

Motorola Inc.

FCC ID: AZ489FT1625

# GP338

*Professional Two-Way Radio*

EXHIBIT 12



**MOTOROLA**

## **2-YEAR LIMITED WARRANTY FOR RADIOS**

We thank you for purchasing our Motorola radios. These radios are manufactured according to the highest quality standards set and are backed by Motorola's two (2) year warranty. The rechargeable Motorola supplied batteries have a one (1) year warranty. Kindly approach your dealer for more information.

Motorola warrants its radios and batteries against defects in material and workmanship under normal use and service for the period stated above.

Motorola recommends that you use Motorola supplied accessories and batteries in connection with the radio. We would also advise you against attempting any modifications or repairs or any other form of unauthorised service to your radio.

Should you have any queries, please contact:

Singapore - Telephone/Fax: (65) 3810408&9/2871068

Beijing - Telephone/Fax: (86-10) 68437222/68438195

Please see next page for more information.

Fill in the details of your radio below for your own reference:

**Model Name/No.:**

**Serial Number:**

**Date of Purchase:**

**Dealer Name:**

**Address:**

**Telephone:**

## 4A-1.1 Specifications

### GENERAL

	Low Band	
Frequency:	29.7---50 MHz	
Channel Capacity:	Popular : 16 Channels Preferred : 128 Channels	
Power Supply:	7.5 Volts $\pm$ 20%	
Dimensions with Standard Capacity NiMH Battery:	153mm x 62.3mm x 44mm	
with High Capacity NiMH Battery:	153mm x 62.3mm x 46mm	
Weight: with Standard Capac- ity NiMH Battery:	431.3 g	
with High Capacity NiMH Battery:	464.8 g	
Average Battery Life @ (5-5-90 Duty Cycle) Standard Capacity NiMH Battery:	<b>Low Power</b>	<b>High Power</b>
High Capacity NiMH Battery:		
Sealing:	Passes rain testing per IP54	
Shock:	Meets MIL-STD-810-C,D & E and TIA/EIA 603	
Vibration:	Meets MIL-STD-810-C,D & E and TIA/EIA 603	
Dust:	Meets MIL-STD-810-C,D & E and IP54	
Humidity:	Meets MIL-STD-810-C,D & E and TIA/EIA 603	

### TRANSMITTER

	Low Band	
RF Output NiMH @ 7.5V:	<b>Low</b> 1W	<b>High</b> 7 W
Frequency:	29.7---50 MHz	
Channel Spacing:	20/25 kHz	
Freq. Stability (-30°C to +60°C)	0.00025%	
Spurs/Harmonics:	-36 dBm	
Audio Response: (from 6 dB/oct. Pre- Emphasis, 300 to 3000Hz)	+1, -3 dB	
Audio Distortion: @ 1000 Hz, 60% Rated Max. Dev.	<5%	
FM Noise:	-40 dB	
FCC ID:	AZ489FT1625	

### RECEIVER

	Low band 25kHz
Frequency:	29.7---50 MHz
Sensitivity 12dB EIA SINAD:	0.30 $\mu$ V
Adjacent Channel Selectivity ETS	-70 dB
Intermodulation ETS	-65 dB
Freq. Stability (-30°C to +60°C):	2.5 ppm
Spur Rejection:	-70 dB
Image Rejection:	-70 dB
Audio Output @ <5% Distortion	500 mW

All specifications are subject to change without notice.

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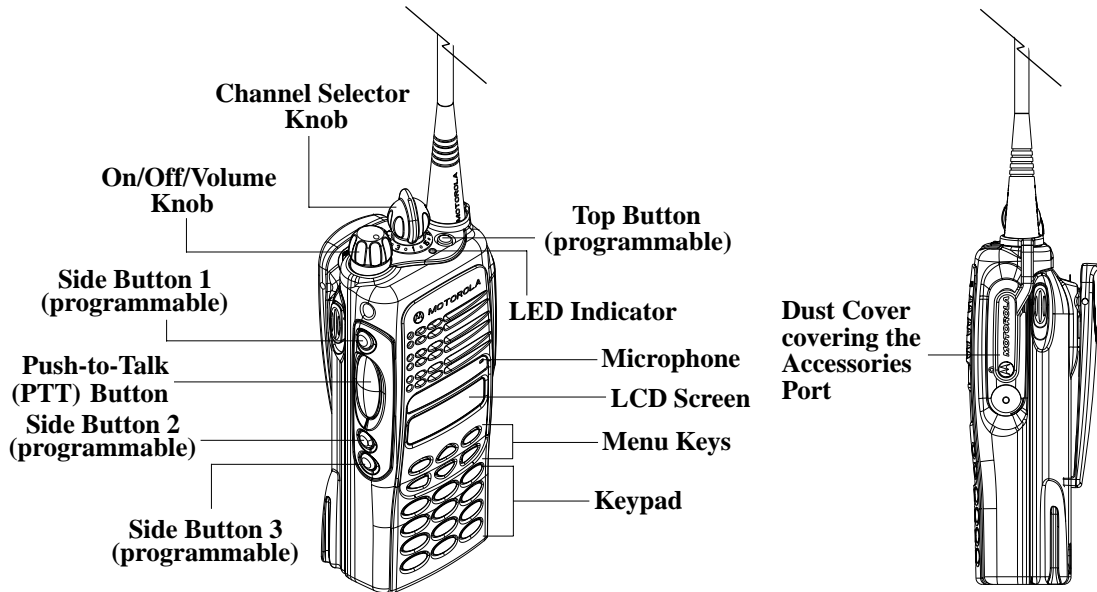
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# RADIO OVERVIEW

## PARTS OF THE RADIO



### On/Off/Volume Knob

Used to turn the radio on or off, and to increase the radio's volume.

### Channel Selector Knob

Used to switch the radio to different channels.

### Programmable Buttons



The three Front Buttons (when the radio is **NOT** in Menu Mode), as shown, the top button and the three side buttons can be programmed as short-cut buttons for many of the radio's features.

The following table shows the functions available by pressing the programmable buttons (short press) and by pressing and holding the programmable buttons for a period of time (long press).

Check with your dealer for a complete list of the functions your radio's programmable buttons support.

Button	Short Press	Long Press	Press and Hold
Emergency*	To initiate an Emergency Alarm.	To cancel your radio's Emergency status.	-
Monitor/ Permanent Monitor	-	To continually monitor the selected channel.	To monitor the selected channel for any activity.
Volume Set	-	-	You can use to adjust your radio's volume level.

Button	Short Press	Long Press	Press and Hold
Battery Gauge	-	-	To check the battery's status.
Scan/Nuisance Channel Delete	To toggle between the start/stop of the Scan operation.	To delete a nuisance channel while scanning.	-
Tx Power	To toggle your radio's transmit power level between High and Low power. <sup>†</sup>	To toggle your radio's transmit power level between High and Low power. <sup>†</sup>	-
Keypad Lock	-	To toggle between locking/unlocking your radio's keypad.	-
Repeater/Talkaround	To choose to/not to transmit through the repeater. <sup>†</sup>	To choose to/not to transmit through the repeater. <sup>†</sup>	-
Squelch	To toggle your radio's squelch level between tight/normal squelch. <sup>†</sup>	To toggle your radio's squelch level between tight/normal squelch. <sup>†</sup>	-



Button	Short Press	Long Press	Press and Hold
Option Board	To toggle the activation/deactivation of your radio's option board (if one is installed).†	To toggle the activation/deactivation of your radio's option board (if one is installed).†	-
Phone	To make a Phone Call.†	To make a Phone Call.†	-
Speed Dial	To easily access the phone numbers in your phone list.†	To easily access the phone numbers in your phone list.†	-
Radio Call	To make a radio call.†	To make a radio call.†	-
Light	To activate your radio's backlight.†	To activate your radio's backlight.†	-

\* If Emergency function is required, it can **ONLY** be programmed to the Top Button.

† Depending on how your radio has been programmed by your dealer, these functions are activated **EITHER** through short press **OR** long press, but not both.

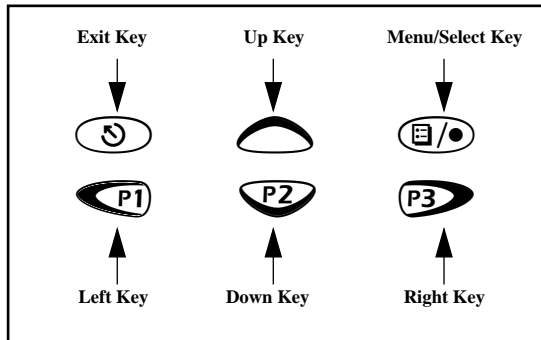
## Push-to-Talk (PTT) Button

Press and hold down this button to talk, release to listen.

## Microphone

Speak clearly into it when sending a message.

## Menu Keys



## Menu/Select Key

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

## Exit Key

Used to back up one level in the Menu hierarchy (short press); also used to exit the Menu Mode (long press).

## Up Key

Used for scrolling when in Menu Mode.

## Down Key

Used for scrolling when in Menu Mode. This key can also be programmed as a programmable key.

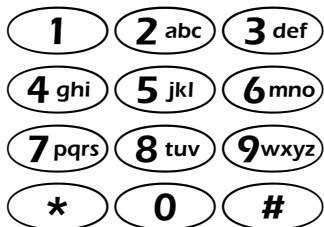
## Right Key

Moves the cursor right or inserts a space when editing. This key can also be programmed as a programmable key.

## Left Key

Used as a backspace key when editing. This key can also be programmed as a programmable key.

## Keypad Keys (for keypad radios only)



These keys are used when dialing a phone number, making a radio call, and when entering information for the radio's programming lists.

When entering information for the programming lists, each key can generate numeric and character information.

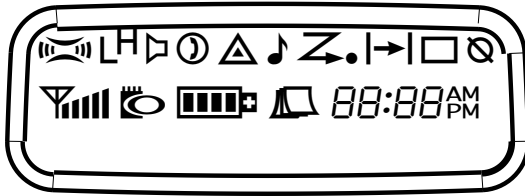
Pressing a key will cause the first character of the key's character cycle to appear on the LCD screen; subsequent pressing of the same key will cause subsequent characters in the cycle to appear. For example, to enter the character "S", press the "7" key four (4) times.

The following table shows the character cycle for each key.

Key	Character Cycle
0	0 ( ) < >
1	1 & % # *
2	A B C 2 a b c 2
3	D E F 3 d e f 3
4	G H I 4 g h i 4
5	J K L 5 j k l 5
6	M N O 6 m n o 6
7	P Q R S 7 p q r s 7
8	T U V 8 t u v 8
9	W X Y Z 9 w x y z 9
*	* / + - =
#	# blank_space - . ! ? ' ' " , ; :

## LCD SCREEN

Used to display channel, menu as well as other iconic information.



### Companding Indicator

Indicates that you have activated the companding feature.



### Power Level Indicator

“L” is lit up when your radio is configured to transmit in Low Power, while “H” is lit up when your radio is configured to transmit in High Power.



### Phone Indicator

Indicates that you are performing a Phone operation.

### Scan Indicator



Indicates that you have activated the Scan feature. Also during Scan, indicates that there is some activity on a non-priority channel.



### Priority 1 Scan Indicator ( ● flashing)

During Scan, indicates that there is some activity on a Priority 1 channel.



### Priority 2 Scan Indicator

During Scan, indicates that there is some activity on a Priority 2 channel.



### Emergency Indicator

Indicates that you are making an Emergency Call.



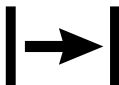
### Call Received Indicator

Indicates that you are receiving a Selective Call/Call Alert.



**Monitor Indicator**

Indicates that you are monitoring the selected channel.



**Talkaround Indicator**

When lit, indicates that you are not transmitting through the repeater. When not lit, you are transmitting through the repeater.



**Programming Mode Indicator**

Indicates that you are editing one of the Program Lists.



**Keypad Lock Indicator**

Indicates that your keypad is locked.



**Signal Strength Indicator**

Shows the signal strength. Five bars indicates the strongest signal.



**Option Board Indicator**

Indicates that an option board is activated.

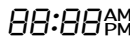


**Battery Level Indicator**

Shows the remaining charge in your battery based on how many bars are displayed.



**Not applicable for this radio**



**Clock**

Shows the time.

**INDICATOR TONES**

High pitched tone  Medium pitched tone



Positive Indicator Tone



Negative Indicator Tone

## Programmable Buttons Audio Indicators

Some programmable keys function as toggles. These keys use audio indicators, and in most cases, visual indicators, to indicate the change.

Programmable Buttons	Positive Indicator Tone	Negative Indicator Tone
Scan	<b>Start</b> Scan operation	<b>Stop</b> Scan operation
Tx Power	Radio transmits at <b>high</b> power	Radio transmits at <b>low</b> power
Squelch*	Radio operates in <b>tight</b> squelch	Radio operates in <b>normal</b> squelch
Option Board	<b>Activates</b> radio's option board	<b>Deactivates</b> radio's option board

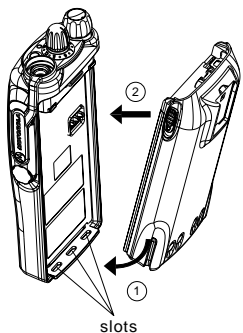
Programmable Buttons	Positive Indicator Tone	Negative Indicator Tone
Keypad Lock	Radio's keypad is <b>locked</b>	Radio's keypad is <b>unlocked</b>
Repeater/Talkaround	Radio <b>DOES NOT</b> use the repeater	Radio uses the repeater

\* There is no visual indicator for the Squelch function.



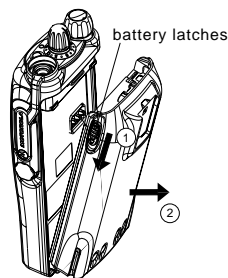
## ACCESSORY INFORMATION

### Attaching the Battery



1. Fit the extensions at the bottom of the battery into the slots at the bottom of the radio's body.
2. Press the top part of the battery towards the radio until a click is heard.

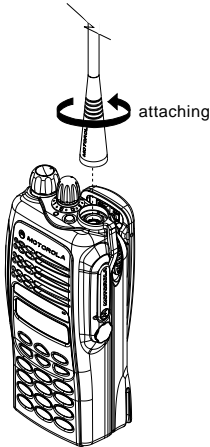
### Removing the Battery



1. Turn off the radio, if it is turned on.
2. Slide the battery latches, on both sides of the battery, downwards.
3. Pull the top part of the battery away from the radio's body, and lift the battery from the radio's body.



## Attaching the Antenna

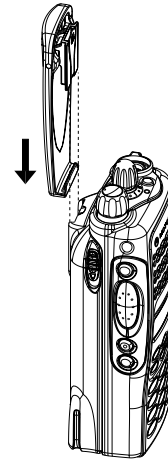


1. Align the threaded end of the antenna with the radio's antenna connector.
2. Turn the antenna clockwise to fasten it.

## Removing the Antenna

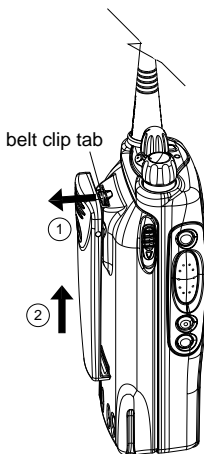
Turn the antenna counter-clockwise until you can remove it.

## Attaching the Belt Clip



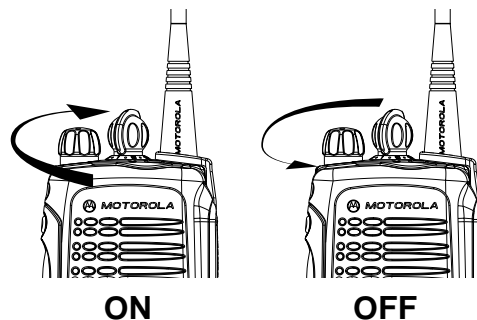
1. Align the grooves of the belt clip with those of the battery.
2. Press the belt clip downwards until a click is heard.

## Removing the Belt Clip



1. Use a key to press the belt clip tab away from the battery.
2. Slide the belt clip upwards to remove it.

## TURNING THE RADIO ON OR OFF



- Turn the **On-Off/Volume Control** knob clockwise to turn on the radio.
- Turn the **On-Off/Volume Control** knob counter-clockwise, until a click is heard, to turn off the radio.

## ADJUSTING THE RADIO'S VOLUME

1. Press and hold the **Volume Set** key; you will hear a continuous tone.
2. Turn the **On-Off/Volume Control** knob and adjust the volume level.
3. Release the **Volume Set** key.

## SELECTING A RADIO CHANNEL

Your radio offers 128 channels (8 zones of 16 channels each) for easy access to required conventional channels. Some channels on your radio may not be programmed. Check with your dealer for more information.

1. Select the appropriate Zone if required (see “Select Zone” on page 23).
2. Turn the **Channel Selector** knob clockwise or counter-clockwise until you reach the desired channel as shown on the LCD display.
4. If at any time a call comes through, you will hear the call at the volume level set.

## SENDING A CALL

1. Use the **Channel Selector** knob to change to the required channel.
2. Press the **PTT**, and speak clearly with your mouth about 2.5 to 5 cm (one to two inches) away from the microphone.
3. Release the **PTT** when you finish speaking.

## RECEIVING A CALL

1. Turn your radio on.
2. Adjust its volume level.
3. Switch to the desired channel.






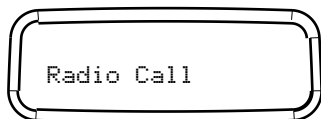
## RADIO CALLS




### SELECTIVE CALL

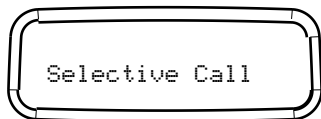
#### Making a Selective Call




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

1. Press  to enter *Menu Mode*.
2. Press  or  to scroll to the *Radio Call* menu item.



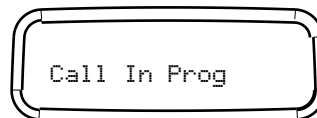
3. Press  to select this option.
4. Press  or  to scroll to the *Selective Call* menu item.





5. Press  to select this option.
6. Press  or  to scroll through the radios

in your Radio Call List, or, if you have a keypad radio, use the keypad to key in the Radio ID of the radio you are calling.


7. Press PTT to make the call; the radio's display would change to show.



The radio will send out its ID and sound a tone.

8. Press the PTT and talk with your mouth 2.5 to 5 cm (one to two inches) away from the microphone. Release the PTT to listen to the response.
9. Press  to return to the *Radio Call* menu, or press and hold  to exit the *Menu Mode*.

#### Receiving a Selective Call

When you receive a selective call, you will hear two (2) alert tones, and the LED Indicator will light up (yellow). The LCD will display the  icon and the programmed name or ID of the calling radio.

To answer the call, just press the PTT.

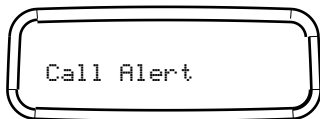
## CALL ALERT




If your call to a radio is unanswered, you can leave a page for the person. This is a *Call Alert*.

Any radio receiving a *Call Alert* will sound four alert tones continually and display the 🎵 icon until a response is made. Just press the PTT to answer the *Call Alert*, or any other key to cancel it.

- Note:**
- Your radio will only display the last *Call Alert* received.
  - Your radio will not receive any selective calls until the Call Alert is cleared.

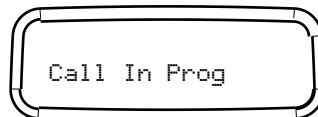
1. Follow steps 1 to 3 of " Selective Call" on page 19. Scroll through the menu items until you reach *Call Alert*.



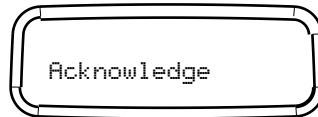
2. Press  to select this option.
3. Press  or  to scroll through the radios in your Radio Call List, or, if you have a key-

pad radio, use the keypad to key in the Radio ID of the radio you are alerting.

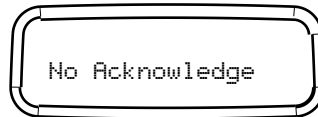
4. Press PTT to send the call; your radio's display will change to show





5. If your *Call Alert* is received by the called radio, your radio display will show:



If your call is not received and all retries fail, your radio display will show:



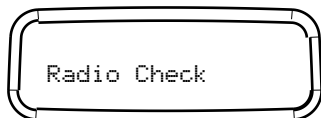
6. Press  to return to the *Radio Call* menu, or press and hold  to exit the *Menu Mode*.

## RADIO CHECK

Before making a call, you might want to determine if the receiving radio is within range, without disturbing the user of the radio. *Radio Check* allows you to do this, if the signalling system supports it.

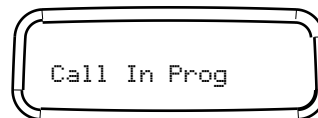
You can also use this feature to determine if the called radio is actually within range, if attempts to call the radio with the Selective Call and Call Alert fail.

1. Follow steps 1 to 3 of " Selective Call" on page 19. Scroll through the menu items until you reach *Radio Check*.

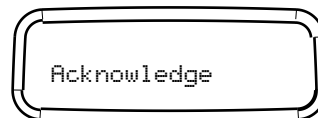


2. Press to select this option.
3. Press or to scroll through the radios in your Radio Call List, or, if you have a keypad radio, use the keypad to key in the Radio ID of the radio you are checking.
4. Press PTT to make the call; your radio's dis-

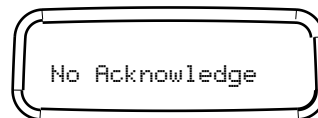
play will change to show



5. If the call is received by the called radio, your radio display will show:



If your call is not received and all retries fail, your radio display will show:




6. Press to return to the *Radio Call* menu, or press and hold to exit the *Menu Mode*.

## EMERGENCY ALARM

Your radio can be programmed to give you a one-button quick access to call a particular radio or center (predefined by your dealer) in emergency situations. This is the *Emergency Alarm*.


When you make an *Emergency Alarm*, your radio goes into an Emergency state, which can be programmed to

- continually give visual and audio feedback,
- give no audio feedback with optional visual feedback, or
- give no audio/visual feedback, but the radio can receive and transmit.

The  icon will light up on the LCD screen, when your radio is in the Emergency state.




1. Press the **Emergency** button to initiate an *Emergency Alarm*.
2. Press and hold the **Emergency** button to cancel the *Emergency Alarm*.
3. Press and release the **Emergency** button to restart the Emergency sequence.

## RADIO CALL LIST




The  icon will light up on the LCD screen when you edit the radio call list.

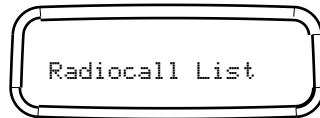
**Note:** The radio will not receive any calls when you are editing the radio call list.


### Editing an Entry (for keypad radios only)

1. Press  to enter *Menu Mode*.
2. Press  or  to scroll to the *Program Lists* menu item.



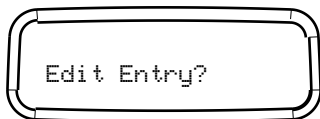
3. Press  to select this option.
4. Press  or  to scroll to the *RadioCall List* menu item.



5. Press  to select this option.



6. Scroll through the menu items until you reach *Edit Entry*.

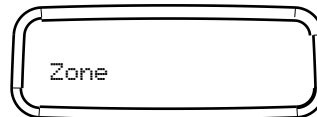


7. Press to select this option.
8. Press or to scroll through your *Radio Call List* until you reach the entry you want to edit.
9. Press to select the entry.
10. Use your keypad to edit the entry (see *Keypad Keys* on page 8).
11. Press to save your changes.
12. Press to return to the *Program Lists* menu, or press and hold to exit the *Menu Mode*.

## SELECT ZONE

Different radios may be distributed over different zones, depending on how the communications network is set up. Use this feature to select the appropriate zone when communicating with a radio from a different zone.

1. Press to enter *Menu Mode*.
2. Press or to scroll to the *Zone* menu item.



3. Press to select this option.
4. Press or to scroll through the available zone's programmed names.
5. Press to select the desired zone.

## TALKAROUND

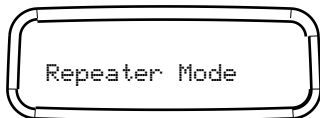
In your communications network, you may be using a repeater to cover a larger area than what is possible with your radio. However, you can communicate with another radio within your radio's range without going through the repeater by using the *Talkaround* feature. This is especially useful when the repeater is down. The icon will light up on the LCD screen when you activate the *Talkaround* feature to talk without going through the repeater.

1. Press to enter *Menu Mode*.
2. Press or to scroll to the *Rptr/*

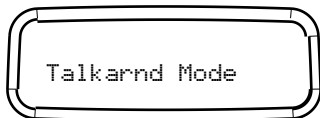
*Talkarnd* menu item.



3. Press to select this option.
4. Press or and navigate to *Repeater Mode* if you want your calls to go through the



repeater or to *Talkarnd Mode* if you want to



communicate directly without going through the repeater.

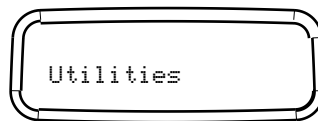
5. Press to select the desired option.

## SQUELCH

If a particular channel receives many unwanted calls coming from radios that do not belong to your communications group and some distance away, or the “background noise” is excessive,

you can try to filter these transmissions out by tightening the channel’s squelch. However, tightening squelch could cause calls from members of your communications group that are farther away to be filtered out as well.

1. Press to enter *Menu Mode*.
2. Press or to scroll to the *Utilities* menu item.



3. Press to select this option.
4. Press or to scroll to the *Squelch* menu item.

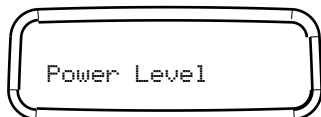






5. Press to select this option.
6. Press or to toggle between *Tight*, to tighten the channel’s squelch, and *Normal*, to cause the channel to operate under normal squelch.
7. Press to confirm the selection.

## POWER LEVEL

You can transmit your calls at different transmit power levels. A higher level means you can reach a radio that is farther away. Lower power level conserves battery power. You are advised to transmit as frequently as possible on low power, and use high power only when needed. The **L** icon will light up on the LCD screen when your radio is set to transmit at low power, while the **H** icon will light up when it is set to transmit at high power

1. Follow steps 1 to 3 of " Squelch" on page 24. Scroll through the menu items until you reach *Power Level*.






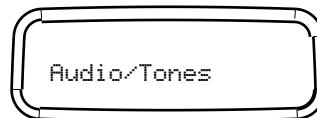
2. Press  to select this option.
3. Press  or  to toggle between *High*, to transmit at high power, *Low*, to transmit at low power, *Auto*, to transmit at Auto power.
4. Press  to confirm the selection.




## STONE TAGGING

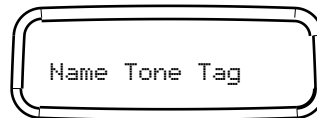
You can program your radio to use a particular tone to alert you when a specific user is calling you (name tone tagging), or when receiving a particular type of radio call (call tone tagging).




### Name Tone Tagging

1. Press  to enter *Menu Mode*.
2. Press  or  to scroll to the *Audio/Tones* menu item.












3. Press  to select this option.
4. Press  or  to scroll to the *Name Tone Tag* menu item.



5. Press  to select this option.
6. Press  or  to scroll through the Radio Call list until you reach the name you want to

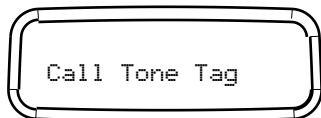
tag.







7. Press  to select the name.
8. Press  or  to scroll through the list of tones until you reach the tone you want to use for tagging.
9. Press  to select the tone.
10. Press  to return to the *Audio/Tones* menu, or press and hold  to exit the *Menu Mode*.

6. Press  to select the tone.
7. Press  to return to the *Audio/Tones* menu, or press and hold  to exit the *Menu Mode*.

## Call Tone Tagging

1. Follow steps 1 to 3 of "Name Tone Tagging" on page 25. Scroll through the menu items until you reach *Call Tone Tag*.




2. Press  to select this option.
3. Press  or  to scroll through the types of radio calls until you reach the call type which you wish to tag.
4. Press  to select the name.
5. Press  or  to scroll through the list of tones until you reach the tone you want to use for tagging.

## PHONE

You can use your radio to connect to a phone line to make a phone call.

To do this, your radio must send an access code to a station that connects it to a phone line. After you have finished your call, the radio has to send a deaccess code to shutdown the connection to the phone line.

### MAKING A PHONE CALL

You can make a phone call by using the menu or by using the programmed phone button. The  icon will light up on the LCD screen when you are in phone mode.

A complete phone session consists of




- entering the phone mode
- sending the access code
- sending the phone number
- having the phone conversation
- ending the phone call.

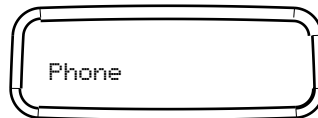
### Entering the Phone Mode


Before you can make a phone call, you must enter the radio's phone mode.

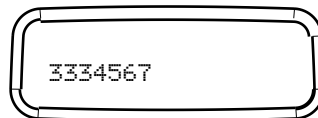
1. Press the Phone button.

To enter the phone mode via the menu:

1. Press  to enter *Menu* mode.
2. Press  or  to scroll to the *Phone* menu item.



3. Press  to select this item. The screen will show the last phone number dialed (shown here as 3334567).



### Sending the Access Code

Your radio can be programmed to send the access code in any of the following three ways:

- manual (for radios with keypad only)
- automatic delay
- automatic immediate.

Check with your dealer for more details.

<b>Method Used</b>	<b>Steps to Take</b>
Manual*	Dial the access code from the keypad.
Automatic Delay	Press and release the PTT; the radio automatically sends the preprogrammed access code.
Automatic Immediate	You do not have to do anything; the radio immediately sends the access code when it enters phone mode.

\* for radios with keypad only

## Sending the Phone Number

After the access code is sent, you should wait for a dialing tone before sending your phone number.

You can send

- a phone number that is stored in the radio, or
- a new number (for radios with keypad only).

Additionally, depending on how your radio is programmed, if you use the keypad to send a number, the radio can send the numbers in one of the following ways:

- live dial
- buffered dial.



Check with your dealer for details.

## Sending a Stored Phone Number

You can access the stored phone numbers by

- recalling the last number dialed,
- using the phone list, or

- using the speed dial feature (for radios with keypad only).

Method Used	Steps to Take
Last Number Redial*	Press and release the PTT again; the radio sends the last number dialed.
Phone List	<ol style="list-style-type: none"> <li>1. Press  or  to scroll the phone list until you reach the desired phone number.†</li> <li>2. Press and release the PTT to send the number.</li> </ol>

Method Used	Steps to Take
Speed Dial‡	<ol style="list-style-type: none"> <li>1. Press and release the programmed Speed Dial button.</li> <li>2. Press the numbered keys (1-9) corresponding to the first nine phone numbers in the phone list. Press “0” if you want the last number dialed.</li> <li>3. If your radio uses buffered dial, press and release the PTT.</li> <li>4. The radio sends out the relevant phone number.</li> </ol>

\* The method described is not applicable for radios which manually send the access code; these radios can access this number from the phone list or the speed dial.

† For radios that manually send the access code, press the Down Key once to access the last number dialed.

‡ For radios with keypad only.

### Sending a New Number (for radios with keypad only)

You enter the phone number by pressing the relevant keys on the keypad.

Method Used	Steps to Take
Live Dial	Enter the phone number by using the keypad; the radio sends out the numbers as the keys are pressed.
Buffered Dial	<ol style="list-style-type: none"> <li>1. Enter the phone number by using the keypad; the radio saves the numbers selected in a buffer.</li> <li>2. Press and release the PTT; the radio sends out the numbers in its buffer.</li> </ol>

### The Phone Conversation

Once the radio has connected to the intended party, you can begin the conversation. Even though, this is a phone call, your conversation

mimics a radio call (i.e. both parties speak in turn).

1. Press and hold the PTT, while talking into the microphone.
2. Release the PTT when you finish what you want to say, and wait for the response.
3. Continue in like manner until the conversation ends.

**Note:** The radio starts a programmable Time-Out-Timer the moment both parties stop transmitting (talking). If the Time-Out-Timer expires, the radio will end the phone call.

### Ending the Phone Call

Just as the radio needs to send the access code when starting a phone call, the radio needs to send the deaccess code to end the phone call.

The radio can send the deaccess code in any of the following ways:

- manual (for radios with keypad only)





- automatic.


Check with your dealer for details.

1. If your radio sends the deaccess code manually, dial the deaccess code from the keypad.
2. Press the Phone button to exit phone mode (radios using the automatic method will send the code automatically).

To exit the phone mode (i.e. step 2 above) via the menu:

2. Press  to exit phone mode and return to the *Phone* menu, or press and hold  to exit the *Menu Mode* (radios using the automatic method will send the code automatically).




## PHONE LIST

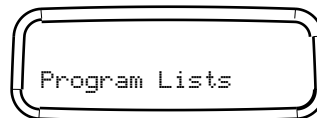
Your radio can store a list of frequently accessed phone numbers. The  icon will light up on the LCD screen when you edit the phone list.




**Note:** The radio will not receive any calls when you are editing the phone list.

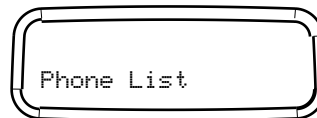
### Adding an Entry to the Phone List (for




### keypad radios only)

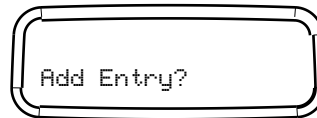
1. Press  to enter *Menu Mode*.
2. Press  or  to scroll to the *Program Lists* menu item.



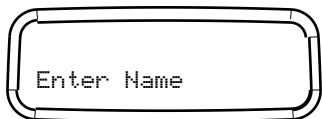
3. Press  to select this item.
4. Press  or  to navigate to the *Phone List* sub-menu item.



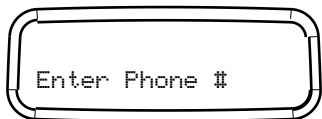
5. Press  to select this item.
6. Press  or  to navigate to the *Add Entry* sub-menu item.



7. Press to select this item.



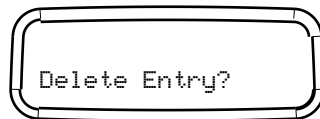
8. Use the keypad to enter the name (see *Keypad Keys* on page 8).
9. Press to store the name.



10. Use the keypad to enter the phone number. Press the numeric keys to enter the numbers. You can also add a dash (press ) and a *Pause Indicator* (press and hold the “#” key until the “#” character on the LCD screen changes to a “P”).
11. Press to store the phone number, and press again to confirm its storage.
12. Press to return to the *Program Lists* menu, or press and hold to exit the *Menu Mode*.

## Deleting an Entry

1. Follow steps 1 to 5 of "Editing an Entry (for keypad radios only)" on page 38. Scroll through the menu items until you reach *Delete Entry*.

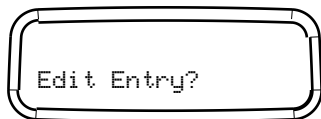













2. Press to select this item.
3. Press or to scroll to the entry you wish to delete.
4. Press to select the entry, and press again to confirm the deletion.
5. Press to return to the *Phone List* menu, or press and hold to exit the *Menu Mode*.

## Editing an Entry (for keypad radios only)

1. Follow steps 1 to 5 of "Editing an Entry (for keypad radios only)" on page 38. Scroll through the menu items until you reach *Edit*

Entry.



2. Press  to select this item.
3. Press  or  to scroll to the entry you wish to edit.
4. Press  to select the entry.
5. Press  or  to scroll to *Edit Name* (if you want to edit the entry name), or *Edit Number* (if you want to edit the entry number), or *Edit Location* (if you want to edit the entry memory location).
6. Press  to select the item.
7. Use  to delete unwanted alphabets or numbers, and the keypad to add new information.
8. Press  to store the information.
9. Press  to return to the *Edit Entry* menu, or press and hold  to exit the *Menu Mode*.



## SAFETY INFORMATION

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

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

The information provided in this document supersedes the general safety information contained in user guides published prior to 1st. January 1998.

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

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 (0 Hz to 10 kHz)*
- *ENV 50166-2 1995 E*      *Human exposure to electromagnetic fields High frequency (10 kHz to 300 GHz)*

- *Proceedings of SC211/B 1996* “*Safety Considerations for Human Exposure to EMFs from Mobile Telecommunication Equipment (MTE) in the Frequency Range 30MHz - 6 GHz.*” (*EMF - Electro-Magnetic Fields*)

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

### Portable Radio Operation And EME Exposure



- When transmitting with a portable radio, hold radio in a vertical position with the microphone 2.5 to 5 centimeters (one or two inches) away from the mouth. Keep antenna at least 2.5 centimeters (one inch) from your head or body when transmitting.

- If you wear a portable Two-Way radio on your body, ensure that the antenna is at least 2.5 centimeters (one inch) from the body when transmitting.

### 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. Hospital or health 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



WARNING

### Vehicles with an air bag

- Do not place a portable radio in the area over an airbag or in the air bag deployment area. Air bags inflate with great force. If a portable radio is placed in the air bag deployment area and the air bag inflates, the radio may be propelled with great force and cause serious injury to occupants of vehicle.

### Potentially explosive atmospheres

- 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 (e.g. FM or Cenelec approved). Sparks in a potentially explosive atmosphere can cause an explosion or fire resulting in bodily injury or even death.

### Batteries

- Do not replace or recharge batteries in a potentially explosive atmosphere. Contact sparking may occur while installing

or removing batteries and cause an explosion.

### 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 fuelling 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.

## Operational Cautions



Caution

### Damaged antennas

- Do not use any portable two-way radio that has a damaged antenna. If

## Safety Information

a damaged antenna comes into contact with your skin, a minor burn can result.

### Batteries

- All batteries can cause property damage and/or bodily injury such as burns if a conductive material such as jewellery, keys or beaded chains touch exposed terminals. The conductive material may complete an electrical circuit (short circuit) and become quite hot. Exercise care in handling any charged battery, particularly when placing it inside a pocket, purse or other container with metal objects.