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

If this equipment does cause harmful interference to radio or television reception, which can be determined by

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

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

Contents	Identifying Radio Controls 5 Radio Controls You Will Be Using 5
This User Guide contains all the information you need to use the MOTOTRBO XPR Series Portables. Declaration of Conformity	Programmable Buttons
Getting Started	Identifying Status Indicators .10 Display Icons .10 Call Icons .11 LED Indicator .11 Audio Tones .12
Charging the Battery	Making and Receiving Calls

C	
Ī	V

English

Receiving an All Call	Setting and Editing Priority for an Entry	24
Making a Radio Call	in the Scan List	
Making a Voice Call with the Channel	Scan	
Selector Knob	Starting and Stopping Scan	. 25
Making a Group Call	Responding to a Transmission During a Scan .	. 26
Making a Private Call	Deleting a Nuisance Channel	. 26
Making an All Call17	Restoring a Nuisance Channel	. 26
Making a Group or Private Call with the	Contacts Settings	. 27
One Touch Call Button	Making a Group Call from Contacts	
Talkaround	Making a Private Call from Contacts	
Monitoring Features	Making a Private Call by Alias Search	
Monitoring a Channel19	Call Indicator Settings	
Permanent Monitor	Activating and Deactivating Call Ringers	
Advanced Features	for Private Calls	. 29
Radio Check	Activating and Deactivating Call Ringers	
Sending a Radio Check	for Text Messaging	. 30
Remote Monitor	Assigning Ring Styles	
Initiating Remote Monitor 21	Escalating Alarm Tone Volume	
Scan Lists	Call Log Features	. 31
Viewing an Entry in the Scan List 23	Viewing Recent Calls	
Editing the Scan List	Missed Call Screen	
Adding a New Entry to the Scan List	Storing an Alias or ID from the Missed Call List	
Deleting an Entry from the Scan List	Deleting a Call from a Call List	
Deleting an Littly north the Staff List 24	Deleting a Call Iron a Call List	. აა

Call Alert Operation	Replying to a Text Message from the Inbox 42
Receiving and Acknowledging a Call Alert33	Deleting a Text Message from the Inbox43
Making a Call Alert from the Contacts List 34	Deleting All Text Messages from the Inbox44
Making a Call Alert with the One Touch	Security44
Call Button34	Radio Disable44
Emergency Operation	Radio Enable45
Receiving an Emergency Alarm35	Utilities
Responding to an Emergency Alarm36	Locking and Unlocking the
Sending an Emergency Alarm	Keypad
Sending an Emergency Alarm with Call37	Turning Keypad Tones On or Off
Sending an Emergency Alarm with Voice to	Setting the Squelch Level47
Follow	Setting the Power Level
Reinitiating an Emergency Mode	Controlling the Display Backlight 48
Exiting Emergency Mode	Turning Radio Tones/Alerts On or Off 48
Text Messaging Features39	Turning the Talk Permit Tone On or Off49
Writing and Sending a Text Message39	Turning the LED Indicator On or Off49
Sending a Quick Text Message	Turning the Introduction Screen On
Sending a Quick Text Message with the	or Off
One Touch Call Button41	Accessing General Radio Information 50
Receiving a Text Message41	Accessing the Battery Information50
Reading a Text Message41	Checking the Radio ID51
Managing Text Messages41	Checking the Firmware Version 51
Viewing a Text Message from the Inbox42	Checking the Codeplug Version 51

V	

Accessories 52
Antennas
Batteries
Carry Devices
Chargers
Earbuds and Earpieces54
Headsets and Headset Accessories 55

Remote Speaker Microphones	55
Surveillance Accessories	55
Miscellaneous Accessories 5	6
Batteries and Chargers Warranty 5	57
Limited Warranty 5	58

English

Important Safety Information

Product Safety and RF Exposure Compliance



Before using this product, read the operating instructions for safe usage contained in the Product Safety and RF Exposure booklet enclosed with your radio.

ATTENTION!

This radio is restricted to occupational use only to satisfy FCC RF energy exposure requirements.

Before using this product, read the RF energy awareness information and operating instructions in the Product Safety and RE Exposure booklet enclosed with your radio.

information and operating instructions in the Product Safety and RF Exposure booklet enclosed with your radio (Motorola Publication part number 6881095C98_) to ensure compliance with RF energy exposure limits.

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

http://www.motorola.com/governmentandenterprise

Computer Software Copyrights

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

The AMBE+2TM voice coding Technology embodied in this product is protected by intellectual property rights including patent rights, copyrights and trade secrets of Digital Voice Systems, Inc.

This voice coding Technology is licensed solely for use within this Communications Equipment. The user of this Technology is explicitly prohibited from attempting to decompile, reverse engineer, or disassemble the Object Code, or in any other way convert the Object Code into a human-readable form.

U.S. Pat. Nos. #5,870,405, #5,826,222, #5,754,974, #5,701,390, #5,715,365, #5,649,050, #5,630,011, #5,581,656, #5,517,511, #5,491,772, #5,247,579, #5,226,084 and #5,195,166.

Viii

Getting Started

Take a moment to review the following:

How to Use This Guide page 1

What Your Dealer/System Administrator Can Tell You . page 1

How to Use This Guide

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

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

Throughout this publication, two icons are used to differentiate Analog mode and Digital mode only features:



Indicates an Analog Mode only feature.



Indicates a Digital Mode only feature.

For features that are available in both Analog and Digital modes, no icon is shown.

■ What Your Dealer/System Administrator Can Tell You

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

- Is your radio programmed with any preset conventional channels?
- Which buttons have been programmed to access other features?
- What optional accessories may suit your needs?

Preparing Your Radio for Use

Assemble your radio by following these steps:

Charging the Battery	age 2
Attaching the Batteryp	age 2
Attaching the Antennap	age 3
Attaching the Belt Clipp	age 3
Attaching the Universal Connector Coverp	age 3
Powering Up the Radio	age 4
Adjusting the Volume p	age 4

Charging the Battery

Your radio is powered by a Nickel Metal-Hydride (NiMH) or Lithium-Ion (Li-Ion) battery. To avoid damage and comply with warranty terms, charge the battery using a Motorola charger exactly as described in the charger user guide.

Charge a new battery 14 to 16 hours before initial use for best performance.

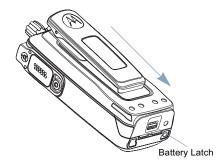
IMPORTANT: ALWAYS charge your IMPRES battery with the IMPRES charger. Using a conventional charger causes irrecoverable loss of IMPRES battery data. As a result, the battery functions as a non-IMPRES battery and cannot display the data on your radio. Additionally, it voids your

IMPRES battery warranty, although the standard battery warranty still applies.

Attaching the Battery

Align the battery with the rails on the back of the radio. Press the battery firmly, and slide upward until the latch snaps into place. Slide battery latch into lock position.





To remove the battery, turn the radio off. Move the battery latch into unlock position and hold, and slide the battery down and off the rails.

2

Attaching the Antenna



With the radio turned off, set the antenna in its receptacle and turn clockwise.

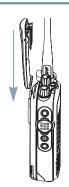


To remove the antenna, turn the antenna counterclockwise. Make sure you turn off the radio and remove the universal connector cover first.



If antenna needs to be replaced, ensure that only MOTOTRBO antennas are used. Neglecting this will damage your radio. See *Antennas* on page 52 for a list of available antennas.

Attaching the Belt Clip



Align the grooves on the clip with those on the battery and press downward until you hear a click.

To remove the clip, press the belt clip tab away from the battery using a key. Then slide the clip upward and away from the radio.

Attaching the Universal Connector Cover

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



Place the universal connector cover loop over the attached antenna. Slide it all the way down to the base of the antenna.

Insert the hooked end of the cover into the slots above the universal connector. Press downward on the cover to seat the lower tab properly into the RF connector.

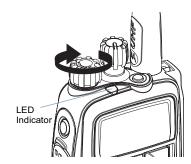
Turn the thumbscrew clockwise to secure the connector cover to the radio.

To remove the universal connector cover, press down on the cover and turn the thumbscrew counterclockwise. Lift the cover up, slide the connector cover loop upwards, and remove it from the attached antenna.

Powering Up the Radio

Rotate the On/Off/Volume Control Knob clockwise until you hear a click. You see Powering Up on the radio's display.

The LED blinks green and the Home screen lights up if the backlight setting is set to turn on automatically.



NOTE: The Home screen does not light up during a power up if the LED indicator is disabled (see *Turning the LED Indicator On or Off* on page 49).

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

NOTE: There is no power up tone if the radio tones/alerts function is disabled (see *Turning Radio Tones/Alerts On or Off* on page 48).

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

To turn off the radio, rotate this knob counterclockwise until you hear a click. You see a brief Powering Down on the radio's display.

Adjusting the Volume

To increase the volume, turn the On/ Off/Volume Control Knob clockwise.

To decrease the volume, turn this knob counterclockwise.



Identifying Radio Controls

Switching Between Analog and Digital Mode page 9

Radio Controls You Will Be Using



- Channel Selector Knob
- On/Off/Volume Control Knob
- 3 LED Indicator
- Side Button 1*
- 5 Push-to-Talk (PTT) Button
- Side Button 2*
- Side Button 3*
- 8 Front Button P1*
- Microphone
- Speaker
- 11 Front Button P2*
- 12 Keypad
- Menu Navigation Keys
- Universal Connector for Accessories
- 15 Display
- 16 Emergency Button*
- Antenna
 - * These buttons are programmable.

Programmable Buttons

Your dealer can program the programmable buttons as shortcuts to radio functions or preset channels/groups depending on the duration of a button press:

- Press Pressing and releasing rapidly.
- Long press Pressing and holding for the preprogrammed duration (between 0.25 seconds and 3.75 seconds).
- Hold down Keeping the button pressed.

Assignable Radio Functions

Contacts – Provides direct access to the Contacts list.

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

Manual Dial
— Initiates a call by keying in any subscriber ID

Monitor – Monitors a selected channel for activity.

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

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

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

Radio Check 📵 – Determines if a radio is active in a system.

Radio Enable — Allows a target radio to be remotely enabled.

Radio Disable — Allows a target radio to be remotely disabled.

Remote Monitor — Turns on the microphone of a target radio without it giving any indicators.

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

Scan – Toggles scan on or off.

Telemetry Control — Controls the Output Pin on a local or remote radio.

Text Messaging — Selects the Text Message menu.

Zone – Allows selection from a list of zones.

Assignable Settings or Utility Functions

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

Backlight – Toggles display backlight on or off.

Keypad Lock – Toggles keypad between locked and unlocked.

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

Squelch — Toggles squelch level between tight and normal.

Accessing the Preprogrammed Functions

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

 A short or long press of the relevant programmable buttons.



OR

- Use the Menu Navigation Buttons as follows:
- 1 To access the menu, press the

 appropriate **Menu Scroll** button (

 or

) to access the menu functions.
- 2 To select a function or enter a sub-menu, press the button.
- To go back one menu level, or to return to the previous screen, press the button. Long press the button to return to the Home screen.

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

Using the Keypad

You can use the 3 x 4 alphanumeric keypad to access your radio's features. You can use the keypad to enter subscriber aliases or IDs, and text messages. Many characters require that you press a key multiple times. The table below shows the number of times a key needs to be pressed to generate the required character.

	Number of Times Key is Pressed												
Key	1	2	3	4	5	6	7	8	9	10	11	12	13
1,?	1		,	?	!	@	&	í	%	-	:	*	#
2 abc	Α	В	С	2									
3 def	D	Е	F	3									
4 ghi	G	Н	I	4									
5 jkl	J	K	L	5									
6 mno	М	N	0	6									
7 pqrs	Р	Q	R	S	7								
8tuv	Т	U	V	8									
9 wxyz	W	Χ	Υ	Z	9								
O CAPS	0	NOTE:	Press to en	ter "0" and	long press	s to activat	e the CAPS	S lock. And	ther long p	oress to tur	n off the C	APS lock.	
★ DEL	* or del	NOTE: F	Press durin	g text entr	y to delete	the charac	ter. Press	during num	neric entry	to enter a '	*"		
#	# or space	NOTE:	Press durin	g text entr	y to insert	a space. P	ress during	numeric e	entry to ent	er a "#".			

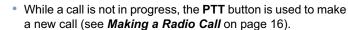
Push-To-Talk (PTT) Button

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

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

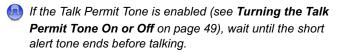
Press and hold down PTT button to talk.
Release the PTT button to listen.

The microphone is activated when the **PTT** button is pressed.



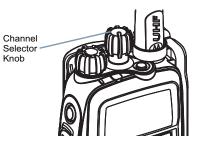
PTT

Button





Each channel in your radio can be configured as an analog channel or a digital channel. Use the Channel Selector Knob to switch between an analog or a digital channel.



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

Your radio also has features available in both analog and digital mode. However, the minor differences in the way each feature works does **NOT** affect the performance of your radio.

NOTE: Your radio also switches between digital and analog modes during a dual mode scan (see **Scan** on page 25).

Identifying Status Indicators

Your radio indicates its operational status through the following: Display Icons.....page 10 Call Icons page 11 LED Indicator page 11 Audio Tones page 12

Display Icons

The full dot matrix, black and white, liquid crystal display (LCD) of your radio shows radio status, text entries, and menu entries.



The following are icons that appear on the radio's display.



Received Signal Strength Indicator (RSSI)

The number of bars displayed represents the radio signal strength. Four bars indicate the strongest signal. This icon is only displayed while receiving.

Power Level

Radio is set at Low power.



Radio is set at High power.



Emergency

Radio is in Emergency mode.



Monitor

Selected channel is being monitored.

Battery



The number of bars (0-4) shown indicates the charge remaining in the battery.

Blinks when the battery is low.



Scan

Scan feature is activated.

Priority Scan (



Radio detects activity on channel/group designated as Priority 1 (if • is blinking) or Priority 2 (if • is steady).

Talkaround



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



Unread Message (n)



User has unread message(s) in the Inbox.

10



Inbox Full 📵



User's Inbox is full.



Tones Disable

Tones are turned off.



GPS Available 📵



The GPS feature is enabled. The icon stays lit when a position fix is available.



GPS Not Available/Out of Range 📵



The GPS feature is enabled but is not receiving data from the satellite.

Call Icons

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



Private Call

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



Group Call/All Call

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

LED Indicator

The LED indicator shows the operational status of your radio.

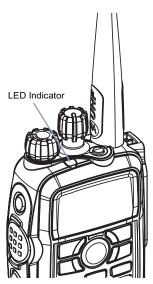
Blinking red - Radio is transmitting at low battery condition, receiving an emergency transmission or has failed the self-test upon powering up.

Solid yellow – Radio is receiving a request for a Private Call, or monitoring a channel.

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

Solid green - Radio is transmitting.

Blinking green – Radio is powering up or receiving a call.



Audio Tones

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

Continuous Tone A monotone sound. Sounds continuously until termination.

Periodic Tone Sounds periodically depending on the duration set by the radio. Tone starts, stops, and repeats itself.

Repetitive Tone A single tone that repeats itself until it is terminated by the user.

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

Making and Receiving Calls

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

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

Selecting a Zone page	12
Selecting a Radio Channel, Subscriber ID,	
or Group IDpage	13
Receiving and Responding to a Radio Call $\ldots\ldots$ page	13
Making a Radio Callpage	16
Talkaround page	18
Monitoring Featurespage	19

Selecting a Zone

A zone is a group of channels. Your radio supports up to a maximum of 50 zones.

Use the following procedure to select a zone.

Procedure:

Press the preprogrammed Zone button and proceed to step 3. **OR**

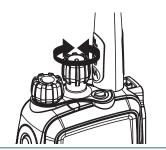
Follow the procedure below.

- 1 to access the menu.
- 3 The current zone is displayed and indicated by a ✓.
- 5 The display shows <Zone > Selected momentarily and returns to the selected zone screen.

Selecting a Radio Channel, Subscriber ID, or Group ID

Procedure:

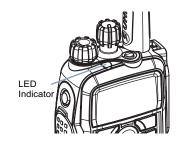
Once the required zone is displayed (if you have multiple zones in your radio), turn the preprogrammed Channel Selector Knob to select the channel, subscriber alias or ID, or group alias or ID.



Receiving and Responding to a Radio Call

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

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



Receiving and Responding to a Group Call

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

Procedure:

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

- The LED blinks green.
- 2 The first line of the display shows the caller alias, and the RSSI icon. The second line displays the group alias and the Group Call icon (in Digital mode only).
- 3 Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.
- 4 Press the PTT button to respond to the call. The LED lights up solid green.
- 5 Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
- 6 Release the PTT button to listen.
- If there is no voice activity for a predetermined period of time, the call ends.

See Making a Group Call on page 16 for details on making a Group Call.

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

> Long press the $\int_{\text{back}}^{\hat{n}}$ button to go to the Home screen to view the caller alias before replying.

Receiving and Responding to a Private Call



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

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

When your radio is checked, the LED lights up solid yellow momentarily. Only one of these call types can be programmed to your radio by your dealer.

Procedure:

When you receive a Private Call:

Depending on how your radio is programmed: The LED lights up solid yellow momentarily. Then, the LED blinks green.

OR

The LED blinks green.

- 2 The first line of the display shows the subscriber alias or ID, and the RSSI icon. The second line displays Private Call and the Private Call icon.
- 3 Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.
- 4 Press the **PTT** button to respond to the call. The LED lights up solid green.
- 5 Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
- 6 Release the PTT button to listen.
- 7 If there is no voice activity for a predetermined period of time, the call ends.
- 8 You hear a short tone. The display shows Call Ended.

See **Making a Private Call** on page 17 for details on making a Private Call.

Receiving an All Call

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

Procedure:

When you receive an All Call:

- 1 A tone sounds and the LED blinks green.
- The first line of the display shows the caller alias, and the RSSI icon. The second line displays All Call and the All Call icon.
- 3 Once the All Call ends, the radio returns to the previous screen before receiving the call.

You cannot respond to an All Call.

See **Making an All Call** on page 17 for details on making an All Call.

NOTE: The radio stops receiving the All Call if you switch to a different channel while receiving the call.

During an All Call, you will **not** be able to use any preprogrammed button functions until the call ends.

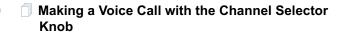
Making a Radio Call

You can select a channel, subscriber ID, or group by using:

- The Channel Selector Knob
- A preprogrammed One Touch Call button



- The Contacts list (see Contacts Settings on page 27)
- Manual Dial (via Contacts) This method is for Private Calls only and is dialed using the keypad (see Making a Private Call from Contacts on page 28) (1)



Making a Group Call

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

Procedure:

1 Turn the Channel Selector Knob to select the channel with the active group alias or ID.

- 2 Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.
- 3 Press the PTT button to make the call. The LED lights up solid green. The display shows the group alias or ID, and the Group Call icon.
- 4 Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
- Release the PTT button to listen. When the target radio responds, the LED blinks green. You see the Group Call icon, the group alias or ID, and transmitting radio alias or ID on your display.
- If there is no voice activity for a predetermined period of time, the call ends.
- Radio returns to the previous screen you were on prior to receiving the call.

You can also make a Group Call via Contacts (see Making a Group Call from Contacts on page 27).

🧻 Making a Private Call 📵

Procedure:

- 1 Turn the Channel Selector Knob to select the channel with the active subscriber alias or ID.
- 2 Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.
- 3 Press the PTT button to make the call. The LED lights up solid green. The first line displays the subscriber alias or ID. The second line displays Private Call and the Private Call icon.
- 4 Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
- 5 Release the PTT button to listen. When the target radio responds, the LED blinks green.
- 6 If there is no voice activity for a predetermined period of time, the call ends.
- You hear a short tone. The display shows Call Ended.

You can also make a Private Call via Contacts (see Making a Private Call from Contacts on page 28) or perform a guick alphanumeric search for the required alias via a keypad entry (see Making a Private Call by Alias Search on page 28).

Making an All Call

This feature allows you to transmit to all users on the channel. Your radio must be programmed to allow you to use this feature.

Procedure:

- 1 Turn the Channel Selector Knob to select the channel with the active All Call group alias or ID.
- 2 Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.
- 3 Press the PTT button to make the call. The LED lights up solid green. The display shows the All Call group alias or ID, and the All Call icon.
- 4 Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.

Users on the channel cannot respond to an All Call.

Making a Group or Private Call with the One Touch Call Button (1)

The One Touch Call feature allows you to make a Group or Private Call to a predefined alias or ID easily. This feature can be assigned to a short or long programmable button press.

You can **ONLY** have one alias or ID assigned to a **One Touch** Call button. Your radio can have multiple One Touch Call buttons programmed.

Procedure:

- 1 Press the preprogrammed **One Touch Call** button to make a Group or Private Call to the predefined alias or ID.
- 2 Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.
- 3 Press the PTT button to make the call. The LED lights up solid green. The display shows the group/subscriber alias or ID, and the Group/Private Call icon.
- 4 Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
- 5 Release the **PTT** button to listen. When the target radio responds, the LED blinks green.
- 6 If there is no voice activity for a predetermined period of time, the call ends.
- 7 Radio returns to the screen you were on prior to receiving the call.

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

■ Talkaround

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

Procedure:

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

OR

Follow the procedure below.

- 1 for access the menu.
- 3 → or ▶ to Radio Settings and press ⊙k to select.
- You see Turn On if the radio is currently in Repeater mode.
 OR

You see Turn Off if the radio is currently in Talkaround mode.

- 6 Press (to select.
- 7 The display shows Talkaround On.

OR

The display shows Talkaround Off.

8 The screen automatically returns to the previous menu.

The Talkaround setting is retained even after powering down.

Monitoring Features

Monitoring a Channel

Use the Monitor feature to make sure a channel is clear before transmitting.

Procedure:

- 1 Press and hold the preprogrammed **Monitor** button and listen for activity. The monitor icon appears on the display.
- 2 You hear radio activity or total silence, depending on how your radio is programmed.
- When you hear "white noise" (that is, the channel is free), press the PTT button to talk and release it to listen. The LED lights up solid yellow.

Permanent Monitor

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

Procedure:

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

Advanced Features

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

Radio Check page 20
Remote Monitor page 21
Scan Lists page 23
Scan page 25
Contacts Settings page 27
Call Indicator Settings page 29
Call Log Features page 31
Call Alert Operation page 33
Emergency Operation page 35
Text Messaging Features page 39
Security page 44
Utilities page 46

Radio Check

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

This feature is only applicable for subscriber aliases or IDs.

□ Sending a Radio Check

Procedure:

Using the preprogrammed Radio Check button.

- 1 Press the preprogrammed Radio Check button
- 2 or ▶ to the required subscriber alias or ID and press to select.
- 3 The display shows Radio Check: (Subscriber Alias or ID), indicating that Radio Check is in progress. The LED lights up solid green.
- 4 Wait for acknowledgement.
- If the target radio is active in the system, a tone sounds and the display briefly shows Target Radio Available.
 OR

If the target radio is not active in the system, a tone sounds and the display briefly shows $Target\ Radio\ Not\ Rvailable$.

6 Radio returns to the subscriber alias or ID screen.

OR

Procedure:

Using the menu.

- 1 to access the menu.

20

or ▶ to the required subscriber alias or ID and press
 to select.

OR

✓ or ➤ to Manual Dial and press ⊚ to select. If there was previously dialed ID, the ID appears along with a blinking cursor. Use the keypad to edit the ID. Press ⊚ to select.

OR

- → or
 → to Manual Dial and press

 → to select. Key in
 the subscriber alias or ID and press

 →.
- 5 The display shows Radio Check: (Subscriber Alias or ID), indicating that Radio Check is in progress. The LED lights up solid green.
- 6 Wait for acknowledgement.
- 7 If the target radio is active in the system, a tone sounds and the display briefly shows Target Radio Available.

OR

If the target radio is not active in the system, a tone sounds and the display briefly shows ${\tt Target}\ {\tt Radio}\ {\tt Not}$ ${\tt Available}.$

8 Radio returns to the subscriber alias or ID screen.

If the button is pressed when the radio is waiting for acknowledgement, a tone sounds, and the radio terminates all retries and exits Radio Check mode.

Remote Monitor @



Use the Remote Monitor feature to turn on the microphone of a target radio (subscriber alias or IDs only). No audible or visual indication is given to the target radio. You can use this feature to monitor, remotely, any audible activity surrounding the target radio.

Your radio must be programmed to allow you to use this feature.

Initiating Remote Monitor

Procedure:

Using the preprogrammed Remote Monitor button.

- 1 Press the preprogrammed **Remote Monitor** button.
- - ok to select.
- 3 Radio sounds an alert tone and the LED blinks green.
- 4 Wait for acknowledgment.
- 5 The display shows Remote Monitor Successful. OR

The display shows Remote Monitor Failed.

6 If successful:

The radio starts receiving audio from the monitored radio for a preprogrammed duration.

Once the timer expires, the radio sounds an alert tone and the LED turns off. The display shows Remote Monitor Ended.

OR

If unsuccessful:

The radio repeats the attempt until the preprogrammed number of tries expires.

OR

Procedure:

Using the menu.

- 1 mu to access the menu.
- 3 or ► to the required subscriber alias or ID and press ok to select.

OR

✓ or ► to Manual Dial and press ⊚ to select. If there was previously dialed ID, the ID appears along with a blinking cursor. Use the keypad to edit the ID. Press ⊚ to select.

OR

- → or
 → to Manual Dial and press
 → to select. Key in
 the subscriber alias or ID and press
 → to select.
- 5 Radio sounds an alert tone and the LED blinks green.
- 6 Wait for acknowledgment.
- 7 The display shows Remote Monitor Successful.

The display shows Remote Monitor Failed.

8 If successful:

The radio starts receiving audio from the monitored radio for a preprogrammed duration.

Once the timer expires, the radio sounds an alert tone and the LED turns off. The display shows ${\tt Remote}\ {\tt Monitor}\ {\tt Ended}.$

OR

If unsuccessful:

The radio repeats the attempt until the preprogrammed number of tries expires.

Scan Lists

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

Your radio can support up to 32 scan lists, with a maximum of 16 members in a list. Each scan list supports a mixture of both analog and digital entries.

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

Viewing an Entry in the Scan List

Procedure:

- 1 to access the menu.

- 4 Use or ► to view each member on the list.
- The priority icon appears left of the member's alias, if set, to indicate whether the member is on a Priority 1 or Priority 2 channel list. You **cannot** have multiple Priority 1 or Priority 2 channels in a scan list.

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

- Editing the Scan List
- Adding a New Entry to the Scan List

Procedure:

- 1 for access the menu.

- 4 or ▶ to Add Member and press ⓒ to select.
- 6 or ▶ to the required priority level (Priority 1 or Priority 2 is **ONLY** applicable when in Analog mode) and press ⓒk to select.
- 7 The display shows Entry Saved, followed immediately by Add Another?.
- 8 or ▶ to Yes and press ok to select, to add another entry, and repeat steps 5 and 6.

OR

 $\, \blacktriangleleft \,$ or $\, \blacktriangleright \,$ to No and press $\, \boxdot \,$ to select to save the current list.

Deleting an Entry from the Scan List

Procedure:

- 1 for access the menu.
- 3 \blacktriangleleft or \blacktriangleright to <code>View/Edit List</code> and press \circledcirc to select.

- 6 At Delete Entry?, or to Yes and press or select, to delete the entry. The display shows Entry Deleted.

OR

- \blacktriangleleft or \blacktriangleright to \bowtie and press \bowtie to select to return to the previous screen.
- 7 Repeat steps 4 to 6 to delete other entries.

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

Setting and Editing Priority for an Entry in the Scan List (

Procedure:

- 1 for access the menu.

- or ▶ to the required priority level (Priority 1 or Priority 2 is **ONLY** applicable when in Analog mode) and press ⊚ to select.
- 7 The display shows Entry Saved before returning to the previous screen.
- 8 The priority icon appears left of the member's name.

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

Scan

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

The LED blinks yellow and you see the scan icon on the display.

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

There are two ways of initiating scan:

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

Starting and Stopping Scan

Procedure:

Press the preprogrammed ${\bf Scan}$ button to start or stop Scan. ${\bf OR}$

Follow the procedure below.

- 1 Use the Channel Selector Knob to select a channel preprogrammed with a scan list.
- 2 to access the menu.
- 4 The display shows Turn On if scan is disabled.
 OR

The display shows Turn Off if scan is enabled.

- 5 Press (ok) to select.
- The LED blinks yellow and the scan icon is displayed when Scan is enabled.

OR

The LED turns off and the scan icon is not displayed when Scan is disabled.

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

Responding to a Transmission During a Scan

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

Procedure:

- 1 Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.
- Press the PTT button during hang time. The LED lights up solid green.
- 3 Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
- 4 Release the PTT button to listen.
- 5 If you do not respond within the hang time, the radio returns to scanning other channels/groups.

Deleting a Nuisance Channel

If a channel continually generates unwanted calls or noise (termed a "nuisance" channel), you can temporarily remove the unwanted channel from the scan list.

This capability does not apply to the channel designated as the Selected Channel.

Procedure:

- When your radio "locks on to" an unwanted or nuisance channel, press the preprogrammed Nuisance Channel Delete button until you hear a tone.
- 2 Release the Nuisance Channel Delete button. The nuisance channel is deleted.

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

Restoring a Nuisance Channel

Procedure:

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

- Power the radio off and then powering it on again, OR
- Stop and restart a scan via the preprogrammed Scan button or menu, OR
- Change the channel via the Channel Selector Knob.

Contacts Settings

Contacts provides "address-book" capabilities on your portable. Each entry corresponds to an alias or ID that you use to initiate a call.

Additionally, each entry, depending on context, associates with **one** of five types of calls: Group Call, Private Call, All Call, PC Call or Dispatch Call.

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

Your radio supports two Contacts lists, one for Analog contacts (with a maximum of 128 members) and one for Digital contacts (with a maximum of 256 members).

Each entry within Contacts displays the following information:

- Call Type
- Call Alias
- Call ID

NOTE: You can add, delete, or edit subscriber IDs for the Digital Contacts list.

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

Making a Group Call from Contacts

Procedure:

- 1 menu to access the menu.
- 2 or to Contacts and press ok to select. The entries are alphabetically sorted.
- 4 Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.
- 5 Press the PTT button to make the call. The LED lights up solid green. The display shows the group alias or ID, and the Group Call icon.
- 6 Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
- 7 Release the PTT button to listen. When any user in the group responds, the LED blinks green. You see the Group Call icon, the group ID, and that user's ID on your display.
- 8 If there is no voice activity for a preprogrammed period of time, the call ends.

Making a Private Call from Contacts 📵



Procedure:

- to access the menu.
- → or
 ➤ to Contacts and press
 ○
 ○
 ○
 ○
 ○

 to select. The entries are alphabetically sorted.
- ✓ or

 to the required subscriber alias or ID. OR
 - → or
 → to Manual Dial and press
 ○
 K
) to select. If there was previously dialed subscriber alias or ID, the alias or ID appears along with a blinking cursor. Use the keypad to edit the ID.

OR

- → or
 → to Manual Dial and press
 ○
 K
) to select. Use the keypad to enter a new subscriber alias or ID.
- 4 Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.
- 5 Press the PTT button to make the call. The LED lights up solid green. The first line displays the subscriber alias or ID. The second line displays Private Call and the Private Call icon.
- 6 Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.

- Release the PTT button to listen. When the target radio responds, the LED blinks green and the display shows the transmitting user's ID.
- If there is no voice activity for a preprogrammed period of time, the call ends.
- 9 You hear a short tone. The display shows Call Ended.

Making a Private Call by Alias Search



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

This feature is only applicable while in Contacts.

Procedure:

- to access the menu.
- are alphabetically sorted.
- Key in the first character of the alias.
- → or
 ➤ to the required alias.
- Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from vour mouth.

- 6 Press the PTT button to make the call. The LED lights up solid green. The first line displays the target radio's ID. The second line displays Private Call and the Private Call icon.
- 7 Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
- Release the PTT button to listen. When the target radio responds, the LED blinks green.
- 9 If there is no voice activity for a preprogrammed period of time, the call ends.
- 10 You hear a short tone. The display shows Call Ended.

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

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

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

Call Indicator Settings

Activating and Deactivating Call Ringers for Private Calls

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

Procedure:

- 1 to access the menu.
- 3 \blacktriangleleft or \blacktriangleright to Radio Settings and press \bigcirc to select.
- or ▶ to Call Ringers and press ⊙k to select.
- 7 The display shows Turn On. Press on to enable Call Ringers for Private Calls. The display shows Private Call Ringer On.

OR

The display shows Turn Off. Press on to disable Call Ringers for Private Calls. The display shows Private Call Ringer Off.

Activating and Deactivating Call Ringers for Text Messaging (1)

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

Procedure:

- to access the menu.
- or ▶ to Utilities and press ⊙k to select.
- → or

 → to Radio Settings and press

 ○○

 ○○

 to select.
- or
 to Call Ringers and press
 ○

 k) to select.
- The current tone is indicated by a ✓.
- display shows Tone <Number> Selected and a ✓ appears left of the selected tone.

OR

→ or
→ to Turn Off and press
→ to select. The display shows Text Message Ringer Off and a ✓ appears left of Turn Off.

Assigning Ring Styles



You can program your radio to sound one of ten predefined ringing tones when receiving a Call Alert or a Text Message from a particular contact.

Procedure:

- to access the menu.
- → or
 → to Contacts and press
 → to select. The entries are alphabetically sorted.
- → or
 → to the required alias or ID and press
 ○
 K

 to select.
- → or
 → to Ring Style and press
 → to select.
- A ✓ indicates the current selected tone.
- → or
 → to the required tone and press

 ○

 ○

 ○

 ○

 ○

 to select.
- The display shows Contact Saved.

The radio sounds out each ring style as you navigate through the list.

Escalating Alarm Tone Volume

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

Procedure:

- 1 to access the menu.

- 6 The display shows Turn On. Press on to enable Escalert. The display shows Escalert On.

OR

The display shows Turn Off. Press on to disable Escalert. The display shows Escalert Off.

Call Log Features

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

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

- Store ID to Contacts
- Delete

Viewing Recent Calls

The lists are Missed, Answered, and Outgoing.

Procedure:

- 1 to access the menu.

- 4 The display shows the most recent entry at the top of the

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

Missed Call Screen

Whenever a call is missed, your radio displays a missed call message. Select <code>View?</code> to view it immediately or <code>View Later?</code> to view at a later time.

NOTE: The radio exits the Missed Call screen and sets up a Private Call if you press the **PTT** button while viewing a missed call number.

Procedure:

- 1 The display shows Missed Calls, along with the number of calls missed and View?.
- 2 Press (a) to view the missed call ID. The missed call log list appears on display.

Press \bigcirc k to store or delete the entry.

OR

→ or
→ to Uiew Later? and press
→ to select. You return to the Home screen.

Storing an Alias or ID from the Missed Call List

Procedure:

- 1 menu to access the menu.

- 4 or ▶ to the required missed call alias or ID and press to select.
- 6 A blinking cursor appears. If needed, key in the alias for that ID and press (a).
- 7 The display shows Contact Saved.

You can also store an ID without an alias.

Deleting a Call from a Call List

Procedure:

- 1 for access the menu.

- 7 The display shows Entry Deleted.

The display shows List Empty when you select a call list and it contains no entries.

■ Call Alert Operation

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

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

Receiving and Acknowledging a Call Alert

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

Procedure:

- 1 You hear a repetitive tone. The LED blinks yellow.
- 2 Press and release the PTT button to acknowledge the alert.
 OR

Press ok to exit the Call Alert.

Making a Call Alert from the Contacts List

Procedure:

- 1 for access the menu.
- 3 or ► to the required subscriber alias or ID and press ○ to select.

OR

✓ or ► to Manual Dial and press os to select.
A blinking cursor appears. Enter the subscriber ID you want to page and press os.

- 5 The display shows Call Alert: <Subscriber Alias or ID>, indicating that the Call Alert has been sent.
- 6 The LED lights up solid green when your radio is sending the Call Alert.
- 7 If the Call Alert acknowledgement is received, a tone sounds and the display shows Call Alert Successful. OR

If the Call Alert acknowledgement is not received, a tone sounds and the display shows Call Alert Failed.

Making a Call Alert with the One Touch Call Button

Procedure:

- 1 Press the preprogrammed **One Touch Call** button to make a Call Alert to the predefined alias or ID.
- The display shows Call Alert: (Subscriber Alias or ID), indicating that the Call Alert has been sent.
- 3 The LED lights up solid green when your radio is sending the Call Alert.
- 4 If the Call Alert acknowledgement is received, a tone sounds and the display shows Call Alert Successful. OR

If the Call Alert acknowledgement is not received, a tone sounds and the display shows Call Alert Failed.

Emergency Operation

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

Your radio supports 3 Emergency Alarms:

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



In addition, each alarm has the following types:

- Regular Radio transmits an alarm signal and shows audio and/or visual indicators.
- Silent Radio transmits an alarm signal without any audio or visual indicators.

Only one of the Emergency Alarms above can be assigned to the preprogrammed **Emergency** button.

Receiving an Emergency Alarm

Procedure:

- 1 When receiving an Emergency Alarm, the display shows the Emergency icon, the number of alarms received, and Alarm Royd, which alternates with the alias or ID of the sender.
- 2 A tone sounds and the LED blinks red.
- 3 If enabled, your radio automatically acknowledges the Emergency Alarm.

When your radio receives an Emergency Alarm, it displays the Emergency Alarm received indications until acknowledgement is sent and you exit the Emergency mode.

You will not be able to receive any other indications or displays for any other calls until you exit the Emergency Alarm received screen.

NOTE: Short press he preprogrammed **Emergency** button to clear the Emergency Alarm received indications and exit Emergency mode.

Responding to an Emergency Alarm

Procedure:

When receiving an Emergency Alarm:

- Press any button to stop all Emergency Alarm received indications.
- 2 Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.
- 3 Press PTT button to initiate a call with the emergency initiating radio. The LED lights up solid green. Your radio remains in the Emergency mode.
- 4 Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
- Release the PTT button to listen. When the emergency initiating radio responds, the LED blinks green. You see the Group Call icon, the group ID, and transmitting radio ID on your display.
- 6 Once your call ends, short press , then long press the preprogrammed **Emergency** button to clear the Emergency Call received indications and exit Emergency mode.
- 7 The radio returns to the Home screen.

Sending an Emergency Alarm

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

Procedure:

- 1 Press the preprogrammed **Emergency** button.
- The display shows Sending Alarm, which alternates with your radio ID. The LED lights up solid green and the Emergency icon appears on the Home screen display.
- When an Emergency Alarm acknowledgment is received, the Emergency tone sounds and the LED blinks green. The display shows Emergency Alarm Successful. OR
 - If your radio does not receive an Emergency Alarm acknowledgement, and after all retries have been exhausted, a tone sounds and the display shows Emergency Alarm Failed.
- 4 Radio exits the Emergency Alarm mode and returns to the Home screen.