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CDM1550-LS⁺ User Guide

Professional Radio - As Dedicated As You Are™

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COMPUTER SOFTWARE COPYRIGHTS

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SAFETY

USER SAFETY, TRAINING, AND GENERAL INFORMATION

READ THIS IMPORTANT INFORMATION ON SAFE AND EFFICIENT OPERATION BEFORE INSTALLING AND USING YOUR MOTOROLA MOBILE TWO-WAY RADIO IN A VEHICLE OR AS A CONTROL STATION.

COMPLIANCE WITH RF ENERGY EXPOSURE STANDARDS

Your Motorola two-way radio is designed and tested to comply with a number of national and international standards and guidelines (listed below) regarding human exposure to radio frequency electromagnetic energy. **This radio complies with the IEEE (FCC) and ICNIRP exposure limits at duty cycles of up to 50% talk-50% listen and should be used for occupational use only.** In terms of measuring RF energy for compliance with the FCC exposure guidelines, your radio radiates measurable RF energy only while it is transmitting (during talking), not when it is receiving (listening) or in standby mode.

Your Motorola two-way radio complies with the following RF energy exposure standards and guidelines:

- United States Federal Communications Commission, Code of Federal Regulations; 47CFR part 2 sub-part J
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95. 1- 1992
- Institute of Electrical and Electronic Engineers (IEEE) C95.1- 1999 Edition
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998
- Ministry of Health (Canada) Safety Code 6. Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz, 1999
- Australian Communications Authority Radiocommunications (Electromagnetic Radiation - Human Exposure) Standard 2001
- ANATEL, Brasil Regulatory Authority, Resolution 256 (April 11, 2001) "additional requirements for SMR, cellular and PCS product certification."

OPERATIONAL INSTRUCTIONS AND TRAINING GUIDELINES

To ensure optimal performance and compliance with the RF energy exposure limits in the above standards and guidelines, users should transmit no more than 50% of the time and always adhere to the following procedures:

Transmit and Receive

- To transmit (talk), push the Push-To-Talk (PTT) button; to receive, release the PTT button.
- Transmit only when people outside the vehicle are at least the minimum lateral distance away, as shown in Table 1, from a properly installed, externally-mounted antenna.

Table 1 lists the minimum lateral distance for bystanders in an uncontrolled environment from the transmitting antenna at several different ranges of rated radio power for mobile radios installed in a vehicle.

Table 1: Rated Power and Lateral Distance

Rated Power of Vehicle-installed Mobile Two-way Radio	Minimum Lateral Distance from Transmitting Antenna
Less than 7 watts	8 inches (20 centimeters)
7 to 15 watts	1 foot (30 centimeters)
16 to 50 watts	2 feet (60 centimeters)
51 to 110 watts	3 feet (90 centimeters)

Mobile Antennas

- Install antennas at the center of the roof or the center of the trunk deck. These mobile antenna installation guidelines are limited to metal body vehicles.
- The antenna installation must additionally be in accordance with:
 - a. The requirements of the antenna manufacturer/supplier
 - b. Instructions in the Radio Installation Manual

- **Use only Motorola approved supplied antenna or Motorola approved replacement antenna.** Unauthorized antennas, modifications, or attachments could damage the radio and may violate FCC regulations.

Approved Accessories

For a list of Motorola approved antennas see the Accessory section of this user manual.

Fixed Site Antennas

If mobile radio equipment is installed at a fixed location and operated as a control station or as a fixed unit, the antenna installation must comply with the following requirements in order to ensure optimal performance and compliance with the RF energy exposure limits in the above standards and guidelines.

- The antenna should be mounted outside the building on the roof or a tower if at all possible.
- As with all fixed site antenna installations, it is the responsibility of the licensee to manage the site in accordance with applicable

regulatory requirements and may require additional compliance actions such as site survey measurements, signage, and site access restrictions in order to insure that exposure limits are not exceeded.

ELECTROMAGNETIC INTERFERENCE/COMPATIBILITY

NOTE: Nearly every electronic device is susceptible to electromagnetic interference (EMI) if inadequately shielded, designed or otherwise configured for electromagnetic compatibility. It may be necessary to conduct compatibility testing to determine if any electronic equipment used in or around vehicles or near fixed antenna sites is sensitive to external RF energy and if any procedures need to be followed to eliminate or mitigate the potential for interaction between the radio transmitter and the equipment or device.

Facilities

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.

Vehicles

To avoid possible interaction between the radio transmitter and any vehicle electronic control modules, for example, ABS, engine, or transmission controls, we recommend that the radio be installed by an experienced installer and that the following precautions be used when installing the radio:

1. Refer to any manufacturers instructions or other technical bulletins or recommendations on radio installation.
2. Before installing the radio, determine the location of the electronic control modules and their harnesses in the vehicle.

3. Route all radio wiring, including the antenna transmission line, as far away as possible from the electronic control units and associated wiring.

Driver Safety

Check the laws and regulations on the use of radios in the area where you drive. Always obey them.

When using your radio while driving, please:

- Give full attention to driving and to the road.
- Pull off the road and park before making or answering a call if driving conditions so require.



WARNING

OPERATIONAL WARNINGS

For Vehicles With an Air Bag

Do not place a mobile radio in the area over an air bag or in the air bag deployment area. Air bags inflate with great force. If a 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 the vehicle.

Potentially Explosive Atmospheres

Turn off your radio prior to entering any area with a potentially explosive atmosphere.

Sparks in a potentially explosive atmosphere can cause an explosion or fire resulting in bodily injury or even death.

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.

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.

For radios installed in vehicles fuelled by liquefied petroleum gas, refer to the (U.S.) National Fire Protection Association standard, NFPA 58, for storage, handling, and/ or container information. For a copy of the LP-gas standard, NFPA 58, contact the National Fire Protection Association, One Battery Park, Quincy, MA.

INTRODUCTION



Welcome to Motorola's CDM Series family of radio users. The CDM1550•LS⁺TM, the Intelligent Radio, combines the very latest in two-way technology while delivering

outstanding functionality at the touch of a button.

The CDM1550•LS⁺ mobile radio operates on PassPort and LTR trunked and conventional radio systems.

TRUNKED RADIO SYSTEMS

Trunked systems allow a large number of users to share a relatively small number of frequencies or repeaters without interfering with each other. The airtime of all the repeaters in a trunked system is pooled, which maximizes the amount of airtime available to any one radio and minimizes channel congestion.

PassPort[®] Trunked Systems

PassPort is an enhanced trunking protocol developed by Trident Micro Systems that supports wide area dispatch networking. A network is formed by linking several trunked sites together to form a single system. This offers users an extended communication coverage area. Additionally, users with PassPort can seamlessly roam among all sites within the network. Seamless roaming means that the radio user does not have to manually change the zones on the radio when roaming from site-to-site.

LTR[®] Trunked Systems

LTR is a transmission based trunking protocol developed by the E. F. Johnson Company for primarily single site trunking applications. In transmission trunking, a repeater is used for only the duration of a single transmission. Once a transmission is completed, that repeater becomes available to other users. This means that a conversation comprised of many transmissions may occur over several different channels within the LTR system. This method of trunking provides system efficiency

by making repeaters available to all users after every transmission.

CONVENTIONAL RADIO SYSTEMS

Conventional radio systems typically refers to unit-to-unit communications through a single channel. Conventional systems also allow radio users to extend communication coverage by relaying their messages through a repeater. To ensure coordinated use by multiple talkgroups, each radio user must monitor the channel or repeater before transmitting to verify that the system is not currently busy.

CDM1550•LS⁺ RADIO FEATURES

Note: Throughout this manual there are features listed as trunked and conventional. **Trunked** indicates the feature functions in both PassPort and LTR zones unless otherwise noted. **Conventional** indicates the feature functions in Conventional zones only.

CDM1550•LS⁺ Radio Feature Highlights:

Radio Wide Features

- 14-Character Alphanumeric Display
- 4 Programmable Feature Buttons
- Up to 15 PassPort and/or LTR Zones with up to 16 Talkgroups per Zone
- Up to 16 Conventional Channels
- X-Pand Audio Enhancement Selectable by Conventional Channel, LTR Repeater or PassPort Talkgroup
- Home Channel
- Telephone Interconnect
- User-programmable Phone and Scan Lists
- Voice Storage Capability

PassPort Zone Features

- Unique Mobile Identity Number per Radio
- Unique Electronic Serial Number per Radio
- Registration/Deregistration upon power up/power down
- Automatic Seamless Roaming between Networked Sites
- Registered Site and Mobile Identity View
- User Initiated Roam Request
- PassPort Primary Group Auto Scan and PassPort Scan

PassPort Zone Features (Cont.)

- Call Signalling Features
 - PTT ID (Display of Mobile Identification Number)

LTR Zone Features

- MDC 1200 Signaling
 - Call Alert
 - Radio Check
 - Selective Call
 - Caller ID
- Auto Group System, All Group Scan
- System Scan with 2 Priority Levels

Conventional Zone Features

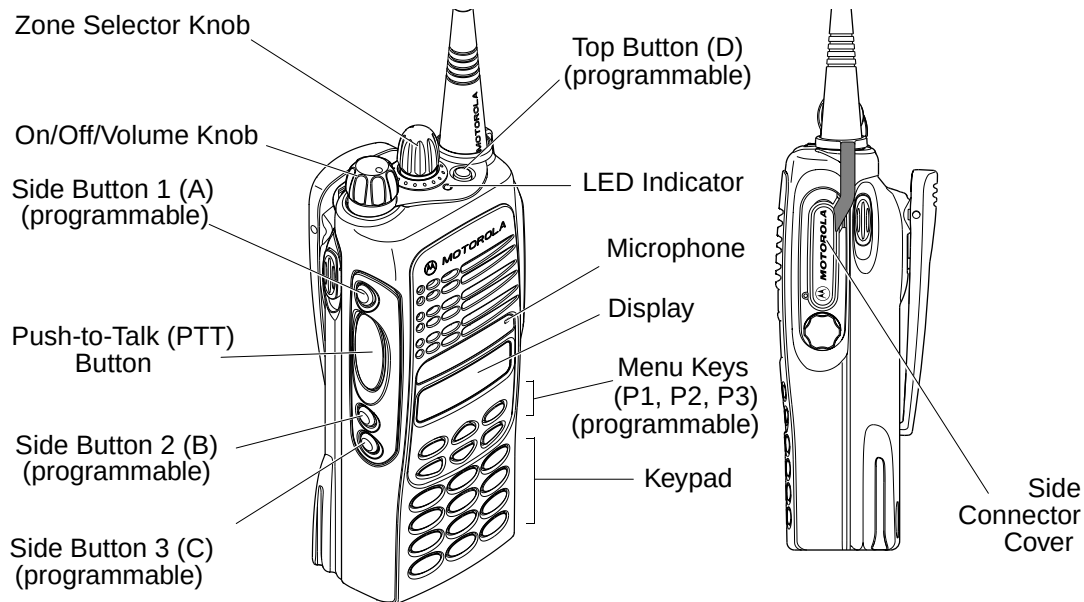
- Monitor and Sticky Permanent Monitor
- System Scan with 2 Priority Levels

Notes

RADIO OVERVIEW

PARTS OF THE RADIO

HT1250•LS⁺ Model



On/Off/Volume Knob

Turns the radio on or off, and adjusts the radio's volume.

Zone Selector Knob

Switches the radio to different trunked and conventional zones. It is also used to scroll through menu choices when in Menu Mode.

LED Indicator

Indicates battery status (see page 30); or the status of power-up, scan, or receipt of a talkgroup or selective call (see table below):

LED Color	Indicates
Steady red	Radio is transmitting (PTT button pressed)
Flashing red	Radio is attempting to access trunked system (PTT button pressed), or Radio is receiving (PTT button released)
Double flashing yellow	Call Light feature, or Individual Selective Call Received (trunked operation only)

LED Color	Indicates
Single flashing yellow	Group Selective call received (trunked operation only)
Momentary green	Radio has powered-up successfully
Double flashing green	System or All Group Scan operation, PassPort Group Scan

Push-to-Talk (PTT) Button

Press and hold down this button to talk; release it to listen.

Microphone

When sending a message, hold the microphone 1 to 2 inches (2.5 to 5 cm) away from your mouth, and speak clearly into the microphone.

Menu Keys

Exit



Left

Up



Down

Menu/Select



Right

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 to scroll through the preprogrammed talkgroups of a selected trunked zone, or through conventional channels when in conventional zone.
- Used for scrolling when in menu mode.
- The  key can also be programmed with a radio feature (see page 22).

Right Key

Moves the cursor right or inserts a space when editing call, scan, and phone lists. This key can also be programmed with a radio feature (see page 22).

Left Key

Used as a backspace key when editing radio call, scan, and phone lists. This key can also be programmed with a radio feature (see page 22).

Keypad Keys

These keys are used for:

- Dialing a phone number
- Entering a specific radio ID number when making a selective call or call alert
- Entering information when programming radio call, scan, and phone lists

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
0	0	(	)	<	>										
1	1	&	%	#	*										
2 abc	A	B	C	2	a	b	c	2	Á	Ç	à	á	ç		
3 def	D	E	F	3	d	e	f	3	È	É	Ê	è	é	ê	
4 ghi	G	H	I	4	g	h	i	4	Í	Ì	Í				
5 jkl	J	K	L	5	j	k	l	5							
6 mno	M	N	O	6	m	n	o	6	Ñ	Ó	Ô	ò	ó	ô	ö
7 pqrs	P	Q	R	S	7	p	q	r	s	7					
8 tuv	T	U	V	8	t	u	v	8	Ú	Ù	Ú				
9 wxyz	W	X	Y	Z	9	w	x	y	z	9	Ý	ý			
*	*	/	+	-	=										
#	#	Blank Space	-	.	!	?	'	"	,	;	:				

Display



The top two screen rows display menu and radio status information:

Symbol	Indication
 X-Pand	The X-Pand feature is activated. When in narrow band, this feature improves audio quality.
LH Power Level	Low Power “L” or High Power “H” is activated.
 Monitor	The selected channel is being monitored (conventional operation only).
 Phone	Phone mode is selected.

Symbol	Indication
 Emergency	An Emergency Siren is being sounded. (Trunked mode only.) An Emergency Alarm is being send (Conventional mode only).
 Call Received	A Selective Call or Call Alert has been received (LTR trunked and Conventional operation only).
 Scan	When the green LED is blinking, indicates that the System, PassPort Scan, or All Group Scan feature has been activated. When the green LED is off, indicates that non-prioritized Auto Group Scan has been activated.
 •Priority 1 Scan (• flashing)	Indicates activity on a priority 1 talkgroup or channel during System Scan.

Symbol	Indication
 Priority 2 Scan (● steady)	- When the green LED is on, indicates activity on a priority 2 talkgroup or channel during System Scan. - When the green LED is off, indicates prioritized Auto Group Scan has been activated.
 Talkaround	You are not transmitting through a repeater (Conventional operation only).
 Programming Mode	A Program list is being edited.
 Keypad Lock	Keypad is locked.
 Battery Level	The number of bars (0–4) shown indicates the charge remaining in your battery.

Symbol	Indication
 Clock	Shows the time (12- or 24-hour).
 Signal Strength	The more bars, the stronger the signal being received by your radio.
 PassPort Zone	A PassPort zone has been selected.

Programmable Buttons

Several of your radio's buttons can be programmed by your dealer as shortcuts to many of the radio's features.

Programmable buttons include:

- The Three Side Buttons (A, B, C) and the Top Button (D)
- The Three Lower Menu Keys (P1, P2, P3) (when the radio is not in menu mode)

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

- **Short Press**—quickly pressing and releasing the programmable buttons,
or
- **Long Press**—pressing and holding the programmable buttons for a period of time (programmable for 1/2 to 1 1/2 seconds),
or
- **Hold Down**—pressing and holding down the programmable buttons while checking status or making adjustments.

The table on page 24 summarizes the programmable features available and shows the page number where the feature is explained.

In the “Button” column, have your dealer write down the programmable buttons next to the features that have been programmed to them.

Use the abbreviations (for example, A for Side Button 1, D for Top Button, etc.) shown in the radio illustration at the front of this manual.

Also, where a choice exists, have your dealer indicate whether the button press is short press (SP) or long press (LP).

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

Programmable Features

Feature	Indicator	Short Press	Long Press	Hold Down	Page	Button
Battery Gauge	LED Color	—	—	Check the battery's charge status.	30	
Emergency (Top button only)		Initiate Emergency Siren (Trunked mode only). Initiate Emergency Alarm (Conventional mode only).	Cancel Emergency Siren Trunked mode only). Cancel Emergency Alarm (Conventional mode only).	—	39 50	
Home Channel Revert	—	Directly access your favorite trunked zone and talkgroup or conventional channel. [†]		—	39	
Keypad Lock		—	Toggle keypad between locked and unlocked.	—	—	
Light	—	Turn on your radio backlight. [†]		—	—	
Monitor [§]		Exit permanent monitor mode.	Enter permanent monitor mode.	Continually monitor channel	—	
Phone		Directly access Phone mode. [†]		—	66	

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

[§] Conventional operation only. [‡]LTR trunked operation only. *PassPort trunked operation only.

Programmable Features (Cont.)

Feature	Indicator	Short Press	Long Press	Hold Down	Page	Button
Power Level	LH	Toggle transmit power level between high and low. [†]		—	88	
Radio Call [‡] \$	LED Color	Directly access radio call menu. [†]		—	47	
Repeater/ Talkaround [§]	↔	Toggle between using a conventional repeater or transmitting directly to another radio. [†]		—	38	
Roam Request [*]	Searching	Manually initiate PassPort roaming function. [†]	Stop PassPort roaming function.	—	43	
Scan/Delete Nuisance Channel	↯	Turn PassPort Group, All Group, and System scan on or off.	Delete a nuisance channel while scanning.	—	60	
Site/MIN View [*]	—	Display the PassPort site number on which the unit is registered, the Home Site and unit's MIN (Mobile Identity Number). [†]		—	43	
Speed Dial	—	Quickly access speed dial phone list. [†]		—	67	

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

[§] Conventional operation only. [‡] LTR trunked operation only. ^{*}PassPort trunked operation only.

Programmable Features (Cont.)

Feature	Indicator	Short Press	Long Press	Hold Down	Page	Button
Squelch §	—	Toggle squelch level between tight and normal.†		—	88	
Voice Storage Record/Playback	—	Playback recorded messages.	Record voice memos.	—	77	
Voice Storage Playback Exit	—	Exit Voice Storage Play Back mode.†		—	77	
Voice Storage Playback Delete	—	Delete recorded messages.†		—	78	
Volume Set	—	—	—	Sound a tone for adjusting your radio's volume level.	35	
Edit Scan List	—	Add, Delete, or prioritize talkgroups or channels.			60	

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

§ Conventional operation only. ‡ LTR trunked operation only. *PassPort trunked operation only.

AUDIO INDICATORS FOR PROGRAMMABLE BUTTONS

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



High-Low Tone



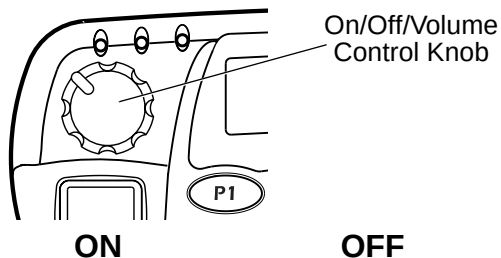
Low-High Tone

Button	High-Low Tone	Low-High Tone
Scan	Stop scan	Start scan
Power Level	High power selected	Low power selected
Squelch (no visual indicator)	Normal squelch	Tight squelch
Keypad Lock	Unlocked	Locked
Repeater/Talkaround	Uses conventional repeater	Does not use conventional repeater

Notes

GETTING STARTED

TURNING THE RADIO ON OR OFF



Push the **On/Off/Volume Control** knob.
If power-up is successful, you hear the Self-Test Pass Tone



and see the LED momentarily turn green.

If the radio fails to power up, you hear the Self-Test Fail Tone .

Push the **On/Off/Volume Control** knob until you hear a click and the display clears.

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 26). You hear a continuous tone.
- 2 Turn the **On/Off/Volume Control** knob to the desired volume level.
- 3 Release the **Volume Set** button.

SELECTING A TRUNKED ZONE AND TALKGROUP

Note: Throughout this manual there are features listed as trunked and conventional. **Trunked** indicates the feature functions in both PassPort and LTR zones unless otherwise noted. **Conventional** indicates the feature functions in Conventional zones only.

Up to 15 PassPort and/or LTR trunked zones (containing 16 talkgroups each) can be programmed into your radio.

To select a trunked zone and talkgroup:

- 1  or  to select the appropriate trunked zone.
- 2  or  until you see the desired preprogrammed talkgroup on the display.

Note:  (the PassPort Zone symbol) appears when a PassPort Zone has been selected.

SENDING A TRUNKED CALL

To Send a Trunked Call

- 1 Hold the microphone in a vertical position at a distance of about 1 to 2 inches (2.5 to 5 cm) from your mouth.
- 2 Press and hold the **PTT** button.
—or—
Press and release the **PTT** button and wait 3 seconds.
 - If access to the trunked system was successful, the red LED indicator lights steady.
 - In addition, your dealer can program your radio to sound a short, high-pitched (talk permit) tone, indicating successful trunked system access.
 - If access to the trunked system was unsuccessful, the red LED indicator flashes and a low-pitched (talk prohibit) tone sounds, indicating that the system was busy or out-of-range.

- 3 With the **PTT** button depressed, speak clearly into the microphone
- 4 Release the **PTT** button to listen.

SELECTING A CONVENTIONAL ZONE AND CHANNEL

Up to a total of 16 conventional channels, in one or more conventional zones, can be programmed into your radio.

To Select a Conventional Zone and Channel

- 1  or  to select the appropriate conventional zone.
- 2  or  until you see the desired conventional channel on the display.

DIRECT ZONE ACCESS

The Direct Zone Access feature offers an alternative way of accessing a trunked or conventional zone.

To Activate Direct Zone Access

- 1 Press the preprogrammed **Direct Zone Access** button (see page 26).
- 2  or  until you see the desired zone on the display.
- 3  to confirm your selection.

DIRECT CHANNEL ACCESS

The **direct channel access** feature allows you to directly access a specific trunked talkgroup or conventional channel within the zone you have currently selected. This feature can be programmed on one of the radio programmable buttons (P1, P2, P3 or P4) and/ or any DTMF microphone (RMN4026) programmable buttons (A, B or C).

To Start Activate Direct Channel Access

Using the radio's programmable buttons:

- 1 Press the preprogrammed Direct Channel button.
The current talkgroup or channel flashes intermittently.

YR TKGP ALIAS

- 2 Up or down arrow  or  to select the appropriate Trunked talkgroup or channel.

- 3 Press again the preprogrammed Direct Channel button.

—or—

Press  or 

The new selected talkgroup or channel appears on the display

NW TKGP ALIAS

Using the DTMF microphone:

- 1 Press the preprogrammed Direct Channel button (A, B, or C).

The current talkgroup or channel flashes intermittently.

YR TKGP ALIAS

- 2 Up or down arrow  or  to select the appropriate Trunked talkgroup or channel.
—or—

If **Menu/Channel Up** feature is preprogrammed on the DTMF microphone press it to select the appropriate talkgroup or channel.

- 3 Press again the preprogrammed Direct Channel button.

—or—

Press **select/enter** button on the microphone (if preprogrammed).

The new selected talkgroup or channel appears on the display.

NW TKGP ALIAS

SENDING A CONVENTIONAL CALL

Note: In the United States, FCC regulations require you to monitor the conventional channels before sending a call. The monitor feature (see page 25) can be accessed through one of your programmable buttons.

To send a conventional call:

- 1 Hold the microphone in a vertical position at a distance of about 1 to 2 inches (2.5 to 5 cm) from your mouth.
- 2 Press the **PTT** button and speak clearly into the microphone. The red LED indicator lights steady while the call is being sent.
- 3 Release the **PTT** button to listen.

RECEIVING A TRUNKED OR CONVENTIONAL CALL

- 1 Turn your radio on.
- 2 Adjust your radio's volume (see page 29).
- 3  or  to select the desired trunked or conventional zone, then  or  until you see the desired preprogrammed talkgroup or conventional channel on the display.
 - Make sure the **PTT** button is released.
- 4 Listen for voice activity. The red LED indicator flashes when your radio is receiving.

Note: In PassPort mode, the Mobile Identity Number (XXXX) of the calling radio appears on the display if enabled.

XXXX

REPEATER OR TALKAROUND |→| MODE

(CONVENTIONAL OPERATION ONLY)

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.

Note: The |→| symbol appears on the LCD screen when Talkaround Mode is selected.

To Select either Repeater Mode or Talkaround Mode

Press the preprogrammed **Repeater/**
Talkaround button (see page 25) to toggle between Repeater Mode and Talkaround Mode.

—or—

1  to enter Menu Mode.

2  or  until **Rptr/Talkarnd**

3  to select **Rptr/Talkarnd**

4  or  until **Talkarnd Mode**

—or—

Talkarnd Mode

5  to confirm your selection.

CALL LIGHT

(TRUNKED OPERATION ONLY)

The **Call Light** indicator informs you that you have received a call from a specified talkgroup (as programmed by your dealer). The yellow LED indicator flashes continuously, indicating that a call has been received.

To Turn the Call Light Off

- Turn the radio off, then on again.
- Select another trunked or conventional zone.
- Press the **PTT** button.
- Press any preprogrammed button.

HOME CHANNEL

The Home Channel feature allows you to instantly access your favorite trunked talkgroup or channel at the touch of a button.

To Activate Home Channel

Press the preprogrammed **Home Channel** button (see page 25).

HORN AND LIGHTS

When you are away from your vehicle, the **Horn and Lights feature** notifies you when a call is received by activating your vehicle's horn and lights. This feature can be triggered by a call alert in LTR trunked or conventional mode. It also can be associated with call light in LTR trunked and PassPort mode.

To Activate Horn and Lights Programmed with Call Light (Trunked Operation Only)

- 1 Press the preprogrammed **Horn and Lights** button. The LED flashes yellow continuously, indicating that a call has been received.

you see

CURRENT TKGP

- 2 Once the delay timer has expired, the horn and lights of the vehicle go off.
- 3 Press any buttons on the radio or the DTMF microphone to deactivate it.

To Activate Horn and Lights Programmed with Call Alert (LTR Trunked and Conventional Operation Only)

- 1 Press the preprogrammed **Horn and Lights** button. When you receive a call alert, you can see the preprogrammed name or ID of the calling radio:

NAME OR ID

Note: If preprogrammed, alert tones (either once or continuously) may sound.

- 2 Press any buttons on the radio or the DTMF microphone to deactivate it.

Note: There are options available in the CPS (Customer Programming Software), which don't require you to manually activate **Horn and Lights**. Please see your dealer for additional information.

REMOTE MONITOR (LTR TRUNKED AND CONVENTIONAL OPERATION ONLY)

Remote Monitor allows you to automatically key-up another radio to listen-in on all surrounding audio. This feature can be initiated by a dispatcher to a mobile radio, or from a mobile radio to another mobile radio.

To Activate Remote Monitor

- 1  to enter Menu Mode.

- 2  or  until **Radio Call**

- 3  to select **Radio Call**

- 4  or  until **Remote Monitor**

- 5  to select the appropriate call list member:

MDC CALL 01

Note: An audio or visual indication may come up on the receiving radio if preprogrammed by your dealer.

To cancel **Remote Monitor**, press any button on the radio.

Note: Remote monitor automatically ceases after one transmit and one receive cycle.

Notes

PASSPORT TRUNKING

PassPort is an enhanced, wide-area trunking protocol developed by Trident Micro Systems. Up to 128 trunked sites can be linked together to form one PassPort system, which means that your communications can extend far beyond the reach of a single trunked site.

SEAMLESS ROAMING

PassPort Trunking systems offer you the ability to seamlessly roam among all sites in a network. Seamless Roaming means that you do not have to manually change the zones on the radio when roaming from site-to-site. As you roam throughout a PassPort System's coverage area, your CDM1550•LS⁺ radio is regularly monitoring the RSSI (Received Signal Strength Indication) level of the site on which you are currently registered. In addition, if the signal strength falls below the acceptable threshold pre-programmed by your dealer, your radio starts monitoring the RSSI level of adjacent sites within the network. This allows the CDM1550•LS⁺ radio to quickly roam to the site with the strongest signal, which provides

you with optimal audio quality throughout your communications.

Initial Registration

Before communications with your talkgroup can begin, your radio needs to register on the PassPort system. Registration automatically takes place upon radio power up or after selecting the desired PassPort zone on the selector knob. What you see:

- 1 Upon radio Power up, you see:
(if you select a PassPort zone after the radio is powered up, see step 2).

PASSPORT

- 2 The selected **PassPort zone alias** appears on the display.

ZONE ALIAS

- 3 The selected **Talkgroup Alias** appears on the display.

TLKGRP ALIAS

Note: If the radio performs a more extensive frequency search in order to attempt successful registration, you may see on the display:

SEARCHING

- 4 Upon successful PassPort Registration, you see:

REG SITE XXX

Note: Your radio sounds a “Low-High” tone upon successful PassPort System registration. The XXX number indicates the site within the PassPort system on which you have registered.

5

TLKGRP ALIAS

After successfully registering at a site, the selected PassPort talkgroup alias appears and remains on the display.

Roaming and Registering Between Sites

Once initial registration with the PassPort system has occurred, your radio constantly monitors the RSSI to ensure an acceptable signal level is maintained (as programmed by your dealer). When the RSSI in the radio falls below this acceptable level, the CDM1550•LS⁺ attempts to roam to and register onto another site within the PassPort system.

This process happens automatically and requires no action by you. What you see:

- 1 When the radio is searching for a new site or attempting successful registration to a site, you see on the display:

SEARCHING

Note: This message is displayed until successful registration.

- 2 When the radio has successfully registered to the new PassPort System, XXX indicates the site number you see on the display.

REG SITE XXX

- 3 The selected PassPort talkgroup alias appears and remains on the display.

TLKGRP ALIAS

SITE/MIN VIEW

There may be circumstances when you want to view the number of the PassPort site on which you are registered as well as your Mobile Identity Number (MIN).

To Start And Stop Viewing Site/MIN

- 1 Press the preprogrammed **SITE/MIN View** button (see page 26).

The display shows the number of the site on which you are currently registered.

site now XXX

Note: If the preprogrammed button is activated prior to or during registration, a bad key chirp is sounded and you see on the display:

site now n/a

The display indicates the Home Site Number (HSID) and Mobile Identity Number.

IAM XXX-YYYYY

XXX indicates the HSID, YYYYY indicates the MIN.

Note: This message can be activated if the radio is not registered.

ROAM REQUEST

Because of the RSSI feature, the CDM1550•LS⁺ radio automatically roams to a different site when the signal from the registered site becomes too weak for quality communication. This RSSI threshold is programmed by your dealer. However, if you believe the signal strength would be better on another site, you may want to manually initiate the roaming process. This feature is called Roam Request.

To Start a Roam Request

- 1 Press the preprogrammed **Roam Request** button (see page 25).
- 2 When the radio is searching for a new site or attempting successful registration to a site, you see on the display:

SEARCHING

- 3 When the radio has successfully registered to the new PassPort System, you see on the display:

REG SITE XXX

Note: A bad key chirp may sound and you see on the display:

Roam Not Avail

- When registration to a site with a higher RSSI than your current site is unavailable.
- When the preprogrammed button is pressed before the radio has collected its “neighbor list”. A Neighbor list” is a list of frequencies from adjoining sites within the PassPort system that are used during the roam process.
- When the radio is programmed for a single home system.

In these cases, wait a few seconds and try again.

- 4 The selected PassPort talkgroup alias appears and remains on the display:

TLKGRP ALIAS

To Cancel a Roam Request

- 1 Press and hold the preprogrammed **Roam Request** button (see page 25) again.

You see:

Cnc1 Roam Req

Note: The radio then attempts to return to the previously registered site.

TROUBLESHOOTING

While in PassPort zones, there are some specific display messages that indicate you should contact your dealer for assistance.

Message	What it Means
"Invalid Group ID"	Your dealer needs to verify talk-group programming in your radio or the PassPort system.
"DISABLED"	Your radio requires reactivation on the PassPort system (not applicable to conventional and LTR functionality).
Blank display upon power up .	Your radio needs to be returned to your dealer for reactivation or service.

Notes:

RADIO CALLS

MAKING A SELECTIVE CALL (LTR TRUNKED AND CONVENTIONAL OPERATION ONLY)

You can make a selective call to a particular radio or to a group of radios, as programmed by your dealer.

To Make a Selective Call

Press the preprogrammed **Radio Call** button (see page 25), and proceed to step 4.

—or—

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—

Enter with the DTMF microphone the ID number of the radio you want to call.

7 Press the **PTT** button to send the call.

- The radio sounds a continuous tone, if programmed by your dealer.
- The LED lights a solid yellow.

8 Press the **PTT** button and talk; release the **PTT** button to listen.

If not received, you see:

No Acknowledge

9  to return to **Selective Call**

—or—

Hold down  to exit menu mode.

RECEIVING A SELECTIVE CALL 🎵 (LTR TRUNKED AND CONVENTIONAL OPERATION ONLY)

When you Receive a Selective Call

- The display shows 🎵 and the preprogrammed name or ID of the calling radio.
- The LED indicator flashes yellow, if programmed by your dealer.
- You hear an alert tone.

To answer the call, press the **PTT** button.

Note: Unless you make a Selective Call back to the caller, your response is heard by all members of your talkgroup.

SENDING A CALL ALERT PAGE (LTR TRUNKED AND CONVENTIONAL OPERATION ONLY)

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

To Send a Call Alert Page

Press the preprogrammed Radio Call button (see page 25) and proceed to step 4:

1  to enter menu mode.

2  or  until

Radio Call

3  to select

Radio Call

4  or  until

Call Alert

5  to select

Call Alert

6  or  to locate the desired ID in the Radio Call List.

—or—

Enter with the DTMF microphone the ID number of the radio you want to page.

7 Press the **PTT** button.

You see:

Call in Prog

and the preprogrammed name or ID alternating on the display.

- The LED alternates between a solid yellow and solid red while the call is in process.

- 8** If the Call Alert page is received by the target radio, you see:

Acknowledge

If not received,
you see:

No Acknowledge

- The radio sounds a short alert tone if, programmed by your dealer.

- 9**  to return to

Call Alert

—or—

Hold down  to exit menu mode.

RECEIVING A CALL ALERT PAGE (LTR TRUNKED AND CONVENTIONAL OPERATION ONLY)

When You Receive a Call Alert Page

- The display shows  **Call Received** and the preprogrammed name or ID of the calling radio.
- You hear four alert tones, either once or continuously, as programmed by your dealer.
- The LED indicator flashes a single yellow for a group call, or flashes a double yellow for an individual call.

To answer the page, press the **PTT** button; to cancel the page, press any other button.

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

RADIO CHECK (LTR TRUNKED AND CONVENTIONAL OPERATION ONLY)

Radio Check allows you to determine if a radio is within the range of the trunked system and turned on, without disturbing the user of that radio. This feature can also be used when attempts with Selective Call and Call Alert fail.

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–
 Enter the ID number of the radio you are checking.

- 7 Press the **PTT** button,

you see:

Call In Prog

- 8 If the Radio Check is received by the target radio, you see:

Acknowledge

If not received, you see:

No Acknowledge

- 9  to return to

Radio Call

–or–

Hold down  to exit menu mode.

SENDING A STATUS (CONVENTIONAL OPERATION ONLY)

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 
- 3  to select 
- 4  or  to locate the desired status in the preprogrammed list.
 –or–
 when using the enhanced keypad microphone only,
 enter the number of the status you wish to send.
 –or–
 if programmed by your dealer (see page 27),
 press the button that has been preprogrammed for a specific status.

Note: You cannot retransmit the current status update.

SENDING A MESSAGE (CONVENTIONAL OPERATION ONLY)

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 
- 3  to select 

- 4  or  to locate the desired message in the preprogrammed list.
 –or–
 when using the enhanced keypad microphone only,
 enter the number of the message you wish to send.
 –or–
 if programmed by your dealer (see page 27),
 press the button that has been preprogrammed for a specific message.
-

RECEIVING A MESSAGE (CONVENTIONAL OPERATION ONLY)

When your radio receives a message:

- You hear two alert tones.
- The yellow LED indicator flashes.
- You see: 
 alternating with the preprogrammed alias.

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



and



RESPONDING TO EMERGENCY ALERTS (CONVENTIONAL OPERATION ONLY)

Your radio offers choices for initiating and responding to Emergency Alert communications. Choices may include:

- Emergency Cycles** - Allows the radio to automatically cycle between transmit and receive mode over a preprogrammed number of times by keying with voice after it

has received an Acknowledge to the alarm you send. The default number of transmits is one (10, maximum); the default value of the retransmit interval is 5 seconds (one, minimum; 60, maximum).

- **Emergency Alarm/Call** - Gives you access to a voice resource, on a priority basis, over all other types of call traffic.
- **Emergency Remote Monitor** - Enables the dispatcher to activate the transmit circuit of your radio, during an Emergency, to hear the situation through your microphone. See page 53 for more about sending an Emergency Remote Monitor.
- **Remote Monitor** - Enables the dispatcher to activate the transmit circuit of your radio, during a normal dispatch, to hear the situation through your microphone. See page 54 for information about sending a Remote Monitor.

Note: All the choices listed above are dealer preprogrammed. See your dealer for more details.

Decoding an Emergency Alarm (Conventional Operation Only)

If preprogrammed by your dealer, your radio decodes (responds to) an Emergency Alarm or Emergency Call by:

- Sounding a unique, repeating alert tone
- Activating an external alarm
- Displaying alternating message parts on a single line, similar to the following example:

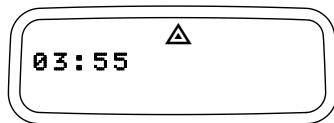


- the word **Emergency**, followed by:



- Emergency Alias from the Radio Call List (example, **MDC CALL 01**), followed by:

- Timestamp of the Emergency Alert (example, **03:55**).



- Flashing the ▲ icon (while decoding only; lights steady when encoding)

Multiple Queued Emergencies

Clearing the existing displayed Emergency shows the next in the queue, if one exists. The display updates and shows “Emerg (queued number) of (total number)”. If no additional Emergencies are queued, the radio exits Emergency mode and resumes normal mode.

Three Minute Timer

Responding to an Emergency starts a three-minute timer. The radio does not generate another Emergency Alert tone against that Emergency Alias or ID until the three-minute period expires. If cleared within 3 minutes, the alarm will regenerate the alert. If the radio receives another Emergency Alert from the same Alias or ID, the radio acknowledges the Emergency but does not restart the tone,

activate the external alarm, or display updated information.

After the Timer Expires

If the three-minute timer has expired for a specific Emergency Alias or ID, and the radio decodes an Emergency that is currently in queue, the radio:

- Acknowledges the Emergency
- Restarts the Emergency Alert tone
- Activates the external alarm
- Updates the time stamp on the matching Emergency

Note: If the Radio Call List does not include an alias for the radio ID, the ID displays. Radios that do not support the signaling protocol sound the alert tone, activate the external alarm and display data.

CLEARING AN EMERGENCY ALERT (CONVENTIONAL OPERATION ONLY)

To Clear an Emergency Alert

- 1 Press any button on the radio to cancel the Emergency Alert tone.
- 2 Press (or activate) an external push button or foot switch.

Note: You must press an external switch to clear the visible Emergency Alias and display the next queued Emergency Alias, if present. You must clear all decoded Emergency Alerts before encoding (sending) your own Emergency Alert.

SENDING AN EMERGENCY REMOTE MONITOR (CONVENTIONAL OPERATION ONLY)

As your radio responds to an Emergency Alert, only the Emergency Queue menu is available.

To Access the Emergency Queue Menu

- 1  to enter Menu Mode.

- 2 The radio displays the list of aliases currently in the Emergency queue, similar to that shown, oldest to newest.

MDC CALL 01

- 3  or  to view the next oldest Emergency Remote Monitor packet and to choose the packet to send.
- 4 Press the PTT to send the packet.

SENDING AN EMERGENCY ALERT (CONVENTIONAL OPERATION ONLY)

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

- A button preprogrammed by your dealer (see page 27).
- The foot switch
- A push button accessory

Emergency Alerts have priority over all other calls.

The  symbol appears 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 the normal display
–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 preprogrammed **Emergency** button.

SENDING A REMOTE MONITOR

The Remote Monitor gives the ability to activate the transmit circuit of your radio – both silently and normally – and key it. The Remote Monitor feature depends on how your radio responds to the Remote Monitor Command. Upon receiving a Remote Monitor Command, the radio:

1. Keys the transmitter.
2. Acknowledges the command
3. Sends the PTT-ID
4. Activates the microphone.

Note: If a remote microphone is attached, it responds.

Remote Monitor capability depends on which of two modes are preprogrammed:

- **Silent Mode** – When the command is sent in Silent Mode, and the receiving radio keys and transmits for the time set by the Remote Monitor Command, the receiving radio will not generate an indicator of the event.
- **Non-Silent Mode** – When the command is sent in Non-Silent Mode, and the receiving radio keys and transmits for the time set by

the Remote Monitor Command, the receiving radio will generate an indicator of the event.

The amount of time that the radio remains in receive mode or in transmit mode is set by the Remote Monitor Command and the time settings in the radio. When in this state, touching any button on the radio takes it out of the Remote Monitor mode. See your dealer for more details.

SELECTIVE RADIO INHIBIT (LTR TRUNKED AND CONVENTIONAL OPERATION ONLY)

Your radio is equipped with a security feature that can temporarily render the unit inoperative when an inhibit signal is sent from a device that supports Selective Inhibit Encode.

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 by the base station, all controls will be inoperative except for the On/Off button. When the radio is powered up,

You see:

Radio Disabled

EDITING A RADIO CALL LIST (LTR TRUNKED AND CONVENTIONAL OPERATION ONLY)

Your radio has a Radio Call list that contains the names and radio IDs of several talkgroups or individuals. The ID numbers in the Radio Call List are programmed by your dealer, and cannot be changed from your radio. However, you can edit the names associated with these IDs. The  symbol appears on the display when you are editing.

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

To Edit a Call List Entry

1  to enter menu mode.

2  or  until

Program Lists

- 3 to select Program Lists
 - 4 or until RadioCall List
 - 5 to select RadioCall List
 - 6 or until Edit Entry?
 - 7 to select Edit Entry?
 - 8 or until you locate the desired entry.
 - 9 to select the entry.
 - 10 Use your keypad to edit the entry.
 - 11 to save your changes. Edit Entry?
 - 12 to return to Edit Entry?
- or—
Hold down to exit menu mode.

NAME AND CALL TONE TAGGING (LTR TRUNKED AND CONVENTIONAL OPERATION ONLY)

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

Note: Name and call tone tagging are valid only for selective calls and call alerts.

There are seven alert tones to select from.
(see page 87.)

To Tag a Specific User's Name

- 1 to enter menu mode.
- 2 or until Name Tone Tag
- 3 to select Name Tone Tag
- 4 or until you see the name you want to tag.
- 5 to confirm the selection.

6  or  until you see and hear the tone you want to use for this name.

7  to confirm the selection,

you see:

Name Tone Set

8  to return to

Name Tone Tag

–or–

Hold down  to exit menu mode.

To Tag a Type of Radio Call

1  to enter menu mode.

2  or  until

Audio/Tones

3  to select

Audio/Tones

4  or  until

Call Tone Tag

5  to select

Call Tone Tag

6  or  until you see the call type you want to tag.

7  to confirm the selection.

8  or  until you see and hear the tone you want to use for this type of call.

9  to confirm the selection,

you see:

Call Tone Set

10  to return to

Call Tone Tag

–or–

Hold down  to exit menu mode.

Notes:

SCAN

Your radio is equipped with the Scan feature, which allows you to search for, lock onto, and monitor voice activity on trunked talkgroups and conventional channels.

There are five types of Scan available in your radio:

- Auto Group Scan
- All Group Scan
- PassPort Primary Auto Scan
- PassPort Group Scan
- System Scan

The table below summarizes the Scan types available in each zone type.

Zone	PassPort Primary Auto Scan	Pass-Port Group Scan	LTR Auto Group Scan	LTR All Group Scan	System Scan
PassPort Trunked	X	X			
LTR Trunked			X	X	X

Zone	PassPort Primary Auto Scan	Pass-Port Group Scan	LTR Auto Group Scan	LTR All Group Scan	System Scan
Conventional					X

Shaded areas indicate that Scan can be enabled through a programmable button (see page 20) or through your radio menu.

TALKBACK

When activity is detected during any type of scan, scanning stops and the active talkgroup or channel appears and remains on the display until scanning resumes. Your dealer can program the amount of time you can respond (or "TALKBACK") to the caller before your radio resumes scanning.

You must press the **PTT** button to participate in the call; otherwise, scanning continues to the other talkgroups or channels.

PASSPORT PRIMARY AUTO GROUP SCAN

(PASSPORT TRUNKED OPERATION ONLY)

PassPort Primary Auto Group Scan automatically scans the primary (first) talkgroup within the selected PassPort zone. Any time you are positioned on a PassPort talkgroup other than the first one, your radio automatically scans activity on the first talkgroup within that zone.

Note: This feature is enabled AUTOMATICALLY with your radio. It is not enabled through the radio menu or through a preprogrammed scan button.

PASSPORT GROUP SCAN

(PASSPORT TRUNKED OPERATION ONLY)

PassPort Group Scan scans talkgroups within the selected PassPort trunked zone, as programmed by your dealer. Up to 16 different talkgroups can be programmed into each Scan list, with one Scan list assigned to each position on the **Zone Selector**. You can edit these Scan lists through your radio's menu (see page 64).

When PassPort Group Scan is Enabled

- The  symbol appears on the display.
- The LED indicator blinks green during PassPort Group Scan operation; it stops blinking when the radio switches to an active talkgroup or channel.

Note:

- PassPort Group Scan is not available when registered on a non-home site.
- If you switch to another PassPort zone, LTR, or conventional zone while the radio is scanning, scanning resumes upon return to the PassPort zone where PassPort Group Scan was enabled.
- If the radio is turned off while scanning, the radio resumes scanning when you turn it back on. If the radio registers on a non-home site, scanning is not enabled until the radio registers at its home site.

To Start or Stop PassPort Group Scan Operation through a Preprogrammed Button (see page 20)

- Press the preprogrammed **Scan** button to start PassPort Group Scan.
- Press the preprogrammed **Scan** button again to stop the PassPort Group Scan.

—or—

To Start or Stop PassPort Group Scan Operation through the Menu

1  to enter menu mode.

2  or  until **Pass Grp Scan**

3  to select **Pass Grp Scan**

You see the current scan status.

4  or  until **PpGp Scan Off?**

—or—

PpGp Scan On?

5  to confirm your selection.

AUTO GROUP SCAN (LTR TRUNKED OPERATION ONLY)

Auto Group Scan automatically scans talkgroups within an LTR zone as programmed by your dealer. Auto Group Scan can be either non-prioritized or prioritized.

- Non-prioritized Auto Group Scan automatically scans all talkgroups programmed with Auto Group Scan.
- Prioritized Auto Group Scan automatically scans the selected talkgroup and all lower 4-numbered talkgroups. For example, if talkgroups 1, 3, and 4 have been programmed by your dealer with Auto Group Scan and talkgroup 4 is selected, the radio automatically scans talkgroups 1, 3, and 4, and skips talkgroup 2.

To Start Auto Group Scan

Select a talkgroup that has been programmed for Auto Group Scan by your dealer.

Note: You do not need to press a preprogrammed **Scan** button.

- The  symbol appears on the display when non-prioritized Auto Group Scan has been activated.
- The  symbol appears on the display when prioritized Auto Group Scan has been activated.
- There is no LED indicator during Auto Group Scan.

To Stop Auto Group Scan

Select a talkgroup that has not been programmed for Auto Group Scan by your dealer.

ALL GROUP SCAN (LTR TRUNKED OPERATION ONLY)

All Group Scan scans all talkgroups within the selected LTR trunked zone.

When All Group Scan is enabled:

- The  symbol appears on the display.
- The LED indicator blinks green during All Group Scan operation; it stops blinking when the radio switches to an active talkgroup.

Note: If you enter menu mode while the radio is scanning, scanning stops. It resumes when you exit menu mode.

To Start or Stop All Group Scan Operation through a Preprogrammed Button (see page 20)

- Press the preprogrammed All Group Scan button once to start All Group Scan.
- Press the preprogrammed All Group Scan button again to stop All Group Scan.

—or—

To Start or Stop All Group Scan Operation Through the Menu

1  to enter menu mode.

2  or  until **All Group Scan**

3  to select **All Group Scan**

You see the current scan status.

4  or  until **All Group On?**

—or—

All Group Off?

5  to confirm your selection.

SYSTEM SCAN

(LTR TRUNKED AND CONVENTIONAL OPERATION ONLY)

System Scan scans trunked talkgroups and conventional channels between LTR and conventional zones, as programmed by your dealer. Up to 16 different talkgroups or conventional channels can be programmed into each Scan list. You can edit these lists through your radio's menu (see page 64).

When System Scan is Enabled

- The  symbol appears on the display.
- The LED indicator blinks green during System Scan operation; it stops blinking when the radio switches to an active talkgroup or channel.

Note: If you enter menu mode while the radio is scanning, scanning stops. It resumes when you exit menu mode.

To Start or Stop a System Scan Operation

Press the preprogrammed **Scan** button (see page 20) to start or stop scanning,

—or—

Do the following:

1  to enter menu mode.

2  or  until **System Scan**

3  to select **System Scan**

You see the current scan status.

4  or  until **Sys Scan On?**

—or— **Sys Scan Off?**

5  to confirm your selection.

Note: In conventional zones only, if there is activity on a non-priority channel, the radio disconnects the user from the current conversation and automatically switches to an active priority channel. This is indicated with a short alert tone.

DELETING A NUISANCE CHANNEL/ TALKGROUP

(PASSPORT GROUP SCAN OR SYSTEM SCAN OPERATION ONLY)

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

To Temporarily Delete the Channel/ Talkgroup

- 1 While the radio’s receiving activity is on the nuisance channel, press and hold the **Scan** button until you hear a high-pitched tone (valid key press).
- 2 Release the **Scan** button. The nuisance channel has been temporarily deleted from your Scan list.

Note: In PassPort mode, you cannot delete a priority channel/talkgroup (see page 66), or the currently selected talkgroup in a Scan list.

Restoring a Channel/Talkgroup Back to the Scan List

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

Note: In PassPort mode, the talkgroup can also be restored by scrolling through the list, or switching the current selected talkgroup or zone

EDITING A SCAN LIST

(PASSPORT GROUP SCAN OR SYSTEM SCAN OPERATION ONLY)

One Scan list is assigned to each of the 16 positions on the **Zone Selector**. Each Scan list can contain up to 16 talkgroups and/or channels. The same talkgroup or channel can be included in several Scan lists, and the same Scan list can be assigned to several **Zone Selector** positions.

When you edit a Scan list, you can either add, delete, or prioritize talkgroups or channels.

Note: In PassPort mode, talkgroups cannot be prioritized.

Your radio cannot receive any calls while you are editing a Scan list. The  symbol is displayed while you are in edit mode.

Note: In Conventional operation only, even if there is activity on a non-priority channel, your radio automatically switches to an active priority channel and indicates the activity with a short tone.

ADDING OR DELETING TALKGROUPS OR CHANNELS IN A SCAN LIST

1  to enter menu mode.

2  or  until **Program Lists**

3  to select **Program Lists**

4  or  until **Scan List**

Note: One Scan list per mode of operation is available.

5  to select **Scan List**

6  or  until **Add Entry?**

or until **Delete Entry?**

7  to confirm your selection.

8  or  until you see the talkgroup or channel you want to add or delete.

Note: You cannot delete the Primary talkgroup or your selected talkgroup off a Scan List in PassPort mode.

9  to confirm your selection.

10 If you added a talkgroup or channel,

you see: **Entry Saved**
—or—

If you delete a talkgroup or channel,

you see: **Delete?**

 to confirm the deletion.

you see: **Entry Deleted**

11  to return to Add Entry?

to return to Delete Entry?
 –or–

Hold down  to exit menu mode.

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

Note: In Conventional operation only, even if there is activity on a non-priority channel, your radio automatically switches to an active priority channel and indicates the activity with a short tone.

PRIORITIZING A TALKGROUP OR CHANNEL IN A SCAN LIST (SYSTEM SCAN OPERATION ONLY)

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

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

Setting Priority Talkgroups or Channels

1  to enter menu mode.

2  or  until **Program Lists**

3  to select **Program Lists**

4  or  until **Scan List**

5  to select **Scan List**

6  or  until **Edit Priority?**

7  to select **Edit Priority?**

8  or  until **Priority #1?**

or until **Priority #2?**

You see the current priority talkgroup or channel.

9  to select the desired priority level.

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

11  to prioritize that talkgroup or channel.

12  to return to **Edit Priority?**

–or–

Hold down  to exit menu mode.

Note: You cannot reprioritize a priority 1 talkgroup or channel to priority 2.

Notes

PHONE

Your radio allows you to place and receive telephone calls through trunked and conventional systems (depending on phone line availability). Telephone calls through a repeater allow only one person to speak at a time.

MAKING A PHONE CALL ① THROUGH A TRUNKED SYSTEM

Note: The following instructions assume your radio has been programmed as follows by your dealer using CPS (Customer Programming Software).

- Dial type: Live
- Access/Deaccess type: Immediate Auto
- Tone Span: Timed - 100 ms tone duration

To Initiate a Phone Call

Do the following:

- 1 Select a trunked zone and talkgroup that have been programmed for telephone.

- 2  to enter menu mode.

—or—

Press the preprogrammed radio or DTMF microphone **Phone** button, and skip to step 5.

—or—

- a. Press and release the **Speed Dial** button to use the speed dial feature.
- b. Press the (1 to 9) key corresponding to the number you want to call on the Phone list. Or press 0 if you want to call the last number dialed.
- c. Press the **PTT** button. A dial tone sounds.
- d. Press the **PTT** button again to send the phone number.

—or—

For LTR trunked systems, press and hold the **PTT** button while dialing a number.

- 3  or  until

Phone

- 4  to confirm

Phone

① appears on the display when you are in Phone mode.

5 Press and Release the **PTT** button.

- If phone access is successful, a dial tone sounds.
- If phone access is unsuccessful, a low-pitched alternating tone sounds. Disconnect the call (see step 8) and try again.

6 Enter the phone number with the DTMF microphone. The number is automatically sent without pressing the **PTT** button again.

—or—

 or  to select a number from the phone list.

xxx-xxx-xxxx

Press and release the **PTT** button again to send the number.

7 Hold the radio in a vertical position with the microphone 1 to 2 inches (2.5 to 5 cm) away from your mouth. Press the **PTT** button to talk; release it to listen.

8 To disconnect the phone call: Press and hold  to exit Phone.  no longer appears on the display.

MAKING A PHONE CALL THROUGH A CONVENTIONAL SYSTEM

To Initiate a Phone Call

Press the preprogrammed **Phone** button, and skip to step 5.

—or—

Press the **PTT** button, and if the Hot keypad feature has been programmed by your dealer, do the following:

- 1** Select a conventional zone and channel that have been programmed for telephone.

2  to enter menu mode.

3  or  until Phone

4  to select Phone

 appears on the display when you are in Phone Mode.

5 (For conventional operation with auto access only). You hear a series of tones, indicating that an access code is being sent automatically, and see your access code:

—or—

Enter your access code using the DTMF microphone keypad.

6 When you hear a dial tone:

Enter the phone number using the DTMF microphone keypad.

xxx-xxx-xxxx

—or—

 or  to select a number from the phone list.

—or— (see step 7)

xxx-xxx-xxxx

- 7
- Press and release the preprogrammed **Speed Dial** button (see step 6) to use the Speed Dial feature.
 - Press the key (1 to 9) 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), press and release the **PTT** button immediately after the access code is sent. The radio sends the last number dialed.

—or—

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

- 8 Press and release the **PTT** button, if required for your radio.
- 9 Hold the radio in a vertical position with the microphone 1 to 2 inches (2.5 to 5 cm) away from your mouth. Press the **PTT** button to talk; release it to listen.
- 10 To disconnect a phone call, do one of the following:
 Enter the deaccess code using the DTMF microphone keypad.
 –or–
 If your radio has the deaccess code programmed, go to step 9.
- 11 To exit Phone Mode:
 Press and hold  to disconnect the call.  disappears from the display.

RECEIVING A PHONE CALL

THROUGH A TRUNKED OR CONVENTIONAL SYSTEM

To Receive a Phone Call

- 1  or  to select a LTR talkgroup or conventional channel that has been programmed for telephone.

–or–

Activate any scan type containing a telephone talkgroup or channel (see page 59).

Note: No PassPort talkgroup or zone selection is needed in PassPort mode.

- When a phone call is received, a ringing tone sounds, alerting you to answer the phone call.

Note: The  also appears on the display in PassPort mode.

- 2 Press the **PTT** button to answer the phone call. Press the **PTT** button to talk; release it to listen.

- 3 To disconnect the phone call and exit Phone and menu mode:

Press and hold to disconnect the call.

Note: ① no longer appears on the display in PassPort mode.

MODIFYING THE PHONE LIST

Your radio contains a Phone list that holds up to 25 phone numbers. The Phone list is shared between trunked and conventional Phone operation. You can modify the Phone list in three ways through your radio's menu:

- Add an entry
- Delete an entry
- Edit an existing entry

The  symbol appears on the display when you are modifying the phone list.

To Add 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 **Add Entry?**
- 7  to select, **Add Entry?**
you see: **Entry Name**
- 8 Use the DTMF microphone keypad to enter the name (see page 23 and page 24).
- 9  to store the name,
you see: **Enter Phone #**

10 Use the DTMF microphone 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 store 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 see:

Entry Saved

14  to return to

Add Entry?

Hold down  to exit menu mode.

To Delete 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

Delete Entry?

7  to select

Delete Entry?

8  or  until you see the entry you want to delete.

9  to select the entry,

you see:

Delete?

10  again to confirm the deletion,

you see:

Entry Deleted

11  to return to
—or—

Delete Entry?

Hold down  to exit menu mode.

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?

(to edit the 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 DTMF microphone keypad to edit the entry (see page 19),

—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.

Notes

VOICE STORAGE

The CDM1550•LS⁺ radio's voice storage feature enables your radio to perform seven types of voice related functions:

- Incoming Call Recording
- Voice Memo Recording
- Recorded Message Playback
- Recorded Message Delete
- Recorded Message Transmission
- Automatic Message Reply ("When Available")
- Message Time Stamping

There is a total of 120 seconds recording time available for all voice storage activity. Your dealer can divide the 120 seconds into a defined number of equal length time slots. The following table summarizes the slot length options available with the CDM1550•LS⁺ radio:

Number of Equal Length Slots	Slot Length (Seconds)
1	120
2	60
5	24
10	12
20	6

When recording calls, keep in mind these time slot guidelines:

- As a time slot becomes close to full, you see a timer count down the final 5 seconds.

When a time slot is completely full, an alert tone sounds

The display shows:

Msg Slot Full

Recording stops.

- When all message slots have at least one message stored, an alert tone sounds.

If a voice storage record function is requested, the display shows:

Memory Full

INCOMING CALL RECORDING

The CDM1550•LS⁺ radio allows you to record incoming calls in either of two ways:

- Selective Incoming Call Recording
- All Incoming Call Recording

Note: Only the audio transmissions of your caller is recorded.

Selective Incoming Call Recording

This feature enables you to record incoming calls selectively, or on a call-by-call basis.

To Selectively Record an Incoming Call

- 1 Press and hold the preprogrammed **Record/Playback** button (see page 26) while receiving the call.

The display shows

Recording

A confirmation tone sounds, indicating that the radio begins recording.

- 2 The radio records the call until the message slot is full or until you release the preprogrammed **Record/Playback** button.
- 3 Release the **Record/Playback** button to stop recording.

All Incoming Call Recording

This feature enables you to automatically record all incoming trunked and conventional dispatch calls, trunked and conventional telephone interconnect calls, and MDC selective calls.

This feature is useful when you need to keep informed of channel activity while away from your radio.

Note: This feature does not work while in scan mode.

To Record All Incoming Calls

- 1  to enter menu mode.
- 2  or  until **Voice Storage**
- 3  to select **Voice Storage**
- 4  or  until **Record**
- 5  to select **Record**
- 6  or  until **All Incoming**
- 7  to select **All Incoming**
- 8 The display continuously flashes, except while a call is being recorded.

- 9 The display shows while your radio is recording.

Recording

The radio also records the time stamp and the channel alias to the message slot.

- 10 Press  to stop recording.

–or–

Go to step 1 again to continue recording in the next available slot.

Note: Five seconds before the message slot ends, the radio display shows

Time Left XX

(where XX = remaining seconds).

The “voice storage full” alert sounds when the message slot is full, and recording stops.

The display shows:

Msg Slot Full

VOICE MEMO RECORDING

In addition to recording calls received, the CDM1550•LS⁺ radio offers you the ability to record voice memos (or personal reminders) into the radio. The voice memo recording feature is useful for quickly saving phone numbers, names, or any other brief voice information. You can record voice memos using the preprogrammed **Record/Playback** button (see page 26) or your radio's menu.

Important Note:

To record properly, incoming calls cannot be received while a voice memo is being recorded.

To Record a Voice Memo using the Preprogrammed Record/Playback Button

- 1 Press and hold the preprogrammed **Record/Playback** button.
 - The display shows:

Recording

- A confirmation tone sounds, indicating that the radio begins recording.

- 2 Without pressing the **PTT** button, speak clearly into the microphone to record your memo. The radio records your memo until the message slot is full or until you release the preprogrammed **Record/Playback** button.

- 3 Release the **Record/Playback** button to stop recording.

To Record a Voice Memo using the Menu

- 1  to enter menu mode.

- 2  or  until **Voice Storage**

- 3  to select **Voice Storage**

- 4  or  until **Record**

- 5  to select **Record**

- 6  or  until **Voice Memo**

- 7  to select **Recording**

- 8 Without pressing the **PTT** button, speak clearly into the microphone to record your memo. The radio records your memo until the message slot is full or until you press .

Note: To stop recording at any time, press .

- 9 Press  to stop recording.

—or—

Repeat steps 7 and 8 to store additional messages.

RECORDED MESSAGE PLAYBACK

The CDM1550•LS⁺ allows you to list, select, and Playback previously recorded incoming call or voice memo messages. You can play back a message by using the preprogrammed **Record/Playback** button (see page 26) or your radio's menu.

Note: Recorded message **Playback** cannot be initiated while your radio is receiving. Also, you don't receive any incoming calls while you play back messages.

Playing Msg XXX

To Playback a Message using the Preprogrammed Record/Playback Button

- 1 Press and release the preprogrammed **Record/Playback** button.

- The first message plays, and the display shows (XXX = the message number)

Playing Msg XXX

- 2 To advance to the next message at any time during Play back, press and release the **Record/Playback** button again.

- 3 To exit/cancel Playback mode:

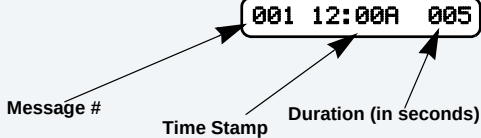
Press and release the preprogrammed **Playback Exit** button (see page 26).

—or—

Press  to stop Play Back.

To Playback a Message using the Menu

- 1  to enter menu mode.
- 2  or  until **Voice Storage**
- 3  to select **Voice Storage**
- 4  or  until **Playback**
- 5  to select **Playback**
- 6  or  until **001 12:00A 005**
- 7  to select **001 12:00A 005**


- 8  or  to select the desired message.
- 9 Press  to play the selected message.
- 10  or  anytime during playback to advance to the next message.

RECORDED MESSAGE DELETE

The CDM1550•LS⁺ radio allows you to delete previously recorded incoming call or voice memo messages. You can delete a message using either the preprogrammed **Delete Playback** button (see page 26) or your radio's menu.

Note: Messages must be deleted one at a time.

To Delete a Message using the Preprogrammed Delete Playback Button (see page 26)

- 1 Press and release the preprogrammed **Record/Playback** button.
- 2  or  to select the desired message.
- 3 Press and hold the preprogrammed **Delete Playback** button to delete current message.
- 4  to stop deleting messages.

To Delete a Message using the Menu

- 1  to enter menu mode.
- 2  or  until **Voice Storage**
- 3  to select **Voice Storage**
- 4  or  until **Delete**
- 5  to select **Delete**
- 6  or  to select the desired message.
- 7 Press  to delete the selected message.
- 8  or  to select the another message to be deleted, then go to step 7.
—or—
Press  to stop deleting messages.

RECORDED MESSAGE TRANSMISSION

This feature allows you to transmit a recorded message to another radio user.

To Transmit a Recorded Message

- 1 Press and hold the **PTT** button to initiate the message transmission.
- 2 While holding down the **PTT** button, press the preprogrammed **Record/Playback** button to select and play back the desired recorded call or memo.
- 3 When finished transmitting your message, press the **Record/Playback** button again to stop transmitting.

ANSWER MODE

The Answer Mode feature allows radio callers to leave recorded audio messages on your radio.

Note: This feature is available via the radio's menu and/or the radio or the DTMF microphone programmable button.

To Enable the Answer Mode Feature

- 1  to enter menu mode.
- 2  or  until **Voice Storage**
- 3  to select **Voice Storage**
- 4  or  until **Ans Mode On?**
- 5  to select **Ans Mode On**

To Record a Message

- 1  or  until **Record Msg**
- 2  to select **Greeting Msg?**

- 3  or  until **Alternate Msg?**

- 4  to select **Greeting Msg?**

The display shows: **Recording**

- 5 Without pressing the **PTT** button, speak clearly into the microphone to record your memo. The radio records your greeting until the message slot is full or until you press .

- 6 To exit or cancel recording, press .

With this feature enabled, the recorded message is automatically transmitted whenever your radio receives a call.

To Disable the Answer Mode Feature

1  to enter menu mode.

2  or  until **Voice Storage**

3  to select **Voice Storage**

4  or  until **Ans Mode Off?**

5  to select **Ans Mode Off**

Notes

AUDIO/TONE SETTINGS

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

- 1  to enter menu mode.
- 2  or  until 
- 3  to select 
- 4  or  until you see the feature you want to change (see the table on the next page).
- 5  to select the feature. You see the feature's current setting.
- 6  or  for available settings. (For Name and Call Tone Tagging, see page 56.)
- 7  to set the desired setting.

Audio/Tone Settings

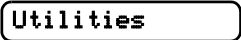
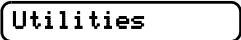
Feature	What it Does	Settings
Alert Vol Lvl	Makes the volume level of the audio and alert tones independent. If turned on, it makes the alert tones follow the settings in the CPS; if turned off, the alert tones follow the setting of the volume knob.	Ind Alert Off Ind Alert On
Tone Disable	Turns all alert and audio tones on or off.	Tones On Tones Off
Name and Call Tone Tagging ‡§	Assigns a specific ring tone when receiving a call from a specific user (see page 56 for details).	Standard Alert #1 – #7
Call Tone Tag ‡§	Assigns a specific tone when receiving a specific type of radio call (see page 56 for details).	Standard Alert #1 – #7
Escalert ‡	Increases the volume of the alarm tones when a radio call is not answered.	Escalert On Escalert Off
Companding	Provides the same audio quality for 12.5 kHz and for 25 kHz channels.	Compand On Compand Off

‡ LTR trunking operation only.

§ Conventional operation only.

UTILITIES

You can customize some of your radio's feature 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 on the next page).
- 5  to select the feature. You see the feature's current setting.
- 6  or  for available settings.
- 7  to select the desired setting.

Utilities Features

Feature	What it Does	Settings
Power Level	Changes the power level of the radio to high, low (see page 91).	Power High Power Low
Clock	Sets the time, or turns the clock on or off (see page 92).	Clock On Clock Off Set Time
Reminder Alarm	Sets the alarm, or turns it on or off (see page 92).	Alarm On Alarm Off Set Time
Language Selection § ‡	Selects the language to be shown on your radio's displays.	English Spanish Portuguese French
Software Ver #	In LTR trunked and conventional operation, displays the radio's software version number when you press . In PassPort operation, displays the PassPort software version number when you press . Note: The LTR and conventional software version number may be different than the PassPort software version number.	—

§ Conventional Operation only.

‡ LTR Trunked Operation only.

SETTING THE POWER LEVEL **L**/**H**

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

- *High power* (**H**) allows you to reach a radio that is farther away.
- *Low power* (**L**) conserves the battery's charge.

Note:

- Be aware that a message received from a nearby radio might change your radio's power level to low. This may cause radios that are farther away not to receive your transmissions.
- In PassPort mode, the power level is predefined radio wide.

To set the power level:

Press the preprogrammed **Power Level** button (see page 25) to toggle between *low* and *high*,
–or–

Do the following:

1  to enter menu mode.

2  or  until

Utilities

3  to select

Utilities

4  or  until

Power Level

5  to select

Power Level

The display shows the current power level.

6  or  until

Power High?

or until

Power Low?

7  to confirm the selection.

SETTING THE CLOCK/ALARM

To Set the Clock/Alarm

1 to enter menu mode.

2 or until **Utilities**

3 to select **Set time?**

4 or until **Clock**

or until **Reminder Alarm**

5 to confirm your selection.

6 or until **Set time?**

7 to select **Set time?**

8 When a setting is blinking, you can change it with or .

Hour (AM or PM) → **3:05 PM**
Minutes → (AM/PM or 24 hr)

Note: You cannot select "24 hr" for

Reminder Alarm

9 or to move to the previous or next setting.

10 to save your changes.

11 to return to **Utilities**

—or— to return to **Reminder Alarm**

—or— **Clock**

—or—

Hold down to exit menu mode.

DISPLAYING THE TIME

To Display the Time

- 1  to enter menu mode.
- 2  or  until **Utilities**
- 3  to select **Utilities**
- 4  or  until **Clock**
- 5  to confirm your selection.
- 6  or  until **Display Clock?**
- 7  to select **Display Clock?**
The radio displays the time for a pre-programmed duration.
- 8  to exit the menu.

SELECTING THE DISPLAY LANGUAGE

(LTR TRUNKED AND CONVENTIONAL OPERATION ONLY)

To Select the Display Language

- 1  to enter menu mode.
- 2  or  until **Utilities**
- 3  to select **Utilities**
- 4  or  until **Language Select**
- 5  to confirm your selection.
- 6  or  until the desired language is displayed.
- 7  to confirm your selection.
- 8  to exit the menu.

Notes

WARRANTY

LIMITED WARRANTY MOTOROLA COMMUNICATION PRODUCTS

I. WHAT THIS WARRANTY COVERS AND FOR HOW LONG:

MOTOROLA INC. ("MOTOROLA") warrants the MOTOROLA manufactured Communication Products listed below ("Product") against defects in material and workmanship under normal use and service for a period of time from the date of purchase as scheduled below:

CDM1550•LS⁺ Mobile Units Two (2) Years

Product Accessories One (1) Year

Motorola, at its option, will at no charge either repair the Product (with new or reconditioned parts), replace it (with a new or reconditioned Product), or refund the purchase price of the Product during the warranty period provided it is returned in accordance with the terms of this warranty. Replaced parts or boards are warranted

for the balance of the original applicable warranty period. All replaced parts of Product shall become the property of MOTOROLA.

This express limited warranty is extended by MOTOROLA to the original end user purchaser only and is not assignable or transferable to any other party. This is the complete warranty for the Product manufactured by MOTOROLA.

MOTOROLA assumes no obligations or liability for additions or modifications to this warranty unless made in writing and signed by an officer of MOTOROLA. Unless made in a separate agreement between MOTOROLA and the original end user purchaser, MOTOROLA does not warrant the installation, maintenance or service of the Product.

MOTOROLA cannot be responsible in any way for any ancillary equipment not furnished by MOTOROLA which is attached to or used in connection with the Product, or for operation of the Product with any ancillary equipment, and all such equipment is expressly excluded from this warranty. Because each system which may use the Product is unique, MOTOROLA disclaims liability for range, coverage, or operation of the system as a whole under this warranty.

II. GENERAL PROVISIONS:

This warranty sets forth the full extent of MOTOROLA'S responsibilities regarding the Product. Repair, replacement or refund of the purchase price, at MOTOROLA's option, is the exclusive remedy. THIS WARRANTY IS GIVEN IN LIEU OF ALL OTHER EXPRESS WARRANTIES. IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO THE DURATION OF THIS LIMITED WARRANTY. IN NO EVENT SHALL MOTOROLA BE LIABLE FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT, FOR ANY LOSS OF USE, LOSS OF TIME, INCONVENIENCE, COMMERCIAL LOSS, LOST PROFITS OR SAVINGS OR OTHER INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE SUCH PRODUCT, TO THE FULL EXTENT SUCH MAY BE DISCLAIMED BY LAW.

III. STATE LAW RIGHTS:

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL

OR CONSEQUENTIAL DAMAGES OR LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION OR EXCLUSIONS MAY NOT APPLY.

This warranty gives specific legal rights, and there may be other rights which may vary from state to state.

IV. HOW TO GET WARRANTY SERVICE:

You must provide proof of purchase (bearing the date of purchase and Product item serial number) in order to receive warranty service and, also, deliver or send the Product item, transportation and insurance prepaid, to an authorized warranty service location. Warranty service will be provided by Motorola through one of its authorized warranty service locations. If you first contact the company which sold you the Product (e.g., dealer or communication service provider), it can facilitate your obtaining warranty service. You can also call Motorola at 1-800-927-2744 US/Canada.

V. WHAT THIS WARRANTY DOES NOT COVER:

- A) Defects or damage resulting from use of the Product in other than its normal and customary manner.
- B) Defects or damage from misuse, accident, water, or neglect.
- C) Defects or damage from improper testing, operation, maintenance, installation, alteration, modification, or adjustment.
- D) Breakage or damage to antennas unless caused directly by defects in material workmanship.
- E) A Product subjected to unauthorized Product modifications, disassembles or repairs (including, without limitation, the addition to the Product of non-Motorola supplied equipment) which adversely affect performance of the Product or interfere with Motorola's normal warranty inspection and testing of the Product to verify any warranty claim.
- F) Product which has had the serial number removed or made illegible.
- G) Rechargeable batteries if:
 - 1) any of the seals on the battery enclosure of cells are broken or show evidence of tampering.

- 2) the damage or defect is caused by charging or using the battery in equipment or service other than the Product for which it is specified.
- H) Freight costs to the repair depot.
- I) A Product which, due to illegal or unauthorized alteration of the software/firmware in the Product, does not function in accordance with MOTOROLA's published specifications or the FCC type acceptance labeling in effect for the Product at the time the Product was initially distributed from MOTOROLA.
- J) Scratches or other cosmetic damage to Product surfaces that does not affect the operation of the Product.
- K) Normal and customary wear and tear.

VI. PATENT AND SOFTWARE PROVISIONS:

MOTOROLA will defend, at its own expense, any suit brought against the end user purchaser to the extent that it is based on a claim that the Product or parts infringe a United States patent, and MOTOROLA will pay those costs and damages finally awarded against the end user purchaser in any such suit which are attributable to any such claim, but such defense and payments are conditioned on the following:

- A) that MOTOROLA will be notified promptly in writing by such purchaser of any notice of such claim;
- B) that MOTOROLA will have sole control of the defense of such suit and all negotiations for its settlement or compromise; and
- C) should the Product or parts become, or in MOTOROLA's opinion be likely to become, the subject of a claim of infringement of a United States patent, that such purchaser will permit MOTOROLA, at its option and expense, either to procure for such purchaser the right to continue using the Product or parts or to replace or modify the same so that it becomes non-infringing or to grant such purchaser a credit for the Product or parts as depreciated and accept its return. The depreciation will be an equal amount per year over the lifetime of the Product or parts as established by MOTOROLA.

MOTOROLA will have no liability with respect to any claim of patent infringement which is based upon the combination of the Product or parts furnished hereunder with software, apparatus or devices not furnished by MOTOROLA, nor will MOTOROLA have any liability for the use of ancillary equipment or software not furnished by MOTOROLA which is attached to or used in

connection with the Product. The foregoing states the entire liability of MOTOROLA with respect to infringement of patents by the Product or any parts thereof.

Laws in the United States and other countries preserve for MOTOROLA certain exclusive rights for copyrighted MOTOROLA software such as the exclusive rights to reproduce in copies and distribute copies of such Motorola software. MOTOROLA software may be used in only the Product in which the software was originally embodied and such software in such Product may not be replaced, copied, distributed, modified in any way, or used to produce any derivative thereof. No other use including, without limitation, alteration, modification, reproduction, distribution, or reverse engineering of such MOTOROLA software or exercise of rights in such MOTOROLA software is permitted. No license is granted by implication, estoppel or otherwise under MOTOROLA patent rights or copyrights.

VII. GOVERNING LAW:

This Warranty is governed by the laws of the State of Illinois, USA.

ACCESSORIES

Motorola offers a number of accessories to enhance the productivity of your two-way radio. Many of the available accessories are listed below. For a complete list, see your Motorola dealer.

MICROPHONES

AARMN4025_	Standard Compact Microphone
AARMN4026_	Enhanced DTMF Keypad Microphone
AARMN4038_	Heavy Duty Microphone
AAREX4617_	Telephone Style Handset with Hang-Up Cup
HLN9073_R	Microphone Hang-Up Clip (all microphones)

HANDSFREE KITS

AARMN4027_	Visor Mounted Microphone
RLN4856_	Footswitch PTT
RLN4857_	Pushbutton PTT
RLN4858_	Gooseneck PTT

EXCHANGEABLE BUTTON KITS

Note: Other individual exchangeable buttons are available through AAD. Please see Basic Service Manual for button numbers.

RLN4831_	Standard Button Kit: MON, SCAN, CALL, HOME, PHONE
RLN5324_	Standard Button Kit: MON, SCAN, CALL, HOME, PHONE, ROAM, SITE

MOUNTING KITS

GLN7324_R	Standard Low Profile Bracket (VHF/UHF)
GLN7317_	High Profile Mounting Bracket (VHF/UHF)
RLN4779_	Key Lock Mounting Bracket (VHF/UHF)
RLN4781_	Direct in Dashboard Mounting Kit (VHF/UHF)
HLN8097_	Removable Slide Mount Tray Package (VHF/UHF - A maximum of two external accessory wires can be attached to the slide tray)

REMOTE MOUNTS

RLN4802_	Remote Mount Kit - CDM1250 and CDM1550 models (requires HKN4192 power cable)
RKN4077_	Remote Mount Cable, 3 meter length
RKN4078_	Remote Mount Cable, 5 meter length
RKN4079_	Remote Mount Cable, 7 meter length

EXTERNAL SPEAKERS

RSN4001_	13 Watt External Loudspeaker
HSN8145_	7.5 Watt External Speaker - for Receiver Audio

INSTALLATION AND ALARM KITS

HKN4137_	Standard 12V 10" Power Cable to Battery (VHF/UHF)
HKN4192_	12V 20 Ft. Power Cable to Battery (VHF/UHF)
GKN6272_	External Alarm Relay and Cable
RLN4836_	Emergency Footswitch
HKN9327_	Ignition Switch Cable
HKN9557_R	PL259/Mini-U Antenna Adapter - 8" Cable

HLN9457_R	Hardware Kit for use with the Expanded Accessory Connector (includes 16 connector pins, (five) 8" wires with pins attached and an extra housing)
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ANTENNAS

HKAD4001_	220 MHz, 1/4-Wave Roof Mount
HAF4012_	Mini-U 746-794 MHz, 1/4-Wave Roof Mount

SERVICE AIDS AND PROGRAMMING EQUIPMENT

H5177	Portable/Mobile Programming Software (CPS) 3 Year Subscription Package - Includes CPS CD ROM Software: HVN9025 for the HT/EX500/CDM/MTX.LS Series and HVN9067 for MTX Series Privacy Plus. Includes HT/MTX Series Programming/Test Cable (AARKN4074). Also is compatible with RLN4460 used for radio testing. (HVN9025 is compatible with Windows® 95/98/2000/Millennium (ME)/ Windows NT®. HVN9067 is compatible with Windows® 95/98/Windows NT®). Note: Software requires a license agreement and is not intended for resale.
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AARKN4081_	Programming Cable with Internal RIB (direct connection from computer to radio microphone connector)
AARKN4083_	Programming Cable (allows radio programming via rear accessory connector)
3080070N01	Programming Cable (connection from RIB to radio)
3080369B72	9 Pin PC to Radio Interface Box Cable (IBM AT or compatible)
RLN4460_	Test Box for Portables and Mobiles
RLN4008_	Radio Interface Box (RIB)
0180357A57	Wall Mounted Power Supply, 120V - used with RLN4008
RLN4853_	10 to 20 Pin Adapter

MANUALS

6864110R14	CDM1550•LS ⁺ 220/700 MHz Detailed Service Manual
6864110R16	CDM1550•LS ⁺ 200/700 MHz Basic Service Manual
6881092C58	Installation Manual (English)

CONTROL STATION KITS

HMN3000_	Desk Microphone (Black)
GLN7326_	Desktop Tray with Speaker
GLN7318_	Desktop Tray without Speaker
HKN9088_	Mobile Mini-U Antenna Adapter - 8 Ft. Cable
HPN4002_R	Power Supply and Cable (1-25 Watt Models)
HPN4001_R	Power Supply and Cable (25-60 Watt Models)

MOBILE DATA UNITS SECTION

Terminals:

RDN7365_	Mobile Status Terminal - Mobile messaging device equipped with a data modem. This will allow a mobile user to report "status messaging" back to the dispatcher by activating one of the status keys.
RDN7366_	Mobile Status Terminal with GPS - Mobile status terminal equipped with an Automatic Vehicle Location (AVL) device compatible with Global Positioning System (GPS).

RDN7367_	Mobile Display Terminal with GPS - Mobile display terminal equipped with an Automatic Vehicle Location (AVL) device compatible with Global Positioning system (GPS).
RDN7368_	Mobile Display Terminal - Mobile messaging device equipped with a data modem. This unit features a 4x40 backlit LCD display and the keypad allows users to send information to the dispatcher in response to base instructions.
RDN7369_	Standalone Modem/GPS - Cost efficient Automatic Vehicle Location (AVL) device compatible with Global Positioning System (GPS).
RDN7738_	Serial Breakout Unit (used in multiple applications that allow up to eight base modems to be connected).

Radio Interface Cables: One radio interface cable is required with purchase of each hardware device

RDN7370_	3 Ft. Interface Cable with 16 Pin Connector
RDN7376_	15 Ft. Interface Cable with 16 Pin Connector
RDN7739_	3 Ft. Flying Cable (same as regular interface cable, but omits connectors).

RDN7740_	15 Ft. Flying Cable (same as regular interface cable, but omits connectors).
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Peripherals:

RDN7371_	Credit Card Reader - Card reader is used to perform automatic online credit card authorization transaction. Used with RDN7379 (credit card software).
RDN7373_	Mobile Printer - The mobile printer provides users with a hard copy of the information transmitted from the base dispatch location.

Global Positioning System (GPS) Antennas:

Antenna is required with purchase of any GPS unit

RDN7372_	Fixed Mount GPS Active Antenna
RDN7375_	Magnetic Mount GPS Active Antenna

Software:

RDN7374_	Programming Software - Used for mobile data units.
RDN7377_	Regional Map Software - Will allow up to 10 selected US counties.

RDN7378_	AVL Messaging Status Software - Mapping software that provides the user with Automatic Vehicle Location to track vehicles along with message dispatch and status tracking capability.
RDN7379_	Credit Card Software - Used with RDN7371 (credit card reader).

Miscellaneous:

RDN7364_	Radio Channel Card - A radio channel controller and modem that interface with the base radio. Required with every radio channel or wireless circuit used within the system.
RDN7380_	Mobile Programming Hardware

PUBLIC ADDRESS

RLN5288_	Public Address Kit (includes interface cable)
HKN9323_	8 Ft. Public Address Speaker Cable
HKN9324_	15 Ft. Public Address Speaker Cable (one cable per speaker)
HSN1000_R	6 Watt Amplified External Speaker

RETROFIT KIT

6686119B01	Dismantling Tool
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Notes:

1.  or  to select desired trunked zone.
2.  or  until you see desired preprogrammed talkgroup on the display.

1. Press **PTT** button. If trunked system access was successful — Red LED = steady; if unsuccessful — LED = flashing; red-low pitched tone sounds.
2. Speak clearly into microphone. Release **PTT** button to listen.

PASSPORT	Upon power up, PassPort alias appears on the LCD.
TLKGRP ALIAS	The selected talkgroup alias appears on the LCD.
SEARCHING	May appear if a PassPort site cannot be quickly located.
REG SITE XXX	Appears indicating successful PassPort registration (XXX = PassPort site on which you are registered).
TLKGRP ALIAS	Selected talkgroup alias appears and remains on the display upon successful registration.

1.  or  to select desired conventional zone.
2.  or  until you see desired conventional channel on the display.

- Press **PTT** button and speak clearly into microphone. LED = steady while call is being sent. Release **PTT** button to listen.

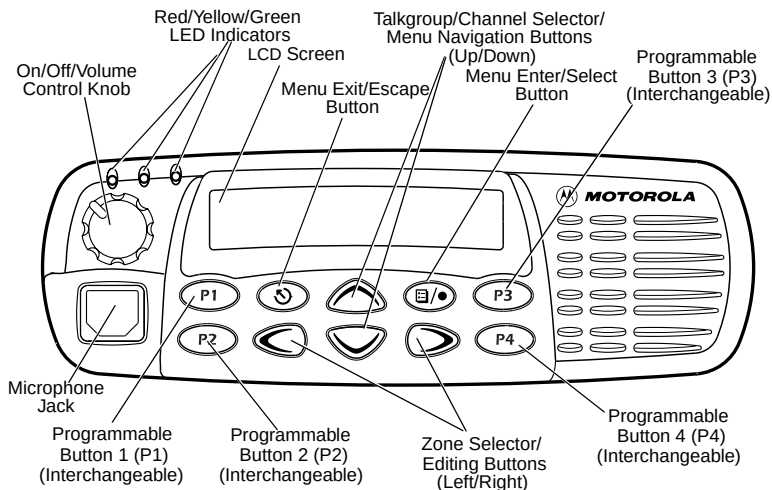
-  or , then  or  to desired talkgroup or channel. Make sure **PTT** button is released. When a call is received, the LED flashes.

1. From Selective Call menu, select or enter desired radio ID number.
2. Press **PTT** button to send the call. The radio sounds a continuous tone.
3. Press **PTT** button and talk; release **PTT** button to listen.

- When a Selective Call is received, the radio displays 🎵 symbol and name or ID of calling radio; the yellow LED flashes. Press **PTT** button to answer.



Record the functions for your radio's programmable buttons in the table provided below. For further information, see pages 24 and 25 in this User Guide.

[illegible]

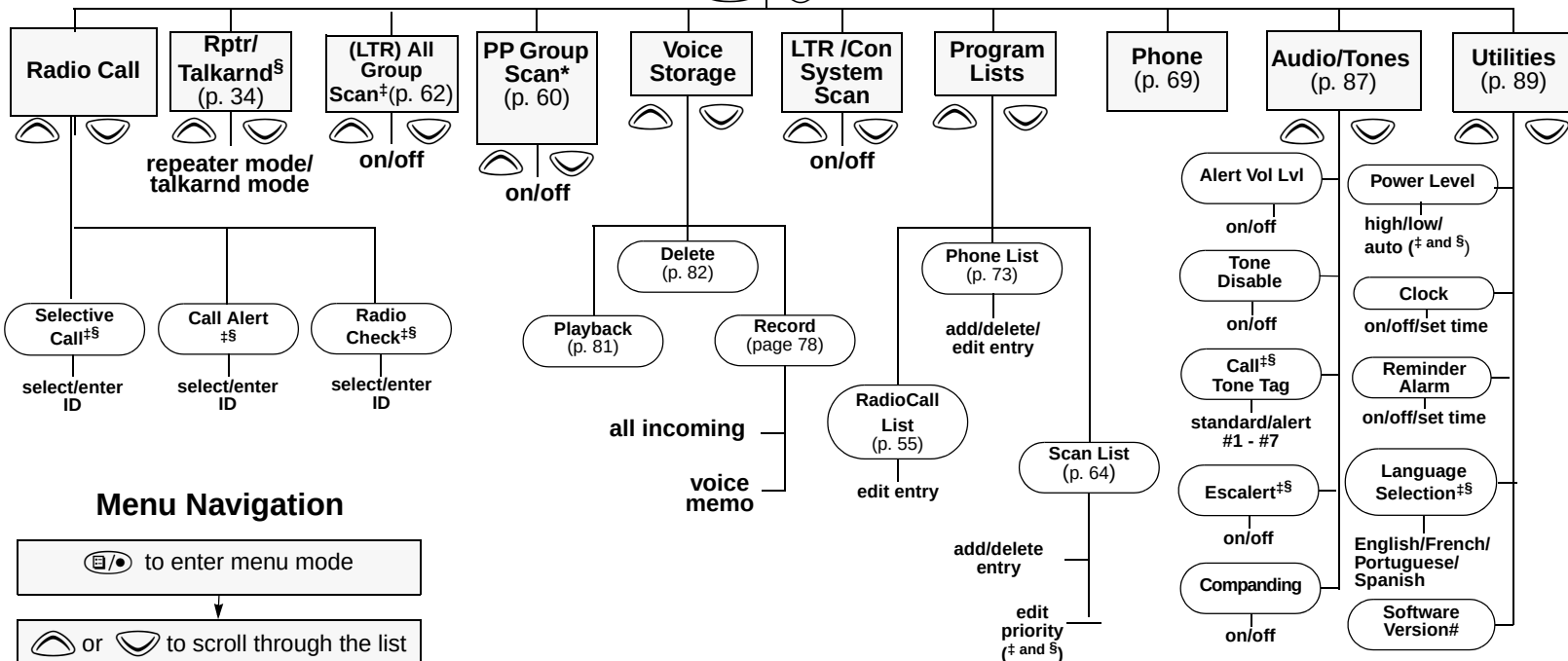
Menu Navigation Chart

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

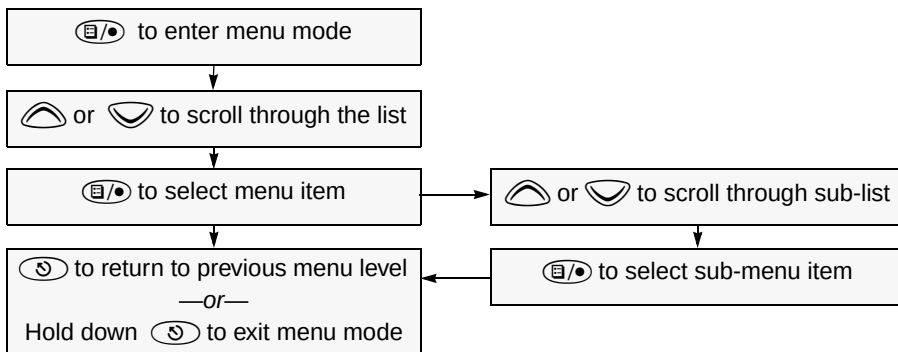
* — Available in PassPort trunked zones only

‡ — Available in LTR trunked zones only

§ — Available in conventional zones only



Menu Navigation



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