus disc.

1.3 Icon Conventions

The document's "set" is designed to give the reader more visual clues. The following graphic icons are used throughout the documentation set. These icons and their associated meanings are described below.



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 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 located on the screen. There is no warning level associated with a note.



SUGGESTION implies a recommendation or tip from Motorola that does not require to be followed, but might be helpful. There is no warning level associated with SUGGESTION.

2 Getting Started

Topics Covered in this Chapter

- Using this Guide
- Product Specific Information
- Controls and Indicators
- Display
- Status Icons
- Powering On the Radio
- Unlocking Your Radio
- Locking/Unlocking the Keys/Buttons
- Entering TMO / DMO Mode
- Transmit Inhibit Mode
- Selecting a Talkgroup
- Using Timed Talkgroup Change
- Activating Talkgroup Scanning
- Writing Text
- Broadcast Call
- Ambience Listening (AL) Call
- One-Touch Button Feature
- Terminal Disable/Enable
- Terminal Permanent Disable
- During the Call
- Home Display Text Message

This chapter provide you with a basic information on how to use the radio.

2.1 Using this Guide

This guide describes all available radio features. Your service provider may have customized your radio to optimize its use for your individual needs. Check with you service provider to find out the differences from this guide. Throughout the text in this publication, you notice the following special notations used to highlight certain information or items:

Table 2-1 Special Notations

Example	Description
MENU key or EMERGENCY button	Capitalize letters indicate that radio user presses the key or a button.
Entering TMO tone	Italic letters indicate the name of the tone.
Select	Bolded word indicate the soft menu items, MMI string, or message displayed on the radio.
Setup → Tones → All Tones	Bolded words with the arrow between indicate navigation structure in the menu items.
Powering Off	Radio displays a message.

2.2 Product Specific Information

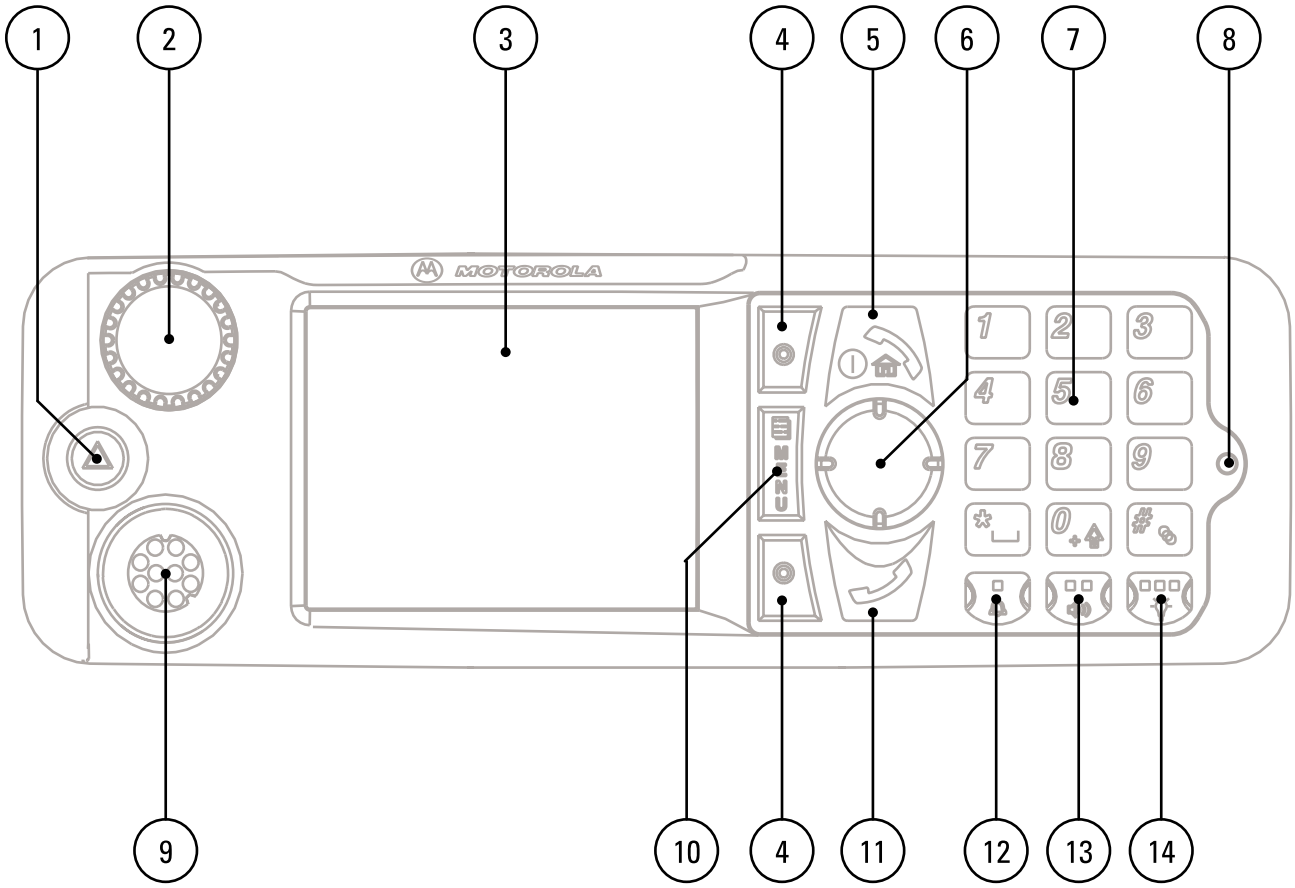
Table 2-2 Product Specific Information

Description	Value
Max. RF Power	10 Watts
Max. Speaker Load	10 Watts at 4 Ohms
Antenna Impedance	50 Ohms
Ambient Temperature Range	-30 °C to +60 °C **NOTE** If the radio is in service, the surface temperature can rise up to 70 °C. Do not touch the hot surface.
Operating Time	Continuous/Intermittent

NOTE

The communication system determines the radio transmit and receive time (operating cycle time). During overload, or beyond the systems specifications at high ambient temperatures, the thermal control cuts down the RF power output, which reduces the radio coverage range.

2.3 Controls and Indicators



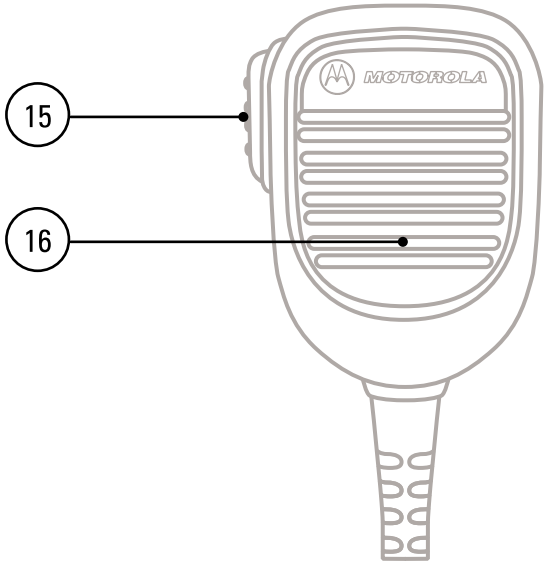


Table 2-3 Controls and Indicators

Annotation	Description
1	EMERGENCY button Press and hold EMERGENCY button to enter Emergency operation. By default, when your radio is off, press and hold to power on in Emergency Mode.
2	ROTARY KNOB • Press and hold to turn your radio on. • Rotate to set the volume. • Press and rotate to select a different talkgroup. • Press and hold the ROTARY KNOB to lock/unlock it. Powering off also unlocks a locked ROTARY KNOB.
3	DISPLAY Provides alphanumeric text and images within 65,536 colors and 640 x 480 pixels with backlighting and scalable fonts.
4	SOFT key Press upper or lower SOFT key, to select the option that appears on the screen next to it.
5	ON/OFF/END/HOME key • Press and hold to turn on/off your radio. • Press to end calls. • Press to return to the home screen.
6	NAVIGATION key Press up, down, left or right NAVIGATION key for list scrolling, while moving around the menu hierarchy, or for alphanumeric text editing. From the home screen, press to activate one of the following: • down NAVIGATION key — enters **Recent Calls** menu item. • up NAVIGATION key — changes **My Groups** talkgroup folder. • left and right NAVIGATION key — toggles through the talkgroups.
7	KEYPAD Use the keypad to enter alphanumeric characters for dialing, contact entries, and text messages.
8	LED
9	MOBILE MICROPHONE PORT Provides connection for accessories such as fist microphone with PTT.
10	MENU key Press to enter the main menu and the context-sensitive menu.
11	SEND key Press to initiate or answer duplex calls, or send messages.

Table 2-3 Controls and Indicators (cont'd.)

Annotation	Description
12	EXTERNAL ALARM key Press to activate One-Touch Button feature (activates/deactivates the horn and lights by default).
13	SPEAKER CONTROL key Press to activate One-Touch Button feature (turns the speaker on/off by default).
14	BACKLIGHT key Press to activate One-Touch Button feature (dims the backlight by default).
15	PTT (Push-To-Talk) • Press and hold to talk in simplex calls or to initiate a group call, release it to listen. • Press to send status and text messages.
16	MICROPHONE

NOTE

- Before using your radio for the first time, remove the plastic lens protector from the display.
- It is recommended to turn off the terminal before connecting any of the accessories.

2.4 Display

This section presents the radio's home screen elements.



Table 2-4 Display

Annotation	Description
1	Status icon area
2	Text display area
3	SOFT key area
4	MENU/Context sensitive icon

The color of the SOFT keys informs you about the mode or state that your radio is in.

Table 2-5 Colors of the SOFT Keys

Color	Mode or State
Light blue	Normal TMO and DMO Mode
Light red	Emergency Mode or Disaster Alert Call
Olive	Local Site Trunking Mode
Yellow	Call Out — Standby
Red	Call Out — Alert
Green	Call Out — Accepted
Blue	Radio Message Service (RMS)
Grey	Radio User Assignment (RUA) — Limited service

SEE ALSO

Display

Setting Time and Date on the Display

2.5 Status Icons

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

Table 2-6 Status Icons

Icon	Description
Trunked Mode Operation	
	Signal Strength (TMO) — Allows you to check signal strength. More bars indicate a stronger signal.
	No Service
	Migration — Displayed when your radio is registered to the foreign network.
	Broadcast Call — Displayed when the radio is in the Broadcast Call.
	Gateway Mode — Displayed when the radio is switched to work as a gateway in Gateway Mode.
	Scan — Indicates talkgroup scanning is activated in the radio.
	Data Connected — Displayed when the Packet Data feature is activated and the external device sets up data connection with the radio.
	Data Transmit/Receive — Displayed when the Packet Data feature is activated and the external device sets up data connection with the radio. • No number — standby data session. • Number 1, 2, 3, or 4 — indicates active data session with 25%, 50%, 75%, or 100% bandwidth.

Table 2-6 Status Icons (cont'd.)

Icon	Description
Direct Mode Operation	
	Signal Strength (DMO) — Indicates an incoming Direct Mode Group Call.
	Direct Mode — Displayed when the radio is in Direct Mode.
	Repeater Mode — Displayed when the radio is switched to work as a repeater in Repeater Mode.
	DMO Gateway Communication Mode — Indicates that gateway is selected. The icon has the following states: • Solid — while the radio is synchronized with the gateway. • Blinking — while the radio is not synchronized or during attachment. • No icon — during a radio to radio and repeater call.
	DMO Repeater Communication Mode — Displayed when the **Repeater** or **GW + Rep** option in DMO Mode is selected. This icon has the following states: • Solid — while the radio has detected the repeater (for example when the radio receives a presence signal). • Blinking — while the radio has not detected the repeater or during attachment. • No icon — during a radio to radio and gateway call.
General Icons	
	All Tones Off/Duplex and Simplex Ring Muted — Indicates that all alert tones are off in the radio or both simplex ring volume is set to 0 and duplex ring volume is set to 0.
	Simplex Ring Muted — Indicates that simplex ring volume is set to 0 and duplex ring volume is set to more than 0.
	Duplex Ring Muted — Indicates that duplex ring volume is set to 0 and simplex ring volume is set to more than 0.
	Speaker Off (Low Audio) — Indicates that the audio will sound through the speaker.
	Earpiece Connected — Indicates that the earpiece is connected.
	GPS — Indicates that a valid location coordinates are received.
	RUI Logged on — Indicates that you are logged on into the radio.
	RUI Pseudo Log On — Indicates that you are in pseudo logged on state.
	RUI Packet Data — Indicates Pseudo Log On state when the Packet Data feature is activated and the external device sets up data connection with the radio. • No number — standby data session. • Number 1, 2, 3, or 4 — indicates active data session with 25%, 50%, 75%, or 100% bandwidth.
	RUI Packet Data — Indicates Pseudo Log On state when the Packet Data feature is activated and the external device sets up data connection with the radio.
	Battery Strength — Shows the charge of your battery.

Table 2-6 Status Icons (cont'd.)

Icon	Description
	Battery Charging — Indicates that the battery is charging.
	Emergency — Appears while the radio is in Emergency Operation.
	Disaster Alert Call — Appears while the radio is in the Disaster Alert Call.
	List Scrolling — Displayed to indicate that the ROTARY KNOB is in list scrolling mode.
	New Message Has Arrived — Indicates a new message just arrived.
	New Message(s) in Inbox — Indicates that you have unread messages in your **Inbox**.
	Unread (New) WAP Message — Indicates that new page was loaded to the browser.
	Call-Out — Indicates Call-Out alert.
	Call-Out Alert Arrived — Indicates a receipt of a new Call-Out message.
	Call-Out Alert Unread — Indicates unread alert in the **CO Box**.
	E2EE (End-to-End Encryption) Solid, when the E2EE is enabled • for the selected talkgroup, • for the highlighted private number, • for the manually entered private number, • when transmitting voice in Group Calls, • when transmitting voice in Simplex Private Calls. Blinking, when the E2EE is enabled • when receiving voice in Group Calls, • when receiving voice in Simplex Private Calls, • during encrypted Duplex Private Calls.
	SDS End-to-End Encryption Solid, when the E2E status of an SDS message, or the E2E status of a message recipient address. In High Security mode, when your radio processes only the encrypted information, this icon is always visible in when you are in the messages menu (for example, **Inbox**).
	Unread (New) WAP Message — Indicates that you have not entered **WAP Box** since last WAP message was received (Blinks when the priority is high).
	WAP Message Icon — Displayed next to the priority in the message list view.
	WAP Message Time — Displayed next to the create date in the message list view.
	WAP Message Expiration — Displayed next to the expiry date in the message list view.
	WAP Message Title Icon — Displayed next to the title along with the text in the message list view.
	Dual Control Head — Indicates that Master and Slave Control Head are powered on and connected.

Table 2-6 Status Icons (cont'd.)

Icon	Description
	Single Control Head — Indicates on Master Control Head that Slave Control Head is switched off.
	Link Error — Indicates on Master Control Head that Slave Control Head is unavailable as a result of error, not powered off.
	Key Press Token — In Dual Control Head operation, indicates by blinking that key press token is reserved by one of the Control Heads.
	Keys Locked — Indicates that keys are locked.

2.6 Powering On the Radio

Procedure Steps

1 Press and hold ON button.

2 Your radio performs a self-check and registration routine.

3 After successful registration, your radio is in service.



Your radio powers on without visible and audible notification if Covert Mode is activated.

2.7 Unlocking Your Radio

Your radio may be locked at power up. To unlock it after powering on, enter the code at the prompt. Your radio enters the default home display.



The unlock code is originally set to 0000. Your service provider may change this number before you receive your radio.

SEE ALSO

PIN Protect

Writing Text

Changing PIN Code

2.7.1 Unblocking Your Radio

Prerequisites: You blocked your radio by entering incorrect PIN code for three times (by default).

Procedure Steps

1 Radio displays **Unit Blocked Enter PUK**.

2 Enter 8–digit PUK (Personal Unblocking Key) number.

NOTE

The PUK is an eight-digit master code provided by your service provider.

3 Enter the new PIN code twice.

2.8 Locking/Unlocking the Keys/Buttons

Press MENU key and * key.

NOTE

The EMERGENCY button is not locked. Entering Emergency Mode unlocks all keys.

SEE ALSO

Keylock Setup

2.9 Entering TMO / DMO Mode

Procedure Steps

1 From the home screen, press **Optns**.

2 Select **Trunked Mode** / **Direct Mode**.

SEE ALSO

Networks

Selecting Network Operation Mode

2.10 Transmit Inhibit Mode

The Transmit Inhibit Mode is a mode in which the radio sends no radio transmissions. It is recommended to activate the mode in RF sensitive areas, for example hospitals, airplanes, where safety can be jeopardized due to transmission radiation.

To activate, select MENU → **More . . .** → **Networks** → **TXI Mode** → **Activate**.

In this mode, the radio does not transmit under any circumstances except for the Emergency Calls. All the functions and keys which cause transmission, for example registration to the network, changing talkgroup or folder, sending SDS messages, or pressing thePTT button are disabled. Any transmission trial causes the radio to display **Not Allowed In TXI Mode** notification and to play a tone.

Your radio can still receive:

- messages — stored in the **Inbox**
- calls — stored in the **Missed Calls** list

without the option to respond.

NOTE

Received Group Calls are not stored on the radio.

When no danger to safety exists anymore (for example, you leave the RF sensitive area), you can deactivate the Transmit Inhibit Mode and the radio returns to standard operation.

You can deactivate the mode by selecting MENU → **More . . .** → **Networks** → **TXI Mode** → **Deactivate**, pressing One-Touch button, or implicitly when initiating an Emergency Call.

NOTE

RF Transmissions from the radio are prevented under the following conditions:

- TXI Mode is activated
- Battery is removed
- Radio is turned off

2.11 Selecting a Talkgroup

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

- Press left or right NAVIGATION key. Press **Select** to confirm.
- Select **Optns** → **TG by abc**. Enter a talkgroup name and select the talkgroup name from the list.

- Select **Optns → TG by Folder**. Select a folder and then a talkgroup name.
- Press ROTARY KNOB and rotate it until the required talkgroup name is displayed. Press **Select** to confirm.

NOTE

If the ROTARY KNOB mode is set to **Scroll**, then you do not need to press it to enter scrolling mode.

NOTE

Your radio can have an access up to three levels of the folder structure.

2.12 Using Timed Talkgroup Change

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

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

Procedure Steps

1 Press button.

2 Your radio switches the talkgroup for a predefined amount of time.

NOTE

To start a group call press PTT.

Your service provider can assign a function to the second press of the One-Touch button to:

- Return to original talkgroup
- Restart the predefined time
- No action

3 When the group call ends, your radio switches to the original talkgroup after the predefined time.

2.13 Activating Talkgroup Scanning

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

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Group Setup → Scan → Scanning**.

3 Select **Select List** and then a list name.

Step result: Your radio displays list name **Selected**.

4 Select **Scanning** → **On**.

Result: Your radio is scanning on the predefined scan list.

2.14 Writing Text

Every time that you see text entry screen, refer to this section.

SEE ALSO

Unlocking Your Radio

2.14.1 Selecting Text Entry Mode

Prerequisites: Your radio displays text entry screen.

Procedure Steps

1 Press MENU → **Entry Mode**.

2 Select one of the following:

- **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.

2.14.2 Selecting Text Entry Method and Language

Prerequisites: Your radio displays text entry screen.

Procedure Steps

1 Press MENU → **Entry Setup**.

2 Select one of the following:

- **TAP** — Enter letters, numbers, and symbols by pressing an alphanumeric key one or more times.
- **iTAP** — Let the radio predict each word as you press an alphanumeric key.



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

2.14.3 Text Entry Icons

In the text entry screen, icons tell you which text entry mode and method 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 2-7 Text Entry Screen Icons

Primary Icon	Secondary Icons	Description
abc1	abc2	TAP — no capitals
Abc1	Abc2	TAP — capitalise first letter only
ABC1	ABC2	TAP — all capitals
abc	abc	iTAP — no capitals
Abc	Abc	iTap — capitalise first letter only
ABC	ABC	iTap — all capitals

Numeric Icon	Description
123	Enter numbers.

Symbolic Icon	Description
@	Enter punctuation and symbols.

2.14.4 Keys Usage

List of keys and characters in Alphanumeric Mode (TAP/iTAP).

Table 2-8 Keys Usage

Key	Alphanumeric Mode (TAP/iTAP)	Symbol Mode
0 to 9 keys	Numeric Mode: • Press to enter digit at insertion point. • Press and hold any numeric key to enter TAP alphanumeric mode. • To exit TAP alphanumeric mode, press and hold any numeric key.	
0 key	Press to cycle through single shift, caps lock, and lower case.	+ - × * / \ [ ] = < > § #
1 key	. , ? ! 0 1 @ ’ ” - ( ) / : _ ; + & % × * = < > € £ $ ¥ ¤ [ ] { } \ ~ ^ ¿ ¡ § #	
2 key	A B C 2 a b c 2	@ _ \
3 key	D E F 3 d e f 3	/ , ;
4 key	G H I 4 g h i 4	” & ’
5 key	J K L 5 j k l 5	( ) [ ] { }
6 key	M N O 6 m n o 6	¿ ¡ ~
7 key	P Q R S 7 p q r s 7	= < >
8 key	T U V 8 t u v 8	€ £ $ ¥ ¤
9 key	W X Y Z 9 w x y z 9	# % *

Table 2-9 Other Keys

Key	Description
Any numeric key	• In TAP press any key to reject word completion and continue with text entry A new completion will be displayed, if available, after the time-out for TAP expires. • Press and hold to enter Numeric mode from TAP or iTAP alphanumeric.
* key	• Press to insert a space. • In TAP press to dismiss a word completion and insert a space. • Enter a newly created word into the user dictionary. • Press and hold to enter a carriage return.
# key	• Press once to cycle through all entry modes (**Symbol**, **Numeric**, **Primary**, and **Secondary** (if configured). • Press and hold to return to the default entry mode.
Select	Press to select the highlighted choice and place it in the main text area.

Table 2-9 Other Keys (cont'd.)

Key	Description
Delete	• Press once to delete the last entered character. • Press and hold to clear the entire main text area.
Up NAVIGATION key	• In TAP press to reject word completion and scroll up. • In TAP press to change previously entered small letter to capital.
Down NAVIGATION key	• In TAP press to reject word completion and scroll within the text area. • In TAP press to change previously entered capital letter to small.
Left NAVIGATION key	• 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 key	• Press to navigate to the right. Press and hold to repeat. • In TAP if a word completion is available, press to accept the word.
MENU	If a context-sensitive menu is active, opens the Context Sensitive Menu.

2.14.5 Writing in iTAP Alphanumeric

Prerequisites: Your radio displays text entry screen.

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

Procedure Steps

1 Press MENU → **Entry Setup** → **Prim.**.

2 Select **iTAP English** and press **Back**.

3 Press MENU → **Entry Mode**.

4 Select **Primary**.

5 Press 3 key.

Step result: 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.

Step result: 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**.

Step result: 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 **.**.

Step result: The alternative row highlights **232.**.

11 Scroll the alternative row by pressing the right NAVIGATION key to reach the required symbol.

12 Press **Select**.

Result: You have entered **David 232!**.

2.14.6 Writing in TAP Alphanumeric

Prerequisites: Your radio displays text entry screen.

Procedure Steps

1 Press MENU → **Entry Setup** → **Seco.**.

2 Select **TAP English** 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.

2.14.7 Word Locking

Prerequisites: Your radio displays text entry screen.

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

Procedure Steps

1 Press MENU → **Entry Setup**.

2 Select **iTAP English**.

3 Try to 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 * key. The word is placed in the text area with a space and automatically added to the dictionary.

2.14.8 Adding Words to the Dictionary

Each language comes with its own dictionary. You can create words (including alphanumeric abbreviations). Once you enter a word followed by space, it is automatically stored in the dictionary and appears as a choice whenever you press the same key combination in the future.

2.15 Broadcast Call

The Broadcast Group Call (also called Site Wide Call) is a high-priority group call from the console operator (or dispatcher) to all users located at one or more sites. The radios are configured to monitor a Broadcast Call, but you cannot talk back. The call can be received as a normal Broadcast Call or an Emergency Broadcast Call. The Broadcast Call preempts an ongoing Group Call that has the same or lower call priority.

2.16 Ambience Listening (AL) Call

This feature allows a console operator (or dispatcher) to establish a special call with a specific radio. It enables to listen to the conversations and background noises within the range of the radio microphone. The call is set up without any indication to the affected radio, and any lower priority ongoing voice call or packet data transfer may be preempted.

After accepting the call, the radio transmits in a simplex call without any action from or indication to the user. The Ambience Listening Call automatically ends when you initiate any voice call, switch to Emergency or TXI Mode, or send Emergency Alarm.

2.17 One-Touch Button Feature

To use One-Touch Button feature press and hold an assigned key to activate one of the following features:

Table 2-10 One-Touch Button Features

Feature	Description
Backlight	Switches backlight settings.
TMO Talkgroup Scan	Turns on/off the Talkgroup Scan feature in TMO Mode.
DMO / TMO Switch	Switches between TMO and DMO Mode.
Sending Status	Sends a dedicated status message to a dedicated address.
Change Talkgroup	Changes the talkgroup to the predefined by your service provider.
Hi/Lo Audio	Activates low/high audio.
Sending User Defined Message	Sends a predefined/user defined template to a dedicated address.
Transmit Inhibit (TXI)	Turns on/off TXI Mode.
Private Call	Initiates a private call to a predefined entry in the contact list.

Table 2-10 One-Touch Button Features (cont'd.)

Feature	Description
Phone Call	Initiates a phone call to a predefined entry in the contact list.
PABX Call	Initiates a PABX call to a predefined entry in the contact list.
Screen Saver	Turns on/off the Screen Saver feature.
Display Time	Shows time and date on a display.
Covert Mode	Turns on/off the Covert Mode.
Horn and Lights	Turns on/off the Horn and Lights.
Initiate Call-Out Fallback Alert	Sends Fallback Alert.
RUA / RUI	Logs you in/out.
Previous Talkgroup	Switches the radio to the previously used talkgroup.
GPS Status Message	Sends your GPS location in a message to a dedicated address.
Repeater Mode	Turns on/off the Repeater Mode.
Gateway Mode	Turns on/off the Gateway Mode.
Default Settings	Resets all the radio settings to the default.
Speaker Enable / Disable Per Call	Enables speaker during the call.
Timed Talkgroup Change	Initiates the Timed Talkgroup Change feature. While in the predefined talkgroup, it can be assigned to the second press function.



NOTE

If the One-Touch Button feature is enabled, the One-Touch Dial is disabled. If no feature is assigned to a button, your radio displays an **Unassigned Button** message.

2.18 Terminal Disable/Enable

Your radio is provided with a feature that allows your service provider to disable it temporarily in case it is stolen. When your radio is disabled or is powered up in disabled state, it looks and acts like it is turned off.

If your radio is found, your service provider can enable it again over the air. After your radio is enabled, you may resume normal operation.

2.19 Terminal Permanent Disable

Your radio is provided with a feature that allows your service provider to disable it permanently in case it is stolen or lost. When your radio is disabled permanently, it becomes inoperable. After a Permanent Disable your service provider cannot enable your radio. It is recommended to Permanent Disable your radio only when you do not expect to recover it. If it is recovered then a Permanent Disable radio can be reactivated by returning it to Motorola

2.20 During the Call

During the call, label of the right SOFT key indicates the next possible change. Accessory default setup is:

Table 2-11 During the Call

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

2.21 Home 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 stays on the home screen until a new message is received. Power cycle your radio to replace the Home Display message to the predefined one.

3 Modes

Topics Covered in this Chapter

- Using Networks
- Trunked Mode Operation
- Local Site Trunking
- Direct Mode Operation
- Transmit Inhibit Mode
- Emergency Mode
- Repeater Mode
- Gateway Mode

This chapter provides you with the information on available modes that the radio can operate.

3.1 Using Networks

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Networks**.

3 Select one of the following:

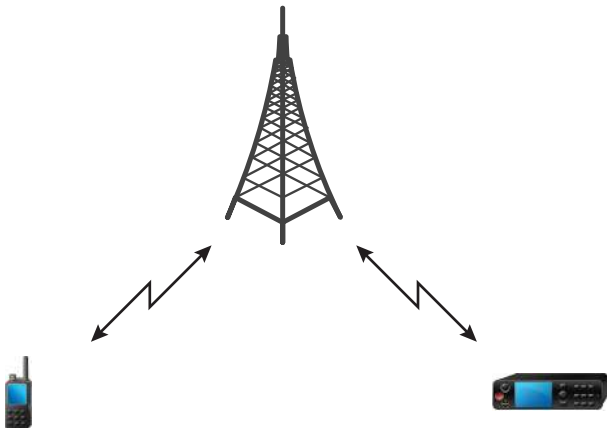
- **Trunked Mode**
- **Direct Mode**
- **TXI Mode**
- **Repeater Mode**
- **Gateway Mode**

Result: Your radio switches to the selected mode.

3.2 Trunked Mode Operation

Trunked Mode Operation requires the switching and management infrastructure. This operation mode enables various voice and data communication types (for example, group calls, short data service messages) and access to the infrastructure-related features (for example, packet data).

Figure 3-1 Trunked Mode Operation



3.2.1 Entering TMO Mode

Procedure Steps

1 From the home screen, press **Optns**.

2 Select **Trunked Mode**.

3.2.2 Selecting a Talkgroup

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

- Press left or right NAVIGATION key. Press **Select** to confirm.
- Select **Optns** → **TG by abc**. Enter a talkgroup name and select the talkgroup name from the list.
- Select **Optns** → **TG by Folder**. Select a folder and then a talkgroup name.
- Press ROTARY KNOB and rotate it until the required talkgroup name is displayed. Press **Select** to confirm.

NOTE

If the ROTARY KNOB mode is set to **Scroll**, then you do not need to press it to enter scrolling mode.

NOTE

Your radio can have an access up to three levels of the folder structure.

3.2.3 Making a Group Call

Procedure Steps

1 Press and hold the PTT button.

2 Wait for the *Talk Permit* tone (if configured) and then speak into the microphone. Release the PTT button to listen.



NOTE

The Group Call is received by all members of the selected group who have their units turned on and are in range.

3.2.4 Receiving a Group Call in Idle

Procedure Steps

1 The radio receives a Group Call.



NOTE

The incoming Group Call is signalled by a *Receiving Group Call* tone.

2 To respond, press and hold the PTT button.

3.2.5 Receiving a Group Call during an Ongoing Group Call

While in active Group Call, your radio receives a Group Call with a higher priority.

One of the following occurs:

- Your radio is forced to end the current group call and automatically join the incoming one.
- Your radio displays incoming group call screen with options:
  - **Join** — ends current Group Call and starts the incoming one.
  - **End** — cancels the incoming Group Call.

3.2.6 Dynamic Group Number Assignment (DGNA)

DGNA allows your service provider or authorized user to dynamically allocate new, or update existing talkgroups to your radio over the air interface. Using supplementary services messages (SS-DGNA), the network operator can command your radio to add talkgroups, update the existing talkgroups, or delete talkgroups from the list. This operation is performed by transmitting the data to your radio.

3.2.7 DGNA Reception

When a DGNA message is received, your radio plays a tone and displays a message **Talkgroup list updated**. If enabled by your service provider, your radio displays all added and deleted talkgroup list. If the DGNA message is received to delete all talkgroups, your radio displays **All Talkgroups Deleted**. You can use the **View**, **Attach**, **Back**, MENU key, ROTARY KNOB, END key, and EMERGENCY button. Pressing any of them exits the DGNA display.

3.2.8 DGNA Auto Select Group

If the DGNA Auto Select is configured, whenever your radio receives a DGNA, it switches to the added talkgroup.

3.2.9 Viewing DGNA Talkgroups

Prerequisites: Your radio receives the DGNA message.

Procedure Steps

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

3.2.10 Broadcast Call Initiated by User

This feature allows you to make a Broadcast Call from the radio that is initiated on the predefined talkgroup. Your service provider predefines the alias and the priority of the Broadcast Call.



If the type of the encryption is defined by the BSI feature (radio with a SIM Card), the Broadcast Call is always clear. Otherwise if the radio uses other encryption service the type of the encryption used for that Call is up to the encryption settings of that service.



This feature is not supported on the Dimetra infrastructure.

3.2.11 Initializing Broadcast Call

Procedure Steps

1. From the home screen, press MENU key.
2. Select **More . . . → Services → Broadcast**.

   Step result: Your radio displays the predefined alias and the Broadcast Call icon.

3 To start the call press PTT.

3.2.12 Phone and PABX Calls

The Phone Call allows you to call a landline telephone number or a cellular mobile phone number. The Private Automatic Branch Exchange (PABX) Call allows you to call local (office) extension numbers.

3.2.13 Private Call

The Private Call, also called point-to-point, or individual call, enables calling between two individuals. No other radio can hear the conversation. This call type can be carried out in two ways:

- Duplex call (if the system allows), in TMO Mode. Both parties can speak at the same time.
- Simplex call, in TMO or DMO Mode. Only one party can speak at a time.

When a DMO Private Call takes place, radios not involved in this call receive the channel busy indication. The radios are identified using its radio numbers.

Interaction with the accessories:

- Fist Microphone — during the Private Call, if you hang the microphone into the clip the call ends or the audio switches to the speakers (if connected).
- Telephone Style Handset — during the Private Call, if you hand the handset into the holder, the call ends or the audio switches to the speakers (if connected).

3.2.14 Assistance Call

This feature allows you make a private call to ask for assistance during normal and non-critical situations.

You can start an Assistance Call in one of the following way:

- Dial a predefined number and press SEND key.
- **Menu → More → Services → Assistance Call**



Your service provider can configure the number, priority, and the type of the call (simplex or duplex).

3.3 Local Site Trunking

This mode is also called as Fallback Mode and it allows more than one radio from the same site to communicate when the link between the site and the network central controller fails. Entering and exiting Local Site Trunking (that is, returning to System Wide Services) is done automatically. In this mode some services are unavailable.



Your service provider can disable this mode.

3.3.1 Entering Local Site Trunking

When your radio receives a Local Site Trunking indication from the system, the following occurs:

- Your radio plays an Entering Local Site Trunking tone.
- Display shows the **Local Area Service** message.
- Display icons and soft keys turn green.
- Any call in progress is dropped upon entering Local Site Trunking Mode.

If configured by your service provider, this message/alert is periodically repeated to remind you that your radio is still operating in Local Site Trunking Mode. The following features are available:

- Registration
- Attachment
- Group Call
- Emergency Call
- Emergency Alarm



Your service provider can turn on/off all the visual and audio indications, when you enter Local Site Trunking Mode.

3.3.2 Exiting Local Site Trunking

When the link with the central network controller is reestablished, your radio exits Local Site Trunking, and the following occurs:

- Your radio plays an Exiting Local Site Trunking tone.
- Any call in progress during Local Site Trunking is dropped.
- Display icons and soft keys turn blue.

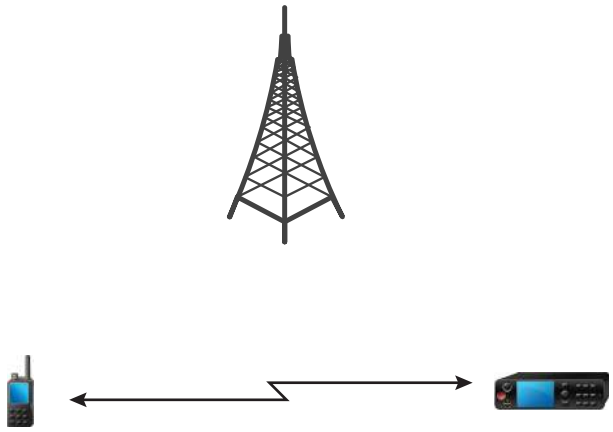


Your service provider can turn on/off all the visual and audio indications, when you exit Local Site Trunking Mode.

3.4 Direct Mode Operation

Direct Mode Operation is a mode of simplex operation where radios communicate using radio frequencies which are outside the control of the switching and managing infrastructure.

Figure 3-2 Direct Mode Operation



3.4.1 Entering DMO Mode

To enter the DMO Mode:

- From the home screen, press MENU key. Select **More . . . → Networks → Direct Mode**.
- From the home screen, select **Optns → Direct Mode**.

3.4.2 Selecting a Talkgroup

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

- Press left or right NAVIGATION key. Press **Select** to confirm.
- Select **Optns → TG by abc**. Enter a talkgroup name and select the talkgroup name from the list.
- Select **Optns → TG by Folder**. Select a folder and then a talkgroup name.
- Press ROTARY KNOB and rotate it until the required talkgroup name is displayed. Press **Select** to confirm.

NOTE

If the ROTARY KNOB mode is set to **Scroll**, then you do not need to press it to enter scrolling mode.

NOTE

Your radio can have an access up to three levels of the folder structure.

3.4.3 Making a Group Call

Procedure Steps

1 Press and hold the PTT button.

2 Wait for the *Talk Permit* tone (if configured) and then speak into the microphone. Release the PTT button to listen.

NOTE

The Group Call is received by all members of the selected group who have their units turned on and are in range.

3.4.4 Receiving a Group Call in Idle

Procedure Steps

1 The radio receives a Group Call.

NOTE

The incoming Group Call is signalled by a *Receiving Group Call* tone.

2 To respond, press and hold the PTT button.

3.4.5 Private Call

The Private Call, also called point-to-point, or individual call, enables calling between two individuals. No other radio can hear the conversation. This call type can be carried out in two ways:

- Duplex call (if the system allows), in TMO Mode. Both parties can speak at the same time.
- Simplex call, in TMO or DMO Mode. Only one party can speak at a time.

When a DMO Private Call takes place, radios not involved in this call receive the channel busy indication. The radios are identified using its radio numbers.

Interaction with the accessories:

- Fist Microphone — during the Private Call, if you hang the microphone into the clip the call ends or the audio switches to the speakers (if connected).
- Telephone Style Handset — during the Private Call, if you hand the handset into the holder, the call ends or the audio switches to the speakers (if connected).

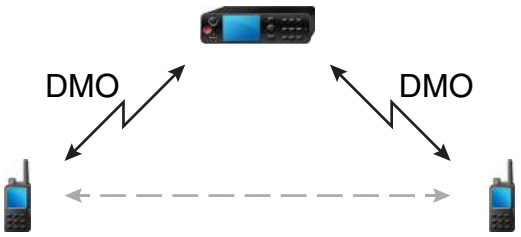
3.4.6 Private Call With Presence Check

This feature allows you to see if the calling party is available.

When this feature is enabled, you can only initiate a Private Call if the called radio is present on the same channel and responds with a presence check acknowledgement. Otherwise your radio displays `Party not available`.

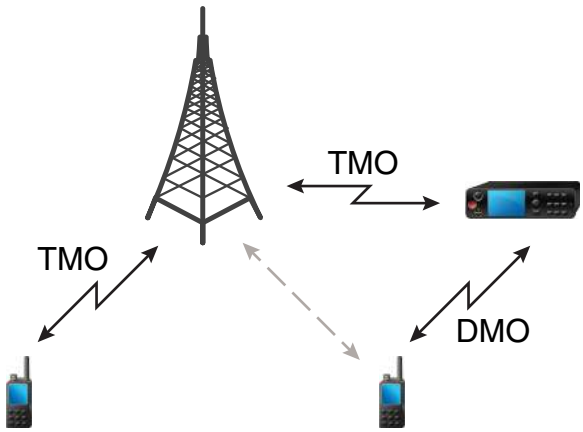
3.4.7 Communication through Repeater

Radios that cannot communicate directly between each other in DMO Mode, can do it through the repeater that is attached on the same talkgroup. This connectivity is used to enhance the radio DMO area.



3.4.8 Communication through Gateway

The Gateway Mode provides connectivity between radios operating in DMO Mode and the TETRA network, so that the DMO radios can communicate with the TMO radios. Your radio can communicate with the trunking system, when the **Gateway** option is enabled.



3.4.9 Selecting DMO Group Call Options

When and where to use: Helps to communicate with other radio users on the same talkgroup through the Gateway or Repeater.

Procedure Steps

1 From the home screen, press **Optns**.

2 Press **Config**.

3 Select one of the following:

- **MS - MS** — Your radio can communicate only with other radios within its range.
- **Gateway** — Your radio uses a gateway to communicate with the infrastructure.
    - **Automatic** — Your radio uses the first available gateway for that talkgroup.
    - **Specific** — Your radio uses only the Gateway with the specified Gateway address for that talkgroup. If your radio displays **Selected Gateway: None**, press **Edit** to enter the current gateway address.
- **Repeater** — Uses the first available repeater for that talkgroup.
- **GW + Rep** — Uses the first available gateway or repeater for that talkgroup.
    - **Automatic** — Uses the first available gateway for that talkgroup.
    - **Specific** — Uses only the Gateway with the specified Gateway address for that talkgroup. If your radio displays **Selected Gateway: None**, press **Edit** to enter the current Gateway address.



When the Gateway and the Repeater cannot be communicated even though a talkgroup to use them is configured, the radio attempts the direct MS-MS communication.

.

Result: When your radio detects the appropriate Gateway and/or the Repeater, the Gateway and/or Repeater icons turns solid, respectively.

3.5 Transmit Inhibit Mode

The Transmit Inhibit Mode is a mode in which the radio sends no radio transmissions. It is recommended to activate the mode in RF sensitive areas, for example hospitals, airplanes, where safety can be jeopardized due to transmission radiation.

To activate, select MENU → **More . . .** → **Networks** → **TXI Mode** → **Activate**.

In this mode, the radio does not transmit under any circumstances except for the Emergency Calls. All the functions and keys which cause transmission, for example registration to the network, changing talkgroup or folder, sending SDS messages, or pressing thePTT button are disabled. Any transmission trial causes the radio to display **Not Allowed In TXI Mode** notification and to play a tone.

Your radio can still receive:

- messages — stored in the **Inbox**
- calls — stored in the **Missed Calls** list

without the option to respond.



Received Group Calls are not stored on the radio.

When no danger to safety exists anymore (for example, you leave the RF sensitive area), you can deactivate the Transmit Inhibit Mode and the radio returns to standard operation.

You can deactivate the mode by selecting MENU → **More . . .** → **Networks** → **TXI Mode** → **Deactivate**, pressing One-Touch button, or implicitly when initiating an Emergency Call.

NOTE

RF Transmissions from the radio are prevented under the following conditions:

- TXI Mode is activated
- Battery is removed
- Radio is turned off

3.6 Emergency Mode

The Emergency Mode is a mode of the highest communication priority.

In the Emergency Mode, the radio automatically rejects phone, PABX and private calls, and does not monitor the talkgroups in the selected scan list. However, if an ATG is the selected group, the radio monitors the sub-groups associated with the ATG.

On entering the Emergency Mode, any ongoing voice call is aborted or cleared down. Any packet data transfer in progress is aborted. However, the session is kept open.

The radio remains in the Emergency Mode until you or the originator ends the Emergency Group Call.

Pressing the EMERGENCY button or entering Emergency number and pressing SEND key, can be used to activate one or more services (depends on the service provider setting):

- Entering Emergency Mode
- Sending Emergency Alarm
- Starting Hot Mic operation
- Starting Emergency Individual Call
- Powering up the radio in Emergency Mode
- Sending the GPS location information

NOTE

- Entering Emergency Mode even if TXI Mode is activated, causes immediately your radio to transmit. When entering the Emergency operation, your radio should not be within the RF sensitive area any longer.
- Your radio interrupts the AL call, when you trigger Emergency Mode.

If the radio user wishes to finish Emergency Call, a confirmation pop-up appears to avoid unintentional disconnects.

3.6.1 Emergency Operation

Emergency operation is available in TMO and DMO Mode. You can initiate an Emergency Group Call to a pre-programmed group. You can receive an Emergency Group Call:

- From the selected pre-programmed talkgroup.
- From an open group (An open group is a super-group to which all DMO groups belong).

Emergency calls can be placed through the gateway or repeater.

3.6.2 Silent Emergency Mode

The Silent Emergency Mode is a type of emergency services that provides no audible indications and no keypad tones at the entrance. All the display indications are as in the idle mode. However, the radio cannot use any services except for:

- Receiving Ambience Listening
- Sending Silent Emergency Alarms
- Sending GPS location reports



NOTE

If you try to activate any other feature, it is blocked and no indication is displayed.

If the Silent Emergency feature is enabled, the radio enters Silent Emergency Mode on pressing the EMERGENCY button. After entering the Silent Emergency Mode, the radio guarantees itself to be in TMO Mode. The radio stays in TMO Mode or switches to it, depending on the actual state. Once in TMO Mode, the radio sends Silent Emergency Alarm.



NOTE

If the radio is in a private or group call, the radio waits until the call ends and then enters the Silent Emergency Mode.

The radio keeps re-sending the alarm until successful sending is confirmed. After the alarm is successfully delivered, the radio stays in Silent Emergency Mode and waits for the Ambience Listening. On pressing the EMERGENCY button again, while being in the Silent Emergency Mode, the radio sends the Silent Emergency Alarm (and does not provide any audible or visible indications).

Your radio exits the Silent Emergency Mode, under the following conditions:

- Press MENU and then # key within 3 seconds.
- No success in sending the Silent Emergency Alarm and the maximum number of retries has been reached.
- The control room terminates the Silent Ambience Listening.
- The Ambience Listening is disconnected due to another reason.

If you turn off the radio in the Silent Emergency Mode, the radio switches to pseudo power off state. In this state, the radio appears to be turned off. However, the radio is still on and in the Silent Emergency Mode. On turning the radio on during the pseudo power off state, the radio acts as during turning on and still is in the Silent Emergency Mode.

3.6.3 Emergency Group Call

While in the Emergency Mode, you are able to initiate and receive an Emergency Group Call. This special call is initiated by pressing the EMERGENCY button.

If a radio receives an incoming Group Call with emergency priority, the display shows that an Emergency Group Call has been received, and a special audio alert is played. Your radio automatically switches to the Emergency Mode.

The audio for an Emergency Group Call always goes through the speaker (high audio), even if the low audio is selected.

An Emergency Group Call can be configured as:

- Non-tactical — call on a talkgroup predefined by your service provider. The group might be different than the one selected initially. After exiting from non-tactical Emergency Mode the radio is attached to the group

that was selected before initiating the non-tactical call. When in non-tactical Emergency Mode, you are not able to switch talkgroups. DGNA messages have no impact during non-tactical Emergency Mode but only after exiting the non-tactical Emergency Mode.

- Tactical — call on the currently selected talkgroup.

In TMO, if the radio enters Emergency Mode while the Emergency Broadcast Call is active, the radio continues on the call without initiating any calls and sends an Emergency Alarm. The behavior depends on your service provider settings.

In DMO, Emergency Group Calls through a gateway are supported.

3.6.4 Emergency Private Call

The Emergency Private Calls are Simplex or Duplex Private Calls with emergency priority. On pressing the EMERGENCY button, the radio initiates a Private Call with emergency call priority to the provisioned address. No Emergency Alarm is sent and your radio does not enter the Emergency Mode. This pseudo emergency state (all user indication and rejection of other services) ends as soon as the Emergency Private Call ends.

3.6.5 Emergency MS-ISDN Call

The Emergency MS-ISDN calls are simplex or duplex telephone calls with emergency priority. On pressing the EMERGENCY button, your radio initiates an Emergency MS-ISDN call to the predefined MS-ISDN number.

The MS-ISDN call type (simplex or duplex) is predefined by your service provider.

3.6.6 Emergency Alarm

The Emergency Alarm is a special status message sent to the infrastructure on entering the Emergency Mode. The radio may wait for infrastructure acknowledgment for this alarm and attempt retries.

Each time the radio enters the Emergency Mode, it sends an Emergency Alarm. When an Emergency Alarm is sent successfully, your radio plays Emergency Alarm Sent tone. Due to absence of the delivery confirmation in DMO Mode, Alarm Sent information confirms only sending the alarm.

In addition, once the radio is in the Emergency Mode on pressing the EMERGENCY button, an additional Emergency Alarm is sent. The message can be dispatched both in TMO and DMO Modes.



Your service provider can disable the Emergency Alarm feature.

3.6.7 Hot Microphone

The Hot Microphone allows you to talk without pressing the PTT button on entering the Emergency Mode. The transmission continues for a provisioned amount of time.



This feature can be enabled for the Private Emergency Call.

Pressing the PTT button before the Hot Microphone time expires ends the transmission. Then normal PTT operation takes over (that is, the transition is ongoing for the time the PTT button is held). Subsequent EMERGENCY button presses during the Emergency Mode initiates the Hot Microphone transmission again.

If a talk permit is granted to another member of the group, the Emergency Call received tone is played. If configured, the radio automatically attempts to get talk permit again.

3.6.8 Alternating Hot Microphone

The Alternating Hot Microphone is an enhancement of the Hot Microphone feature. It allows you to have the Hot Microphone switched on and off alternately.

If this feature is enabled, you can initiate the Alternating Hot Microphone by pressing the EMERGENCY button.

The Alternating Hot Microphone terminates when one of the following conditions is met:

- The radio exits the Emergency Mode.
- The Alternating Hot Microphone timer expires.
- The PTT button is pressed.
- **End** SOFT key is pressed (only during transmission time slot).

To skip your transmission time slot and jump to a receiving time slot, press END key.



NOTE

When the radio goes out of the service, it enters the receiving mode and the Alternating Hot Microphone is on hold. When the radio is back to the service, the Hot Microphone transmission and the Alternating Hot Microphone resume.



NOTE

When the user is in the Emergency Mode, pressing EMERGENCY button restarts the Alternating Hot Microphone.

3.6.9 Entering Emergency Mode

Press and hold the EMERGENCY button or enter the Emergency number and press SEND key to enter the Emergency Mode.



NOTE

The required time you need to press the EMERGENCY button is set to 0.5 second (by default). The time can be configured by your service provider.

Upon entry into Emergency Mode any existing call or service other than packet data service is aborted or cleared down. In the Emergency Mode, the radio automatically rejects private calls. The radio remains in Emergency Mode until you exit it.

3.6.10 Emergency Mode by Dialing

This feature allows you to trigger Emergency Mode by dialing a predefined number. It initiates the same Emergency services as you would use the EMERGENCY button. Your radio can store up to eight Emergency numbers.

NOTE

If this Emergency Mode was triggered by Emergency number (not by EMERGENCY button), you can press the END key to exit the Emergency Mode.

3.6.11 Exiting Emergency Mode

Prerequisites: Make sure that your radio is in Emergency Mode.

Procedure Steps

1 If your radio screen displays **Emgcy Mic On**, press **End**.

2 Press and hold **Exit**.

NOTE

If Emergency Mode was triggered by Emergency number (not by EMERGENCY button), you can press the END key to exit the Emergency Mode.

3 If your radio displays **Are you sure to exit Emergency?**, press **Yes** to exit.

Result: Your radio exits the Emergency Mode.

3.6.12 Making an Emergency Group Call

Prerequisites: Make sure that your radio is in Emergency Mode.

Procedure Steps

1 Press and hold the PTT button.

2 Wait for the talk permit tone (if configured) and talk.

3 Release the PTT button to listen.

3.6.13 Receiving an Emergency Group Call

A radio receives an Emergency Group Call from the selected pre-programmed group. Audible tone indicates incoming Emergency Group Call.

3.6.14 Disaster Alert Call

This feature allows you to make Disaster Alert Call in critical and catastrophic situations by making Emergency broadcast call from the radio on a predefined talkgroup. No other services can interrupt this type of the call, except Emergency or other Disaster Alert call. You can send and receive either in TMO or DMO Mode. You radio can receive this type of call on predefined talkgroups. The predefined talkgroups for the Disaster Alert Call are always scanned. The Disaster Alert Call ends after you release the PTT button.

NOTE

This call stays clear only, even if any of the encryption services are enabled.

Your service provider defines if the Disaster Alert Call is initiated on a predefined talkgroup.

3.6.15 Initializing Disaster Alert Call

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Services → Disaster Alert**.

Step result: Your radio enters Disaster Alert Mode and it displays Disaster Alert icon.

3 To start the call press PTT.

Step result: Your radio displays **Disaster Alert In Use**.

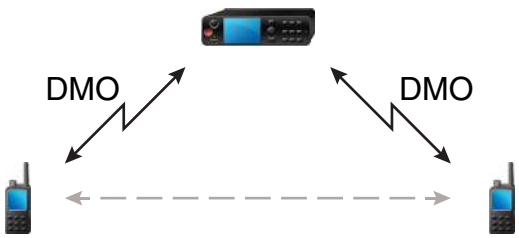
3.7 Repeater Mode

The Repeater Mode provides repeater connectivity between radios operating in the DMO Mode.

NOTE

Only the radios on the same talkgroup can communicate with each other through the repeater.

Figure 3-3 Repeater Mode Operation



3.7.1 Entering Repeater Mode

Procedure Steps

1 From the home screen, press **Optns**.

2 Select **Repeater Mode**.

3.7.2 Setting Monitor Option

Procedure Steps

1 From the home screen, press **Optns**.

2 Press **Monitor**.

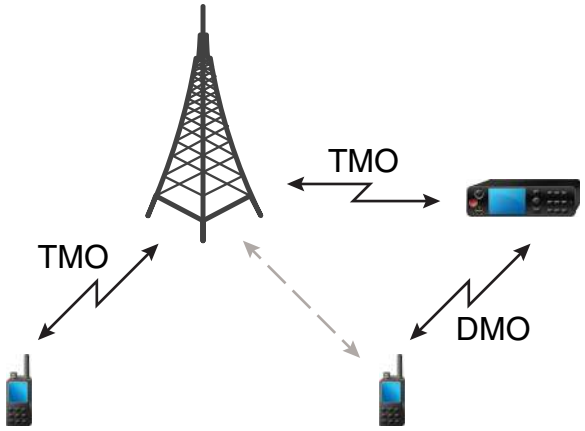
3 Select one of the following:

- **Off** — Your radio works as a repeater only, no operation is available.
- **Receive Only** — Allows you to listen.
- **Receive & Transmit** — Allows you to listen and transmit by pressing PTT.

3.8 Gateway Mode

The Gateway Mode provides connectivity between radios operating in DMO Mode and the TETRA network, so that the DMO radios can communicate with the TMO radios.

Figure 3-4 Gateway Mode Operation



This is a selling feature.

3.8.1 Entering Gateway Mode

Procedure Steps

1 From the home screen, press **Optns**.

2 Select **Gateway Mode**.

3.8.2 Standby Mode

Your radio enters Standby mode if there is another Gateway on the same DMO frequency. Gateway icon flashes and no transmission is forwarded through the gateway. To exit Standby Mode you can:

- choose another DMO talkgroup
- wait untill the other gateway is out of coverage and is no longer present on that DMO talkgroup

3.8.3 Forwarding a Group Call

Your radio shows the source and destination talkgroup of the Group call.

3.8.4 Setting Monitor Option

Procedure Steps

1 From the home screen, press **Optns**.

2 Press **Config** and Select one of the following:

- **Off** — Audio of the calls are not routed to the speakers of the gateway.
- **Receive Only** — Audio of the calls are routed to the speakers of the gateway.

3.8.5 Emergency Calls in Gateway Mode

Press the EMERGENCY button to enter the TMO Emergency mode and start an Emergency Group call. Check with your service provider if the Emergency Group call starts on a tactical or non-tactical talkgroup. If the radio that is in the Gateway mode receives an Emergency Group call, it forwards it to the respective TMO/DMO talkgroup that is currently switched to.

4 GPS Location Service

Topics Covered in this Chapter

- Enhancing GPS Performance
- Enabling GPS
- GPS Icon
- GPS Different Location Displays
- Viewing Your Position
- GPS — Things to Keep in Mind

The GPS Location Service feature uses information from Global Positioning System (GPS) satellites orbiting the Earth to determine the approximate geographical location of your radio.

The GPS Location Service availability, accuracy, and the position calculation time vary depending on the environment in which you use the radio. The GPS Location Service can assist your dispatcher or colleagues in many ways such as more efficient deployment of resources or locating your radio when you trigger your emergency service.

The radio can display the location information directly on the screen or send it over the air to your Dispatcher to display it in the control center. Check your radio configuration details with your service provider.



IMPORTANT

Where the signals from satellites are not available, the GPS Location Service does not work. This situation usually happens when your radio cannot establish a view of a wide area of open sky, for example, when your GPS antenna is covered or facing the ground. Such situations include being:

- In underground locations
- Inside buildings, trains, or other covered vehicles
- Under any other metal or concrete roof or structure
- Near a powerful radio or television tower
- In extreme temperature outside the operating limits of your radio

Even if your location information can be calculated in such situations, it may take longer to do so. Therefore, in any emergency situation, always report your location to your dispatcher. Even where adequate signals from multiple satellites are available, your GPS Location Service feature provides an approximate location, within 5–50 meters from your actual location.

The radio can be triggered to send Location Reports in various circumstances, for example:

- Upon a request
- Triggered by specific events
- At specified time intervals
- At specified distance intervals

The Location Reports can be sent in two ways using:

- SDS
- Packet Data

If the Location Reports are sent over the Packet Data, an Packet Data icon displays when the message is being sent.

If the Location Reports are sent via SDS as a transport layer, a protocol based on existing standards is used. Therefore, the reports can be sent both in TMO and DMO. SDS User Defined Data Type-4 provisions radios to either use SDS-TL (for added reliability) or no SDS-TL (for saving air interface resources). The TETRA standard Protocol Identifiers for GPS are used - 3 for simple GPS (no SDS-TL) or 131 when SDS-TL is used. The location data are stored in the non-volatile memory of the radio, for later retrieval. If the radio is provisioned to provide user indications, the feature operational status is indicated on the radio display.

Depending on the radio configuration, viewing the radio position and the status of the visible satellites is available. The position may consist of longitude and latitude, UK eastings and northings, or Irish grid coordinates. The GPS Location Service feature can be enabled or disabled as a whole using the CPS. It is possible to configure the feature parameters using the CPS, or over the air. The CPS configuration provides a default profile. The commands received over the air may overwrite the default profile configuration. The profile assigned to the radio determines when to send location data, what data to send with what accuracy and to what address. All data requests and configuration commands received over the air are checked to confirm they have come from a trusted source. Only ISSIs in a specified range may send location commands.



NOTE

Ensure that the radio and application receiving location messages from the radio has been configured with the same protocol ID. Otherwise the radio reports a failure when requested to send an Immediate Location Report.

This is a selling feature.

SEE ALSO

Location

4.1 Enhancing GPS Performance

Sometimes the GPS feature is unable to complete a location calculation successfully. You hear an audible tone indicating that your radio cannot see the satellites.

To maximize the ability of your radio to determine a location fix please note the following guidelines:

- Stay in the open — The GPS feature works best where there is nothing between your radio and a large amount of open sky. If possible, go outside, away from tall buildings and foliage. While the performance in a building is improved by moving closer to windows, glass with certain sun shielding films may block satellite signals.
- Position your radio to enhance reception — Signals from GPS satellites are transmitted to your GPS antenna, which is in your radio antenna. Hold your radio away from your body, giving the antenna clear access to satellite signals. Do not cover the antenna area with your fingers or anything else.
- Stand still — If possible, stand still until your radio is finished determining your location. Moving your radio at a walking pace while your radio is calculating your approximate location may substantially decrease GPS performance.

4.2 Enabling GPS

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Location → Interface**.

3 Select **On**.

NOTE

Your service provider can enable this feature.

4.3 GPS Icon

When your radio receives a valid GPS location data, it displays a GPS icon.



NOTE

During Emergency Mode, your radio does not display the GPS icon even when receiving GPS location data. If valid GPS location data is available when you leave Emergency Mode the GPS icon is displayed again.

4.4 GPS Different Location Displays

Table 4-1 Different Location Displays

Latitude / Longitude	UK Coordinates	Irish Coordinates	UTM Coordinates	MGRS Coordinates
Time	Time	Time	Time	Time
Latitude	2–Letter Code	1–Letter Code	3–Letter Code	3–Letter Code and 2–Letter Code
Longitude	Easting and Northing Coordinate	Easting and Northing Coordinate	Easting and Northing Coordinate	Easting and Northing Coordinate
Altitude	Altitude	Altitude	Altitude	Altitude
Satellites	Satellites	Satellites	Satellites	Satellites

- Time — indicates when the last time the location was calculated. The time is provided in Universal Time Coordinated.
- Letter Code — grid zone or square on the map for different coordinate standard
- Latitude — expressed in degrees, minutes, and seconds.
- Longitude — expressed in degrees, minutes, and seconds.
- Number of satellites — used to calculate the location. In general, more satellites make for better accuracy. The maximum is 12 satellites.
- Easting — refers to the eastward-measured distance expressed in meters.
- Northing — refers to the northward-measured distance expressed in meters.

NOTE

Skipping each digit of easting and northing coordinates decreases the accuracy by the factor of 10.

4.5 Viewing Your Position

1 From the home screen, press MENU key.

2 Select **More . . . → Location → Position**.

3 Scroll to view the results about the last time your location was calculated.



To refresh your position:

- enter **Position** — the radio refreshes its position automatically
- press **Refresh**

4.6 GPS — Things to Keep in Mind

Where adequate signals from multiple satellites are not available, the GPS feature of your radio does not work. Such situations include but are not limited to:

- In underground locations
- Inside of buildings, trains, or other covered vehicles
- Under any other metal or concrete roof or structure
- Near a powerful radio or television tower
- When your GPS antenna is covered (for example, by your hand or other object) or facing the ground
- In temperature extremes outside the operating limits of your radio

Even where location information can be calculated in such situations, it may take longer to do so. Therefore, in any emergency situation, confirm your location with your dispatcher.

Furthermore, please note that even where adequate signals from multiple satellites are available, your GPS feature provides only an approximate location, often within 20–100 meters from your actual location.

5 Main Menu

Topics Covered in this Chapter

- Scrolling through the Menu
- Menu Icons
- Menu Structure
- Messages
- Contacts
- Security
- Setup
- Group Setup
- My Info
- Recent Calls
- Shortcuts
- RUI
- Networks
- Location
- Packet Data

This chapter provides you with the information on the items in the main menu.



NOTE

You can enter the menu items during a call. If you are viewing a menu when a new call starts, the radio exits the menu.

5.1 Scrolling through the Menu

Procedure Steps

1 From the home screen, press MENU key.

2 Scroll to the required item by pressing NAVIGATION keys. Press the SOFT key assigned as **Select** or right NAVIGATION key to select.

If the menu item contains a further set of menu items, repeat step 2.



NOTE

You can use shortcuts to access frequently used items.

SEE ALSO

Shortcuts

5.2 Menu Icons

The following icons make it easy to identify the menu items at first glance.

Table 5-1 Menu Icons

Menu Icon	Description
	Main Menu Items/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.
	Browser Indicates the WAP browser.
	Security Lets you turn on/off and verify security features, and change passwords.
	Setup Allows you to customize your radio.
	More... Contains additional setup menu items.

5.3 Menu Structure

Table 5-2 Menu Structure

Menu	
Messages	**New Message**
	Inbox
	Outbox
	CO Box
	WAP Box
	Templates
	Predefined
	Send Status
Contacts	**[New Contact]**
	<Name 1>
	<Name 2>

Table 5-2 Menu Structure (cont'd.)

Menu				
Security	PIN Protect			
	Change Code			
	Keylock Setup	Lock Keypad		
		Auto. Lock		
		Delay		
		Start Locked		
	AirEncrypt			
	K Validity			
	TMSCK Validity			
	DMSCK Validity			
	DMO SCK			
	Covert Mode	On/Off		
		Vibrate		
	Remote Control			
Setup	Ring Style	Duplex		
		Simplex		
	Set Volume			
	Language			
	Data Setup	Voice Only		
		Data Only		
		Voice & Data		
	Audio	Volume Adj. Mode	Individual	
			Common	
	Tones	Keypad Tone		
		All Tones		
		Talk Permit	No Tone	
			Short Tone	
			Normal Tone	
		Clear to send	Tone On	
			Tone Off	
		Periodic Alert	Alert	
			Period	
		D-PTT Tones	D-PTT Mode	
			Tone Style	Single
				Double
				Triple

Table 5-2 Menu Structure (cont'd.)

Menu		
Display	Text Size	Zoom
		Standard
	Screen Saver	Auto
		Disabled
	Backlight	Auto
		Semi Auto
		Manual
	Wallpaper	
Time & Date	Display	Time & Date
		Time Only
		Date Only
		Off
	Format	Format Time
		Format Date
	Set	Set Time
		Time Offset
		Set Date
	System Update	Off
		Time Only
		Time & Offset
Book on	Book on Accept	
	Book on Reject	
Rotary Knob	Rotary Mode	Dual
		Volume
		Scroll
	Rotary Lock	Locked
		Unlocked
		Disable
	In Keypad Lock	Lock None
		Lock Volume
		Lock Scroll
		Lock Both
	Wrap Around	
	Scroll Range	Stay In Range
		Scroll To Next
	Confirm TG Sel.	

Table 5-2 Menu Structure (cont'd.)

Menu				
		Function Keys	Auto	
			Volume Adjust.	
			OTB Feature	
	Accry Type	Standard		
		Handset		
		External		
More . . .	Group Setup	Scan	Scanning	On/Off
				Select List
			Active List	
			Scan Lists	
		My Groups	[New Folder]	
	My Info	My Private Num		
		My Phone Num		
		Radio Info		
	Recent Calls	Dialed		
		Received		
		Missed		
	Shortcuts	[New Entry]		
	RUI	Log on		
		Log off		
	Networks	Networks Sel	Home Only	
			Foreign Net	
			Any Network	
			Select Net	
			Migrate To	
			Auto	
		Trunked Mode		
		Direct Mode		
		TXI Mode		
		Repeater Mode		
		Gateway Mode		
	Location	Position		
		Interface		
	Packet Data	Sent Data		
		Received Data		
		Bandwidth		

Table 5-2 Menu Structure (cont'd.)

Menu		
		Encryption
	Services	**Broadcast**
		Assistance Call
		Disaster Call

5.4 Messages

This feature allows you to send and receive text messages. A message can contain up to 1000 characters, depends on your service provider setting.

5.4.1 New Message

This menu item allows you to create a new message.

5.4.1.1 Sending a Message to Private/Phone

Procedure Steps

1. From the home screen, press MENU key.
2. Select **Messages** → **New Message**.
3. Enter your message and press **Send**.
4. If needed, select **Private**/**Phone**.
5. Type recipient number or press **abc** to choose it from your contacts.
6. Press **Send**, or SEND key, or the PTT button.

5.4.1.2 Sending a Message to Group

Procedure Steps

1. From the home screen, press MENU key.
2. Select **Messages** → **New Message**.
3. Type your message and press **Send**.
4. If needed, select **Group**.

5 Select a group to send the message.

5.4.1.3 Sending a Store and Forward Message

Prerequisites: Your service provider enables the Store and Forward feature.

Procedure Steps

1 From the home screen, press MENU key.

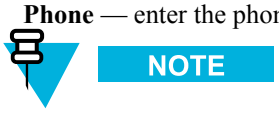
2 Select **Messages** → **New Message**.

3 Press MENU key and select **Message Setup** → **On/Offline users**.

4 Enter your message and press **Send**.

5 If asked for the **Target selection**, select one of the following:

- **Private** — enter the private number or press **abc** to choose the destination number from the contact list.
- **Phone** — enter the phone number or press **abc** to choose the destination number from the contact list.



Your service provider can enable to send a Store and Forward message to a talkgroup.

6 Press **Send**, **Select**, SEND key, or the PTT button.

5.4.2 Inbox

It contains up to 100 new or old incoming messages.

Table 5-3 Inbox Icons

Icon	Description
	Unread (New) Message
	Read (Old) Message
	Sender Information in Message View — name or number
	Time and Date Stamp in Message View — arrival time and date
	Delivery Status Received — delivery status for Store & Forward messages

Messages sub-menu indicates the number of the messages. If the indication is for example 2/4, it means that two unread and four read messages are in the **Inbox**.

5.4.2.1 Entering the Inbox

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Messages** → **Inbox**.



The status (if any) of the list is displayed for a few seconds:

- **No New or Old Messages** — The screen returns to the previous display within a few seconds.
- **Inbox Full** — Select **Ok**.

5.4.2.2 Receiving New Message

Procedure Steps

1 New message received.

Step result: Your radio displays an animation and plays a *New Mail Received* tone.

2 Select one of the following:

- **Read** — opens the entire message.
- **Back** — dismisses the message. You can access the message later from the **Inbox**.

5.4.2.3 Using Submenu in Inbox and Outbox

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Messages** → **Inbox** or **Outbox**.

3 Highlight the required message and press MENU key.

4 Select one of the following:

- **Store** — Saves a message as a template. Change the default template name and press **Ok**.
- **Delete** — Deletes the selected message. Press **Yes** to confirm.
- **Delete All** — Deletes all the messages in the **Inbox**/**Outbox**. Press **Yes** to confirm.
- **Reply** (only for **Inbox**) — Invokes the edit screen with the old message as default text and the message originator as a recipient. After editing, press **Send**, the PTT button, or the SEND key to send.
- **Resend** (only for **Outbox**) — Invokes the edit screen with previously entered text with the same recipient. After editing, press **Send**, the PTT button, or the SEND key to send.
- **Forward** — Invokes the edit screen with the old message to send it to a different participant. After editing, press **Send**, the PTT button, or SEND key to send.
- **Refresh** — Re-orders the message list and displays the new messages.
- **Delivery Status** (only for **Outbox**) — Shows the date and time of the message when it sent, delivered, read, and expired was not delivered, expired was not read, failed unknown.

5.4.2.4 Embedded Number

This feature allows you to call a number from a message or to start a group call with the message sender talkgroup.

5.4.2.5 Storing a Number from a Message

Prerequisites: Embedded Number feature is enabled by your service provider.

When and where to use: You can save the sender's or embedded number from the message to a new or existing contact.

Procedure Steps

1 From the home screen, press 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**.



To store a number for a new contact, select **[New Contact]** and fill out the required fields. Press **Done** to save it..

8 Select **Edit**.

9 Choose the **Type** of the new number and press **Done**.

5.4.2.6 Calling a Number in a Message

Prerequisites: Embedded Number feature is enabled by your service provider.

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

Procedure Steps

1 From the home screen, press 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 To call, highlight to the required number and press the PTT button or SEND button.

7 Select **Ctype** to choose the type of call (**Private**, **Phone**, or **PABX**).

8 Press the PTT button or SEND button.

5.4.2.7 Making a Group Call on a Talkgroup of the Message Originator

Prerequisites: Embedded Number feature is enabled by your service provider.

When and where to use: You can start a group call with the message originator talkgroup.

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Messages** → **Inbox**.

3 Highlight the required message and press the PTT button.

5.4.2.8 Immediate Message

When the new immediate message is received, radio plays the New Mail Received tone and displays the content overlapping your previous screen. All immediate messages are stored in the **Inbox**. If the radio is in PIN Lock state, immediate message is displayed after correct PIN is entered.



This feature needs to be enabled by your service provider.

5.4.3 Outbox

It stores all sent messages.

Table 5-4 Outbox Icons

Icon	Description
	Delivery in Progress
	Delivery Accomplished
	Delivery Failed

Messages sub-menu indicates the number of the messages. If the indication is for example 2, it means that two messages are in the **Outbox**.

5.4.4 CO Box

It contains all the Call-Out messages. The messages are arranged chronologically into two levels. When the radio is in Call-Out Mode, you can only read the ongoing Call-Out messages.

SEE ALSO

Call-Out

5.4.5 WAP Box

Each WAP Push message can be loaded immediately or stored as a message in **WAP Box**. Then it can be accessed by pressing MENU → **Message** → **WAP Box**. All the WAP Push messages are passed to the browser.

SEE ALSO

WAP

WAP Push

5.4.6 Templates

This feature is used to store up to 100 predefined and your message templates. Each of the **Inbox** and **Outbox** message can be stored as a template to save time in typing the same text. Each template name and text can be edited afterwards.

5.4.6.1 Sending a User-Defined Template

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Messages** → **Templates**.

3 Highlight the required template name and press **Send**.

4 Do one of the following:

- Enter the number or press **abc** to select the name from your contact list. Press **Send**.
- Select required talkgroup from the **TalkGroup List**.

5.4.6.2 Setting User-Defined Templates

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Messages** → **Templates**.

3 Highlight the required template and press MENU.

4 Select one of the following:

- **View** — Displays template text.
- **Delete** — Deletes the template.
- **Edit Text** — Opens edit screen with the template text. Edit the text and press MENU. Select **Save Changes** to save edited template, or **Store** to save the edited template as a new one.
- **Edit Name** — Opens edit screen with the template name. Press **Ok** to save the template.

5.4.7 Predefined Templates

Predefined message templates are programmed into your radio. You are allowed to perform limited edit operations of the predefined template. You can send it, but you are not able to store the edited template or erase it from the predefined template list.

SEE ALSO

Pseudo Call Forward

5.4.7.1 Viewing Predefined Templates

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Messages** → **Predefined**.

3 Highlight the required template and press MENU key.

4 Select **View**.

5.4.7.2 Sending Predefined Templates

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Messages → Predefined**.

3 Highlight the required template and press **Send**, the PTT button, or the SEND key.

NOTE

You can edit the predefined template before you send it. Press MENU and select **Edit**. Edit screen opens with the template text. You are only allowed to replace the existing text.

5.4.8 Send Status

5.4.8.1 Viewing a Status Message Number

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Messages → Send Status**.

3 Press MENU and select **View**.

5.4.8.2 Sending a Status Message to a Group

Prerequisites: Switch to the desired talkgroup, to which you want to send a status message.

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Messages → Send Status**.

3 Do one of the following:

- Highlight the required status message and press **Select**, the PTT button, or the SEND key.
- Enter 5 digit status message number and press **Send**.



If the radio displays **Status list is empty**, you can enter 5 digit status message and press **SendTo**.

5.4.8.3 Targeted Status

This feature allows you to send the status message to a private number or to user selected talkgroup.



Your service provider can disable to send a status message to a private number that is not in the **Contacts**.

5.4.8.4 Sending a Targeted Status Message

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Messages** → **Send Status**.

3 Do one of the following:

- Highlight the required status message and press **Select**, the PTT button, or the SEND key.
- Enter 5 digit status message number and press **Send**.



If the radio displays **Status list is empty**, you can enter 5 digit status message and press **SendTo**.

4 Do one of the following:

- Enter the number or press **abc** to select the name from your contact list. Press **Send**.
- Select required talkgroup from the **TalkGroup List**.

Result: The display shows on of the following delivery reports:

- **Status Sent**.
- **Status Failed**.

5.5 Contacts

This sub-menu stores all your contact numbers. Each 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 5-5 Contact Types

Contact 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 contacts entry must contain a number.
- **Speed #** — accept the default Speed Dial number or change it.

5.5.1 Creating a Contact

Procedure Steps

1 From the home screen, select **Contcs**.

2 Select **[New Contact]**.

3 Highlight **Name** and press **Change**. Enter the name of your contact and press **Ok**.

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



You can use the Left and Right NAVIGATION keys to select the type of your contact from the **Contact Details** screen.

5 Highlight # (number) and press **Change**. Enter the number of your contact and press **Ok**.

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



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

7 Press **Done**.

Result: You have create a contact with one number. To add additional number repeat steps 4–6.

5.5.2 Editing a Contact

Procedure Steps

1. From the home screen, press **Contcs**.
2. Highlight the contact you want to edit.
3. Press MENU.
4. Press **Edit**.
5. Highlight one of the following entries and press **Change** to edit:
   - **Name**
   - **Type**
   - # (number)
   - **Speed #**
6. Press **Done**.

5.5.3 Deleting a Number

Procedure Steps

1. From the home screen, press **Contcs**.
2. Select a contact you want to edit.
3. Use left or right NAVIGATION keys to choose the required number.
4. Press MENU.
5. Select **Delete number**.

   If an entry contains only one number, deleting the number deletes the entry.
6. Press **Yes**.

5.5.4 Deleting a Contact

Procedure Steps

1. From the home screen, select **Contcs**.

2 Highlight a contact you want to delete.

3 Press MENU.

4 Select **Delete contact**.

5 Select **Yes**.

5.5.5 Checking Capacity

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

Procedure Steps

1 From the home screen, select **Contcs**.

2 Press MENU.

3 Select **Capacity**.

4 Select one of the following:

- **Private**
- **Phone / PABX**
- **Contact**

5.5.6 Dialing through the Contact List

Procedure Steps

1 From the home screen, press **Contcs**.

2 To highlight the required contact, use up and down NAVIGATION keys or by entering 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 Press the PTT button to initiate a simplex call with a **Private** number. Otherwise use the SEND key to initiate a duplex call.

5.6 Security

This sub-menu stores all your security settings.

5.6.1 PIN Protect

This feature allows you to enable PIN code authentication at the next power on. This code protects your radio against unauthorized use.

If you are unable to unlock the radio, you can only send or receive Emergency Calls and adjust the volume level with the ROTARY KNOB.

SEE ALSO

Unlocking Your Radio

Changing PIN Code

5.6.1.1 Protecting the Radio with a PIN Code

Procedure Steps

1 From the home screen, press MENU → **Security** → **PIN Protect**.

2 Select **On**.

3 Enter 4-digit PIN code.



SUGGESTION

Default PIN code is 0000.

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

5.6.1.2 Unblocking Your Radio

Prerequisites: You blocked your radio by entering incorrect PIN code for three times (by default).

Procedure Steps

1 Radio displays **Unit Blocked Enter PUK**.

2 Enter 8–digit PUK (Personal Unblocking Key) number.



NOTE

The PUK is an eight-digit master code provided by your service provider.

3 Enter the new PIN code twice.

5.6.1.3 Changing PIN Code

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Security → Change Code**.

3 Radio prompts for the **Old Code**. Enter currently used 4-digit security code (default setting is 0000).

4 If the entered code matches the old code, radio prompts for the new code twice.

Result: Your radio displays **Code Accepted**.

SEE ALSO

Unlocking Your Radio

PIN Protect

5.6.2 Keylock Setup

The keypad lock feature allows locking the keypad to prevent accidental pressing of keys. The keypad lock/unlock can be invoked using the menu or using a predefined menu shortcut. The keypad lock/unlock can be invoked using the menu or using a predefined menu shortcut. By default press MENU, and then * key.

By default, while the keypad lock feature is active, all front and side keys (including the PTT button) are inoperative except for the ON/OFF key and EMERGENCY buttons.

SEE ALSO

Locking/Unlocking the Keys/Buttons

5.6.2.1 Keypad Lock Notification

When the keypad is locked, your service provider can configure one of the following instructions:

- None — no notification is displayed.
- Notification Only — **Keys Locked** is displayed.
- Notification and Instruction — **Press Menu * to lock/unlock keypad** is displayed.

5.6.2.2 Setting Automatic Keylock Delay

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Security → Keylock Setup → Delay**.

3 Use up and down NAVIGATION keys to change the minutes and press **Done**.

5.6.2.3 Setting Keylock on Startup

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Security → Keylock Setup → Start Locked**.

3 Select **On/Off**.

5.6.3 Air Encryption

This feature provides service confidentiality between you and the system. This menu item allows you only to view air encryption state. If encryption is on and you receive a clear call (unencrypted), the radio displays **Call & Data Not Encrypted**.

5.6.3.1 Viewing Air Encryption State

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Security → AirEncrypt**.

3 Your radio displays:

a. **Air Encryption Is Off**.

b. **Air Encryption Is On**.

5.6.3.2 Air Encryption Key Deletion

Please check with your service provider whether the radio is provided with Air interface encryption keys. You can delete the Air interface encryption keys from the radio by entering the following sequence: **00##.



- It takes a minute for this feature to delete all the encryption keys from the radio.
- Deletion is performed in idle TMO/DMO or Emergency Operation.



Using this feature will disable the radio, and your service provider will need to reenable the radio.

5.6.4 K Validity

K (Key) is a secret key the infrastructure uses to authenticate the radio in the system. It is part of the authentication that provides service confidentiality between your radio and the system.

5.6.4.1 Verifying K Validity

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Security → K Validity**.

3 Your radio displays:

- **K is Valid** — the infrastructure can authenticate your radio.
- **K is Invalid** — the infrastructure is unable to authenticate your radio. Please call your service provider to restore the key to your radio.

5.6.5 TMSCK Validity

SCK (Static Cipher Key) is a secret key the infrastructure uses to encrypt call and data in TMO Mode. Air interface encryption provides service confidentiality between your radio and the system. Your radio is provided with a set of SCKs.

5.6.5.1 Verifying TMSCK Validity

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Security → TMSCK Validity**.

3 Your radio displays:

- **TMSCK is Valid** — your radio can work encrypted in TMO Mode.
- **TMSCK is Invalid** — your radio cannot work encrypted in TMO Mode. Please contact your service provider to restore SCKs to your radio.

5.6.6 DMSCK Validity

This feature is used to provide the service confidentiality for your calls and data services in the DMO Mode.

5.6.6.1 Verifying DMSCK Validity

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Security → DMSCK Validity**.

3 Your radio displays:

- **DMSCK is Valid** — your radio can work encrypted in DMO Mode.
- **DMSCK is Invalid** — your radio cannot work encrypted in DMO Mode. Please contact your service provider to restore SCKs to your radio.

5.6.7 DMO SCK

Air interface encryption provides service confidentiality between your radio operating in Direct Mode and another radio or a group of radios operating in Direct Mode. This feature allows you to enhance security.



This feature needs to be enabled by your service provider.

5.6.7.1 Changing DMO SCK

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Security → DMO SCK**.

3 Press **Next**.

4 Radio displays **Change to version** .

5 Select one of the following:

- **Yes** — to change the key. Your radio displays **Key version changed**.
- **No** — to leave the key. Your radio displays **Code Not Changed**.

5.6.8 Covert Mode

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

When your radio is in the Covert Mode, you cannot enter the following menu items of the **Setup** menu.

- **Set Volume**
- **Tones**
- **Backlight** (in **Display** menu item)

When the Covert Mode is turned on:

- All tones are set to **Off** (corresponding to **All Tones** menu entry).
- Group audio is set to **Speaker Control** (corresponding to **Audio Toggle** menu entry).
- The private speaker is set to **Off**.
- The dimmer state is set to covert (this state is not selectable using the BACKLIGHT key.)

- The wallpaper is disabled.
- The screen saver is disabled.
- The Covert Mode color palette is activated.

The radio powers up in the mode set before turning off. Thus if the Covert Mode was set before turning off, the radio turns on in the Covert Mode .

When the Covert Mode is turned off all the changed settings are reverted to the previous state.

When using the Covert Mode, a low audio accessory should be connected to the radio. The correct low audio accessory is the GCAI Handset, or the older style handset connected through the junction box.

This feature can be used as the One-Touch Button.

5.6.8.1 Activating Covert Mode

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Security** → **Covert Mode**.

3 Select one of the following:

- **On** — all tones are set to off, and the backlight and the LED are disabled immediately. The group audio is routed to the earpiece. The radio displays **Covert Mode On**.
- **Off** — all settings for tones, backlight and audio are restored. The radio displays **Covert Mode Off**.

5.7 Setup

This sub-menu allows you to change your radio configuration.

5.7.1 Ring Style

This sub-menu allows you to set the incoming call ring style.

5.7.1.1 Setting Ring Style

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup** → **Ring Style**.

3 Select one of the following:

- **Duplex** — To set the new ring style to all duplex calls.
- **Simplex** — To set the new ring style to all simplex calls.



Upon entry into this sub-menu, the display shows the current ring style used.

4 Scroll to the desired style and press **Select**.

NOTE

New ring style is played immediately for a few seconds. If necessary, adjust the volume level.

5.7.2 Set Volume

This menu item allows you to adjust the **Simplex**, **Duplex**, **Earpiece**, **Speaker**, and **Keypad** tone volume.

SEE ALSO

Volume Adjustment Mode

5.7.2.1 Setting Volume

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup** → **Set Volume**.

3 Select **Speaker** or **Earpiece**.

4 Select one of the following:

- **Duplex** — sets the volume level for the all duplex calls.
- **Simplex** — sets the volume level for the all simplex calls.
- **Earpiece** — sets the volume level for the earpiece.
- **Speaker** — sets the volume level for the speaker.
- **Keypad** — sets the volume level for the keypad.

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.

SEE ALSO

Setting Volume Adjustment Mode

5.7.3 Language

This sub-menu allows you to change the language of the radio.

5.7.3.1 Setting Language

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup** → **Language**.

3 Select desired language.

5.7.4 Data Setup

This menu item allows you to set up your radio to transmit and receive data from the external device.

To connect your radio accessory connector to the external device, use cable PMKN4104. The external device must run an application complying with the TETRA standards.



- Data services are available only in TMO Mode.
- Data services are blocked in TXI Mode.

5.7.4.1 Setting Data Function

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup** → **Data Setup**.

3 Select one of the following:

- **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.

5.7.5 Audio

This menu item allows you to adjust your radio audio settings.

5.7.5.1 Volume Adjustment Mode

You can set the volume to **Individual** or to **Common**. When it is set to **Individual**, the audio for **Duplex**, **Simplex**, **Earpiece**, **Speaker** and **Keypad** can be set per user preferences. When set to **Common**, the audio have one setting for all items.

SEE ALSO

Set Volume

5.7.5.2 Setting Volume Adjustment Mode

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Audio → Volume Adj. Mode**.

3 Select one of the following:

- **Individual** — You can set **Duplex**, **Simplex**, **Earpiece**, **Speaker** and **Keypad** per your preferences in MENU → **Setup → Set Volume**.
- **Common** — You can set one value for all the items in MENU → **Setup → Set Volume**.

SEE ALSO

Setting Volume

5.7.6 Tones

This menu item allows you to activate/deactivate your radio tones.

5.7.6.1 Keypad Tone

You can activate/deactivate keypad tone at every key press.

5.7.6.2 Setting Keypad Tone

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Tones → Keypad Tone**.

3 Select one of the following:

- **On** — Activates keypad tone.
- **Off** — Deactivate keypad tone.

5.7.6.3 All Tones

You can activate/deactivate all tones.

5.7.6.4 Setting All Tones

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Tones → All Tones**.

3 Select one of the following:

a. **On** — Activates all the tones.

b. **Off** — Deactivates all the tones.

5.7.6.5 Talk Permit

You can set a different tone upon pressing the PTT button.

5.7.6.6 Setting Talk Permit

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Tones → Talk Permit**.

3 Select one of the following:

- **No Tone** — No tone heard upon pressing the PTT button.
- **Short Tone** — Short tone heard upon pressing the PTT button.
- **Normal Tone** — Factory-default tone heard upon pressing the PTT button.

5.7.6.7 Clear to Send

You can activate/deactivate tone for the transmitting radio that the receiving radio is ready to accept the transmission.

5.7.6.8 Setting Clear to Send

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Tones → Clear to send**.

3 Select one of the following:

- **Tone On** — Activate clear to send tone.
- **Tone Off** — Deactivates clear to send tone.

5.7.6.9 Periodic Alert

You can activate/deactivate periodic tone indication for the missed calls, the unread messages, and low battery level. For each notification, your radio generates an unread message tone with the amber LED color indication.

5.7.6.10 Setting Periodic Alert

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Tones → Periodic Alert**.

3 Select one of the following:

- **Alert** — Activates/deactivates periodic tone.
- **Period** — Indicates the time between each periodic tone.

5.7.6.11 D-PTT Tones

This menu item contains the settings for the Double PTT feature.



NOTE

This feature needs to be enabled by your service provider.

5.7.6.12 Setting D-PTT Tones

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Tones → D-PTT Tones**.

3 Select one of the following:

- **D-PTT Mode** — Activates/deactivates D-PTT tone.
- **Tone Style**— Indicates have many times the D-PTT tone is played.

5.7.7 Display

This menu item allows you to adjust your radio display settings.

SEE ALSO

Display

Setting Time and Date on the Display

5.7.7.1 Setting Text Size

When and where to use: This feature enlarge the text on the display so you can see the interface in the environment with the low visibility.

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Display → Text Size**.

3 Select one of the following:

- **Standard** — Default size of the text.
- **Zoom** — Larger size of the text. Keep in mind that less text can be displayed.

5.7.7.2 Setting Screen Saver

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Display → Screen Saver**.

3 Select one of the following:

- **Activate** — To activate/deactivate this feature.
- **Text** — To set the text on the screen saver when this feature is activated.

5.7.7.3 Setting Backlight

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Display → Backlight**.

3 Select one of the following:

- **Auto** — Backlight is triggered by turning on the radio, by pressing any key on device or on the accessory that is connected to it. Also charging or getting signal from the services like: Call-Out message, DGNA and TX timeout during priority call are going to turn on the backlight.
- **Semi Auto** — Backlight is turning on when you are switching on the radio, pressing assigned button to the backlight feature or charging.
- **Manual** — Backlight is toggled by pressing the BACKLIGHT key.



Setting the backlight intensity level by pressing the BACKLIGHT key changes the LED, keypad backlight, and EMERGENCY button backlight intensity.

5.7.7.4 Setting Wallpaper

When and where to use: To change the look of the idle screen.

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup** → **Display** → **Wallpaper**.

3 Select one of the following:

- **On** — To activate this feature.
- **Off** — To deactivate this feature.

5.7.8 Time and Date

This sub-menu controls the displayed time and date on the home screen.



NOTE

If the Home Display Text Message feature is enabled, the time and date cannot be displayed.



NOTE

Infrastructure synchronizes the time and date. When not within the infrastructure signal range you can set the values manually.

5.7.8.1 Setting Time and Date on the Display

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup** → **Time & Date** → **Display**.

3 Select one of the following:

- **Time & Date** — Your radio displays time and date.
- **Time Only** — Your radio displays time only. **Format Date** sub-menu is disabled.
- **Date Only** — Your radio displays date only. **Format Time** sub-menu is disabled.
- **Off** — Your radio does not display time nor date. **Format** menu is disabled.

SEE ALSO

Display

Display

5.7.8.2 Setting Time Format

Prerequisites: If MENU → **Setup** → **Time & Date** → **Display** is set to **Time & Date** or **Time Only**.

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Time & Date → Format → Format Time**.

3 Select one of the following:

- **12-Hour** — Displays the time with **am** (before noon) or **pm** (after noon) indication.
- **24-Hour**.

5.7.8.3 Setting Time Manually

When and where to use: If the time cannot update automatically through the infrastructure.

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Time & Date → Set → Set Time**.

3 Enter current time using NAVIGATION keys or keypad.

4 Press **Done**.

5.7.8.4 Setting Date Format

Prerequisites: If MENU → **Setup → Time & Date → Display** is set to **Time & Date** or **Date Only**.

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Time & Date → Format → Format Date**.

3 Select (D — day, M — month, Y — year):

- **DD/MM/YY**
- **MM/DD/YY**
- **DD-MON-YY**
- **YY/MM/DD**

5.7.8.5 Setting Date Manually

When and where to use: If the time cannot update automatically through the infrastructure.

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Time & Date → Set → Set Date**.

3 Enter current time using NAVIGATION keys or keypad.

4 Press **Done**.

5.7.8.6 Setting Time Offset

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Time & Date → Set → Time Offset**.

3 Enter time offset using NAVIGATION keys.



NOTE

You can adjust the offset value, with 15 minute steps, up to 14 hours ahead or behind.

4 Press **Done**.

5.7.8.7 Setting Automatic Update for the Time and Date

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Time & Date → System Update**.

3 Select one of the following:

- **Off** — All the infrastructure informations are ignored. The radio uses internal time and offset.
- **Time Only** — Time displayed is calculated from the offset programmed by your service provider added or subtracted from the infrastructure time.
- **Time & Offset** — Time and offset are updated after receiving from the infrastructure.

5.7.9 Accry (Accessory) Type

You can choose which of the accessory selection mode is active.

5.7.9.1 Selecting Accessory Type

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Accry Type**.

3 Select one of the following:

- **Standard** — The microphone connected to the control head has the higher priority.
- **Handset** — The microphone connected to the control head has the higher priority.
- **External** — The microphone connected to the rear accessory connector/junction box has a higher priority.



NOTE

In case the PTT on any connected accessory is pressed , the highest priority is assigned to that accessory.

5.7.10 Book On

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

SEE ALSO

RUA/RUI

RUI

5.7.10.1 Editing Book On Settings

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Book on Setup**.

3 Select one of the following:

- **Book on Accept** — Radio accepts all the book on requests.
- **Book on Reject** — Radio rejects all the book on requests without any notification.

5.7.11 Rotary Knob

This menu item allows you to set all the related functionality of the ROTARY KNOB.

5.7.11.1 Setting Rotary Knob Mode

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Rotary Knob → Rotary Mode**.

3 Select one of the following:

- **Dual** — Both modes are available. Turn the ROTARY KNOB to adjust the volume or press and then turn to switch to different talkgroup.
- **Volume** — The knob is used only as a volume control. Turn it clockwise to increase the audio volume level.
- **Scroll** — The knob is used only to change the talkgroup, or in the menu to scroll menu items.



If you choose **Scroll** and the display shows:

- **Scroll Selected** — To adjust volume level go to the main menu, select **Setup → Set Volume**.
- **Function Keys are set to Adjust Volume** — You can use your programmable SIDE buttons to adjust volume.

5.7.11.2 Setting Rotary Lock

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Rotary Knob → Rotary Lock**.

3 Select one of the following:

- **Locked** — Locks ROTARY KNOB, you can unlock it by selecting **Unlocked** or by pressing and holding ROTARY KNOB.
- **Unlocked** — Unlocks the ROTARY KNOB.
- **Disabled** — Locking function is unavailable. Your ROTARY KNOB is unlocked all the time.

5.7.11.3 Setting In Keypad Lock

When and where to use: To set behavior of the rotary knob when the keypad is locked.

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Rotary Knob → In Keypad Lock**.

3 Select one of the following:

- **Lock None** — Scrolling and volume setting functionality is available.
- **Lock Volume** — ROTARY KNOB can be only used for scrolling.
- **Lock Scroll** — ROTARY KNOB can be only used for setting the volume.
- **Lock Both** — Scrolling and volume setting functionality is unavailable.

5.7.11.4 Setting Rotary Knob Wrap Around

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Rotary Knob → Wrap Around**.

3 Select one of the following:

- **On** — Scrolling through the talkgroup list stops after reaching first or last talkgroup in the current selected folder.
- **Off** — Scrolling through the talkgroup list is looped or is moved to the next folder.



Only when **Wrap Around** is set to **On** and the **Scroll Range** is set to **Scroll To Next**, you are able to scroll through all the talkgroups and folders.

5.7.11.5 Setting Rotary Knob Scroll Range

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Rotary Knob → Scroll Range**.

3 Select one of the following:

- **Stay In Range** — Scrolling through the talkgroups in the current folder only.
- **Scroll To Next** — Scrolling through all the talkgroups and folders.



Only when **Wrap Around** is set to **On** and the **Scroll Range** is set to **Scroll To Next**, you are able to scroll through all the talkgroups and folders.

5.7.11.6 Setting Rotary Knob Talkgroup Selection

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Setup → Rotary Knob → Confirm TG Sel.**.

3 Select one of the following:

- **On** — You need to confirm the talkgroup selection by pressing **Select** or pressing the PTT button to immediately start a call on a new talkgroup.
- **Off** — Attaches to the selected talkgroup without any additional prompt

5.8 Group Setup

This sub-menu allows you to set the scanning and my groups folder.

5.8.1 Scan

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

SEE ALSO

Activating Talkgroup Scanning

5.8.1.1 Activating Talkgroup Scanning

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

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Group Setup → Scan → Scanning**.

3 Select **Select List** and then a list name.

Step result: Your radio displays list name **Selected**.

4 Select **Scanning → On**.

Result: Your radio is scanning on the predefined scan list.

SEE ALSO

Scan

5.8.1.2 Setting Talkgroups in the Active Scan List

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

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Group Setup → Scan → Active List**.

NOTE

If **Scanning is Off** is displayed, go to **More . . . → 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:

- **Delete** — Erases this group from the active scan list.
- **Priority** and select new priority to **Low**, **Medium** or **High**.

5.8.1.3 Setting Scan Lists

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

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Group Setup → Scan → Scan Lists**.

3 Highlight required scan list and press MENU to see additional settings:

- **Rename** — Enter 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.

5.8.1.4 Editing Scan Lists

Procedure Steps

1 From the home screen, press MENU → **More . . . → Group Setup → Scan → Scan Lists**

2 Highlight a required scan list name.

3 Select one of the following:

- **Rename** — Renames the talkgroup.
- **Capacity** — Checks the number of the talkgroups.
- **Clear** — Removes all talkgroups from that list.
- **Add Group** — Adds new talkgroup.
- **Edit** — Changes the priority of the talkgroup or delete it.



SUGGESTION

To delete a talkgroup from the scan list, select **Edit** and press MENU.

5.8.2 My Groups

This sub-menu allows you to select/edit your favorite group list.

5.8.2.1 Adding Favorite Folder

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Group Setup → My Groups**.

3 Select**[New Folder]**.

4 Enter the name and select **Ok**.

5.8.2.2 Adding a Talkgroup to a Favorite Folder

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Group Setup → My Groups**.

3 Select **<FolderName>**.

4 Select **[New Group]**.

5 Select the required talkgroup by Folder or by alphabetic search.

5.8.2.3 Editing My Folder List

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Group Setup → My Groups**.

3 Highlight required favorite folder.

4 Press MENU.

5 Select one of the following:

- **Rename Folder** — Edits the name of the folder. Enter new folder name and press **Ok**.
- **Delete Folder** — Deletes selected folder. Press **Yes**.



You cannot delete the last favorite folder.

5.8.2.4 Deleting a Talkgroup from the Favorite Folder

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Group Setup → My Groups**.

3 Select required favorite folder.

4 To delete one talkgroup, highlight it and select **Delete**.



To delete all the talkgroups from the folder, press MENU and select **Delete All**.

5.9 My Info

This sub-menu allows you to view your own private, phone, and radio info.

5.9.1 Viewing/Modifying Personal Information

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → My Info**.

3 Select one of the following:

- **My Private Num** — displays your radio private number.
- **My Phone Num** — displays your radio phone number.



To modify the displayed phone number, select **Edit**. Type the number and press **Ok**.

- **Radio Info** — displays radio information: manufacturer, product type, ISSI, TEI, Serial Number, and OPTA.



OPTA information is optional.

5.10 Recent Calls

You can view the history of all calls:

- **Dialed** — calls you initiated.
- **Received** — calls you answered.
- **Missed** — calls you received but not answered or rejected.

Each list of calls may contain up to 50 numbers, the most recent call being at the top of the list. If the number of a recent call is stored in the contact list, the name associated with the number appears in the recent calls list. A number dialed more than once, appears only once in the list.

5.10.1 Viewing Recent Calls

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Recent Calls**.

3 Select one of the following:

- **Dialed**
- **Received**
- **Missed**

4 Select **View** on the required call.



Press down NAVIGATION key to bypass first two steps.



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.

5.10.2 Calling from Recent Calls

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Recent Calls**.

3 Select one of the following:

- **Dialed** (from the home screen press SEND key to access **Dialed Calls** list)
- **Received**
- **Missed**



From the home screen press down NAVIGATION key, to access **Recent Calls** menu item.

4 Highlight the required call and press the PTT button for private calls or press theSEND key to make a phone call.



Phone calls are only available in TMO Mode.

5.10.3 Storing Recent Calls to Contacts

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Recent Calls**.

3 Select **Dialed**, **Received** or **Missed**.

4 Press **Store**.

NOTE

If **Store** is not assigned to the left SOFT key, the number is already stored in your contact list.

5 To store the number as a new entry, select **[New Contact]**. Or, to store the number to an existing entry, select the entry, and press **View** then select **Edit**.

6 With the contact type field highlighted, scroll left or right to display the contact type you want to assign the number.

7 Select **Done**.

5.10.4 Deleting Recent Calls

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Recent Calls**.

3 Select **Dialed**, **Received** or **Missed**.

4 Press MENU on the required call.

5 Select **Delete**.

NOTE

To erase all the calls, select **Delete All**.

5.11 Shortcuts

This sub-menu allows you to set up shortcuts to access frequently used menu items.

SEE ALSO

Scrolling through the Menu

5.11.1 Creating a Menu Shortcut

When and where to use: To assign a shortcut for the menu item.

Procedure Steps

1 From the home screen, press MENU key.

2 Scroll to the item you want as a shortcut.

3 Press and hold MENU when the item is highlighted.

Example: Creating a shortcut to the **All Tones** options.

1. From the home screen, press MENU key.
2. Select **Setup** → **Tones**.
3. Highlight **All Tones** and press and hold MENU until **Assign Shortcut for: All Tones** is displayed.
4. Select **Yes** and **ShortcutsKey:**1 is displayed.
5. Press **Done**.

NOTE

To use this shortcut, from the home screen, press MENU and the key 1.

5.11.2 Editing a Menu Shortcut List

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . .** → **Shortcuts**.

3 Highlight a required shortcut and press MENU.

4 Select one of the following:

- **Edit** — Changes the assigned key. Type required number and press **Ok**.

  NOTE

  Type a number between 1–20.
- **Delete** — Erases highlighted shortcut. Select **Yes** to confirm.
- **Delete All** — Erases all the shortcuts. Select **Yes** to confirm.

5.12 RUI

This menu item allows you to log in/out to the radio.

SEE ALSO

RUA/RUI

Book On

5.12.1 Logging On

Procedure Steps

1. From the home screen, press MENU key.
2. Select **More . . . → RUI → Log on**.
3. Highlight:
   - **User ID** and press **Select** to enter **User ID List**. If you are a new user on this radio, select **[New User ID]** and enter your user ID. Otherwise select your user ID from the list.
   - Second line and press **Edit**, to enter user ID and press **Ok**.
4. Select **User PIN**, type your credentials, and press **Ok**.
5. Logging screen is displayed.

5.12.2 Logging Off

Procedure Steps

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

5.13 Networks

This menu item allows you to switch between the radio operation modes.

SEE ALSO

Entering TMO / DMO Mode

Selecting Network Operation Mode

5.13.1 Selecting Your Network

Procedure Steps

1. From the home screen, press MENU key.
2. Select **More . . . → Networks → Networks Sel → Home Only**.
3. Your radio registers to the first network on the allowed network list.

5.13.2 Using the Select Net Registration

When and where to use: 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 Steps

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

Result: Your radio registers to the selected network.

5.13.3 Using the Foreign Network Registration

When and where to use: 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 Steps

1. From the home screen, press MENU key.
2. Select **More . . . → Networks → Networks Sel → Foreign Net**.

5.13.4 Using Any Network

When and where to use: Your radio has lost its home network coverage and can register to any network. Only clear authentication is supported on any network.

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Networks → Networks Sel → Any Network**.

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

5.13.5 Using the Migrate To Registration

When and where to use: 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 Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Networks → Networks Sel** and choose one of the following option:

- **Migrate To** — Selects the required network form the list. To view the network ID press MENU key then press Select.
- **Auto** — Your radio automatically attaches to the predefined network.

5.13.6 Selecting Network Operation Mode

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Networks**.

3 Select one of the following:

- **Trunked Mode** — Switches to the mode using infrastructure.
- **Direct Mode** — Switches to the mode without using infrastructure.
- **Repeater Mode** — Switches to the Repeater Mode.
- **Gateway Mode** — Switches to Gateway Mode.
- **TXI Mode** — Select **Activate** to stop sending any radio transmission.

NOTE

If the radio is in **TXI Mode**, it is not possible to switch from **Direct Mode** to **Trunked Mode** or **Repeater Mode**, or **Gateway Mode**.

SEE ALSO

Networks

Entering TMO / DMO Mode

5.14 Location

See the GPS Location Service for more information.

SEE ALSO

GPS Location Service

5.14.1 Viewing Your Position

1 From the home screen, press MENU key.

2 Select **More . . . → Location → Position**.

3 Scroll to view the results about the last time your location was calculated.

NOTE

To refresh your position:

- enter **Position** — the radio refreshes its position automatically
- press **Refresh**

5.15 Packet Data

The Packet Data (PD) Service allows you to transfer data in a TETRA system using the Internet Protocol (IP).

NOTE

For transferring data from a standard computer over the air connect the computer via the Data Cable GMKN1022 with your radio. Your service provider has to setup additional applications on your computer.

If set up by your service provider it is possible to accelerate the transmission by using the Multi-Slot Packet Data (MSPD) Service.

5.15.1 Viewing Data Statistics

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → 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:

- **Sent Data** — the number of KBs**Sent** and **Throughput** since current Packet Data activation is displayed.
- **Received Data** — the number of KBs **Sent** and **Throughput** since current Packet Data activation is displayed.
- **Bandwidth** — active data session percentage is shown.
- **Failed Transfer** — the percentage of failed sent/received packets.

NOTE

N.A. — standby packet data session.

5.15.2 Viewing Encryption Status

Procedure Steps

1 From the home screen, press MENU key.

2 Select **More . . . → Packet Data → Encryption**.

3 The encryption state of the ingoing packet data session is displayed:

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

6 WAP

Topics Covered in this Chapter

- WAP Browser
- Entering/Exiting the Browser
- Entering the Browser Menu Panes
- Tips for Browsing
- Disabled Packet Data Service
- Disabled Browser Entry
- Keys Usage
- Browser Menu Panes Overview
- Navigate Pane
- Advanced...
- Bookmarks Pane
- History Pane
- Tools Pane
- Options Pane
- Image Pane
- Text Input Pane
- WAP Push

Wireless Application Protocol (WAP) is a standard for application layer network communications in a wireless communication environment such as TETRA network. The protocol is used to access the mobile web from a radio through a WAP browser.

This is a selling feature.

SEE ALSO

WAP Push

WAP Box

6.1 WAP Browser

The Openwave Mobile Browser is a WAP-complaint user agent. The WAP browser provides all of the basic services of a computer-based web browser. Whenever any preemptive display interrupts the browser session, the browser needs manual reactivating to return. The WAP browser does not support right-to-left languages (as Arabic and Hebrew); English is used instead. For the content in these languages, the characters are not displayed.

6.2 Entering/Exiting the Browser

Prerequisites: From the home screen, press MENU key. Set **Setup → Data Setup** to **Data Only** or **Voice & Data**.

1 From the home screen, press MENU key.

2 Select **Browser**.

6.3 Entering the Browser Menu Panes

Prerequisites: You are in the browser.

1 Press **Menu** or MENU key.

2 Usually, it brings up the Navigate pane, or the last browser menu pane.



NOTE

If the web page you navigated to has two or more soft keys/options, the **Options** pane pops up. From here, you may scroll to other panes with the left or right navigation keys Or you may select **Browser Menu** and then scroll to the required pane.

6.4 Tips for Browsing

Create and use the following for easy browsing.

6.4.1 Creating a Bookmark through Navigate Pane

1 Enter the browser and browse to the required page.

2 Press **Menu** to enter the browser menu.

3 Select **Mark Page**.

4 The screen displays the title and URL of the marked page.

5 To save it:

a. Press **Save** (or **Select**) to save the page in bookmarks.

b. Select **Menu** and select an option:

- **Save** — Confirms the bookmark creation.
- **Edit** — Allows you to edit the title, folder, choice, and URL of the created bookmark.

6.4.2 Creating a Bookmark through Bookmarks Pane

1 Enter the browser.

2 Scroll to **Bookmarks** pane.

3 Select **Organise** (if there are no saved bookmarks), or **More...** .

4 Select **Menu**.

5 Scroll to **New Bookmark**.

6 Enter the bookmark title and URL, and select its location.

7 Press **Save**.

6.4.3 Using a Bookmark

1 Enter the browser.

2 Scroll to **Bookmarks** pane.

3 Scroll to the required bookmark and select **Go**. The bookmark downloads the selected page from the web.

6.4.4 Creating a Hotkey

1 Enter the browser.

2 Scroll to **Bookmarks** pane.

3 Scroll to the required bookmark.

4 Press MENU. Select **Hotkeys**.

5 Select an unassigned key (0–9).

6 Click **Assign**. The display shows the bookmark and its assigned hotkey.

6.4.5 Using a Hotkey

1 Enter the browser.

2 Press and hold a hotkey to download the corresponding bookmark from the web.

6.4.6 Saving a Page

When and where to use: Save a page for off-line browsing.

1 Enter the browser and browse to the required page.

2 Press **Menu**.

3 Scroll to **Tools** pane.

4 Select **Save Page**. Edit the proposed page title if required. Scroll down and select **Save**. The page will be saved in the **Bookmarks Saved Pages** folder.

6.4.7 Selecting a Saved Page

1 Enter the browser.

2 Scroll to **Bookmarks** pane.

3 Select **Organise** (if there are no saved bookmarks), or **More...** .

4 Select Go to enter the Saved Pages folder.

5 Select a saved page and press **Ok**. The display shows the saved page. Depending on the saved page, you may browse the web from here.

6.5 Disabled Packet Data Service

If there is no Packet Data Service, your radio displays **Error: No Network Available** when entering the browser for the first time. Select left SOFT key to retry entering, or right SOFT key to enter the browser menu.

When re-entering the browser with previously available Packet Data, the radio displays the last browsed page, or the last page to which you navigated off-line.

6.6 Disabled Browser Entry

Browser entry is disabled:

- During any type of voice call, except Ambience Listening Call
- In DMO Mode
- During Emergency Mode
- During PIN lock
- Service provider has not configured this feature
- When the radio is disabled



NOTE

- Browser entry is enabled during Ambience Listening (AL) Call. If you navigate to previously stored pages, the AL state remains.
- When you activate Packet Data for the first time, AL is disconnected, and you have the same look and feel as if you were not in AL before.

6.7 Keys Usage

When the browser is active, the following usage described occurs inside or outside the editor.

Table 6-1 Browser Keys Usage

Key Press	Action
Press 0–9 key	In the editor: enters a digit and/or character depending on the text entry mode selected. Outside the editor: in a numbered list, selects the required item list.
Press and hold 0–9 key	In the editor: standard use. Outside the editor: hotkey for navigating to the numbered bookmark.
Press, or press and hold * key	In the editor, inserts a space.
Press, or press and hold # key	Brings up the Text Input pane, while in editor. Otherwise, sounds a wrong key press.
Left or right SOFT keys	Selects the option that appears in the display directly above the left and right soft key (part of the page).
Up NAVIGATION key	While in list of options, moves up one line.
Press and hold up NAVIGATION key	Moves up on page.
Down NAVIGATION key	While in list of options, moves down one line.
Press and hold down NAVIGATION key	Moves down on page.

Table 6-1 Browser Keys Usage (cont'd.)

Key Press	Action
Left NAVIGATION key	Moves to the previous pane. In the editor: moves left.
Press and hold left NAVIGATION key	Functions as backward.
Right NAVIGATION key	Moves to the next pane. In the editor: moves cursor to the right and inserts space if at the end of the word.
Press and hold right NAVIGATION key	Functions as forward.
Press and hold at the center of NAVIGATION keys	Auto-repeat
MENU key	Brings up the browser menu.
END key	Press to deactivate the browser.
SEND key	Disabled in browser active state.
ROTARY KNOB	Used for volume adjustment only.
EMERGENCY button	Deactivates the browser. The radio enters Emergency Mode.

6.8 Browser Menu Panes Overview

The browser menu includes the following panes:

Table 6-2 Browser Menu Panes

Menu Pane	Description
Navigate	Provides access to the home page and commonly used items.
Bookmarks	Provides access, editing, and storage options to stored bookmarks and saved pages.
History	Provides access to recently visited pages and shows the position of the currently loaded page in the history stack.
Tools	Provides access to applications and utilities.

The following panes are displayed according to the context:

Table 6-3 Additional Menu Panes

Menu Pane	Description
Options	Displayed only when there are additional options for the pane or page.
Image	Displayed only when an image is selected. Provides access to image details, storage, and display use.
Input Text	Displayed only in text entry mode. Provides access to text entry mode (for example: symbol).

6.9 Navigate Pane

You can select one of the following items:

- **Home** — for loading the home page.
- **Open Page** — for entering the URL.
- **Search** — item disabled.
- **Mark Page** — for creating (saving) a bookmark for the current document. A title and URL for the bookmark are displayed, and the root folder is chosen for the location.
- **Forward** — for navigating to the document located one step forward in the navigation history. If there is no forward history, this item is disabled.
- **Reload** — for reloading the current document.
- **Advanced...** — see following section.

6.10 Advanced...

From the Navigation pane select **Advanced...** to see the following options:

- **Settings...**
  - **Downloads** — for setting download preferences. You may deactivate the downloading of images and objects. The browser displays a special icon instead of the images and objects.
  - **Scroll Mode** — for setting the scrolling mode and speed.
  - **Key Press Timeout** — for setting key press time-out. This time-out is used for text entry.
  - **Set Proxy** — select the WAP Proxy (1, 2, 3). The browser connects to the web via the selected proxy or gateway. The network provider installs and configures the proxy. To establish a secure session, select a secure proxy. Please ask your service provider which proxy is configured for a secure session. Though you can choose your home page, the service provider may decide to force its own home page on your terminal.
  - **Circuit Prompt** — for turning on/off the circuit prompt.
  - **Resend Data Prompt** — for turning on/off the data re-send prompt.
- **Security...**
  - **Secure Prompt** — for enabling/disabling the browser to inform you that it replaced a non-secure connection with a secure connection, and the other way around.
  - **Current Certificate** — for viewing the digital certificate identifying the server that delivers the current document. A Certificate Authority (CA) digitally signs and thus authenticates this certificate. Up to ten additional custom WTLS certificates can be added to the default list of certificates installed. Please ask your service provider if you wish to have these custom WTLS certificates added.
  - **CA Certificates** — for viewing the digital certificates installed in the browser and digitally signed by Certificate Authorities (CA).
  - **Send Referrer** — for turning ON/OFF sending of the HTTP Referrer header as part of HTTP requests. The Referrer header provides the URL of the link source to the server.
  - **Authentication** — for turning ON/OFF the caching of HTTP Authentication credentials. HTTP Authentication protects access to content on the server. If you try to access a protected content, you enter your credentials (user name or password).
- **Clear...** — for clearing of browser data: history, cache cookies, or auto-fill.
- **Restart Browser** — for restarting the browser.
- **About...** — for showing the information about the current version of Openwave Mobile Browser.

6.11 Bookmarks Pane

If there are bookmarks in the root folder, select **More...** to access the Options pane. If the root folder is empty, select **Organise...** then press MENU key to access the Options pane. The Options pane allows you to manage bookmarks. The **Saved Pages** folder contains snapshots of saved pages.

6.11.1 Working with the Options Pane for a Selected Bookmark

1. From the Bookmarks pane select **More...** .
2. Scroll to a bookmark.
3. Press MENU to open the Options pane for that bookmark.
4. Select one of the following:
   - **Back** — for displaying the page associated with the bookmark (page is downloaded if not available in cache).
   - **Details** — for modifying the bookmark title and URL.
   - **Delete** — for deleting the bookmark.
   - **New Bookmark** — for creating a new bookmark.
   - **New Folder** — for creating a new folder.
   - **Move** — for moving this bookmark to a new folder (or in Bookmarks).
   - **Delete All** — for deleting all bookmarks.
   - **Hotkeys** — for assigning hotkeys to available bookmarks.

6.11.2 Working with the Saved Pages Folder

1. From the Bookmarks pane select **Saved Pages** folder.
2. The browser displays the page (snapshot) saved using Save Page in Tools pane.
3. Scroll to a saved page.
4. Press **Menu** to open the Options pane for the saved page.

5 Select one of the following:

a. **Back** — for displaying this page saved on its cache.

b. **Details** — for modifying the page title and URL of the saved page.

c. **Update Page** — for replacing the saved version with the current version (to be downloaded from server).

d. **Delete** — for deleting this page from its cache.

e. **Delete All** — for deleting all the saved pages from its cache.

f. **Cancel** — for exiting this pane and returning to the last page displayed.

6.12 History Pane

This pane displays the list of recently visited pages (up to nine history entries can be listed). Each history entry shows its title, if present. Otherwise, **No Title** is displayed.

6.12.1 Navigating to the Recently Visited URL

1 Select the URL.

2 Press **Ok**.

6.13 Tools Pane

1 From the Tools pane select **More...**

2 Scroll to a document.

3 Select MENU key to open the Options pane for that document.

4 Select one of the following:

- **Show URL** — For displaying the current page URL.
- **Save Page** — For creating a snapshot for the current document.
- **Find Text** — For finding a text string in the current document.
- **Copy Text** — For copying text from the current document to the clipboard.

6.14 Options Pane

This pane is specific to the page or pane being displayed.

6.15 Image Pane

This pane appears in the browser menu when you enabled the download of images through Navigate pane > **Advanced...** > **Settings...** .

The following items are available:

- **Save** — for saving the image in the terminal.
- **[Send]** — for sending the image to the destination of your choice.
- **Reload** — for reloading the image.
- **Details** — for displaying the image details.
- **Show Image** — for showing the image on its own page.

6.16 Text Input Pane

Prerequisites: This pane is visible when the browser menu is opened and text entry field is active.

When and where to use: To input the text for the URL.

1 Select the URL.

2 Press **abc**.

Step result: The text input pane opens up.

3 Select **www**.

4 Scroll the required extension (for example: **.com**).

5 Press **.com**. The screen displays the URL with the selected extension.

Table 6-4 Browser Text Input Icons

Mode	Soft Key	Action
Alphabetic characters - lower case	**abc**	Enter text in lowercase.
Alphabetic characters - upper case	**ABC**	Enter text in uppercase.
Numeric	**123**	Enter numbers and symbols.
http mode	**www**	Enter

6.17 WAP Push

WAP push allows WAP content to be pushed to a radio. This push is carried out by sending a specially formatted (Push Access Protocol) XML document to the Push Proxy Gateway, that in turn forwards the document to the radio.

A WAP push message is an encoded message including a link to a WAP address. On receiving a WAP push, a WAP enabled radio automatically gives the option to access the WAP content. The implemented WAP push is compliant to WAP 2.0 standard.

The radio supports WAP 2.0 through a proxy only. Proxy-less connections are not supported

This is a selling feature.

SEE ALSO

WAP

WAP Box

6.17.1 New WAP Messages

Types of the WAP Messages and their priorities:

NOTE

Your service provider sets the priority of the message.

- Push Message
  - High — animation and the icon (blinking) are displayed with the New WAP Message tone.
  - Medium — animation and the icon are displayed with the New WAP Message tone.
  - Low — icon is displayed with the New WAP Message tone.
  - Delete — available only if you are is in WAP Box, the text **WAP Message deleted remotely** is displayed, otherwise there is no indication.

NOTE

Animation is not displayed if you are in a call, or in Emergency Mode, or in Call Out, or in message editor, or PIN lock state, or switching to DMO.

- Load Push Message
  - High — browser opens to the user with the New WAP Message tone.
  - Low — the icon is displayed with the New WAP Message tone.

NOTE

Browser does not open if you are in a call, or in Emergency Mode, or in Call Out, or in message editor, or PIN lock state, or switching to DMO.

6.17.2 Viewing a WAP Message

Procedure Steps

1 From the home screen, press MENU key.

2 Select **Messages → WAP Box**.

3 Select the required message.

4 Select **Go to** to view the message in the browser.

7 Features

Topics Covered in this Chapter

- Call-Out
- RUA/RUI
- DTMF Overdial
- Talkgroup Dialing by Index
- One-Touch Dial
- Phone/PABX Speed Dial
- Phone and PABX Calls
- Private Call
- Short Number Dial
- Dual Control Head
- Voice Operating Transmission (VOX) Control
- Pseudo Call Forward

7.1 Call-Out

This feature allows you to receive call-out alerts. When the Call-Out messages are received the radio, it interrupts current services and attends to the call-out alert without any further delay. After call-out alert has been cleared, the radio exits Call-Out mode and reverts to normal mode. you are only able to receive Emergency Calls during Call-Out mode.

SEE ALSO

CO Box

7.1.1 Types of Call-Out Alerts

There are four types of the Call-Out alert:

- Normal call-out
- Storm plan — it is sent to a group more than one to raise reliability. You can only accept the Call-Out by pressing any button and is moved to information phase.
- Fallback Mode — it includes only voice communication. It can be cleared manually.



NOTE

Fallback is only possible when Radio is in Local Site Trunking.

- Test Call-Out — dispatcher is able to test this feature. Radio is generating the tone and displays **Test Call-Out**. Press the **Test OK** to confirm and to clear the test.

7.1.2 Call-Out Modes Interaction

Call-Out feature operation is different in other modes:

- TXI Mode — you can read the message but you cannot respond to it. You have an option to leave the TXI Mode by pressing soft key or reject the Call-Out message.
- DMO Mode — Call-Out is not supported.
- Emergency Mode — all Call-out alerts are ignored.

7.1.3 Call-Out Service Phases

In the Call-Out mode there are following phases:

- Alerting phase — receives a Call-Out message. The alarm tone indicates the message. Text is displayed and you have following options to use: **Accept**, **Reject** or MENU. If you accept the alert, no other service from this point can interrupt.

  You can stop the alert tone by pressing PTT or any of the soft keys.

- Information phase — you are still in the Call-Out mode and you can receive more detail information about the incident that occurred through subsequent text or the voice message. You can query for more information using voice group call or Call-Out text function which enables you to send a text message. You can always respond and send back the text or the voice message using voice group call.

7.2 RUA/RUI

Radio User Assignment (RUA) and Radio User Identity (RUI) enables authentication service. Only the successful logon on any temporary radio, provides the full access and your permanent radio functionality, so you can be still reached with your permanent number. A logon failure results in limited service.

You can differentiate the RUA/RUI state by the interface color:

- Blue — you are logged on
- Gray — you are logged off

Radio States

- Full Service — user logon was successful. Your radio has full functionality.
- Limited Service — user not logged on. Specified by the service provider.
- Pseudo Log On — occurs only in the Local Site Trunking (LST). You radio has full functionality available (depending on the service provider settings) except some services like forwarding calls. The RUI Pseudo Log On icon is displayed.

Book On

Your service provider assigns particular radio to one person for a predefined period of time. You are only going to see the screen with your login and the full service is granted.

Force Off

Your service provider can log you off. Radio displays **Force Off**.

SEE ALSO

Book On

RUI

7.3 DTMF Overdial

This feature allows you to communicate with an automated answering device (for example, the voice mail or answering machine) during an on-going private, phone or PABX call.

While in an on-going private, phone or PABX call, press the DTMF keys (0-9, *, #). When pressed, the DTMF key sounds a tone and the entered digit is displayed on the screen.

7.4 Talkgroup Dialing by Index

This feature allows you to attach to any talkgroup by dialing its index, instead of choosing it from the talkgroup folders and lists.



NOTE

It is also known as Talkgroup Speed Dial.

7.4.1 Viewing Talkgroup Speed Number

Procedure Steps

1 From the home screen, press **Optns**.

2 Select one of the following:

- **TG by Folder** then select the folder and highlight the required talkgroup.
- **TG by abc** enter up to 15 characters to narrow the talkgroup names and highlight the required talkgroup.

3 Press MENU → **View**.

Example: Radio displays **SpeedNum1***, which means that this talkgroup speed number is 1.

7.4.2 Selecting Talkgroup by Index

Procedure Steps

1 From the home screen, enter talkgroup speed number and *.

2 Press **Attach**.



To start a group call, press the PTT button.

7.5 One-Touch Dial

This feature allows you to call by pressing and holding one of the keys (1-9).



If the One-Touch Button feature is enabled, One-Touch Dial is disabled. If no feature is assigned to a button, your radio displays an **Unassigned Button** message.

7.6 Phone/PABX Speed Dial

This feature allows you to dial Phone/PABX by a shortened number of up to three digits instead of the full number. The Phone/PABX **Speed #** number is assigned when the dialed number is added in the contact list.



This feature is available only in TMO Mode.

7.6.1 Using Phone/PABX Speed Dial

Procedure Steps

1 From the home screen, enter the predefined Phone/PABX speed dial number and # key.

2 Press SEND key.

7.7 Phone and PABX Calls

The Phone Call allows you to call a landline telephone number or a cellular mobile phone number. The Private Automatic Branch Exchange (PABX) Call allows you to call local (office) extension numbers.

7.7.1 Making a Phone or PABX Call

Procedure Steps

1 From the home screen, enter the number.

2 If **Phone** or **PABX** are not the first type of call presented, press **Ctype** repeatedly to select it.

3 Press SEND key.

7.8 Private Call

The Private Call, also called point-to-point, or individual call, enables calling between two individuals. No other radio can hear the conversation. This call type can be carried out in two ways:

- Duplex call (if the system allows), in TMO Mode. Both parties can speak at the same time.
- Simplex call, in TMO or DMO Mode. Only one party can speak at a time.

When a DMO Private Call takes place, radios not involved in this call receive the channel busy indication. The radios are identified using its radio numbers.

Interaction with the accessories:

- Fist Microphone — during the Private Call, if you hang the microphone into the clip the call ends or the audio switches to the speakers (if connected).
- Telephone Style Handset — during the Private Call, if you hand the handset into the holder, the call ends or the audio switches to the speakers (if connected).

7.8.1 Making a Private Call

Procedure Steps

1 From the home screen, enter the number.

2 If **Private** is not the first type of call presented, press **Ctype** repeatedly to select it.

3 When you are in the following mode:

a. TMO — For a simplex call, press and release the PTT button. You hear a ringing tone. Otherwise, press and hold the PTT button. Wait for the talk permit tone before talking, and release the PTT button to listen. For a duplex call, press and release SEND key. You hear a ringing tone.

b. DMO — Only simplex call is available. Press and hold the PTT button. Wait for the talk permit tone before talking, and release the PTT button to listen.

4 To end the call, press the END key.



If you are using the fist microphone, you can hook it firmly into the clip to end the call.

7.9 Short Number Dial

This feature allows you to dial part of the full number of the person you wish to call. Your radio automatically completes the number.

Example: Your radio number is 4282564.

1. Dial 456 (instead of 4282456, the full number).
2. To place the call, press the PTT button or theSEND key.

7.10 Dual Control Head

This feature allows you to use two Control Heads (Master and Slave) with one transceiver. Both Control Heads have the same functionality, except the WAP service and the Remote Programming and both displays contain the same information. All of the radio functionality is available only when the Master is on.



If this feature is enabled by your service provider, one of the icons is displayed all the time.

Check with your service provider default accessory selections and the radio behavior for all types of calls as each control head can have different setup.

7.10.1 Master Single Control Head Mode

This mode occurs when the connection between the Master and Slave was not established upon power up and when Slave was switched off. The Single Control Head icons is displayed.

7.10.2 Slave Standalone Mode

It is related to Slave Control Head when the Master Control Head is turned off. In this mode no radio functionality is available, except ON/OFF button.

7.10.3 Dual Control Head Link

If the Dual Control Head Link is established between Master and Slave Control Head, the Dual Control Head icon is displayed and the full functionality is available on both. Otherwise when the link is broken or lost, Link Error icon is displayed and only the Master Control Head has a full functionality.

7.10.4 Dual Control Head Keys Interactions

If any key except EMERGENCY button and is pressed on any Control Head, the icon is displayed and all the keys are blocked on the other Control Head.



Your service provider can adjust the time that the keypad is blocked on the other Control Head. At any time EMERGENCY button and ON/OFF key can be pressed on both Control Heads.

Initiating and ending WAP session can be done from both Control Heads. However ongoing WAP session is only available on Master. In such case a notification is displayed on Slave.

7.10.5 Dual Control Head Voice

During any call, voice can be heard in both Master and Slave speakers simultaneously. Only one microphone/PTT can be opened at a time. The one that is pressed as first is allowed to initiate the transmission.

7.11 Voice Operating Transmission (VOX) Control

Voice Operating Transmission (VOX) Control feature allows you to transmit voice in a hands-free condition. If this feature is enabled and the loud speaker is turned on, your radio activates the microphone when you speak and deactivates it when you are silent. It is used during either a Duplex Private Call or a Phone Call, when a currently connected and active accessories are not Full Duplex capable.

Example: An external speaker is turned on with a fist microphone activated.

7.12 Pseudo Call Forward

This feature allows you to forward the calls when you are not reachable. To trigger it, send a predefined template which contains the radio number.

The radio that is trying to call another user that is not available and the call is forwarded, displays **Call Forwarding In Progress**. When the forwarded call is received, called radio displays **Call Forward**.

SEE ALSO

Predefined Templates

Appendix A: Tones

Table A-1 Radio Tones

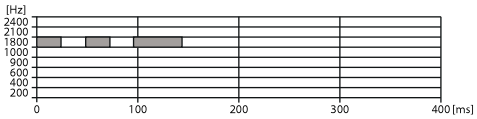
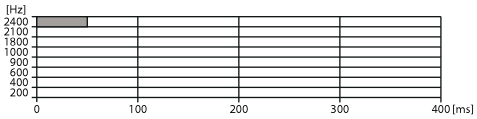
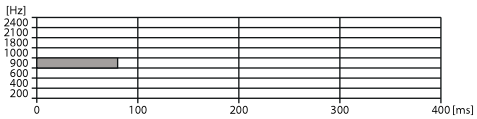
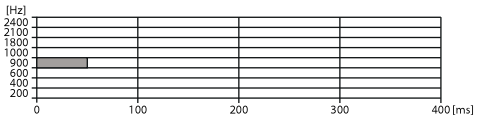
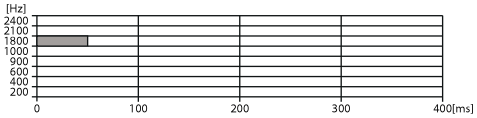
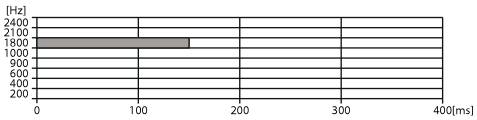
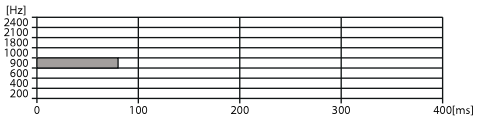
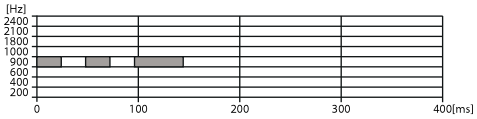
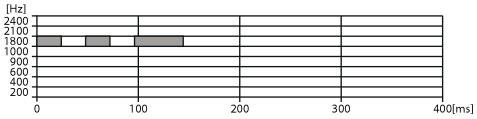
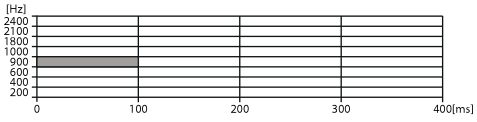
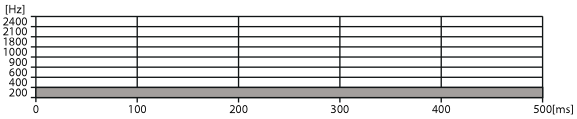
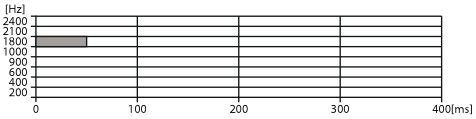
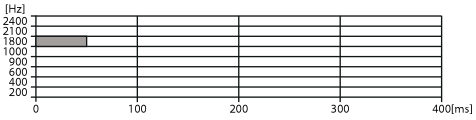
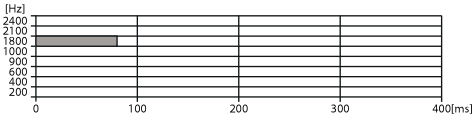
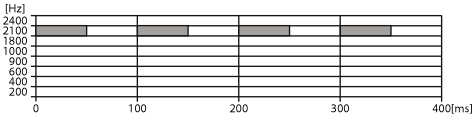
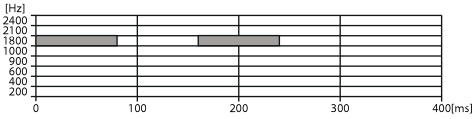
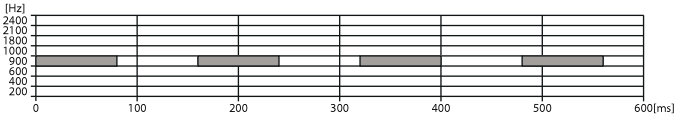
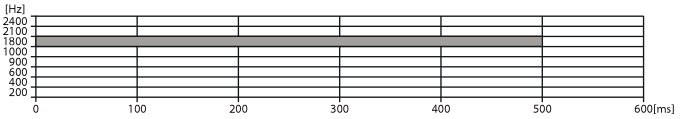
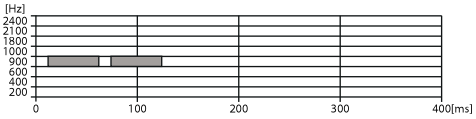
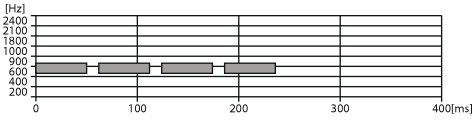
Tone Name	Tone Diagram
Back to Coverage Back to Full Service	
Clear-to-send	
Bad Key Pressed	
From Out-of-Service to In Service	
In DMO	
In Emergency	
Call Clear Warning	
Talk Permit	
Talk Permit without Gateway	
• Talk prohibit • System busy • Time-out timer expire • Called radio not available or busy	

Table A-1 Radio Tones (cont'd.)

Tone Name	Tone Diagram
Call Disconnected or Failed Due to Network	
Entering DMO	
Exiting DMO	
Entering/Exiting Local Site Trunking	
Receiving High-priority Group Call	
Receiving/Sending Emergency Alarm	
Emergency Alarm Failed	
Exiting Emergency	
Entering TXI	
Exiting TXI	

NOTE

All the audible indications can be disabled by your service provider.

Appendix B: LED Indications

Table B-1 LED Indications

Indication	Status
Solid green	In use
	Repeating call
Blinking green	In service
Solid red	Out of service
Blinking red	Connecting to the network
	Entering DMO
Solid orange	Transmit inhibit in service
	Channel busy in DMO
Blinking orange	Incoming call
No indication	Idle
	Radio powered down

Appendix C: Troubleshooting

Your radio displays the following messages:

Table C-1 Displayed Messages

Message	Message Description
...-**Received**	Call received but not answered, or rejected.
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 Cancelled	You have canceled the call.
Call Ended	• Faulty channel. Please try later. • You have ended the call.
Call Preempted	Channel being used for priority.
Emgcy 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.
Emgcy 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.
This group already exists	The group you are attempting to add exists in the **My Groups** folder.
Insufficient visible data	Your radio is in the process of determining your location. This process may take several minutes to complete.
Insufficient visible satellites	Your radio is in the process of determining your location. This process may take several minutes to complete.
Invalid ID	The entered number is not valid.
Invalid Shortcut Position	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.
List Partially Attached	The scan list is active, but not all talkgroups are attached to it.
Message Delivered	Indicates mail successfully delivered.
Message Failed	Indicates mail delivery failure.

Table C-1 Displayed Messages (cont'd.)

Message	Message Description
No Service	Your radio is outside coverage. Return to coverage.
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.
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.
Single TalkGroup Only	There is only one programmed entry in the scrolling list.
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.
Please Try Again	You could not call.
Please Wait Connecting	A message during startup.
Registration Failure	Your radio could not register within the system. Please try again later.
Service Denied	Invalid number. Call your service provider.
Service Not Available	This service is not available on the current network.
Service Restricted	This service is by your service provider, it has not been purchased, or it is not available.
TalkGrp ... cannot be deleted	Your service provider set this group so you cannot delete it from the favorite talkgroup folder.
Try Again Later	The requested service is temporarily unavailable.
Radio Disabled	Check with your service provider.

Table C-1 Displayed Messages (cont'd.)

Message	Message Description
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	You radio could not attach to the system. The talkgroup may not be defined in the system. Please try another group.
Unassigned Button	The message is displayed when no feature is assigned to a button.