



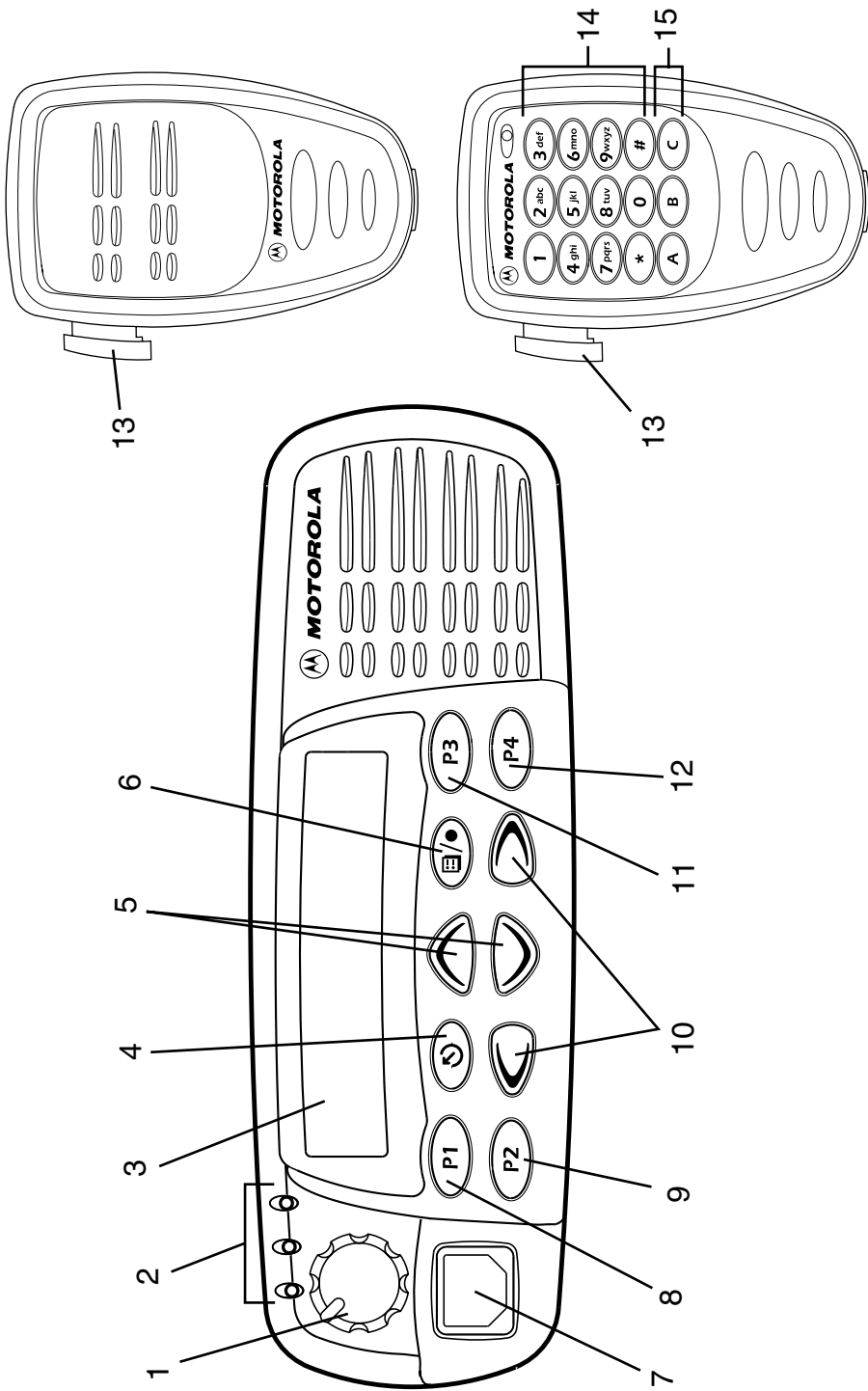
# Professional Radio

## GM160

User Guide

68P64110B87

Issue: June 2000



## CONTENTS

Computer Software Copyrights . . . . .	2
<b>Radio Overview . . . . .</b>	<b>3</b>
Operation and Control Functions . . . . .	3
Radio Controls . . . . .	3
Programmable Buttons . . . . .	4
Menu Keys . . . . .	7
Use with Optional Enhanced DTMF Microphone (RMN4026) . . . . .	7
LCD Screen . . . . .	9
Audio Indicators for Programmable Buttons . . . . .	10
<b>Getting Started . . . . .</b>	<b>11</b>
Turning the Radio On or Off . . . . .	11
Adjusting the Volume . . . . .	11
Menu Navigation Chart . . . . .	12
Selecting a Zone . . . . .	13
Selecting a Radio Channel . . . . .	13
Sending a Call . . . . .	14
Receiving a Call . . . . .	14

<b>Radio Calls . . . . .</b>	<b>15</b>
Making a Selective Call . . . . .	15
Receiving a Selective Call . . . . .	15
Sending a Call Alert™ Page . . . . .	16
Receiving a Call Alert™ Page . . . . .	16
Radio Check . . . . .	17
Sending a Status . . . . .	17
Sending a Message . . . . .	18
Receiving a Message . . . . .	18
Sending an Emergency Alert . . . . .	19
Selective Radio Inhibit . . . . .	19
Editing a Radio Call List . . . . .	20
Repeater or Talkaround Mode . . . . .	20
Setting the Power Level . . . . .	21
Name and Call/Message Tone Tagging . . . . .	22
<b>Scan . . . . .</b>	<b>24</b>
Starting or Stopping Scan . . . . .	24
Talkback . . . . .	24
Deleting a Nuisance Channel . . . . .	25
Restoring a Channel to the Scan List . . . . .	25
Editing a Scan List . . . . .	25
Adding or Deleting Channels in a Scan List . . . . .	25
Prioritizing a Channel in a Scan List . . . . .	26
Setting Priority Channels . . . . .	27

**Phone . . . . . 28**

Making a Phone Call . . . . . 28

Modifying the Phone List . . . . . 29

    Adding an Entry (when using  
    the keypad microphone only). . . . . 29

    Deleting an Entry: . . . . . 30

    Editing an Entry (when using  
    the keypad microphone only). . . . . 31

    Editing an Access/Deaccess Code  
    (when using the keypad microphone  
    only). . . . . 32

**Audio/Tone Settings . . . . . 33**

**Utilities . . . . . 35**

Setting the Time. . . . . 37

Displaying the Time . . . . . 38

Selecting the Display Language. . . . . 38

**Safety and Warranty . . . . . 39**

Safe and Efficient Operation of Motorola  
Two-Way Radios . . . . . 39

    Exposure to Radio Frequency  
    Energy. . . . . 39

Electromagnetic Interference/  
Compatibility . . . . . 40

Operational Warnings . . . . . 40

Potentially Explosive Atmospheres . . . 40

Blasting Caps and Blasting Areas . . . 40

Mobile Radio Operation and EME  
Exposure. . . . . 40

Mobile Antenna Installation . . . . . 41

Control Station Operation. . . . . 41

General Radio Care. . . . . 41

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## RADIO OVERVIEW


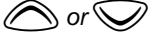


This user guide covers the operation of the GM160 Professional Mobile Radio.

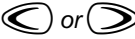
Please read pages 39 to 41 **before** using this radio

## OPERATION AND CONTROL FUNCTIONS

### Radio Controls

The numbers below refer to the illustrations on the inside front cover.

- 1. On-Off / Volume Knob**  
Used to turn the radio on or off, and to adjust the radio's volume.
- 2. LED Indicator**  
Indicates channel, scan, and monitor status, as well as receipt of a selective call.
- 3. LCD Display (1 Line)**
- 4. Menu Exit/Escape Button** 
- 5. Channel Selector/Menu Navigation Up/Down**  *or*   
Used for channel scrolling. When in menu mode, used for menu navigation.
- 6. Menu Enter/Select Button** 

- 7. Mic Jack**
- 8. Programmable Button 1 (P1)**
- 9. Programmable Button 2 (P2)**
- 10. Edit Buttons Left/Right**  *or* 
- 11. Programmable Button 3 (P3)**
- 12. Programmable Button 4 (P4)**

### Microphone





Hold the microphone 2.5 to 5 cm (1 to 2 inches) from your mouth, and speak clearly into it.

- 13. Push-to-talk (PTT)**  
Press and hold down this button to talk; release it to listen.
- 14. Keypad**
- 15. Programmable Keys (A,B,C)**

### Programmable Buttons

Your radio has several programmable buttons. Your dealer can program these buttons as shortcuts to various radio features.

Check with your dealer for a complete list of functions your radio supports.

Programmable buttons include the , , , and  buttons.

Some buttons can access up to two features, depending on the type of button press:

- **short press**—quickly pressing and releasing the programmable buttons
- **long press**—pressing and holding the programmable buttons for a period of time (at least 1½ seconds)
- **hold down**—pressing and holding down the programmable buttons while checking status or making adjustments

A summary of programmable radio features and corresponding page references appears beginning on page 5.



In the “Button” column, have your dealer record the name of the programmable button next to the feature that has been programmed to it.

The dealer can use the abbreviations (P1, P2, P3, P4) shown in the radio illustration on the inside cover.

Also, where appropriate, have your dealer indicate whether the button press requires a short press, a long press, or needs to be held down.

Function	Indicator	Short Press	Long Press	Hold Down	Page	Button
Volume Set	—	—	—	Sound a tone for adjusting your radio's volume level.	11	
Home Revert	—	Takes you directly to a pre-programmed zone/channel combination.†		—	13	
Direct Channel Access	—	Toggle the direct access channel feature.† (DTMF microphone required.)		—	13	
Direct Zone Access	—	Direct entry to zone selection menu.†		—	13	
PRTT (Priority Request- to-Talk)	—	Sends a priority access request to the dispatcher.		—	14	
Emergency	▲	Initiate Emergency Alert.	Cancel Emergency status.	—	19	
Power Level	LH	Toggle transmit power level between High and Low.†		—	21	
Repeater/Talkaround	↔	Toggle between using a repeater or transmitting directly to another radio.†		—	20	
Scan/Nuisance Channel Delete	↺	Toggle scan on and off.	Delete a nuisance channel while scanning.	—	24-25	
Phone	①	Access Phone Mode.†		—	28	

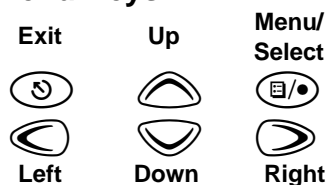
† This function is activated by **EITHER** a short **OR** a long press, but not both.

Function	Indicator	Short Press	Long Press	Hold Down	Page	Button
Speed Dial	—	Access your phone list directly.†		—	32	
Monitor		Toggle silent monitor operation (also turn off open squelch monitor when it has been activated).	Turn on open squelch monitor.	—	—	
Option Board (if one is installed)		Toggle between activating and deactivating the option board.†		—	—	
Radio Call	—	Access the radio call menu.†		—	—	
Light	—	Adjust brightness level (off/low/med/high).†		—	—	
Auxiliary Control (1/2)	—	Activates or deactivates a pin on the accessory connector.† (See your dealer.)		—	—	
Status	—	Direct entry to the status menu.†		—	—	
One-Touch Status	—	Immediately sends a preprogrammed status.†		—	—	
Message	—	Direct entry to the message menu.†		—	—	
One-Touch Message	—	Immediately sends a preprogrammed message.†		—	—	
Horn and Lights	—	Toggles external alarm feature or cancels a triggered alarm.†		—	—	

† This function is activated by **EITHER** a short **OR** a long press, but not both.



### Menu Keys



#### Menu/Select Key

Used to enter Menu Mode. When in Menu Mode, this key is also used to make menu selections.

#### Exit Key

Used to move to the previous Menu level (short press) or to exit Menu Mode (long press).

#### Up Key and Down Key

Used for channel scrolling. When in Menu Mode, used for menu navigation.

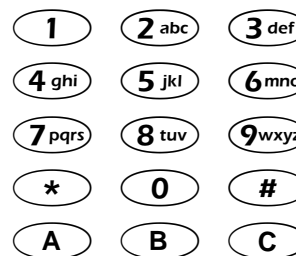
#### Right Key

Moves the cursor right or inserts a space when editing.

#### Left Key

Moves the cursor left or used as a backspace key when editing.

### Use with Optional Enhanced DTMF Microphone (RMN4026)



These keys are used to:

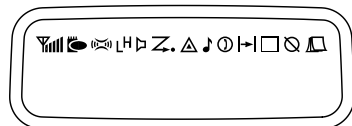
- Dial a phone number
- Make a radio call
- Enter information when programming radio lists
- Directly access preprogrammed features

Each key can generate several different characters. For example, to enter the character "C," press the key three times. (Refer to the following table.)

### Entering Characters Using the Keypad

Key	Number of Times Key is Pressed																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
0	0	(	)	<	>												
1	1	&	%	#	*												
2 <sub>abc</sub>	A	B	C	2	a	b	c	2	À	Á	Â	Ç	à	á	â	ç	
3 <sub>def</sub>	D	E	F	3	d	e	f	3	È	É	Ê	è	é	ê	ë		
4 <sub>ghi</sub>	G	H	I	4	g	h	i	4	Ì	Í	Î	ì	í	î	ï		
5 <sub>jkl</sub>	J	K	L	5	j	k	l	5									
6 <sub>mno</sub>	M	N	O	6	m	n	o	6	Ñ	Ò	Ó	Ô	ñ	ò	ó	ô	ö
7 <sub>pqrs</sub>	P	Q	R	S	7	p	q	r	s	7							
8 <sub>tuv</sub>	T	U	V	8	t	u	v	8	Ù	Ú	Û	ù	ú				
9 <sub>wxyz</sub>	W	X	Y	Z	9	w	x	y	z	9	Y	y					
*	*	/	+	-	=												
#	#	Blank Space	-	.	!	?	'	"	,	;	:						







## LCD Screen



The top screen row displays radio status information:

Symbol	Indication
 <b>Companding</b>	The Companding feature is activated. When in narrow band, this feature improves audio quality.
 <b>Power Level</b>	Low Power "L" or High Power "H" is activated.
 <b>Carrier Squelch (CSQ)</b>	The radio is on a CSQ channel, monitor is active, or the microphone is off-hook.

Symbol	Indication
 <b>Phone</b>	Phone Mode is selected.
 <b>Emergency</b>	An Emergency Alert is being sent.
 <b>Call Received</b>	A Selective Call or Call Alert has been received.
 <b>Scan</b>	The Scan feature is active.
 <b>Priority 1 Scan (● flashing)</b>	During Scan, indicates that the scan has locked on to a priority 1 channel.
 <b>Priority 2 Scan (● steady)</b>	During Scan, indicates that the scan has locked on to a priority 2 channel.

Symbol	Indication
 <b>Talkaround</b>	The radio is not transmitting through a repeater.
 <b>Programming Mode</b>	The radio is in Program List editing mode.
 <b>Signal Strength</b>	Indicates signal strength. The more bars, the stronger the signal.
 <b>Option Board</b>	Option board is enabled.
	Not currently assigned.
	Not currently assigned.

## AUDIO INDICATORS FOR PROGRAMMABLE BUTTONS

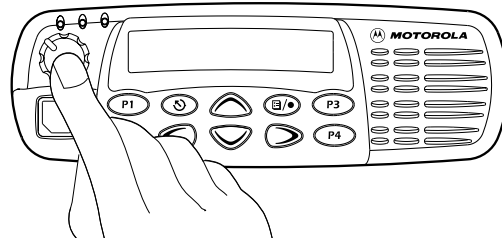




In addition to having associated visual indicators, some programmable buttons use tones to indicate one of two modes:

Button	Low-High Tone	High-Low Tone
Scan	<b>Start</b> scan	<b>Stop</b> scan
Power Level	<b>High</b> power selected	<b>Low</b> power selected
Option Board	Enabled	Disabled
Repeater/ Talkaround	Does not use repeater	Uses repeater

## GETTING STARTED

### TURNING THE RADIO ON OR OFF



ON	OFF
<p>Push the <b>On/Off/Volume Control</b> knob until you hear a click.</p> <p>If power-up is successful, you will hear the Self-Test Pass Tone.</p>  <p>If the radio fails to power up, you will hear the Self-Test Fail Tone.</p> 	<p>Push the <b>On/Off/Volume Control</b> knob until you hear a click and the display clears.</p>

## ADJUSTING THE VOLUME

Turn the **On/Off/Volume Control** knob clockwise to increase the volume, or counterclockwise to decrease the volume.

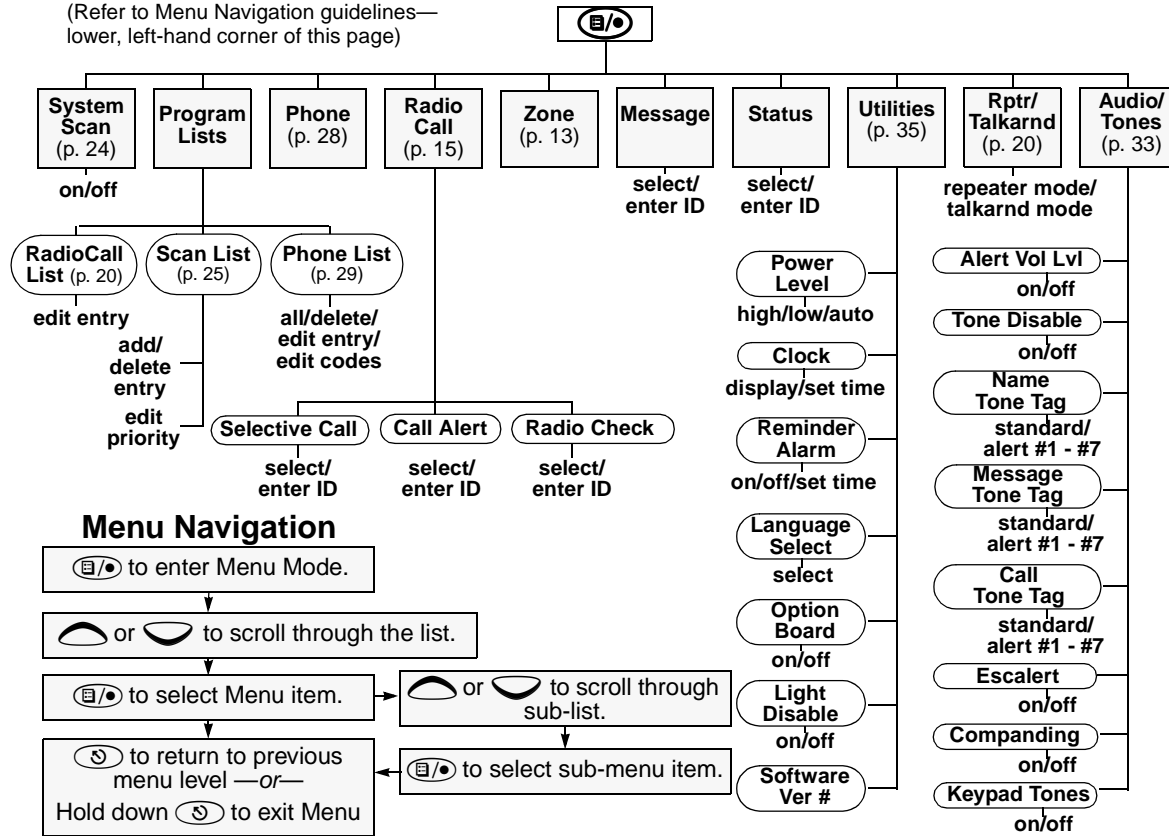
—or—

- 1 Hold down the **Volume Set** button (see page 5). You will hear a continuous tone.
- 2 Turn the **On/Off/Volume Control** knob to the desired volume level.
- 3 Release the **Volume Set** button.

GETTING STARTED

## MENU NAVIGATION CHART






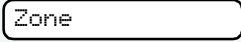



(Refer to Menu Navigation guidelines—  
lower, left-hand corner of this page)






## SELECTING A ZONE

A zone is a group of up to 16 channels. Before you can access a channel in a zone, you must select the zone in one of two ways:

### Method 1

- 1  to enter Menu Mode.
- 2  or  until 
- 3  to select 
- 4  or  until you see the desired zone name.
- 5  to select the zone.

Method 2 (if programmed by your dealer [see pages 5 -6]).

- 1 Press the **Direct Zone Access** button.
- 2  or  until you reach the desired zone.
- 3  to select the zone.



## SELECTING A RADIO CHANNEL

Your radio offers 128 channels (8 zones of 16 channels each).

**Note:** Due to government regulations, some channels may not be programmed. See your dealer for more information.

There are three ways to select a channel:

### Method 1

- 1 Select the appropriate Zone, if required.
- 2  or  until you reach the desired channel, shown on LCD display.


Method 2 (if programmed by your dealer [see pages 5 -6]).

- 1 Press the **Home Revert** button.

Method 3 (if programmed by your dealer [see pages 5 -6]).



- 1 Press the **Direct Channel Access** button.

2 Enter the desired channel using the DTMF keypad microphone.

3  to confirm your selection.

### SENDING A CALL



1 Turn your radio on.

2  or  to select the desired channel.

3 Hold the microphone vertically 2.5 to 5 cm (1 to 2 inches) from your mouth. Press the **PTT** to talk; release it to listen.

If your system uses the request-to-talk feature, use the following method to send a call:

1 Turn your radio on.

2  or  to select the desired channel.

3 Press the **PTT** (for priority requests to talk, the **PRTT** button) and wait for the talk permit tone.

4 Hold the microphone vertically 2.5 to 5 cm (1 to 2 inches) from your mouth. Press the **PTT** to talk; release it to listen.

5 Release the **PTT** to listen.

### RECEIVING A CALL

1 Turn your radio on.

2 Adjust the radio's volume, if necessary (see page 11).

3 Select the desired channel.

4 Hold the microphone vertically 2.5 to 5 cm (1 to 2 inches) from your mouth. Press the **PTT** to talk; release it to listen.









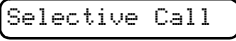

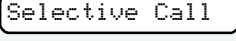




## RADIO CALLS

### MAKING A SELECTIVE CALL

You can make a selective call to a particular radio or group of radios, provided the signalling protocol supports it.

To make a Selective Call:

- 1  to enter Menu Mode.
- 2  or  until  `Radio Call`
- 3  to select  `Radio Call`
- 4  or  until  `Selective Call`
- 5  to select  `Selective Call`
- 6  or  to locate the desired ID in the Radio Call List.  
—or—  
when using the keypad microphone only, enter the ID number of the radio you want to call.
- 7 Press the **PTT** to send the call. The radio sounds a continuous tone.


- 8 Press the **PTT** to talk; release it to listen.

- 9 When finished with the call,

 to return to  `Selective Call`  
—or—  
Hold down  to exit Menu Mode.

### RECEIVING A SELECTIVE CALL




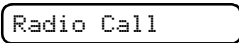









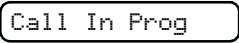
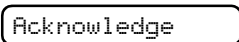
When you receive a selective call:

- You will hear two alert tones.
- The LED Indicator flashes yellow.
- The LCD screen displays  and the preprogrammed name or ID of the calling radio, if available.

## SENDING A CALL ALERT™ PAGE

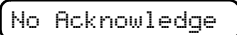
You can alert another person by sending a Call Alert page.

To send a Call Alert page:

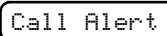
- 1  to enter Menu Mode.
- 2  or  until 
- 3  to select 
- 4  or  until 
- 5  to select 
- 6  or  to locate the desired ID in the Radio Call List;  
 –or–  
 when using the keypad microphone only, enter the ID number of the radio you want to page.
- 7 Press the **PTT** to send the page.  
 You will see 
- 8 If the Call Alert page is received,  
 you will see 

If not,

you will see




- 9  to return to



–or–

Hold down  to exit Menu Mode.

## RECEIVING A CALL ALERT™ PAGE

When your radio receives a Call Alert page, it sounds four alert tones continuously and the following are displayed until you respond: the  symbol, and the ID of the calling radio alternating with *Call Received*.










Press the **PTT** to answer the page, or press any other key to clear it.



**Note:** Your radio will display only the last Call Alert page received. Also, your radio will not receive any Selective Calls until you clear the page.

## RADIO CHECK

This feature allows you to determine if a radio is in range without disturbing the user of the radio. Radio Check can also be used when attempts with Selective Call and Call Alert fail. (This feature is available only if your signalling protocol supports it.)

To perform a Radio Check:




- 1  to enter Menu Mode.
- 2  or  until Radio Call
- 3  to select Radio Call
- 4  or  until Radio Check
- 5  to select Radio Check
- 6  or  to locate the desired ID in the Radio Call List;  
 –or–  
 when using the keypad microphone only, enter the ID number of the radio you are checking.




- 7 Press the **PTT**.  
 You will see Call In Prog
- 8 If the Radio Check is received,  
 you will see Acknowledged  
 If not, you will see No Acknowledge
- 9  to return to Radio Check  
 –or–  
 Hold down  to exit Menu Mode.

## SENDING A STATUS

This feature gives you the ability to send a status update to the base. The status feature makes more efficient use of the channel compared to voice transmissions. Status updates of up to 14 characters may be programmed by your dealer.

To send a Status:

- 1  to enter Menu Mode.
- 2  or  until Status







- 3  to select Status
- 4  or  to locate the desired status in the pre-programmed list.  
 –or– when using the keypad microphone only,  
 enter the number of the status you wish to send.  
 –or– if programmed by your dealer (see pages 5 -6),  
 press the button that has been preprogrammed for a specific status.  
**Note:** You cannot retransmit the current status update.

---

## SENDING A MESSAGE

This feature gives you the ability to send and receive preprogrammed messages. Data messages make more efficient use of channels compared to voice transmissions. Messages of up to 14 characters may be programmed by your dealer.

To send an electronic (data) message:

- 1  to enter Menu Mode.
- 2  or  until Message
- 3  to select Message
- 4  or  to locate the desired message in the preprogrammed list.  
 –or– when using the keypad microphone only,  
 enter the number of the message you wish to send.  
 –or– if programmed by your dealer (see pages 5 -6),  
 press the button that has been preprogrammed for a specific message.

---

## RECEIVING A MESSAGE

When your radio receives a message:

- You will hear two alert tones.
- The LED indicator flashes yellow.

- The LCD screen displays alternating with the preprogrammed alias.

Msg Received

**Note:** If you receive a message that is programmed into your radio, the display will alternate with the following:

Message #\_

and


No Alias

### SENDING AN EMERGENCY ALERT


A priority Emergency Alert can be sent to a specific radio or dispatch center by pressing:


- A button preprogrammed by your dealer (see pages 5 -6).
- The footswitch
- A pushbutton accessory

Emergency Alerts have priority over all other calls.

The  symbol will appear on the display when your radio is in the Emergency Alert state.

An Emergency Alert can be programmed to:

- Show  and sound a tone
- or–

- Show  (Silent Emergency)
- or–

- Activate the microphone so that all activity can be transmitted (for a predetermined amount of time). See your dealer for more information.

To cancel the Emergency Alert, press and hold down the **Emergency** button.

### SELECTIVE RADIO INHIBIT

Your radio is equipped with a security feature that can temporarily render the unit inoperative.


This feature is commonly used to disable radios:

- In case of theft
- When your vehicle is being serviced
- For system control reasons

**Note:** When your radio has been disabled, all controls will be inoperative. When the radio is powered up, the display will show:




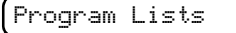




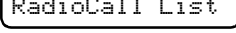




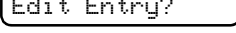




Radio Disabled


## EDITING A RADIO CALL LIST

The ID numbers in your Radio Call List are preprogrammed by your dealer. However, you can edit the names associated with these IDs using the optional keypad microphone. The  symbol will appear on the display when you are editing.


**Note:** Your radio cannot receive any calls while you are editing.

To edit a Call List entry:

- 1  to enter Menu Mode.
- 2  or  until 
- 3  to select 
- 4  or  until 
- 5  to select 
- 6  or  until 
- 7  to select 
- 8  or  until you locate the desired entry.


9  to select the entry.

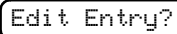
10 Use your keypad to edit the entry (see page 7).


11  to save your changes.

You will see




12  to return to  
-or-



Hold down  to exit Menu Mode.

## REPEATER OR TALKAROUND MODE




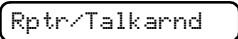

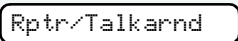


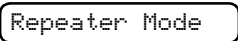
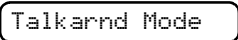

Talkaround Mode enables you to communicate with another radio when either:

- The repeater is not operating.
- or-
- Your radio is out of the repeater's range but within communicating distance of another radio. The  symbol appears on the display when Talkaround Mode is selected.

To select either Repeater Mode or Talkaround Mode:

Press the preprogrammed **Repeater/Talkaround** button (see page 5) to toggle between Repeater Mode and Talkaround Mode.

–or–

- 1  to enter Menu Mode.
- 2  or  until 
- 3  to select 
- 4  or  until   
or until 
- 5  to confirm your selection.

## SETTING THE POWER LEVEL

Each channel in your radio has a predefined transmit power level that can be changed.

- High power (H)
- Low power (L)




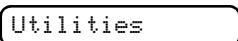




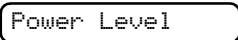


You can set the power level in two ways:

### Method 1



Press the preprogrammed **Power Level** button (see page 5) to toggle between *low* and *high*.


–or–

### Method 2

- 1  to enter Menu Mode.
- 2  or  until 
- 3  to select 
- 4  or  until 
- 5  to select 

The display shows the current power level.

6  or  until   
or until

7  to confirm the selection.


### NAME AND CALL/MESSAGE TONE TAGGING


You can program your radio to sound a particular alert tone when:

- a specific user is calling—**name tone tagging**, or
- a message is being sent to your radio, or
- your radio is receiving a type of radio call—**call tone tagging**.



There are seven alert tones to select from.


To tag a specific user's name or message:



1  to enter Menu Mode.


2  or  until



3  to select


4  or  until   
or

5  to select   
or


6  or  until you see the name or message you want to tag.


7  to confirm the selection.

8  or  until you hear one of the seven tones you want to use for this name or message.

9  to confirm the selection.
















You will see   
or

10  to return to   
or   
-or-

Hold down  to exit Menu Mode.



To tag a type of radio **call**:

- 1  to enter Menu Mode.
  - 2  or  until
  - 3  to select
  - 4  or  until
  - 5  to select
  - 6  or  until you see the call type you want to tag.
  - 7  to confirm the selection.
  - 8  or  until you hear the tone you want to use for this type of call.
  - 9  to confirm the selection.  
You will see
  - 10  to return to   
-or-  
Hold down  to exit Menu Mode.
-

## SCAN

Your radio can monitor multiple channels in a scan list. Your dealer can program up to 16 different channels into each scan list. When your radio detects activity on a scan list channel, it will automatically switch to that channel.

**Note:** The same channels can be assigned to different scan lists.

### STARTING OR STOPPING SCAN ↗

The ↗ symbol, and the number of the channel you are transmitting on, will appear on the display when you start a scan operation.






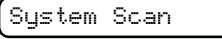





The green LED indicator blinks during a scan operation and stops blinking when the radio switches to a channel.

**Note:** If you enter Menu Mode while the radio is scanning, scanning will stop. It will resume when you exit Menu Mode.

You can start or stop a scan operation either by:

pressing the preprogrammed **Scan** button (see page 5) to start or stop scanning;

–or–

- 1  to enter Menu Mode.
- 2  or  until 
- 3  to select 
- 4  or  until   

- 5  to confirm your selection.

### TALKBACK

The Talkback feature allows you to respond to a transmission while scanning. If a transmission on a channel is detected while scanning, the radio will stop on that channel for a preprogrammed period of time. During this “hangtime” you may respond by pressing the **PTT**.

**Note:** If transmission stops/ceases or if the **PTT** is not pressed for a preprogrammed duration, the radio will continue scanning. Also, the LED scan indicator stops blinking while the radio is in hangtime.

## DELETING A NUISANCE CHANNEL

If a channel continually generates unwanted calls or noise (a “nuisance” channel), use the **Scan** button to temporarily delete the channel from the scan list.

**Note:** You cannot delete a priority channel (see page 26) or the last remaining channel in a scan list.

- 1 While the radio is on the nuisance channel, hold down the **Scan** button until you hear a tone.
- 2 Release the **Scan** button. The nuisance channel is deleted.

### Restoring a Channel to the Scan List

To restore a previously deleted channel to the scan list, restart the scan operation or turn your radio off and on again.

## EDITING A SCAN LIST

A scan list is a group of up to 16 channels. Each channel can have a scan list assigned to it. The same channel can be included in several scan lists, and the same scan list can

be assigned to several Channel Selector positions. For example:







	Position 2	Position 14
C	1	1
h	3	2
a	5	3
n	6	11
n		
e		
l		
s		

When you edit a scan list, you can either add, delete, or prioritize channels. The  symbol will appear on the display while you are in edit mode.

**Note:** Your radio cannot receive any calls while you are editing a scan list.

### Adding or Deleting Channels in a Scan List

To add or delete channels in a scan list:

- 1  to enter Menu Mode.
- 2  or  until
- 3  to select
- 4  or  until



- 5 to select
- 6 or until   
or until
- 7 to confirm your selection.
- 8 or until you see the channel you want to add or delete.  
**Note:** You cannot delete the last remaining channel in a scan list.
- 9 to confirm your selection.
- 10 If you added a channel, you will see   
-or-  
If you deleted a channel, you will see   
 to confirm the deletion.  
You will see

- 11 to return to   
or to return to   
-or-  
Hold down to exit Menu Mode.

**Prioritizing a Channel in a Scan List**

You may want to check the activity on one or two channels more frequently than others. You can do this by assigning them priority:

**Note:** Even if there may be activity on a non-priority channel, your radio will automatically switch to an active priority channel and indicate the activity with a short tone.

Priority Channel	Scanning Sequence
None specified	Ch1 → Ch2 → Ch3 → Ch4 → Ch1
Channel 2 (Priority 1)	Ch2 → Ch1 → Ch2 → Ch3 → Ch2 → Ch4 → Ch2 → ... Ch1

Priority Channel	Scanning Sequence
Channel 2 (Priority 1)	Ch2→Ch1→Ch8→Ch3→
Channel 8 (Priority 2)	Ch2→Ch4→Ch8→...Ch1

### Setting Priority Channels

**Note:** You cannot reprioritize a *Priority 1* channel to *Priority 2*.

- 1 to enter Menu Mode.
- 2 or until
- 3 to select
- 4 or until
- 5 to select
- 6 or until
- 7 to select

8 or until

or until

9 to select the desired priority level.

10 or until you see the channel you want to prioritize.

11 to prioritize that channel.

12 to return to

–or–

Hold down to exit Menu Mode.


**Note:** If you want to reprioritize all channels, you must first delete each priority channel from the scan list, and then add it back.

SCAN

## PHONE

If your radio has access to a telephone system, you can make a phone call. To do this, your radio must send an access code to a station that connects it to a phone line. (Ask your dealer for more details.) After completing a call, your radio must send a deaccess code to hang up.

### MAKING A PHONE CALL

You can make a phone call using the preprogrammed **Phone** button (see page 5) or the radio menu. The  symbol appears on the LCD screen when you are in Phone Mode.

To initiate a phone call:




Press the **Phone** button.

—or—

Do the following:

1 Switch to the desired channel.

2  to enter Menu Mode.

3  or  until 

4  to select 

5 You will hear a series of tones indicating that an access code is being sent automatically. You will also see your access code displayed;



—or—

when using the keypad microphone only, enter your access code using the keypad.

6 When you hear a dial tone, enter or select a phone number:

when using the keypad microphone only, enter the phone number using the keypad.

—or—

 or  to select a number from the phone list.

—or—


when using a keypad microphone only,

- Press and release the preprogrammed **Speed Dial** button (see page 6) to use the Speed Dial feature.
- Press the key (1 to 8) corresponding to the number you want to call,
 




—or—

 press “0” if you want to call the last number dialed.

**Note:** To redial the last number dialed (if not using Speed Dial), do not choose a number. Proceed to step 7.

Alternatively, if you entered your access code using the keypad, press the  key once to access the last number dialed; then press and release the **PTT**.


**7** To end a phone call, do one of the following:  
If your radio has the deaccess code preprogrammed, proceed to step 8.  
-or-  
Enter the deaccess code using the keypad.

**8** Press the **Phone** button to exit Phone Mode.  
-or-  
 to exit Phone Mode  
and return to   
-or-  
Hold down  to exit Menu Mode.

## MODIFYING THE PHONE LIST

You can modify a phone list in one of the following ways:




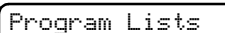

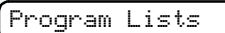


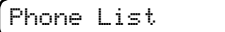

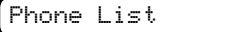
- Add an entry
- Delete an entry
- Edit an existing entry
- Edit an Access/Deaccess code





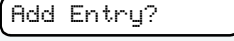


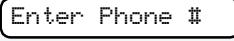







When you are modifying the phone list, the  symbol will appear on the display.


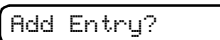

**Note:** Your radio cannot receive any calls while you are modifying the phone list.

### Adding an Entry (when using the keypad microphone only)

To add an entry:




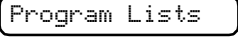

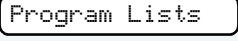


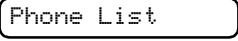




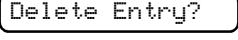





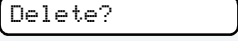

- 1  to enter Menu Mode.
- 2  or  until 
- 3  to select 
- 4  or  until 
- 5  to select 

- 6  or  until 
- 7  to select   
You will see 
- 8 Use the keypad to enter the name (see page 7).
- 9  to store the name.  
You will see 
- 10 Use the keypad to enter the phone number. You can also add a dash (press ) and a Pause Indicator (hold down  until the # character on the display changes to a "P").
- 11  to select the phone number.
- 12  or  until you see the location in the list where you want to store the phone number.
- 13  to store the phone number.  
You will see 

- 14  to return to   
-or-  
Hold down  to exit Menu Mode.

### Deleting an Entry:

To delete an entry:

- 1  to enter Menu Mode.
- 2  or  until 
- 3  to select 
- 4  or  until 
- 5  to select 
- 6  or  until 
- 7  to select 
- 8  or  until you see the entry you want to delete.
- 9  to select the entry.  
You will see   
 again to confirm the deletion.



You will see Entry Deleted

10 to return to Delete Entry?  
 -or-  
 Hold down to exit Menu Mode.

### Editing an Entry (when using the keypad microphone only)




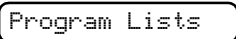






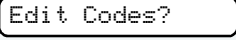


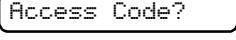


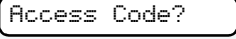
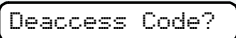

To edit an entry:

- 1 to enter Menu Mode.
- 2 or until Program Lists
- 3 to select Program Lists
- 4 or until Phone List
- 5 to select Phone List
- 6 or until Edit Entry?
- 7 to select Edit Entry?
- 8 or until you see the entry you want to edit.

- 9 to select the entry.
- 10 or until Edit Name?  
 -or- until Edit Number?  
 to edit the phone number,  
 -or- until Edit Location?  
 to edit the location in the phone list.
- 11 to confirm your selection.
- 12 Use the keypad to edit the entry (see page 7).  
 -or-  
 or until you see the location where you want to store the phone number.
- 13 to store the information.
- 14 to return to Edit Entry?  
 -or-  
 Hold down to exit Menu Mode.


### Editing an Access/Deaccess Code (when using the keypad microphone only)

To edit an access/deaccess code:

- 1  to enter Menu Mode.
- 2  or  until 
- 3  to select 
- 4  or  until 
- 5  to select 
- 6  or  until   
 -or- until 
- 7  to select   
 -or- 
- 8 Enter the number using the keypad microphone.
- 9  to select the entry.

10  or  to edit another code.


-or-


Hold down  to exit Menu Mode.

---



## AUDIO/TONE SETTINGS


You can customize the audio and tone feature settings on your radio.



1  to enter Menu Mode.


2  or  until 

3  to select 

4  or  until you see the feature you want to change. (Refer to the table below.)

5  to select the feature. You will see the feature's current setting.

6  or  for available settings. (Refer to the table below.)

7  to select the desired setting.

AUDIO/TONE

Audio/Tone Settings


Feature	What it Does	Settings
Alert Vol Lvl	Makes the volume level of the audio and alert tones independent. These two volume levels can be adjusted independently.	Ind Alert Off Ind Alert On
Tone Disable	Turns all tones on or off.	Tones On Tones Off

### Audio/Tone Settings

Feature	What it Does	Settings
Name Tone Tag	Assigns a specific tone to all calls from a specific user (see page 22 for details).	Standard Alert #1 - #7
Call Tone Tag	Assigns a specific tone when receiving a specific type of radio call (see page 23 for details).	Standard Alert #1 - #7
Msg Tone Tag	Assigns a specific tone when receiving a specific message (see page 22 for details).	Standard Alert #1 - #7
Escalert	Gradually increases the volume of the alarm tones when a call is not answered.	Escalert On Escalert Off
Companding (XPand™)	Approximates the same audio quality for 12.5kHz channels to that of 25kHz channels.	Compand On Compand Off
Keypad Tones	Turns keypad tones on or off.	Tones On Tones Off



## UTILITIES


You can customize some of your radio's features by:



1  to enter Menu Mode.


2  or  until

3  to select

4  or  until you see the feature you want to change (see table below).

5  to select the feature. You will see the feature's current setting.

6  or  for available settings.

7  to select the desired setting.

UTILITIES

### Utilities Features

Feature	What it Does	Settings
Power Level	Changes the power level of the radio to high, low, or auto (see page 21).	Power High Power Low
Clock	Sets the time (see page 37).	Set Time Display Clock
Reminder Alarm	Sets the alarm and turns it on or off (see page 37).	Alarm On Alarm Off Set Time

**Utilities Features**

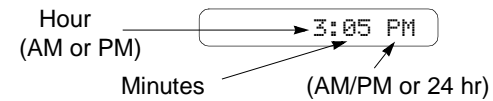
<b>Feature</b>	<b>What it Does</b>	<b>Settings</b>
Language Selection	Allows you to select the language displayed on the display.	English Spanish Portuguese French
Option board	Activates/deactivates the option board installed in your radio.	Opt Board On Opt Board Off
Software Ver #	Displays the radio's software version number.	—

## SETTING THE TIME

To set the time:

- 1 to enter Menu Mode.
  - 2 or until
  - 3 to select
  - 4 or until   
–or– until
- Note:** You must access the clock menu to select AM/PM or “24 hr”. This selection cannot be made from Reminder Alarm menu.
- 5 to confirm your selection.
  - 6 or until
  - 7 to select

- 8 When a setting (e.g., “hour”) is blinking, you can change it with or .














- 9 to proceed to the next setting (e.g., from hour to minutes).

- 10 to save your changes.

- 11 to return to   
or to return to   
–or–  
Hold down to exit Menu Mode.












## DISPLAYING THE TIME

To display the time:

- 1  to enter Menu Mode.
  - 2  or  until
  - 3  to select
  - 4  or  until
  - 5  to confirm your selection.
  - 6  or  until
  - 7  to select
- The radio will display the time for a preprogrammed duration.
- 8  to exit the menu.

## SELECTING THE DISPLAY LANGUAGE

To select the display language:

- 1  to enter Menu Mode.
- 2  or  until
- 3  to select
- 4  or  until
- 5  to confirm your selection.
- 6  or  until desired language is displayed.
- 7  to select desired language.
- 8  to exit the menu.



## SAFETY INFORMATION

### SAFE AND EFFICIENT OPERATION OF MOTOROLA TWO-WAY RADIOS

This section provides information and instructions for the safe and efficient operation of Motorola Portable and Mobile Two-Way Radios.

For information regarding radio use in hazardous areas, please refer to the Factory Mutual (FM) approval manual supplement or Instruction Card which is included with radio models that offer this capability.

### Exposure To Radio Frequency Energy

National and International Standards and Guidelines

Your Motorola Two-Way Radio, which generates and radiates radio frequency (RF) electromagnetic energy (EME) is designed to comply with the following National and International Standards and Guidelines regarding exposure of human beings to radio frequency electromagnetic energy:

- Federal Communications Commission Report and Order No. FCC 96-326 (August 1996)
- American National Standards Institute (C95.1 - 1992)

- National Council on Radiation Protection and Measurements (NCRP - 1986)
- International Commission on Non-Ionizing Radiation Protection (ICNRP - 1986)
- European Committee for Electrotechnical Standardisation (CENELEC):
  - ENV. 50166-1 1995 E Human Exposure to Electromagnetic Fields Low Frequency (0Hz to 10kHz)
  - ENV. 50166-2 1995 E Human Exposure to Electromagnetic Fields High Frequency (10kHz to 300GHz)
  - Proceedings of SC211/8 1996 Safety Considerations for Human Exposure to E.M.F.s from Mobile Telecommunications Equipment (M.T.E.) in the Frequency Range 30MHz - 6 GHz (E.M.F. - Electromagnetic Fields)

To assure optimal radio performance and that human exposure to radio frequency electromagnetic energy is within the guidelines set forth in the above standards, always adhere to the following procedures:

SAFETY

### Electromagnetic Interference/Compatibility

**Note:** Nearly every electronic device is susceptible to electromagnetic interference (EMI) if inadequately shielded, designed or otherwise configured for electromagnetic compatibility.

To avoid electromagnetic interference and/or compatibility conflicts, turn off your radio in any facility where posted notices instruct you to do so. Hospitals or health care facilities may be using equipment that is sensitive to external RF energy. When instructed to do so, turn off your radio when on board an aircraft. Any use of a radio must be in accordance with airline regulations or crew instructions.

### OPERATIONAL WARNINGS

#### Potentially Explosive Atmospheres



WARNING

Turn off your two-way radio when you are in any area with a potentially explosive atmosphere, unless it is a radio type especially qualified for use in such areas (for example, Factory Mutual or CENELEC Approved). Sparks in a potentially explosive atmosphere can cause an explosion or fire resulting in bodily injury or even death.

### Blasting Caps and Areas

To avoid possible interference with blasting operations, turn off your radio when you are near electrical blasting caps, in a blasting area, or in areas posted: "Turn off two-way radio." Obey all signs and instructions.

**Note:** The areas with potentially explosive atmospheres referred to above include fueling areas such as: below decks on boats; fuel or chemical transfer or storage facilities; areas where the air contains chemicals or particles, such as grain, dust or metal powders; and any other area where you would normally be advised to turn off your vehicle engine. Areas with potentially explosive atmospheres are often but not always posted.

### Mobile Radio Operation and EME Exposure

To assure optimal radio performance and that human exposure to radio frequency electromagnetic energy is within the guidelines referenced earlier in this document, transmit only when people inside and outside the vehicle are at least the minimum distance away from a properly installed, externally mounted antenna.

Table 1 lists the minimum distance for several different ranges of radiated power.

Table 1: Radiated Power and Distance

Radiated Power of Vehicle-installed Mobile Two-way Radio	Minimum Distance From Transmitting Antenna
7 to 15 Watts	30.5 cm(1 Foot)
16 to 50 Watts	61 cm (2 Feet)
More than 50 Watts	91.5 cm (3 Feet)

**Mobile Antenna Installation**

Install the vehicle antenna *external* to the vehicle and in accordance with:

- The requirements of the antenna manufacturer/ supplier
- Instructions in the Radio Installation Manual

**Control Station Operation**

When radio equipment is used to operate as a control station, it is important that the antenna be installed outside the building and away from places where people may be in close proximity. Refer to Table 1 for rated power and minimum distant values for transmitting antennas.

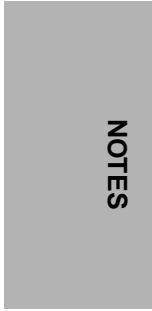
**GENERAL RADIO CARE**



Caution

- The use of chemicals such as detergents, alcohol, aerosol sprays, and/or petroleum products may be harmful to and damage the radio housing.
- Clean the radio exterior using a cloth moistened with clean water and a mild dishwashing liquid.
- The use of non-approved radio accessories may damage the radio and invalidate warranty.
- Do not operate whilst driving. It should also be noted that the use of a hand-held microphone whilst driving could constitute an offense under Road Traffic Regulations.





**NOTES**

