



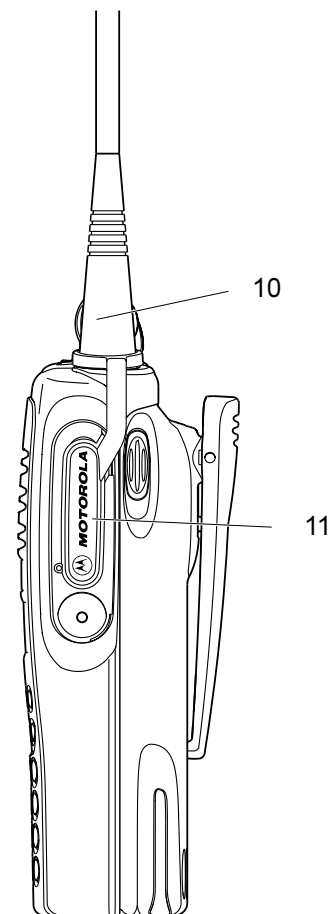
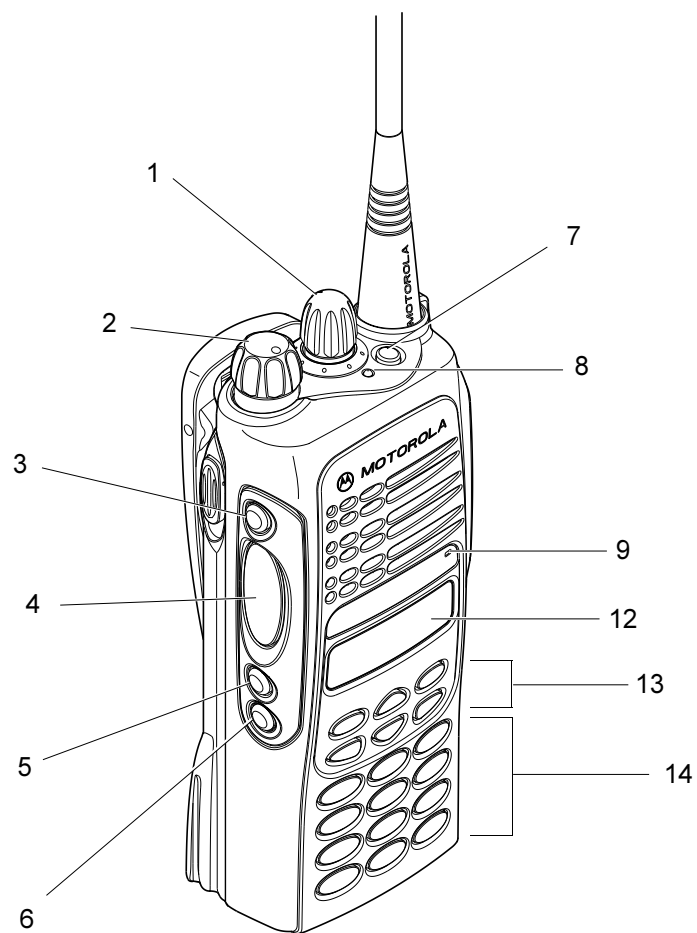
Professional Radio

GP240/GP280

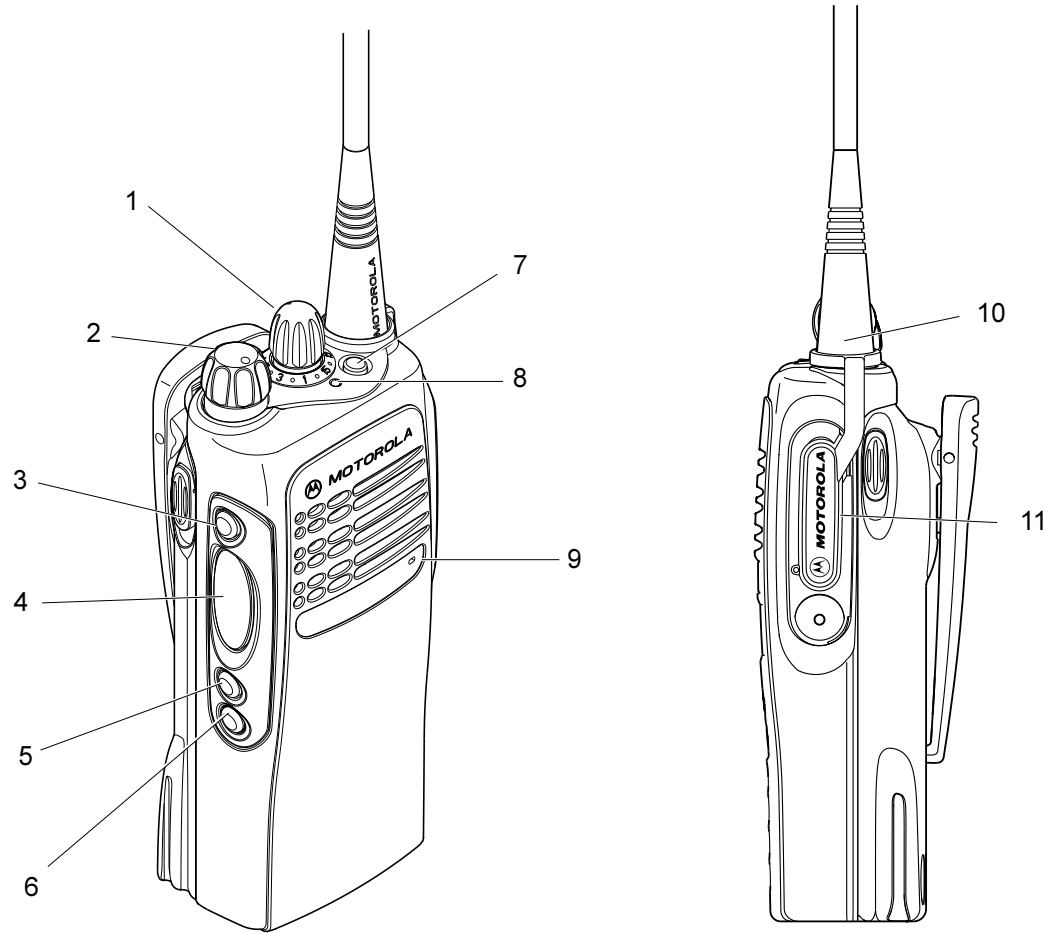
User Guide

68P64120B16

Issue: July 2002



GP280



GP240

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RADIO OVERVIEW

This user guide covers the operation of the GP240/ GP280 Portable Radio.



Caution

Before using this product, read the operating instructions for safe usage contained in the Product Safety and RF Exposure booklet 68P64117B25_ enclosed with your radio.

ATTENTION!

This radio is restricted to occupational use only to satisfy ICNIRP RF energy exposure requirements. Before using this product, read the RF energy awareness information and operating instructions in the Product Safety and RF Exposure booklet (Motorola Publication part number 68P64117B25_) to ensure compliance with RF energy exposure limits.

OPERATION AND CONTROL FUNCTIONS

Radio Controls

Refer to the illustrations on the inside front cover (GP280) and inside rear cover (GP240).

- 1. Mode Selector Knob**
Used to select the required operation mode.
- 2. On-Off / Volume Knob**
Used to turn the radio on or off, and to adjust the radio's volume.
- 3. Side Button 1/Select Key (programmable)**
Recommended for the Monitor Button. Also functions as the select key when programming your radio's lists.

4. Push to Talk (PTT) Button

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

5. Side Button 2 (programmable)

6. Side Button 3 (programmable)

7. Top Button (programmable)

8. LED Indicator

The indicator LED on top of the radio indicates radio operating conditions.

With PTT switch pressed (radio transmitting)

Continuous red LED	Normal transmission.
LED unlit	Radio is not transmitting.
Blinking red light	Low battery (conventional mode only; programmable from the CPS)

With PTT switch released (radio receiving)

Blinking red light	Mode busy (conventional mode only).
Blinking green light	Receipt of a telephone call, Private Conversation call, or Call Alert page.

9. Microphone

Speak clearly into the microphone when sending a message.

10. Antenna**11. Accessory Connector**

Connects headsets, remote speaker/microphones and other accessories. Replace attached dust cover when not in use.

Additionally for GP280 radios

12. LCD Screen**13. Menu Keys****14. Keypad**

Programmable Buttons

Several of your radio buttons can be programmed (by using the Customer Programming Software — CPS) to activate the radio features.

Programmable buttons are

- Top button
- Three side buttons

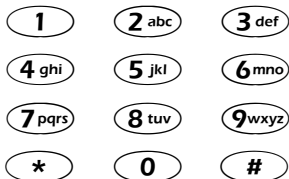
Check with your dealer or Motorola representative for a complete list of the functions your radio's programmable buttons support.

The table below shows the functions available by

- **short press** - quickly pressing and releasing the programmable buttons, or
- **long press** - pressing and holding the programmable buttons for a period of time before releasing, or
- **hold down**- pressing and holding down the programmable buttons while checking status or making adjustments.

Button	Short Press	Long Press	Hold Down
Monitor/Permanent Monitor	—	Continually monitors the selected channel.	Monitors the selected channel for any activity.
Volume Set	—	—	Sounds a tone for adjusting the radio's volume level.
Scan	Toggles between the start/stop of the Scan operation.	—	—
Nuisance Delete	Temporarily deletes an unwanted active scan member.	—	—
Search	Makes a system search.		
Light	Turns on/off your radio's backlight.	—	—
Call	Enters or exits a Private call.		
Page	Enters or exits a Call Alert.		
Call Response	Respond to or exit from a Private Call or Call Alert.	—	—
Phone	Enters or leaves Phone mode.	—	—

Keypad Keys (GP280 radios only)



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

The following table shows the character cycle for each key, when entering information for programming the radio's lists.

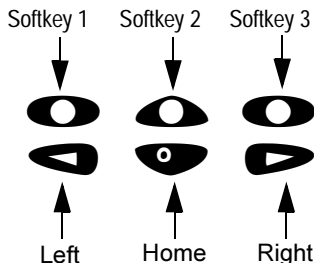
Key	Number of Times the Key is Pressed					
	1	2	3	4	5	6
0	0					
1	1	Blank space				
2 abc	A	B	C	2		
3 def	D	E	F	3		
4 ghi	G	H	I	4		

5 jkl	J	K	L	5		
6 mno	M	N	O	6		
7 pqrs	P	Q	R	S	7	
8 tuv	T	U	V	8		
9 wxyz	W	X	Y	Z	9	
*	*					
#	#	-	+	.	/	\

Note: The sequence in the table above is valid when entering information on a blank display. However, when editing existing information, the above sequence may differ. For instance, if the last character entered is a "R", pressing **7 pqrs** to enter the next character, would start the character cycle at "S" and **NOT** at "P".

- When editing existing information, pressing **1** would **ALWAYS** start the character cycle at the "blank space" and **NOT** at "1".

Menu Keys (GP280 radios only)



Selecting a Feature

A unique feature of your radio is its use of the display to give you quick access to many of the radio's features without having to have a dedicated key for each feature.

The names of the features (CALL, MUTE, etc.) are shown on the display, three at a time. Selection of features is controlled by the three keys directly below the feature names: the left key controls the left feature, the middle key controls the middle feature, and the right key controls the right feature.

Softkeys (○●○●○●○)

When already in Menu Mode, these keys are used to make Menu selections.

Left and Right Arrow Keys (◀▶)

The left and right arrow keys are used to scroll the display forward or backward through the radio's features and lists. There is no end point to the list, so if you continue to scroll in one direction, the display will "wrap around" back to the beginning of the list. If you hold either key down, the display will scroll at a faster rate until the key is released.

The left arrow key is also used for editing when you are entering information manually from the keypad.

Pressing the left arrow key, when editing numeric information (such as telephone numbers), will backspace, and erase the display, one character at a time. If you have erased all the digits, an additional press of the left arrow key will return the display to the pre-programmed list.

Pressing the left arrow key, when editing alphabetic information (such as member's names), will move the cursor one step to the left.

HOME Key (○●)

The HOME key will always return you to the home (default) display. In most cases, this is the current mode. In addition, if you are using a feature that requires it, pressing the HOME key will also cause information to be saved in memory before going to the home display. Some radio features will automatically go to the home display when they are completed,

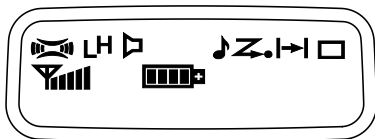
without having to press the HOME key, thus reducing the number of key presses required.

Menu Display

The menu items can be displayed in normal video or in reversed video (programmable through the CPS). All the menu items in the examples in this manual are shown in reversed video.

The order in which the menu items are displayed is programmable. Thus, the order of the menu items on your radio may differ from those shown here in this manual. In such a situation, press the relevant softkey to make your menu selections. All descriptions of functions and displays after the selection are valid.



LCD Screen and Icons



Displays mode selected, channel, menu, and radio status information. The top two screen rows show

radio status indicator symbols, explained in the following table.

Symbol	Name and Description
	XPAND™ Indicator Indicates that your radio has the companding feature activated.
LH	Power Level Indicator L lights up when your radio is configured to transmit in Low Power. H lights up when your radio is configured to transmit in High Power.
	Carrier Squelch Indicator Indicates when the active conventional mode is being monitored in the carrier squelch mode; ON = BEING MONITORED/ OFF = NOT BEING MONITORED.
	Call Received Flashes when a call or page is received.
	Scan Indicator Indicates when the radio is scanning; ON = SCANNING / OFF = NOT SCANNING.
	Direct Indicates whether you are talking directly to another radio (talkaround), or through a repeater; ON = DIRECT OFF = REPEATER.

Symbol	Name and Description
	Programming/Viewing Mode Indicates when the radio is in the programming or viewing mode; ON = IN VIEWING MODE BLINKING = IN PROGRAMMING MODE.
	Battery Level Indicator Shows the remaining charge in your battery, based on how many bars are displayed. Flashing, indicates flat battery.

Alert Tone Indications

Your radio generates a number of audible tones to indicate radio operating conditions:

- Low Battery – A low-battery condition is indicated by a high-pitched, “chirp-chirp” when the PTT switch is released following a transmission.
- Successful Power-Up – A short, medium-pitched tone when the radio is first turned on indicates that the radio has passed its power-up self test and is ready for use.
- Unsuccessful Power-Up – A short, low-pitched tone when the radio is first turned on indicates that the radio has failed its power-up self test and is not ready for use. Contact your service representative for service.
- Transmit on Receive-Only Mode – If you press the PTT switch while tuned to a “receive-only” mode, you will hear a continuous, low-pitched alert tone, indicating that no transmission is possible on this mode. This tone will continue until the PTT switch is released.
- Transmit Inhibit on Busy Mode – If you press the PTT switch while the mode is busy, you will hear a continuous, low-pitched alert tone, indicating that no transmission is possible on this mode. This tone will continue until the PTT switch is released.
- Transmit Inhibit on Flat Battery – If you press the PTT while the battery is flat, you will hear a continuous, low pitched alert tone, indicating that transmission is impossible.
- Invalid Mode – A continuous, low-pitched tone is heard when an invalid or unprogrammed operation is attempted on the radio.
- Valid (Good) Key Press – A short, medium-pitched tone when a keypad key is pressed indicates that the key press was accepted.
- Invalid (Bad) Key Press – A short, low-pitched tone when a keypad key is pressed indicates that the key press was rejected.
- Failsoft (Trunked Systems Only) – A faint “beeping” tone every ten seconds indicates that the radio is operating in the failsoft mode.

- Time-Out Timer Warning – Your radio's time-out timer limits the length of your transmission time. When you are pressing the PTT switch (transmitting), a short, low-pitched warning tone will sound four seconds before the allotted time will expire.
- Time-Out Timer Timed-Out – If you hold down the PTT switch longer than the time-out timer's allotted time, a continuous, low-pitched tone will sound, indicating that your transmission has been cut off. This tone will continue until the PTT switch is released.
- Phone Busy – A “bah-bah-bah-bah” tone when telephone interconnect is accessed indicates that all available modes are busy and the radio is in queue for the next available phone line.
- Call Alert (Page) Received – A group of four medium-pitched tones every five seconds indicates that your radio has received a Call Alert page.
- Call Alert (Page) Sent – A single medium-pitched tone (central acknowledge), followed by a group of four medium-pitched tones indicates that a Call Alert page sent by your radio has been received by the target radio.
- Private Conversation Call Received – A group of two medium-pitched tones indicates that your radio has received a Private Conversation call. This sequence is repeated every five seconds for approximately 20 seconds for enhanced Private Conversation.
- Trunked System Busy (Trunked Systems Only) – A “bah-bah-bah-bah” tone when a trunked system is accessed indicates that all available channels are busy and the radio is in queue for the next available channel.
- Call Back (Trunked Systems Only) – A group of three medium-pitched tones (di-di-dit) indicates that a talkgroup is now available for your previously requested transmission.

GETTING STARTED

BATTERY INFORMATION

Battery Care and Tips

This product is powered by a nickel-cadmium (NiCd), nickel-metal-hydride (NiMH), or lithium-ion rechargeable battery.

The following battery tips will help you obtain the highest performance and longest cycle life from your Motorola rechargeable battery.

- Charge your new battery overnight (**14-16 hours**) before using it to obtain maximum battery capacity and performance.
- Charging in non-Motorola equipment may lead to battery damage and void the battery warranty.
- When charging a battery that is attached to the radio, turn the radio off to ensure a full charge.
- The battery should be at about 25°C (room temperature) whenever possible. Charging a cold battery (below 10°C) may result in leakage of electrolyte and ultimately, in failure of the battery.

- Charging a hot battery (above 35°C) results in reduced discharge capacity, affecting the performance of the radio. Motorola rapid-rate battery chargers contain a temperature-sensing circuit to ensure that the battery is charged within these temperature limits.
- New batteries can be stored up to two years without significant cycle loss. Store new/unused batteries in a cool dry area.
- Batteries which have been in storage should be charged overnight.
- Do not return fully charged batteries to the charger for an “extra boost”. This action will **significantly** reduce cycle life.
- Do not leave your radio and battery in the charger when not charging. Continuous charging will shorten battery life. (Do not use your charger as a radio stand.)
- For optimum battery life and operation use only Motorola brand chargers. They were designed to operate as an integrated energy system.

Recycling or Disposal of Batteries



At the end of its useful life, the NiCd battery can be recycled. However, recycling facilities may not be available in all areas.

Motorola endorses and encourages the recycling of all re-chargeable batteries. Contact your local Motorola dealer for further information.

Charging the Battery

If a battery is new, or its charge level is very low, indicated by battery level indicator showing one or no segments, you will need to charge the battery before you can use it in your radio.

Note: Batteries are shipped uncharged from the factory. New batteries could prematurely indicate full charge, charge a new battery for 14-16 hours before initial use.

Charger LED	Status
Red	Battery is charging
Green	Battery is fully charged
Flashing Red *	Battery is unchargeable
Flashing Yellow	Charger is getting ready to charge
Flashing Green	Battery is 90% charged

* Battery is damaged. Please contact your dealer.

1. Place the radio with the battery attached, or the battery alone, in the charger.
2. The charger's LED indicates the charging progress.

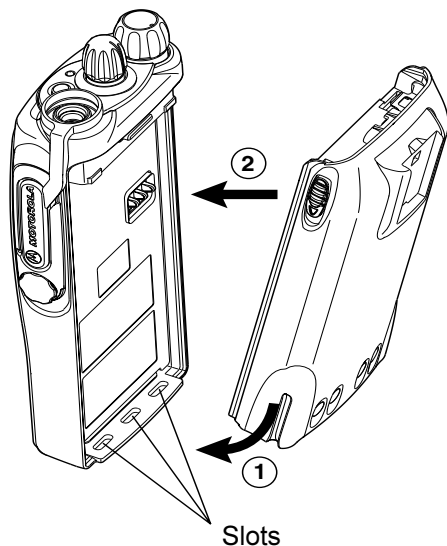
Battery chargers will charge only the Motorola authorized batteries listed below; other batteries will not charge.

Part No.	Description
HNN9008	High-Capacity NiMH
HNN9009	Ultra-High-Capacity NiMH
HNN9010	Ultra-High-Capacity FM NiMH
HNN9011	High-Capacity FM NiCd
HNN9012	High-Capacity NiCd
HNN9013	Lithium-Ion

FM - Factory Mutual

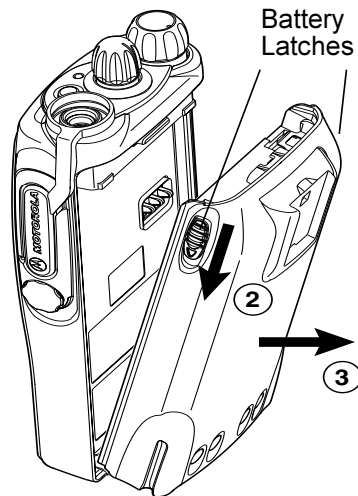
ACCESSORY INFORMATION

Attaching the Battery



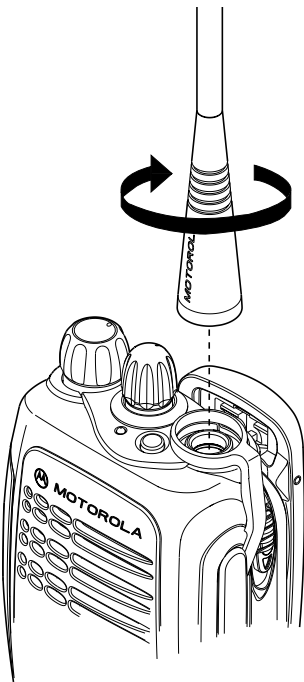
1. Fit the extensions at the bottom of the battery into the slots at the bottom of the radio's body.
2. Press the top part of the battery towards the radio until you hear a click.

Removing the Battery



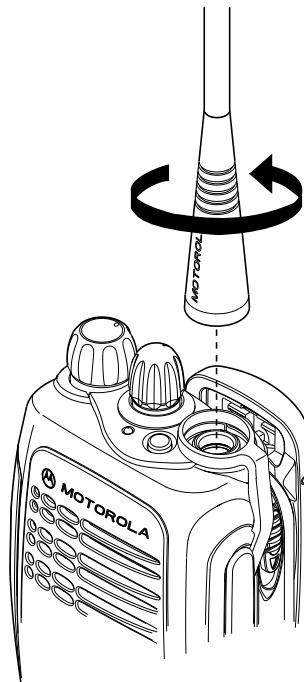
1. Turn off the radio, if it is turned on.
2. Slide the battery latches, on both sides of the battery, downwards.
3. Pull the top part of the battery away from the radio's body, and remove the battery.

Attaching the Antenna



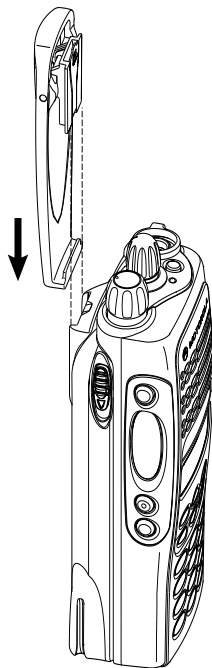
1. Align the threaded end of the antenna with the radio's antenna connector.
2. Turn the antenna clockwise to fasten it.

Removing the Antenna



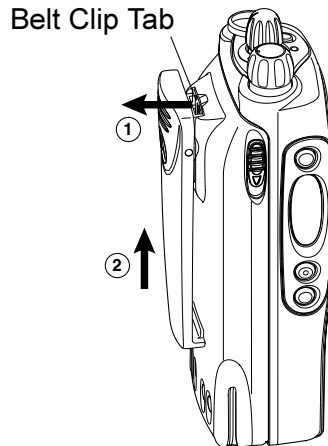
- Turn the antenna counterclockwise until you can remove it.

Attaching the Belt Clip



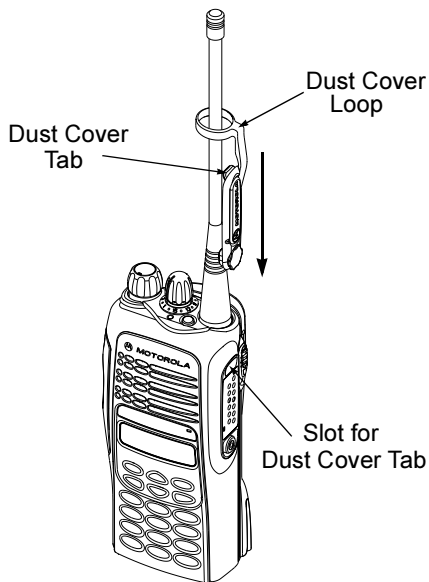
1. Align the grooves of the belt clip with those of the battery.
2. Press the belt clip downwards until a click is heard.

Removing the Belt Clip

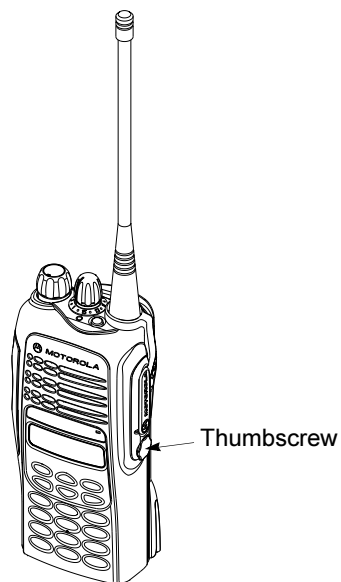


1. Use a key to press the belt clip tab away from the battery.
2. Slide the belt clip upwards to remove it.

Attaching the Dust Cover



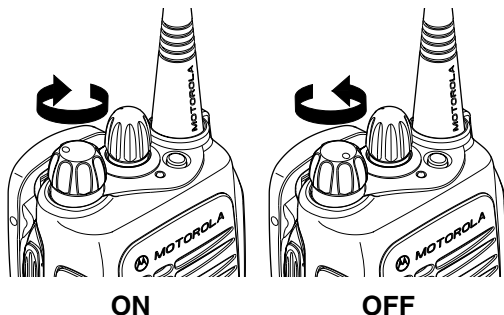
1. Place the dust cover loop over the attached antenna.
2. Slide the loop all the way down to the base of the antenna.
3. Insert the dust cover tab into the slot above the connector.



4. Tighten the thumbscrew to hold the cover in place. **DO NOT** overtighten the thumbscrew.

RADIO OPERATION

Turning The Radio On or Off



To turn the radio on, turn the **On-Off/Volume Control** knob clockwise.

To turn the radio off, turn the **On-Off/Volume Control** knob counterclockwise until you hear a click.

Adjusting the Radio's Volume

Turn the **On-Off/Volume Control** knob to adjust the volume level.

Listen until you hear a transmission, then adjust the volume control for a comfortable listening level.

Or, if a button is programmed for “volume set,” press this button and adjust the volume to a comfortable listening level.

Radio Self Test

Turn the radio on by rotating the volume control clockwise. The radio goes through a power-up self check and, if it passes the check, the display momentarily shows “SELF TEST.” A good-power-up, high-pitched tone sounds to indicate that the radio has passed the self check.

If the radio fails the self check, the display shows “ERROR XX/XX” (where XX/XX is an alphanumeric error code), accompanied by a bad-power-up, low-pitched tone. Turn the radio off, check the battery, and turn the radio back on. If the radio still does not pass the self check, a problem exists in the radio. Contact your nearest Motorola Service Shop.

Note: The power-up self check verifies that the radio's microprocessor-based systems are working, but it does not check all of the rf components, nor does it check the operation of all customer-specific features. Motorola recommends that the functionality of the radio be periodically checked by an authorized Motorola service shop.

BASIC RADIO CALLS

This section outlines the basic functions of your radio. All references to what is shown on the display is only valid for GP280 radios. Throughout this section, the display below



PLANT POLICE


is used to indicate the radio's home display.

SELECTING A ZONE AND MODE

A *mode* is a channel or talkgroup and all the features that are programmed to it. A *zone* is a grouping of modes that is selected using the menu keys. Before you use your radio to receive or send messages, you should first select the desired zone and mode.

Selecting a Zone (GP280 radios only)

1. Press  until **ZONE** is displayed. ZONE MUTE CALL
2. Press  (the soft-key below **ZONE**). For example
The current zone name blinks on the display. PLANT POLICE

3. Press  until the desired zone name is displayed.

—or—

Enter the number of the desired zone.

For example

CITY POLICE

4. Press .

5. The displayed zone is the new selected zone.

CITY POLICE

Selecting a Mode

1. Turn the *mode selector knob* to the desired mode.
2. The display shows the selected mode's name. For example PLANT MODE 1
3. If the selected mode is unprogrammed, an invalid-mode tone is heard until a valid programmed mode is selected. UNPROGRAMMED

RECEIVING A CALL

1. Turn the radio on and select the desired zone and mode (see *Selecting a Zone and Mode*).
2. Your radio is now set to receive calls on the selected mode.

MAKING A CALL

Conventional Modes

1. Turn the radio on and select the desired conventional zone and mode (see *Selecting a Zone and Mode*).
2. Press and hold the PTT switch on the side of the radio and speak slowly and clearly into the microphone area. The red LED lights continuously when the radio is transmitting.
3. When you have finished talking, release the PTT to listen.

Note: Do not interrupt another user. If the present mode is programmed to receive PL, ensure that the mode is not in use by pressing the monitor button to listen for activity.

- If the mode-busy feature is enabled, a blinking red LED on receive (PTT released) indicates that the mode is currently busy.
- If a mode is programmed for receive only, any attempt to transmit on that mode will cause an invalid-mode tone to sound until the PTT switch is released.

Trunked Modes

1. Turn the radio on and select the desired trunked zone and mode (see *Selecting a Zone and Mode*).
2. Press and hold the PTT switch on the side of the radio and speak slowly and clearly into the microphone area. The red LED lights when the radio is transmitting. When you have finished talking, release the PTT to listen.

Note: If you hear a busy signal (a low-frequency “bah-bah-bah-bah”), release the PTT switch and wait for a call-back tone (sounds like “di-di-dit”). When you hear the call-back tone you will have three seconds to press the PTT switch. This allows you to make another call without getting a busy signal.


- If a continuous talk-prohibit tone is heard when the PTT switch is pressed, transmission is not possible. The radio may be out of range.

Low-Battery Alert

Your radio emits an alert tone when a low-battery condition is detected.

Coded Squelch Operation

Tone Private-Line (PL), Digital Private-Line (DPL), and carrier squelch operation are all available in your radio, on a per-mode basis. When in carrier squelch operation, all traffic on the mode is heard. When in PL or DPL operation, your radio responds to only those messages intended for you. When this feature is mode-slaved, PL, DPL, or carrier squelch is programmed to each mode.

Whenever the radio is operating in carrier squelch, the display will show .

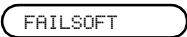

Variable RF Power Level (Selected Models Only)

Radios can have more than one power level. High power can be programmed on modes where high power is permitted, and low power can be programmed on all other modes. The high-/low-power feature can be selected via the menu keys.

FAILSOFT OPERATION (TRUNKED SYSTEMS ONLY)



The “failsoft” system ensures continual radio communications capability during a trunked system failure. Your radio will automatically go into failsoft operation, if the central trunking controller fails for any reason. While in failsoft operation, your radio will transmit and receive on a predetermined frequency on a conventional mode. When the trunked system returns to normal operation, the radio will automatically leave the failsoft operation and return to trunked operation.


During failsoft operation,

1. You will hear a faint “beeping” sound every ten seconds. Alternates between  and .
2. Your radio becomes unsquelched.

MUTING THE KEYPAD TONES (GP280 RADIOS ONLY)

The radio's keypad tones, normally heard each time a keypad key is pressed, can be turned off (muted) or on (unmuted) at your discretion. To use the keypad mute feature

1. Press  until *MUTE* is displayed. 

2. Press  (the softkey below *MUTE*). You will see the current mute state momentarily.



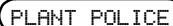
or




Then



3. Press the softkey below the desired mute state (on or off). The radio returns to the home display.



Note: Pressing  or the PTT switch will exit this menu without changing the mute selection.

TRUNKED FEATURES

This section outlines the trunked features of your radio. All references to what is shown on the display is only valid for GP280 radios. Throughout this section, the display below

PLANT POLICE


is used to indicate the radio's home display.

VIEWING YOUR RADIO'S ID NUMBER

To view your radio's ID number

1. Press  until *CALL* is displayed.

ZONE MUTE CALL

2. Press  (the softkey below *CALL*).


3. The display shows the last ID number transmitted or received.

ID: 722588

4. Press .

5. The display shows your radio's ID number.

MY ID: 741317

6. Press  to return the radio to the home display.

PLANT POLICE

Note: If your radio has been so programmed, you can press the call button for quick access to viewing the last ID number transmitted or received. This takes you directly to step 3.

ENHANCED PRIVATE CALL OPERATION

The Enhanced Private Conversation feature not only allows you to have a conversation that is heard only by the two parties involved, but also enables you to determine whether the radio that you are calling is in service. The radio being called can also view the calling radio's ID number before answering. You can then choose whether or not to leave your radio's ID number (via a Call Alert page) with the radio you are calling so that you may be called back. Enhanced Private Conversation operation is similar to telephone operation.

Answering a Private Call


1. Upon receiving a Private Conversation call, two alert tones sounds (repeating every five seconds for 20 seconds).

Alternates between

CALL

and

PLANT POLICE

- The green LED and call received status annunciator, , will blink indicating that a call is being received. You have 20 seconds to answer the call before the radio automatically returns to the home display.

- Press the call response button or the call button.

- The display shows the incoming caller's ID number, and the call received annunciator will turn off.


ID: 722588

- After viewing the caller's ID number, you can decide to either talk privately (go to next step), or not answer the call by pressing the call response or call button to return to the home display.

- If you decide to answer the call, press the PTT switch.

- The caller's ID number remains displayed for the duration of the call.

ID: 722588

- When finished with conversation, press  or the call response button to hang up.

- The radio will return to the home display.

PLANT POLICE

Note: If you press the PTT switch before you press the call response button, the response will be transmitted to everyone in the talkgroup (a dispatch mode operation).

- After answering a Private Call, the caller's ID number is stored in your radio as the "*last ID number received*".
- If your radio is configured for Private Call II, upon receiving a Private Conversation call, two alert tones sounds, followed by the received voice.

Making a Private Call (GP280 radios only)

There are four phases in making a private call, namely

- initiating a private call,
- entering the desired radio ID number,
- sending the radio ID number, and
- having the conversation and hanging-up.

Initiating a Private Call

- Press  until *CALL* is displayed.

ZONE MUTE CALL

- Press  (the softkey below *CALL*).

3. The display shows the last ID number transmitted or received.

ID: 722588


Entering the Desired Radio ID Number


If the last ID number called is the desired number, go directly to step 5.

To enter a new number





- 4a. Enter the new six-digit ID number using the keypad.
- 4b. On the display, the old ID number disappears and the new digits appear as they are being entered.
- 4c. The cursor flashes indicating the location of the next number to be entered.

Note: Exactly six digits must be entered for the radio ID number. If fewer than six digits were entered, you will hear a bad-keypress tone and the display will show “INVALID ENTRY” when attempting to send the radio ID number. A bad-keypress tone will also be heard if you try to enter a seventh digit.

- Once you have started entering numbers, the  key functions as a backspace key. Pressing it causes the last digit entered to be

erased, and the cursor moves to the left. When the last digit is erased, an additional press of this key causes the last member of the pre-programmed call list to be displayed; pressing  shows the first member of the list.

To enter a number from the call list

- 4a. Press either  or .
- 4b.  takes you forward to the first or next member of the list;  takes you backwards to the last or previous member of the list.
- 4c. When at a member of the list, the display alternates between showing the member's name and ID number.



Alternates between

JB SMITH

and

ID: 784116

To enter a number from a location in the call list

- 4a. Press either  or  to enter the call list.
- 4b. Enter the first digit of the location number. If there are fewer than 10 members in the list, go directly to step 4e.

- 4c. If there are 10 or more members in the list, the display shows “ID LOC#X_” (where X is the first digit). The cursor blinks to show the location of the second digit.

- 4d. Enter the second digit of the location number.

- 4e. The radio goes to that position in the list. The display alternates between showing the member's name and ID number.
- Alternates between
- JB SMITH
- and
- ID: 784116

Note: The last member of the list is also the “last ID transmitted or received” at position “00” on the list.

- If you enter a location number that does not exist (for example, “15”), the display will show “INVALID ENTRY,” and the radio will sound an invalid-keypress tone and return back to step 4b of this procedure.

Sending the Radio ID Number

5. Press the PTT switch to transmit the ID number.
6. If the radio you are calling is on the air, you will hear a telephone-type ringing for 20 seconds, or until the called radio answers the call.

7. If the party you are calling does not answer the call within twenty seconds, the telephone ringing stops and an alert tone sounds.

NO ANSWER


At this point you can either send a Call Alert page, or go to step 10 to hang up.

8. If the party you are calling answers the call, you will hear their voice.

Note: If the radio you are calling is not in service, you will not hear the ringing and the display will show “NO ACK”. Go to step 10 to hang up.

- If your radio is configured for Private Call II, you will not hear the telephone type ringing. Instead you are able to proceed to talk to the Called party.

Having the Conversation and Hanging-up


9. Press the PTT switch to have a Private Conversation with the called person.
10. When finished with your conversation, or if the radio you called does not answer or is not in service, press  to hang up.

- The radio will return to the home display.

PLANT POLICE

Note: Once engaged in a private conversation, if the radio is left idle for more than one minute, a momentary warning alert sounds every six seconds to remind you that dispatch calls are not being heard. After two minutes, a permanent invalid mode tone sounds.


Leaving a Call Alert Page (GP280 radios only)

- If the party you want to have a Private Call does not answer the call within twenty seconds, you can choose to leave a Call Alert page. This leaves your radio's ID number with the called radio so you can be called back later.
- Press the PTT switch to send the Call Alert page. You will hear five beeps, indicating that the system has received your ID number and the radio you are calling is on the air.
- Press .
- The radio will return to the home display.

PLANT POLICE

CALL ALERT OPERATION

Answering a Call Alert Page with a Group Call

- Upon receiving a Call Alert page, four alert tones sounds (repeats every 5 seconds).
- The green LED lights and the Call Received annunciator, , blinks indicating a call is received.
- Press the PTT switch to answer the page.
- The display shows the current talkgroup. The audible alert, LED and call received annunciator turns off.
- The ID number of the radio that paged you is stored as "the last ID number received."
- Have your conversation in the normal manner; all members of your talkgroup will hear your response. Press the PTT switch to talk; release the switch to listen.

FIRE DEPT

Note: When you received a Call Alert page, you can enter Private Call mode and call the paging radio using the latest ID received.

Making a Call Alert (GP280 radios only)


There are three phases in making a call alert, namely

- initiating a call alert,
- entering the radio ID number that you wish to page, and
- sending the call alert.

Initiating a Call Alert

1. Press  until **PAGE** is displayed.

PAGE PHON VIEW

2. Press  (the softkey below **PAGE**).

3. The display shows the last ID number transmitted or received.

ID: 722588

Note: The same list is shared by both Call Alert and Private Conversation features.

- If your radio has been so programmed, you can press the page button for quick access to the Call Alert feature. This will take you directly to step 3.



Entering the Radio ID Number that you wish to Page

If the last ID number called or received is the desired number, go directly to step 5.

To enter a new number



- 4a. Enter the new six-digit ID number using the keypad.
- 4b. On the display, the old ID number disappears and the new digits appear as they are being entered.
- 4c. The cursor flashes indicating the location of the next number to be entered.

Note: Exactly six digits must be entered for the radio ID number. If fewer than six digits were entered, you will hear a bad-keypress tone when attempting to send the radio ID number. A bad-keypress tone will also be heard if you try to enter a seventh digit.

- Once you have started entering numbers, the  key functions as a backspace key. Pressing it causes the last digit entered to be erased, and the cursor moves to the left. When the last digit is erased, an additional press of this key causes the last member of the pre-programmed call list to be displayed; pressing  shows the first member of the list.

To enter a number from the call list

4a. Press either  or .

4b.  takes you forward to the first or next member of the list;  takes you backwards to the last or previous member of the list.

4c. When at a member of the list, the display alternates between showing the member's name and ID number.



Alternates between

JB SMITH

and

ID: 784116

To enter a number from a location in the call list

4a. Press either  or  to enter the call list.

4b. Enter the first digit of the location number. If there are fewer than 10 members in the list, go directly to step 4e.

4c. If there are 10 or more members in the list, the display shows "ID LOC#X_" (where X is the first digit). The cursor blinks to show the location of the second digit.

4d. Enter the second digit of the location number.

4e. The radio goes to that position in the list. The display alternates between showing the member's name and ID number.

Alternates between

JB SMITH

and

ID: 784116

Note: The last member of the list is also the "last ID transmitted or received" at position "00" on the list.

- If you enter a location number that does not exist (for example, "15"), the display will show "INVALID ENTRY," and the radio will sound an invalid-keypress tone and return back to step 4b of this procedure.


Sending the Call Alert

5. Press the PTT switch to transmit the ID number.

If the page is unsuccessful

- 6a.** If you hear one beep, the ID number has been received by the system, but the radio you are paging is not on the air; your radio remains in the Call Alert mode.

If after six seconds the called radio fails to acknowledge the alert, a low-pitched alert tone sounds and the display changes to **"NO ACKNOWLEDGE"**.

- 6b.** Press the PTT switch to send the ID number again, or press  to hang up and return to the home display.

If the page is successful

- 6a.** If you hear five beeps, the ID number has been received by the system, and the radio you are paging is on the air and has received your page.

- 6b.** The radio automatically returns to the home display



PROGRAMMING THE RADIO'S LISTS (GP280 RADIOS ONLY)

Programming the Telephone List Numbers

This feature lets you use the radio's keypad to change the telephone numbers assigned to any of the telephone list members. Each phone number can have up to 16 digits.


To change the telephone list

- 1.** Press  until *PROG* is displayed.



- 2.** Press  (the softkey below *PROG*).



- 3.** Press  (the softkey below *PHON*). The display shows the first programmable member of the telephone list.



- 4.** Press  or ,
—or—

Use the keypad to enter the desired member's position number (1 to 19) to view the members of the telephone list.

5. When you stop on a member of the list, the display will alternate between showing the member's name and telephone number.

Alternates between

POLICE DEPT

and

5556213

6. Press the *select* key to enter edit mode.

7. A short press would enable the editing of the telephone number. The display shows the current member's telephone number.

5556213

8. A long press would enable the editing of the member's name. The display shows the current member's name.

POLICE DEPT

9. Use any of the alphanumeric keys to make the changes. The blinking cursor indicates the position of the next number to be added. If you require a pause in the phone dialing sequence (to allow for a delay), you can do so by first pressing the "*" key, followed by pressing the "#" key. The display will show a "P" for pause.

10. When you have finished changing the telephone number, press the *select* key again. The change is saved in the radio's memory.


11. You are returned to step 5. The display will again alternate between showing the member's name and telephone number. You can now change additional numbers.

Alternates between

POLICE DEPT


and



5556445

12. When you have finished making changes, press  to exit program mode.

13. The radio will return to the home display.

PLANT POLICE

Note: The programming-mode annunciator, , blinks while program mode is active.

- In the edit mode, the  key functions as a backspace key. Pressing it will erase the previous digit, and the cursor will move to the left. When the last digit on the display has been erased, additional presses of this key or the  key will cause you to leave the edit mode without making any changes.
- You can only enter a maximum of 16 digits in any entry for the telephone list. When this maximum is reached, the cursor will disappear. If you

try to add any more digits, you will hear an invalid (bad) keypress alert tone.

Programming the Call List

This feature lets you use the radio's keypad to change the radio ID numbers assigned to the call list used by the trunked Private Conversation and Call Alert features.


To change the call list radio ID numbers

1. Press  until *PROG* is displayed.

DIR SCAN PROG

2. Press  (the softkey below *PROG*).

SCAN PHON CALL

3. Press  (the softkey below *CALL*). The display shows the first programmable member of the call list.

CM NORTH

4. Press  or , —or—

Use the keypad to enter the desired member's position number (1 to 19) to view the other members of the call list.

5. When you stop on a member of the list, the display will alternate between showing the member's name and radio ID number.

Alternates between

DK EAST

and

ID: 753951

6. Press the *select* key to enter edit mode.

7. A short press would enable the editing of the radio ID. The display shows the current member's radio ID number.


ID: 753951

8. A long press would enable the editing of the member's name. The display shows the current member's name.


DK EAST



9. Use any of the alphanumeric keys to make the changes. The blinking cursor indicates the position of the next number to be added.
10. When you have finished changing the number, press the *select* key again. The change is saved in the radio's memory.

11. You are returned to step 5. The display will again alternate between showing the member's name and radio ID number. You can now change additional numbers.
- Alternates between
- OK EAST
- and
- ID: 753853

12. When you have finished making changes, press  to exit program mode.

13. The radio will return to the home display.
- PLANT POLICE

Note: The programming-mode annunciator, , blinks while program mode is active.

- In the edit mode, the  key functions as a backspace key. Pressing it will erase the previous digit, and the cursor will move to the left. When the last digit on the display has been erased, additional presses of this key or the  key will cause you to leave the edit mode without making any changes.
- When the maximum number of digits for the radio ID is reached, the cursor will disappear. If you try to add any more digits, you will hear an invalid (bad) keypress alert tone.

TRUNKED TELEPHONE OPERATION

The trunked telephone feature allows you to use your trunked radio similar to a standard telephone.


When you are dialing from the keypad, your radio may be programmed with either buffered dial (you enter all digits and press the PTT before the digits are sent out) or live dial (each digit is sent out as it is pressed).

Answering a Telephone Call


1. When a telephone call is being received, you will hear telephone-type ringing.
- Alternates between
- PLANT POLICE
- and
- PHONE CALL

2. Press the pre-programmed phone button or call response button to answer the call.
- PHONE CALL

3. Carry on with your conversation in the normal manner. Press the PTT switch to talk; release the PTT to listen.

4. When you have finished your conversation, press  or the phone button to hang up.

5. The radio will return to the home display.
- PLANT POLICE





Note: The call received status annunciator, , flashes when you receive a call, but is not displayed when you answer the call.

Making a Telephone Call (GP280 radios only)

There are three phases in making a phone call, namely

- accessing the telephone system,
- sending the telephone number,
- having the conversation and hanging-up.

Accessing the Telephone System





1. Press  until *PHON* is displayed. 
2. Press  (the softkey below *PHON*).
3. Your radio attempts to access the telephone system.
4. If you connect successfully, you will hear a dial tone.
5. The display will show the last number dialed. 

Sending the Telephone Number

Sending the telephone number using the keypad


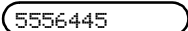
- 6a. The number can now be entered from the keypad, using any of the numeric (**0 – 9**) keys, and the “*” and “#” keys. The cursor flashes to indicate the location of the next digit to be entered. A pause can be entered in the telephone number by first pressing the “*” key, then the “#” key (Buffered dial only - The pause will be shown on the display as a “P”).
- 6b. If your radio is programmed for “live dial,” each digit is sent out as its key is pressed.
—or—
If your radio is programmed for “buffered dial,” each digit is temporarily stored as you enter them. After entering the number, press the PTT switch to send out the number.
- 6c. The telephone number will be sent out; you will hear tones as they are sent. If you hear a busy signal, go to step 8 for hang-up procedure.

Sending the telephone number using a Number on the Telephone List

6a. Press  or , to enter the telephone list.  takes you forward to the next member of the list;  takes you backwards to the previous member of the list.

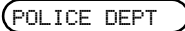
6b. Stop at the member you wish to call.

6c. The display alternates between showing the member's name and telephone number. Alternates between


 and


6d. Press the PTT button.

6e. The telephone number will be sent out; you will hear tones as they are sent.



6f. If you hear a busy signal, go to step 8 for hang-up procedure.

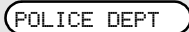
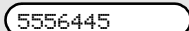
Sending the Telephone number using a Location in the Telephone List

6a. Press  or , to enter the telephone list.

6b. Enter the location (any preprogrammed location from 1 through 19) of the number you wish to call.


6c. The radio will go to the selected location.

6d. The display alternates between showing the member's name and telephone number. Alternates between


 and



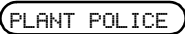
6e. Press the PTT button.

6f. The telephone number will be sent out; you will hear tones as they are sent.






6g. If you hear a busy signal, go to step 8 for hang-up procedure.

Having the Conversation and Hanging Up

7. If call is answered, communicate in the normal manner. Press the PTT switch to talk; release the PTT to listen.
8. When finished with your conversation, or if the number you called is busy or does not answer, press  or the phone button to send the hang-up code.
9. The radio will return to the home display. 

Note: You can press the pre-programmed phone button for quick access to the telephone call feature. This will take you directly to step 3.

- The **"PLEASE WAIT"** message is a timed message. If you cannot access the telephone system (no dial tone heard), press  key or the phone button to hang up, and start again at step 1 of this procedure.
- If you are out of range of the trunked system or the phone interconnect is out of service, **"NO PHONE"** is displayed and a continuous low-pitched tone sounds.
- If the trunked phone interconnect is in use, a busy tone sounds and **"PHONE BUSY"** is displayed.

- When the maximum number of digits have been entered (buffered dial only), the cursor will disappear.
- In the edit mode, the  key functions as a backspace key. Pressing this key erases the last digit entered, and moves the cursor to the left. When the last digit on the display is erased, additional presses of this key causes the last member of the preprogrammed telephone list to be displayed; pressing the  key displays the first member of the list.
- After reaching the number you are calling, you may need to dial an extension number before you can reach your party. Here, enter the extension number from the keypad or (if so programmed) use the arrow keys to find the extension number in the telephone list. If you have live dial, the number is sent as the keys are pressed. If you have buffered dial, press the PTT switch again to send out the extension number.
- Motorola trunked radios generate a high-pitched go-ahead tone when the radio's PTT switch is released. This is heard by the land-line party and is an indicator to begin talking.

AUTOMATIC MULTIPLE SITE SELECTION (AMSS)

The automatic multiple site selection (AMSS) feature extends communications beyond the reach of a single trunked site. In a system where wide-area coverage is required, multiple trunking sites are used.

AMSS automatically switches the radio to a different site when the current-site signal becomes too weak. Typically, this happens when the radio is moved out of the range of one site and into the range of another. Under normal conditions, this switching is invisible to the user.

Viewing the Current Site

1. Press the search button.

2. If the radio is locked on a site, the display shows the current site.

SITE 4

3. If the radio is scanning for a new site, the display shows "SCANNING" until it locks on a new site.

SCANNING

Then it shows the number of the new site.

SITE 7



Forcing a Site Change

1. Press and hold down the search button to force the change to a new site.
2. You will hear a tone while the radio scans for a new site.
3. The radio automatically returns to the home display.

SCANNING

PLANT POLICE

Locking and Unlocking a Site

1. Press  until *SITE* is displayed.
2. Press  (the softkey below *SITE*).
3. The current lock state is momentarily displayed.
4. The display changes to
5. Press the key below the desired lock state.
6. The radio automatically returns to the home display.

SITE PAGE CALL

SITE LOCKED
or

SITE UNLOCKED

LOCK UNLK

PLANT POLICE

CONVENTIONAL FEATURES

This section outlines the conventional features of your radio. All references to what is shown on the display is only valid for GP280 radios. Throughout this section, the display below

PLANT POLICE

is used to indicate the radio's home display.


REPEAT/DIRECT

The repeat/direct feature allows you to bypass the repeater and talk directly to another portable radio. This is known as DIRECT operation. The transmit frequency is the same as the receive frequency.

- In REPEAT operation, you talk through the repeater, which increases the radio's operating range. The transmit frequency is not the same as the receive frequency.
- If the repeat/direct feature is programmed to a mode, that mode operates on either direct or repeat operation.
- If the repeat/direct feature is programmed to the keypad, you can change the repeat/direct setting by doing the following.

1. Press  until *DIR* is displayed.

DIR PWR PROG

2. Press  (the softkey below *DIR*).

3. The current talkaround state appears on the display for a few seconds.

REPEATER MODE


or

DIRECT MODE

4. Then, the display prompts for the new state.

DIR

RPTR

5. Press  below the desired talkaround state: repeat (*RPTR*) or direct (*DIR*).

6. The radio returns to the home display.

PLANT POLICE

SMART PTT

Smart PTT is a per-mode feature which gives the system manager better control of radio operators. When smart PTT is enabled in your radio, you cannot transmit on an active mode. Three radio-wide variations of smart PTT are available.

- **Transmit Inhibit on Busy Mode**—you are prevented from transmitting if any activity is detected on the mode.

- **Transmit Inhibit on Busy Mode with Wrong Squelch Code**—you are prevented from transmitting on an active mode with a squelch code other than your own. If the PL code is the same as yours, you are allowed to transmit.
- **Quick-Key Override**—This feature can work in conjunction with either of the two above variations. This feature allows you to override the transmit-inhibit state by quick-keying (two PTT presses within a programmable period -- the default is one second -- of each other) the radio.

Note: If you try to transmit (press the PTT) on a smart PTT mode that is busy, a continuous alert tone is generated until the PTT is released; the transmission is inhibited.

- The red LED blinks when the radio is receiving indicating that the mode is busy.

SCAN

This section outlines the scan functions of your radio. All references to what is shown on the display is only valid for GP280 radios. Throughout this section, the display below

PLANT POLICE

is used to indicate the radio's home display.

SCAN OPERATION

The scan feature allows you to monitor activity on different conventional or trunked modes by scanning a *scan list* of modes. This list can be programmed with the Customer Programming Software (CPS) or user programmable.

The table below lists the types of scan operations available depending on radio model.

Conventional	Comprises conventional-only modes.
Talkgroup Scan	Comprises conventional modes and trunked modes from more than one trunking system.

Automatic scanning (autoscan) can be programmed through the CPS. If autoscan is enabled for a mode, your radio begins scanning, using the mode's scan list, whenever you select that mode.

The radio will continue autoscanning until you select a mode that does not have autoscan enabled.

Turning Scan On or OFF with the Keypad (GP280 radios only)

1. Press  until *SCAN* is displayed.

PHON SCAN CALL

2. Press  (the soft-key below *SCAN*).

You will see the current scan state momentarily.

SCAN ON

or


SCAN OFF

Then

ON OFF

3. Press the softkey below the desired scan state (on or off). The radio returns to the home display.

PLANT POLICE

Note: The scan status annunciator, , is displayed when the scan operation is active. It will be removed from the display when the scan operation is terminated.

Deleting Nuisance Modes


When the radio scans to a mode you do not wish to monitor (nuisance mode), you can temporarily delete that mode from the scan list.

1. When your radio is locked on the mode to be deleted, press the nuisance-mode delete button (programmed via the CPS).
2. A valid-keypress chirp is heard, indicating that the mode has been deleted.
3. The radio continues scanning the remaining modes in the list.
4. To resume scanning the deleted mode, you must leave and re-enter scan operation.

Viewing a Scan List (GP280 radios only)

The *view scan list* feature allows you to view the members of the scan list associated with the currently selected mode.


To view a scan list

1. Press  until *VIEW* is displayed.

PAGE STS VIEW


2. Press  (the soft-key below *VIEW*).

PHON SCAN CALL


3. Press  (the soft-key below *SCAN*).
The display shows the first member of the scan list.


For example

FIRE DEPT

4. Every subsequent press of  will scroll through subsequent members of the scan list.
5. To leave the scan list feature, press the HOME key, or the PTT switch, or turn the mode selector knob.
6. The radio returns to the home display.

PLANT POLICE


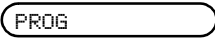







Note: The programming-mode annunciator, , is displayed while list view mode is active.

- The scan status annunciator, , appears, indicating that a scan list is being viewed.


Programming a Scan List (GP280 radios only)

The program scan list feature allows you to program the members of the scan list associated with the currently selected mode.

To program a scan list

1. Press  until *PROG* is displayed. 
2. Press  (the soft-key below *PROG*). 
3. Press  (the soft-key below *SCAN*). For example
The display shows the current mode selected. 
4. Use the mode selector knob to select the required talkgroup zone.
5. Press  or  to select the required zone. If the scan status annunciator  is displayed, the mode is part of the scan list.
6. Press the select key to enable or disable the scan mode.
7. After making all the changes, select the required operating mode.

8. Press the HOME key, or the PTT switch, or turn the mode selector knob to commit all the changes made.

Note: The programming-mode annunciator, , blinks while program mode is active.

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