MOTOROLA
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ASTRO® XTS™ 2500
Digital Portable Radio
Model III

User Guide

6881094C06-B

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Product Safety and RF Exposure Compliance

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

ATTENTION!

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Table 1: Channel Map

Use the chart below to map the channels (C*x*) and zones (Z*x*) for your radio.

	Z1	Z2	Z3	Z4	Z5	Z6
C1						
C2						
C3						
C4						
C5						
C6						
C7						
C8						
C9						
C10						
C11						
C12						
C13						
C14						
C15						
C16						

Notes

SAFETY

Product Safety and RF Exposure Compliance

Caution

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ATTENTION!

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Notes

General Radio Operation

Notations Used in This Manual

You will notice the use of **WARNINGS**, **CAUTIONS**, and **Notes** throughout this manual. These notations are used to emphasize that safety hazards exist and that care must be taken or observed.

WARNING: An operational procedure, practice, condition, etc. exists which may result in injury or death if not carefully observed.

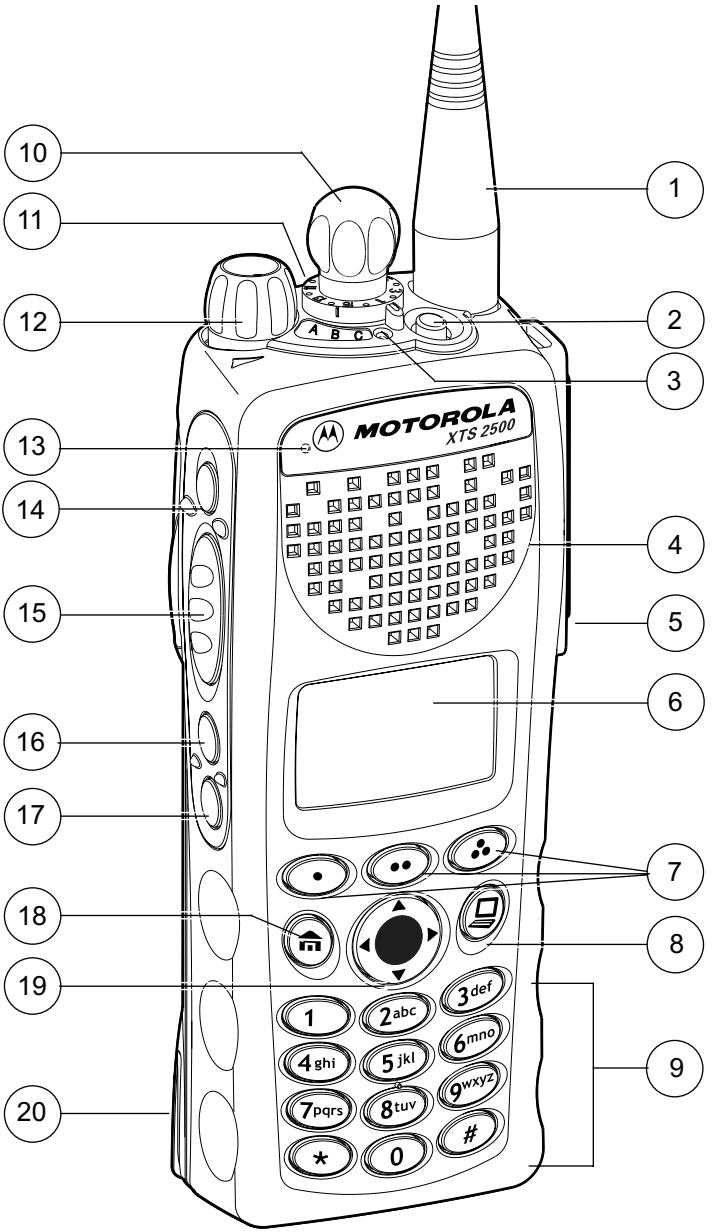
CAUTION: An operational procedure, practice, condition, etc. exists which may result in damage to the equipment if not carefully observed.

Note: A **Note** is an operational procedure, practice, or condition, etc. which is essential to emphasize.

The following special notations identify certain items:

Example	Description
Light button, or ⊙	Buttons and keys are shown in **bold** print, or as representative symbols.
PHONE CALL	Information appearing in the radio's display is shown using the special display font.
PHONE	Menu entries are shown similar to the way they appear in the radio's display.
Press ⊙	This means "Press the right side of the **4-Way Navigation** button."

XTS 2500 Model III Radio



Physical Features of the XTS 2500 Model III Radio

Item		Page	Item		Page
1	Antenna	20	**11**	**3-Position Concentric** Switch (programmable)	
2	**Top** Button (programmable)		**12**	**On/Off/Volume Control** Knob	25
3	LED	13	**13**	Microphone	
4	Speaker		**14**	**Top Side** (**Select**) Button (programmable)	
5	Universal Connector	22	**15**	**Push-to-Talk** (**PTT**) Button	
6	Display	7	**16**	**Side Button 1** (programmable)	
7	**Menu Select** Buttons	9	**17**	**Side Button 2** (programmable)	
8	**App** Button (for future use)		**18**	**Home** Button	11
9	**Keypad**	12	**19**	**4-Way Navigation** Button	11
10	**16-Position** Knob (programmable)		**20**	Battery	17

Programmable Features

The programmable controls on your radio can be programmed by a qualified technician to operate certain software-activated features. The features that can be assigned to these controls, and the page numbers where these features can be found, are listed below.

Table 1: Programmable Features

Feature	Page	Feature	Page
Call Alert Page	62	Private Call	59
Call Response	55	Repeater/Direct	66
Channel Selection	27	Reprogram Request	69
Dynamic Priority	54	Scan On/Off	51
Emergency	41	Site Lock/Unlock	73
Keypad Mute	37	Site Search	74
Light	7	*Smart Battery	19
Monitor	31	Transmit Power Level	33
Nuisance Delete	53	Volume Set	29
Phone	55	Zone Selection	26
PL Defeat	39		

*Available at a future date.

Any references in this manual to controls that are "preprogrammed" means that a qualified technician must use the radio's programming software to assign a feature to a control.

Display

This figure is typical of what you see on your radio. The 64 x 96 pixel liquid crystal display (LCD) shows radio status, text, and menu entries.

Backlight

If poor light conditions make the display and keypad difficult to read, turn on the radio's backlights by pressing the preprogrammed **Light** button.

These lights will remain on for a preprogrammed time before they turn off automatically, or you can turn them off immediately by pressing the **Light** button again.

Status Symbols

The top two rows in the display contain symbols indicating the radio's status.

Table 2: Status Symbols

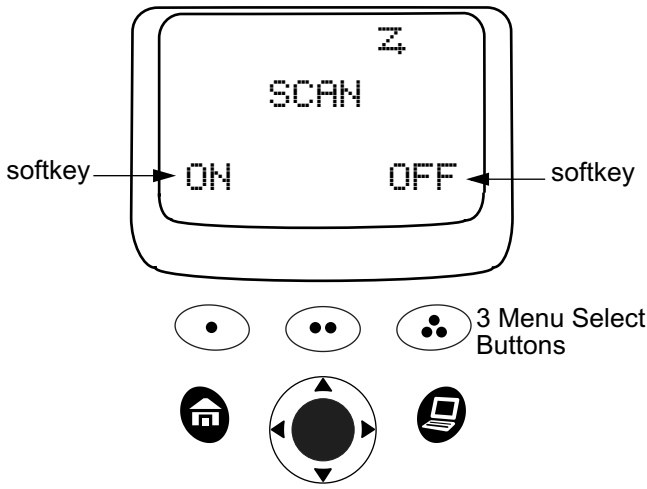
Symbol	Indication	Page
	Call Received. Flashes when an Individual Call is received.	59
	View/Program Mode. • View a list (steady) • Program a list (flashing)	45
	Received Signal Strength Indication (RSSI). The received signal strength for the current site. Trunked only. The more stripes in the symbol, the stronger the received signal.	74
	Battery • Conventional = Flashes when the battery is low. • Smart = The number of bars (0-3) shown indicates the charge remaining in your battery. Flashes when battery level reaches 10% or less. **Note:** Smart battery will be available at a future date.	17
	Talkaround. • On = Talking directly to another radio, not through a repeater. Conventional operation only. • Off = Talking through a repeater.	66
	Monitor (Carrier Squelch). The selected channel is being monitored. Conventional operation only.	31
	Scan. The radio is scanning a scan list.	51

Menu Entry (Softkey)

The bottom row of the display contains one to three menu entries (also known as softkeys). The menu entries allow you to select from one of several menus to access the radio's features. The menu entries are accessed using the **Menu Select** buttons.

Menu Select Buttons

The **Menu Select** buttons access the menu entries of features that have been activated by a qualified radio technician. Your radio may be programmed differently from the following example, but the display for selecting Scan on or off might look like this:



Example: To turn scan on:

Press (•).

The display shows the selected state.

Menu Entry Features

In most cases, press ⊙ to display the following feature selections.

Table 3: Menu Entry Features

Feature	Menu Entry	Page	Feature	Menu Entry	Page
Call Alert Page	PAGE	63	**Reprogram Request**	RPGM	69
Channel Selection	CHAN	27	**Scan On/Off**	SCAN	51
Edit a List	PROG	47, 49	**Site Lock/ Unlock**	SITE	73
Keypad Mute	MUTE	37	**Smart Battery***	BATT	19
Number Select	NUM	47	**Talkgroup Call**	TGRP	65
Password	PSWD	36	**Text Select**	NAME	49
Phone	PHON	56	**Time/Date**	CLCK	76
Private Call	CALL	60	**Transmit Power Level**	PWR	33
Radio Lock	RADIO LOCKED	35	**View a List**	VIEW	45
Repeater/ Direct	DIR	66	**Zone Selection**	ZONE	26

*Available at a future date.

Home Button ()

The **Home** button will always return you to the home (default) display. In most cases, this is the current mode.

Some radio features that can be edited by you require saving information in memory. Pressing the **Home** button while using those features will cause information to be saved before going to the home display.

Some features do not require you to press the **Home** button to go to the home display. This reduces the required number of button presses.

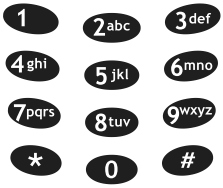
App Button ()

Reserved for future use.

4-Way Navigation Button ()

This button is used to scroll through the radio's lists or items in the display.

Keypad



The 3 x 4 alphanumeric keypad provides an interface to your radio's features.

The keypad functions in a manner similar to a standard telephone keypad when entering numeric digits.

When the keypad is used to edit a list, each key can generate different characters of the alphabet. Refer to the following table for a complete list of characters.

Table 4: Keypad Character Editing Table

Key	Number of times the key is pressed								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
0	0	(	)	<	>				
1	1	&	%						
2abc	A	B	C	2	a	b	c		
3def	D	E	F	3	d	e	f		
4ghi	G	H	I	4	g	h	i		
5jkl	J	K	L	5	j	k	l		
6mno	M	N	O	6	m	n	o		
7pqrs	P	Q	R	S	7	p	q	r	s
8tuv	T	U	V	8	t	u	v		
9wxyz	W	X	Y	Z	9	w	x	y	z
*	*	/	+	-	=				
#	#	.	!	?	,	;			

LED Indicators

Table 5: LED Indicators

This LED Color:	Indicates:
RED (Non-flashing)	Transmitting
RED (Flashing)	• Channel Busy or • Low Battery (lights while transmitting)
GREEN (Flashing)	Receiving Individual Call

Alert Tones

Your radio uses alert tones to inform you of radio conditions.

Table 6: Alert Tones

You hear:	Tone Name	Heard:
Short, Low-Pitched Tone	Invalid Key-Press	when the wrong key is pressed.
	Radio Self-Test Failed	when the radio fails the power-up self test.
	Reject	when an unauthorized request is made.
	Time-Out Timer Warning	four seconds before time out.
Long, Low-Pitched Tone	No ACK Received	when the radio does not receive an acknowledgment.
	Time-Out Timer Timed Out	after time out.
	Talk Prohibit/ PTT Inhibit	(when the PTT button is pressed) transmissions are prevented.
	Out-of-Range	(when the PTT button is pressed) the radio is out of range of the system.
	Invalid Mode	when the radio is set to an unprogrammed channel.
	Individual Call Warning Tone	when the radio is in Individual Call without any activity for more than 6 seconds.

Table 6: Alert Tones (Continued)

You hear:	Tone Name	Heard:
A Group of Low-Pitched Tones (Busy Tone)	Busy	when the system is busy.
Short, Medium-Pitched Tone	Valid Key-Press	when the correct key is pressed.
	Radio Self-Test Pass	when the radio passes its power-up self-test.
	Priority Channel Received	when activity on a priority channel is received.
	Emergency Alarm Entry	when entering the emergency state.
	Central Echo	when the central controller has received a request from a radio.
Long, Medium-Pitched Tone	Volume Set	when volume changed on a quiet channel.
	Emergency Exit	upon exiting the emergency state.

Table 6: Alert Tones (Continued)

You hear:	Tone Name	Heard:
A Group of Medium-Pitched Tones	Failsoft	when the trunking system fails.
	Automatic Call Back	when the voice channel is available from the previous request.
	Talk Permit	(When pressing the PTT button) verifies the system is accepting transmissions.
	Console Acknowledge	when a status, emergency alarm, or reprogram request acknowledgment is received.
	Received Individual Call	when a Call Alert, or Private Conversation Call is received.
	Call Alert Sent	when a Call Alert is received by the target radio.
Short, High-Pitched Tone (Chirp)	Low-Battery Chirp	when the battery is below the preset threshold value.
Ringing	Fast Ringing	when the system is searching for the Private Conversation Call target radio.
	Enhanced Call Sent	when waiting for the Private Conversation Call target radio to respond to the call.
	Phone Call Received	when a landline phone call is received.
Gurgle	Dynamic Regrouping	when the PTT button is pressed, a dynamic ID has been received.

Standard Accessories

Battery

To avoid a possible explosion:

- **DO NOT replace the battery in any area labeled “hazardous atmosphere”.**
- **DO NOT discard batteries in a fire.**

Charge the Battery

The Motorola-approved battery shipped with your radio is uncharged. Prior to using a new battery, charge it for a minimum of 16 hours to ensure optimum capacity and performance.

For a list of Motorola-authorized batteries available for use with your XTS 2500 radio, see “Batteries” on page 85.

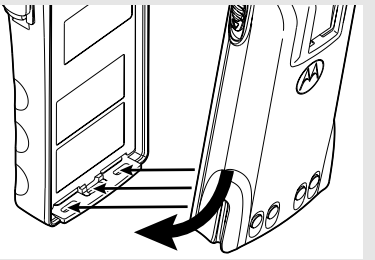
Note: When charging a battery attached to a radio, turn the radio off to ensure a full charge.

Battery Charger

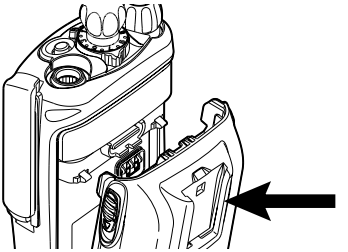
To charge the battery, place the battery, with or without the radio, in a Motorola-approved charger. The charger’s LED indicates the charging progress; see your charger’s user guide. For a list of chargers, see “Chargers” on page 86.

Attach the Battery

1 With the radio off, fit the three extensions at the bottom of the battery into the bottom slots on the radio.

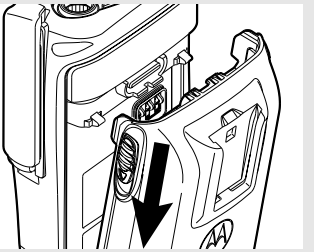


2 Press the top of the battery against the radio until both latches click into place.

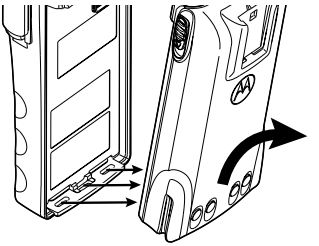


Remove the Battery

1 With the radio off, slide down the latches on the sides of the battery.



2 Pull the top of the battery away from the radio.



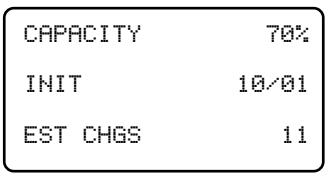
Smart Battery Condition

This feature lets you view the condition of your Smart Battery when it becomes available.

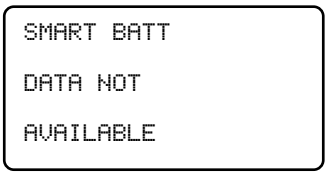
Use the Menu

1 Press ⊙ to find BATT.

2 Press •, ••, or ⁂ directly below BATT.



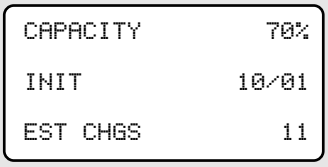
Note: If a Smart Battery is not powering your radio



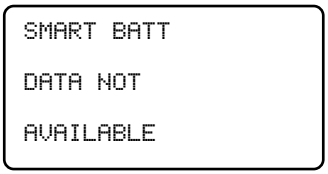
3 Press ⌂ to exit.

Use the Preprogrammed Smart Battery Button

1 Press the **Smart Battery** button.



Note: If a Smart Battery is not powering your radio



2 Press ⌂ to exit.

Antenna

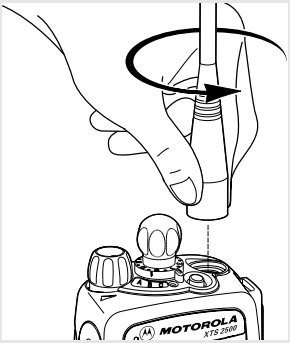
For information regarding other available antennas, see page 84.

Attach the Antenna

With the radio off, turn the antenna clockwise to attach it.

Remove the Antenna

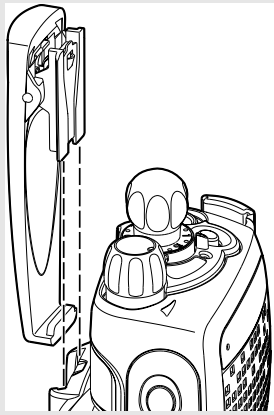
With the radio off, turn the antenna counter-clockwise to remove it.



Belt Clip

Attach the Belt Clip

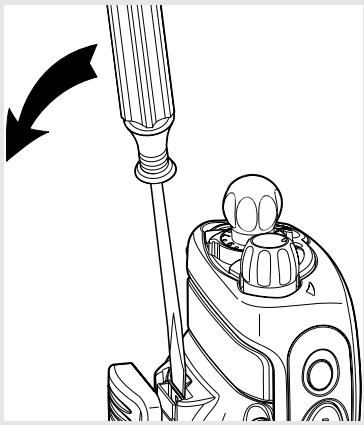
1 Align the grooves of the belt clip with those of the battery.



2 Press the belt clip downward until you hear a click.

Remove the Belt Clip

1 Use a flat-bladed screwdriver to press the belt clip tab away from the battery.



2 Slide the belt clip upward to remove it.

Universal Connector Cover

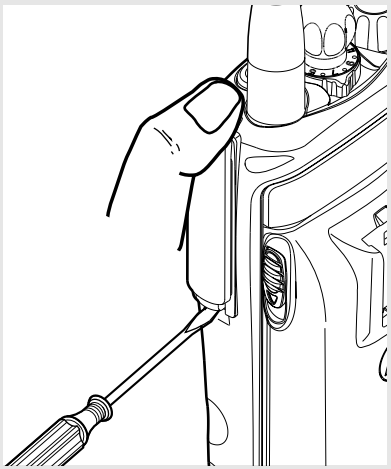
The universal connector cover is located on the antenna side of the radio. It is used to connect certain accessories to the radio.

Note: To prevent damage to the connector, shield it with the connector cover when not in use.

Remove the Connector Cover

1 Insert a flat-bladed screwdriver into the area between the bottom of the cover and the slot below the connector.

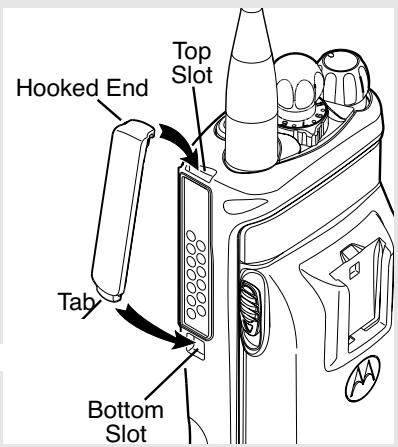
2 Hold the top of the cover with your thumb while you pry the bottom of the cover away from the radio with the screwdriver.



Attach the Connector Cover

1 Insert the hooked end of the cover into the top of the connector. Press downward on the cover's top to seat it into the slot.

2 Press the cover's lower tab below the connector until it snaps in place.



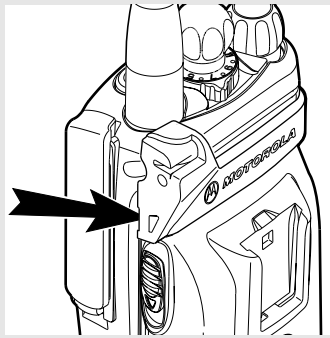
Remote Speaker Microphone Adapter

The Remote Speaker Microphone (RSM) adapter is located on the back of the radio, just above the battery. **It must be used to connect the RSM accessories (see page 89) to the radio.** If the RSM is not used, the adapter should be removed.

Remove the Adapter

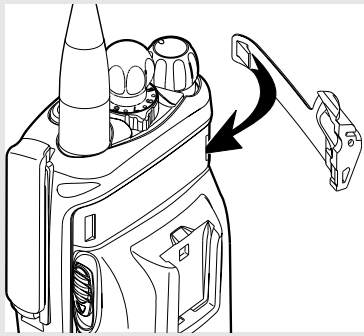
Lift the larger side (below the antenna port) of the adapter away from the radio using your finger.

If you cannot easily remove the adapter with your finger, use a small, flat bladed screwdriver to pry the larger end side of the adapter away from the radio.

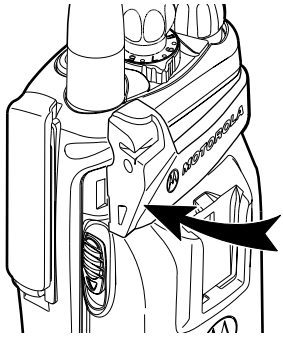


Attach the Adapter

1 With the Motorola side of the adapter facing out, snap the smaller end of the adapter into place in the shroud indent, below the **On/Off Volume Control** Knob.



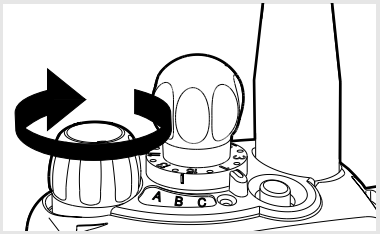
2 Snap the larger end of the adapter into place in the shroud indent, below the antenna port.



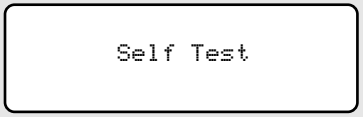
Radio On and Off

Turn the Radio On

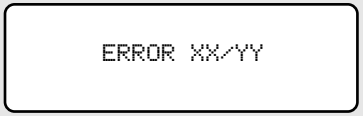
Turn the **On/Off/Volume Control** knob clockwise.



- If the power-up test is successful, you will briefly see `Self Test` and then the home display.

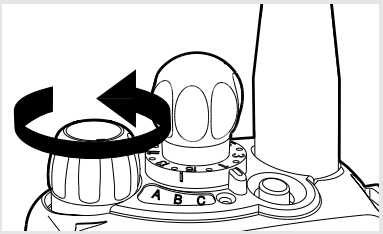


- If the power-up test is unsuccessful, you will see `ERROR XX/YY`. (`XX/YY` is an alphanumeric code.) Turn off the radio, check the battery, and turn the radio on again. If the radio continues to fail the power-up test, record the `ERROR XX/YY` code and contact a qualified service technician.



Turn the Radio Off

Turn the **On/Off/Volume Control** knob counterclockwise until it clicks.



Zones and Channels

A zone is a grouping of channels. A channel is a group of radio characteristics, such as transmit/receive frequency pairs.

Before you use your radio to receive or send messages, you should select the zone and channel.

Select a Zone

Use the Menu

1 Press ◉ to find ZONE.

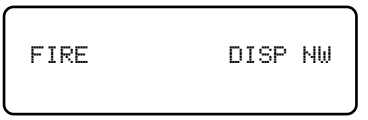
2 Press •, ••, or ⁂ directly below ZONE. The current zone (in this case, POL) flashes and the channel name (DISP NW), does not flash.

3 Press ◉ to find the zone you want. For example, FIRE.

4 Press ⌂ to confirm the displayed zone and channel.

OR

Press the **PTT** button to transmit on the displayed zone/channel.



Use the Preprogrammed Zone Switch

1 If a control on your radio has been preprogrammed as the **Zone** Switch, move the **Zone** Switch to the position for the zone you want.

Note: If the zone you selected is unprogrammed, repeat step 1.

2 Press ⓗ to confirm the displayed zone and channel.

Select a Channel

Consult an authorized service technician for the right choice between the following methods.

Method 1: Use the Preprogrammed Channel Selector

After the zone you want is displayed, turn the preprogrammed **Channel Selector** switch to the desired channel.

Method 2: Use the Menu

1 Press ⊙ to find CHAN.

2 Press •, ••, or ⁂ directly below CHAN.

The display shows the current channel name (in this case, DISP NW) flashing and the zone (POL), not flashing.

3 Press ⊙ to find the channel name you want.

OR

Use the keypad to enter the channel number.

Note: If the channel you selected is unprogrammed, repeat step 3.

4 Press ⌂ to confirm the displayed zone and channel.

OR

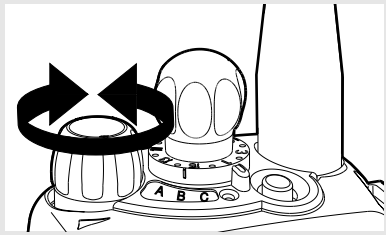
Press the **PTT** button to transmit on the displayed zone/channel.

Receive / Transmit

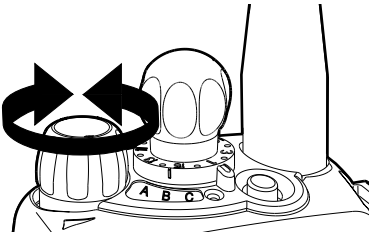
Radio users who switch from analog to digital radios often assume that the lack of static on a digital channel is an indication that the radio is not working properly. This is not the case. Digital technology quiets the transmission by removing the noise from the signal and allowing only the clear voice or data information to be heard.

This section emphasizes the importance of knowing how to monitor a channel for traffic before keying-up to send a transmission.

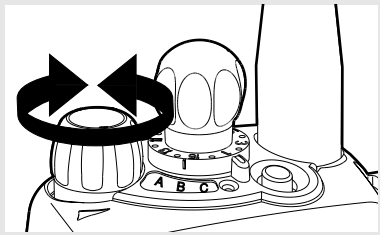
Without Using the Volume Set and Monitor Buttons

1	Turn the radio on and select the desired zone and channel.	
2	Listen for a transmission.	
3	Adjust the **Volume Control** knob if necessary.	
4	Press and hold the **PTT** button to transmit. The LED lights RED while transmitting.	
5	Release the **PTT** button to receive (listen).	

Use Preprogrammed Volume Set Button

1	Turn the radio on and select the desired zone and channel. See **Turn the Radio On**, page 25 and **Zones and Channels**, page 26.	
2	Press and hold the **Volume Set** button to hear the volume set tone.	
3	Release the **Volume Set** button.	
4	Adjust the **Volume Control** Knob if necessary.	
5	Press and hold the **PTT** button to transmit. LED lights RED while transmitting.	
6	Release **PTT** button to receive (listen).	

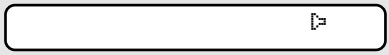
Use the Preprogrammed Monitor Button

1	Turn the radio on and select the desired zone and channel.	
2	Press the **Monitor** button and listen for activity. The Carrier Squelch indicator is displayed. (See the following **Conventional Mode Operation**.)	
3	Adjust the **Volume Control** Knob if necessary.	
4	Press and hold the **PTT** button to transmit. The LED lights RED while transmitting.	
5	Release the **PTT** button to receive (listen).	

Conventional Mode Operation

Your radio may be programmed to receive Private Line (PL) calls.

1 Momentarily press the **Monitor** button to listen for activity. The Carrier Squelch indicator is displayed.



2 Press and hold the **Monitor** button to set continuous monitor operation. (The duration of the button press is programmable.)

3 Press the **Monitor** button again, or the **PTT** button, to return to the original squelch setting.

Note: If you try to transmit on a receive-only channel, you will hear an invalid tone until you release the **PTT** button.

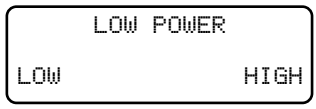
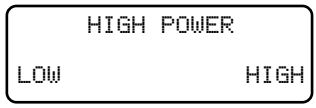
Common Radio Features

Selectable Power Level

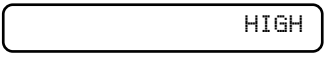
This feature lets you select the power level at which your radio will transmit. The radio will always turn on to the default setting.

- Select LOW for a shorter transmitting distance and to conserve power.
- Select HIGH for a longer transmitting distance.

Use the Menu

1	Press ⊙ to find PWR.	
2	Press •, ••, or ⁂ directly below PWR. The display shows the current power level (LOW or HIGH).	 
3	Press •, ••, or ⁂ directly below the desired power level (LOW or HIGH**)**. **Note:** To exit at anytime without changing the setting, press ⌂ or the **PTT** button. The default setting returns when you turn the radio off and on.	• The new transmit power level is saved. • The radio returns to the Home display.

Using the Preprogrammed TX Power Level Switch

1	Rotate the **TX Power Level** switch. The power level is set to low.	
2	Rotate the **TX Power Level** switch again. The power level is set to high.	

Radio Lock

This feature provides stronger radio security.

If this feature is enabled by a qualified technician, you will see RADIO LOCKED when you turn the radio on.

Unlock Your Radio

1 Enter your numeric password of up to 8 characters. (Use ◄● to backspace if you make a mistake.)

2 Press the preprogrammed **Select** button after you enter your password. If the password is correct, the radio unlocks.

3 Press the preprogrammed side button to verify the password. Radio unlocks if password is correct.

Note: If the password is incorrect, the radio remains locked.

Note: DEADLOCK is displayed after three incorrect password attempts. Turn the radio off and on, and begin again at step 1.

Change Your Password

1	Press ⊙ to find PSWD.	PSWD
2	Press •, ••, or ⁂ directly below PSWD.	OLD PASSWORD
3	Enter the old password.	–––––––– SEL
4	Press •, ••, or ⁂ directly below SEL.	NEW PASSWORD
5	Enter new password.	–––––––– SEL
6	Press •, ••, or ⁂ directly below SEL.	CONFIRM
7	Re-enter password.	–––––––– SEL
8	Press •, ••, or ⁂ directly below SEL. The password is updated.	
	If the two passwords do not match, repeat steps 5 through 8.	NEW PASSWORD

Note: You cannot access this feature again after three failed attempts until you turn the radio off and on.

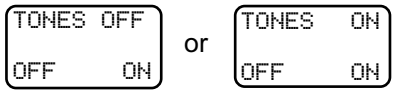
Mute or Unmute Keypad Tones

You can turn the keypad tones off and on.

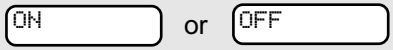
Use the Menu

1 Press ⊙ to find MUTE.

2 Press •, ••, or ⁂ directly below MUTE. The current state is shown.



3 Press •, ••, or ⁂ directly below



Note: Press the ⌂ or the **PTT** button to exit without changing the setting.

Using the Preprogrammed Side Button

Press the preprogrammed side button to turn the tones off or on.

Conventional Squelch Options

Analog Squelch

Tone Private Line (PL), Digital Private-Line (DPL), and carrier squelch can be available (preprogrammed) per channel.

When in...	this condition occurs:
Carrier squelch (▷)	You hear all traffic on a channel.
PL, DPL	The radio responds only to your messages.

Digital Squelch

One or more of the following options may be programmed in your radio. Consult your service technician for more information.

This option...	allows you to hear:
Digital Carrier-Operated Squelch (COS)	any digital traffic.
Normal Squelch	any digital traffic having the correct Network access code.
Selective Switch	any digital traffic having the correct Network access code and correct talkgroup.

PL Defeat

With this feature, you can override any coded squelch (DPL, PL, or network ID) that might be preprogrammed to a channel.

Place the preprogrammed **PL Defeat** switch in the **PL Defeat** position. You can now hear any activity on the channel. The radio is muted if no activity is present.

When this feature is active, the Carrier Squelch status indicator (▷) will be displayed.

Time-out Timer

The time-out timer turns off your radio's transmitter. The timer is set for 60 seconds at the factory, but it can be programmed from 0 to 7.75 minutes (465 seconds) by a qualified radio technician.

1	Hold down the **PTT** longer than the programmed time. You will hear a short, low-pitched warning tone, the transmission is cut-off, and the LED will go out until you release the **PTT**.	• Short warning tone • Transmission is cut-off • LED goes out
2	Release the **PTT** button.	• LED re-lights • Timer resets
3	Press the **PTT** to re-transmit. Time-out timer restarts.	• Timer restarts • RED LED

Emergency

If the top (orange) button is programmed to send an emergency signal, then this signal overrides any other communications over the selected channel.

Your radio can be programmed for the following:

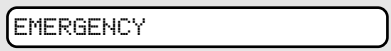
- Emergency Alarm
- Emergency Alarm with Emergency Call, or
- Silent Emergency Alarm
- Emergency Call.

Consult a qualified radio technician for emergency programming of your radio.

Send an Emergency Alarm

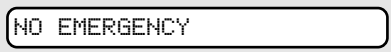
An Emergency Alarm will send a data transmission to the dispatcher, identifying the radio sending the emergency.

1 With your radio turned on, press the **Emergency** button. The current zone/channel is displayed alternately with EMERGENCY, the LED lights RED, and a short, medium-pitched tone sounds.



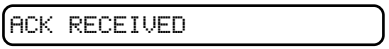
- RED LED
- Short Tone

If the selected channel does not support emergency, the display shows NO EMERGENCY. Select a channel that does show EMERGENCY.



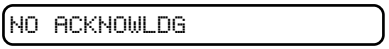
Note: To exit emergency at any time, press and hold the Emergency button for about a second.

2 When you receive the dispatcher's acknowledgment, you see ACK RECEIVED, four tones sound, the alarm ends, and the radio exits the emergency mode.



- Four tones
- Alarm ends
- Radio exits emergency

If no acknowledgement is received, you see NO ACKNOWLDG, the alarm ends, and the radio exits the emergency mode.



Note: For Emergency Alarm with Emergency Call: The radio enters the Emergency Call state either after it receives the dispatcher's acknowledgment, or if you press the **PTT** button while in Emergency Alarm. Go to step 2 below: "Send an Emergency Call."

Send an Emergency Call

An Emergency Call will send a type of dispatch giving your radio priority access to channels.

The radio operates in the normal dispatch manner while in Emergency Call, except, if enabled, it will return to one of the following:

Using this operation:	means you will talk:
1. Tactical/Non-Revert	on the channel you selected before you entered the emergency state.
2. Non-Tactical/Revert	on a preprogrammed emergency channel. The emergency alarm is sent to this same channel.

1	With your radio turned on, press the **Emergency** button. The current zone/ channel is displayed alternately with EMERGENCY, and a short, medium-pitched tone sounds.	EMERGENCY • Short tone

Note: To exit emergency at any time, press and hold the **Emergency** button for about a second.

2	Press and hold the **PTT** button and announce the emergency into the microphone to send the Emergency call.	
3	Release the **PTT** button to end the call.	
4	Exit the Emergency State by pressing the **Emergency** button again for about one second (the time may be changed by a qualified technician). The radio returns to normal operation.	

Send a Silent Emergency Alarm

1	With your radio turned on, press the **Emergency** button if your radio is programmed for this use. The display does not change, the LED does not light, and no tones sound.	• Display does not change • LED does not light • No tones

Note: To exit emergency at any time, press and hold the **Emergency** button for about a second.

2	The silent emergency state continues until you press and hold the **Emergency** button for about a second to exit the emergency state.	• Press and hold the **Emergency** button
OR	Press and release the **PTT** button to exit silent emergency. The silent alarm is cancelled without an exit tone, and you can begin transmitting voice calls.	**OR** • Press and release the **PTT** button

Note:
- For ALL Emergency signals: You can change channels while in Emergency operation if the new channel is also programmed for Emergency. The emergency alarm or call continues on the new channel.
- If the new channel is NOT programmed for Emergency, you see NO EMERGENCY, and hear an invalid tone until you exit the Emergency state or change to a channel programmed for emergency.

Emergency Keep-Alive

If the radio is in the Emergency state, with Emergency Keep-Alive enabled, you cannot turn off the radio by using the **On/Off Control** knob.

With Keep-Alive, the radio will only exit the Emergency state using one of the ways mentioned in the previous sections (Emergency Alarm, Silent Emergency Alarm, or Emergency Call).

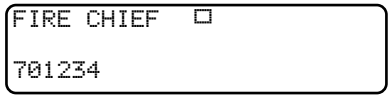
Lists

You can use lists to store frequently used numbers and associate them with names.

There are four list types:

- Call
- Page
- Phone
- Scan

View a List

1	Press ⊙ to find VIEW.	
2	Press •, ••, or ⁂ directly below VIEW.	
3	Press ⊙ or ⊙ to see the names of the available lists.	
4	Press •, ••, or ⁂ directly below the desired list to view it. The first list member is displayed. □ indicates the view mode.	
5	Press ⊙ or ⊙ to view other list members.	
6	Press ⊙ to exit.	

Scan List Empty

If the scan list has no members, EMPTY LIST is displayed.

EMPTY LIST can be changed by turning scan off, or if a qualified technician adds members to the scan list.

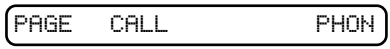
Edit a Call, Page, or Phone List Number

Use the Menu

1 Press ⊙ to find PROG.

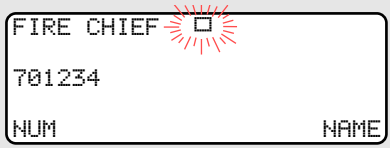
2 Press •, ••, or ⁂ directly below PROG.

The changeable lists are displayed.

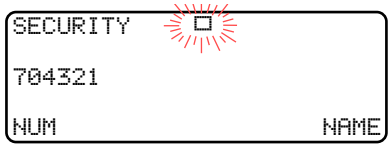


3 Press •, ••, or ⁂ directly below the list you wish to change.

First list member is displayed. Flashing □ indicates programming mode.



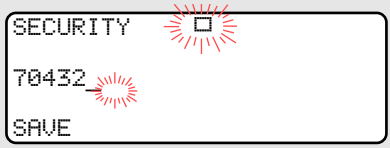
4 Press ⊙ or ⊙ to select the list member to be changed.



5 Press •, ••, or ⁂ directly below NUM. Blinking cursor shows location of number to be added.

OR

You can use the keypad to enter the corresponding location number of the name in the list.



6 Press ◀● to erase digits. If you erase the entire number and press ●▶ or ◀●, you exit the edit mode without saving your changes. Press a keypad button to add a digit.

7 Press •, ••, or ⁂ directly below SAVE to save your change.

Return to step 4 to make more changes.

OR

Press ⌂ to return to home display.

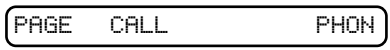
Edit a Call, Page, or Phone List Name

Use the Menu

1 Press ⊙ to find PROG.

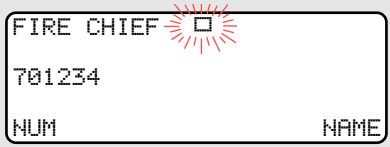
2 Press •, ••, or ⁂ directly below PROG.

The changeable lists are displayed.

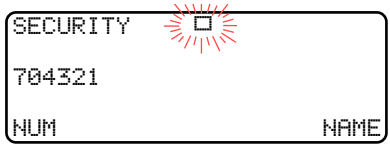


3 Press •, ••, or ⁂ directly below the list you wish to change.

First list member is displayed. Flashing □ indicates programming mode.



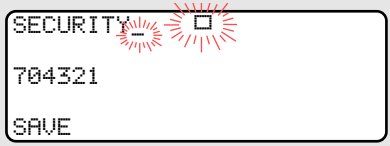
4 Press ⊙ or ⊙ to select the list member to be changed.



5 Press •, ••, or ⁂ directly below NAME. Blinking cursor shows location of character to be added.

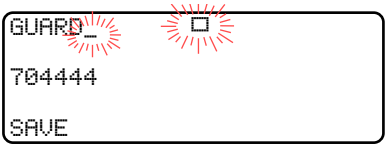
OR

You can use the keypad to enter the corresponding location number of the name in the list.



6 Press ◀● to erase the last digits. (If you erase the entire name and press ◀●▶, you exit the edit mode without saving your changes.)

Press a keypad button to add a character. See “Keypad” on page 12.



7 Press •, ••, or ••• directly below SAVE to save your change.

Return to step 4 to make more changes.

OR

Press ⌂ to return to home display.

Scan

The scan feature allows you to monitor traffic on different channels by scanning a preprogrammed list of channels. Your radio can have up to 20 different scan lists. These lists must be preprogrammed by a qualified technician.

You can view the scan list assigned to the currently selected channel the same way you would view other lists. See “View a List” on page 45.

Turn Scan On and Off

Using the Menu

1 Press ⊙ to find SCAN.

2 Press •, ••, or ⁂ directly below SCAN.

The current scan state is displayed.

3 Press •, ••, or ⁂ directly below ON or OFF. When scan is on, the scan status symbol (Z) is displayed.

OR

To exit the display menu without changing the scan state, press ⌂ or **PTT**.

Use the Preprogrammed Scan On/Off Switch

Place the **Scan On/Off** switch in the Scan On or Scan Off position.

The current scan state is displayed. When scan is on, the scan status symbol (Z) is displayed.

Note: To exit the display menu without changing the scan state, press ⌂ or **PTT**.

Delete a Nuisance Channel

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

1 When the radio is locked onto the channel to be deleted, press the preprogrammed **Nuisance Delete** button.

Repeat this step to delete more channels.

Note: You cannot delete priority channels or the designated transmit channel.

2 The radio continues scanning the remaining channels in the list. To resume scanning the deleted channel, change channels or turn scan off and then back on again.

Conventional Scan Only

Make a Dynamic Priority Change

While the radio is scanning, the dynamic priority change feature lets you *temporarily* change any channel in a scan list (except the priority-one channel) to the priority-two channel. The replaced priority-two channel becomes a non-priority channel. This change remains in effect until scan is turned off, then scanning reverts back to the preprogrammed state.

1 When the radio is locked onto the channel to be designated as priority-two, press the preprogrammed **Dynamic Priority** button.

Note: The priority-one channel cannot be changed to priority-two.

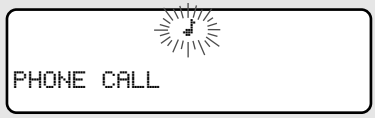
2 The radio continues scanning the remaining channels in the list. To resume scanning the preprogrammed priority-two channel, you must leave and re-enter scan operation.

Telephone Calls (Trunking Only)

Use your radio to make and receive standard phone calls. A landline phone can be used to call a radio, or a radio can be used to call a landline phone.

Answer a Phone Call

Use the Preprogrammed Call Response Button

1	When a phone call is received, you hear a telephone-type ringing, the LED flashes GREEN, the call-received symbol (♪) flashes, and PHONE CALL is displayed.	 • Telephone ringing • Flashing GREEN LED
2	Press the **Call Response** button within 20 seconds after the call indicators begin.	
3	Press and hold the **PTT** button to talk; release it to listen.	
4	Press ⌂ to hang up and return to the home display.	

Make a Phone Call

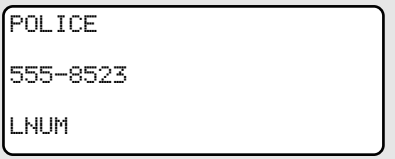
Use the Menu

1 Press ⊙ to find PHON.

2 Press •, ••, or ⁂ directly below PHON**.**
The last phone number is dialed is displayed.

Note: If you wish to call this number, go to Step 4. Otherwise, continue to Step 3.

3 Press ⊙ or ⊙ to scroll to the phone number you want in the list. Press •, ••, or ⁂ directly under **LNUM** to go to the last phone number dialed.



4 Press the **PTT** button to start the phone call to the displayed number.

OR

Press the preprogrammed **Quick Access** button to start the phone call to the displayed number.

5 Press and hold the **PTT** button to talk, release it to listen.

OR

If your call is not answered, go to “Phone Call Display and alert Prompts” on page page 58.

6 Press ⌂ to hang up and return to the home display.

Use the Keypad

1 Press ◉ to find PHON.

2 Press •, ••, or ⁂ directly below PHON.

You see the last transmitted or received ID number.

3 Enter the phone number you want using the keypad.

4 Press the **PTT** button to start the phone call to the displayed number.

OR

Press the preprogrammed **Quick Access** button to start the phone call to the displayed number.

5 Press and hold the **PTT** button to talk, release it to listen.

OR

If your call is not answered, go to “Phone Call Display and alert Prompts” on page page 58.

6 Press ⌂ to hang up and return to the home display.

Phone Call Display and Alert Prompts

• When you press the **PTT** button and the phone system is not available, a long tone sounds. Press button, to hang up. Radio returns to the home display.	NO PHONE
• When a channel is not available, a busy tone sounds. The radio will automatically connect when a channel opens.	PHONE BUSY
• When the phone system is busy, a long tone sounds. Try your call later. Press button, to hang up. Radio returns to the home display.	PHONE BUSY
• The system does not acknowledge your call. Press button, to hang up. Radio returns to the home display.	NO ACKNOWLDG

Notes:
- A high-pitched tone, generated when you release the **PTT** button, indicates to the landline party that he or she can begin talking.
- You have the option of sending additional digits (overdial), such as an extension number, or credit card or PIN numbers, to the phone system. If the radio is programmed for live overdial, every digit entered after the call is connected is sent to the phone system.
- If the radio is programmed for buffered overdial, the digits pressed are entered into memory and then sent when the **PTT** button is pressed. Press the **PTT** to send either digits or voice, but not both at the same time.

Private Calls (Trunking Only)

These one-to-one calls between two radios are not heard by others in the current talkgroup. The calling radio automatically verifies the receiving radio is active on the system and can display the caller's ID.

Answer a Private Call

Use the Preprogrammed Call Response Button.

1	When a private call is received, you hear two alert tones, the LED flashes GREEN, the call-received symbol (♩) flashes, and `CALL RECEIVD` is displayed.	 • Two tones • Flashing GREEN LED
2	Press the **Call Response** button within 20 seconds. If the caller's name is in the call list, it will be displayed. **OR** If the name is not in the call list, the caller's ID number is displayed.	
3	Press and hold the **PTT** button to talk; release it to listen.	
4	Press ☎ or the **Call Response** button to hang up.	

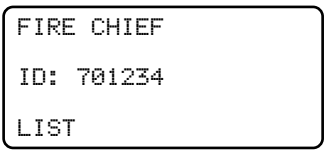
Make a Private Call

Use the Menu

1 Press ⊙ to find CALL.

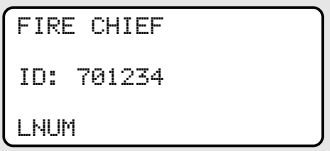
2 Press •, ••, or ⁂ directly below CALL.

You see the last transmitted or received ID number



3 Press ⊙ or ⊙ to scroll to the ID number you want in the list.

Note: Press LNUM to go to the last number dialed.

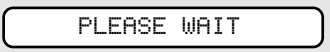


4 Press the **PTT** button to start the Private Call to the displayed number.

OR

Press the preprogrammed **Quick Access** button to start the private call to the displayed number.

5 The called ID is momentarily displayed, followed by PLEASE WAIT. The called ID is displayed once connected.



If the system does not acknowledge the call, NO ACKNOWLDG is displayed.

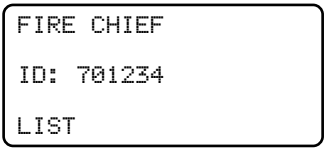
If the target radio does not respond before the time out, NO ANSWER is displayed.

Use the Keypad

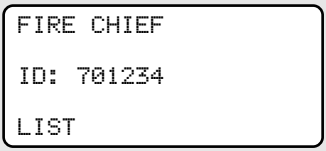
1 Press ⊙ to find CALL.

2 Press •, ••, or ⁂ directly below CALL.

You see the last transmitted or received ID number.



3 Use the keypad to enter the ID number you want to call.



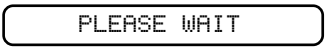
OR

Press the **PTT** button to start the Private Call to the displayed number.

OR

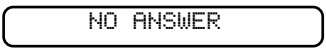
Press the preprogrammed **Quick Access** button to start the phone call to the displayed number.

4 The called ID is momentarily displayed, followed by PLEASE WAIT. The called ID is displayed once connected.



If the system does not acknowledge the call, NO ACKNOWLDG is displayed.

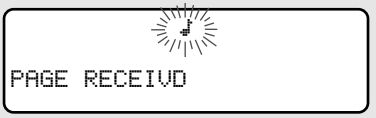
If the target radio does not respond before the time out, NO ANSWER is displayed.



Call Alert Paging

Call Alert allows your radio to work like a pager. Even if other users are away from their radios, or if they are unable to hear their radios, you can still send them a Call Alert page. You can also verify if a radio is active on the system.

Answer a Call Alert Page

1	When a Call Alert Page is received, you hear four repeating alert tones, the LED flashes GREEN, the call-received symbol (♪) flashes, and `PAGE RECEIVD` is displayed.	 • Four repeating alert tones • Flashing GREEN LED
2	Press and hold the **PTT** button to talk, release it to listen.	

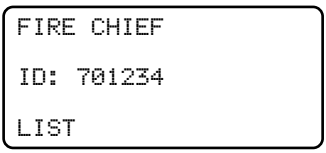
Make a Call Alert

Use the Menu

1 Press ⊙ to find PAGE.

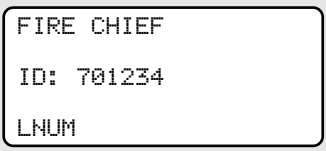
2 Press •, ••, or ⁂ directly below PAGE.

You see the last transmitted or received ID number.



3 Use the keypad to enter the ID number you want to call.

Note: Press LNUM to go to the last number dialed.

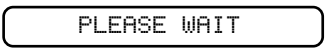


4 Press the **PTT** button to start the Call Alert Page to the displayed number.

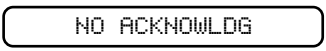
OR

Press the preprogrammed **Quick Access** button to start the page to the displayed number.

PLEASE WAIT is displayed. The home display appears once you are connected.



If the system does not acknowledge the call, NO ACKNOWLDG is displayed.

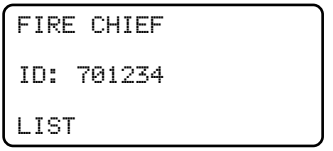


Use the Keypad

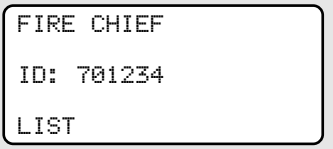
1 Press ⊙ to find PAGE.

2 Press •, ••, or ⁂ directly below PAGE.

You see the last transmitted or received ID number.



3 Enter the ID number you want using the keypad.

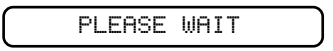


4 Press the **PTT** button to start the Call Alert Page to the displayed number.

OR

Press the preprogrammed **Quick Access** button to start the page to the displayed number.

PLEASE WAIT is displayed. The home display appears once you are connected.



If the system does not acknowledge the call, NO ACKNOWLDG is displayed.

Conventional Talkgroup Calls (Conventional Operation Only)

Talkgroup Call lets you define a group of conventional system users so that they can share the use of a conventional channel.

Select Talkgroup

1 Press ⊙ to find TGRP.

2 Press ⊙, ⊙⊙, or ⊙ directly below TGRP.

The last user-selected-and-stored talkgroup, and its available softkeys, are displayed.

3 Press ⊙ or ⊙ to find the talkgroup you want.

OR

Use the keypad to enter the number of the desired corresponding talkgroup in the list.

4 Press ⊙, ⊙⊙, or ⊙ directly below PSET (to select the preset or programmed talkgroup), or below SEL (to save the talkgroup and return to the home display).

5 To exit, press ⊙ or the **PTT** button, or turn the **16-Position Select** knob.

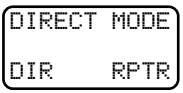
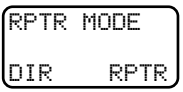
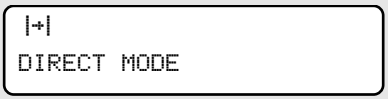
Repeater or Direct Operation

Also known as TALKAROUND operation, DIRECT lets you bypass the repeater and connect directly to another radio. The transmit and receive frequencies are the same.

REPEATER operation increases the radio's range by connecting with other radios through a repeater. Transmit and receive frequencies are different.

Select Repeater or Direct Operation

Use the Menu

1	Press ⊙ to find DIR.	
2	Press •, ••, or ⁂ directly below DIR. The current operation is momentarily displayed.	 or 
3	Press •, ••, or ⁂ directly below **DIR** or **RPTR**. If DIR is selected, the display shows I→I and DIRECT MODE.	
4	Press ⌂ to exit display menu without changing the current operation.	

Special Radio Features

PTT ID

Receive

This feature allows you to see the radio ID number of the radio you are currently receiving. This ID can be a maximum of eight characters and can be viewed by both the receiving radio and the dispatcher.

Transmit

Your radio's ID number is automatically sent every time the **PTT** button is pressed. This is a per-channel feature. For digital voice transmissions, your radio's ID is sent continuously during the voice message.

View Your Radio's ID Number

Use the Menu

1	Press ⊙ or ⊙ to find CALL or PAGE.	CALL or PAGE
2	Press •, ••, or ⁂ directly below CALL or PAGE.	
3	Press ⊙.	MY ID: 701111

Use the Preprogrammed Call or Page Button

1	Press the **Call** or **Page** button.	
2	Press ⊙.	MY ID: 701111

Dynamic Regrouping (Trunking Only)

The dynamic regrouping feature lets the dispatcher temporarily reassign selected radios to a single special channel so they can communicate with each other. This feature is typically used during special operations and is enabled by a qualified radio technician. You will not notice whether your radio has this feature enabled until a dynamic regrouping command is sent by the dispatcher.

Note: If you try to access a zone or channel that has been reserved by the dispatcher as a dynamically regrouped mode for other users, you will hear an invalid tone.

When your radio is dynamically regrouped, it automatically switches to the dynamically regrouped channel. You see the dynamically regrouped channel's name, and hear a "gurgle" tone.

Press the **PTT** button to talk; release it to listen.

When the dispatcher cancels dynamic regrouping, the radio automatically returns to the zone and channel that you were using before the radio was dynamically regrouped.

Reprogram Request (ASTRO 25 Trunking Only)

This feature lets you notify the dispatcher that you want a new dynamic regrouping assignment.

Use the Menu

1	Press ⊙ to find RPGM.	
2	Press ⊙, ⊙⊙, or ⊙ directly below RPGM. The reprogram request is sent to the dispatcher.	

3 If you hear *one beep*

- Press the **PTT** button to send the reprogram request again.

  OR

- Press ⌂ to cancel and return to the home display.

OR

If you hear *five beeps*, the reprogram request was acknowledged by the dispatcher. Your radio returns to the home display.

OR

If the dispatcher does not acknowledge the reprogram request within six seconds, you see `NO ACKNOWLDG` and hear a low-pitched alert tone.

Try again or press ⌂.

`NO ACKNOWLDG`

- An alert tone

Use the Preprogrammed Reprogram Request Button

1 Press the **Reprogram Request** button. You see `REPRGRM RQST`.

The reprogram request is sent to the dispatcher.

`REPRGRM RQST`

2 If you hear *one beep*

- Press the **PTT** button to send the reprogram request again

OR

- Press ⌂ to hang up and return to the home display.

- One beep

OR

If you hear *five beeps*, the reprogram request was acknowledged by the dispatcher. Your radio returns to the home display.

- Five beeps

OR

If the dispatcher does not acknowledge the reprogram request within six seconds, you see NO ACKNOWLDG and hear a low-pitched alert tone.

Try again or press ⌂.

- An alert tone

Select Enable / Disable

The dispatcher can classify regrouped radios into either of two categories: Select Enabled or Select Disabled.

- Select-enabled radios are free to change to any available channel, including the dynamic-regrouping channel, once the user has selected the dynamic-regrouping position.
- Select-disabled radios cannot change channels while dynamically regrouped. The dispatcher has forced the radio to remain on the dynamic-regrouping channel.

The Scan or Private Call feature cannot be selected while your radio is Select Disabled.

Trunking System Controls

Failsoft

The failsoft system ensures continuous radio communications during a trunked system failure. If a trunking system fails completely, the radio goes into failsoft operation and automatically switches to its failsoft channel.

During failsoft operation:

Your radio transmits and receives in conventional operation on a predetermined frequency.	FAILSOFT
You hear a medium-pitched tone every 10 seconds.	• Medium-pitched tone

When the trunking system returns to normal operation, your radio automatically leaves failsoft operation and returns to trunked operation.

Out-of-Range

If you go out of the range of the system, and can no longer lock onto a control channel:

The display shows OUT OF RANGE and the currently selected zone/channel combination, and/or you hear a low-pitched tone.	OUT OF RANGE **AND/OR** • Low-pitched tone
Your radio remains in this out-of-range condition until it locks onto a control channel, or it locks onto a failsoft channel, or it is turned off.	• Locks onto a control channel, or • Locks onto a failsoft channel, or • Turned off.

Site Lock

This feature allows your radio to lock onto a specific site and not roam among wide-area talkgroup sites. This feature should be used with caution, since it inhibits roaming to another site in a wide-area system.

Lock or Unlock a Site

Use the Menu

1	Press ⊙ or ⊙ to find SITE.	SITE
2	Press ⊙, ⊙, or ⊙ directly below SITE. The current lock state is displayed.	SITE UNLOCKED LOCK UNLK SITE LOCKED LOCK UNLK
3	Press ⊙, ⊙, or ⊙ directly below LOCK or UNLK.	• The new site-lock state is saved. • Your radio returns to the home display.

Use the Preprogrammed Site Lock/Unlock Button

1	Press the **Site Lock/Unlock** button. The current lock state is momentarily displayed.	SITE LOCKED **OR** SITE UNLOCKED
2	Press and hold the **Site Lock/ Unlock** button until you see the desired lock state.	SITE LOCKED **OR** SITE UNLOCKED

Site Trunking

If the zone controller loses communication with any site, that site reverts to what is known as “site trunking.” The display shows “SITE TRUNKNG” and the currently selected zone/channel combination. When this occurs, you can communicate only with other radios within your trunking site.

Site View and Change

You can view the ID number of the current site or force your radio to change to a new one.

View the Current Site

Momentarily press the preprogrammed **Site Search** button.

The display shows the name of the current site and its corresponding Received Signal Strength Indicator (RSSI) symbol (T.ıll)

OR

If the radio is scanning for a new site, the display momentarily shows SCANING SITE.

Change the Current Site

Press and hold down the preprogrammed **Site Search** button to manually force the change to a new site.

You hear a tone, and the display shows SCANING SITE while the radio scans for a new site.

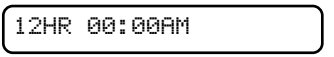
- Tone

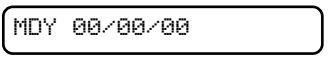
The radio returns to the home display when it finds a new site.

Time and Date

Using this special feature, you may program the time and date as you might with other electronic devices. The clock display is enabled by a qualified radio technician.

- The default time setting is a 12-hour clock.
- If a 24-hour clock is selected, AM/PM selection is not available.
- The default setting for the domestic date shows MDY.

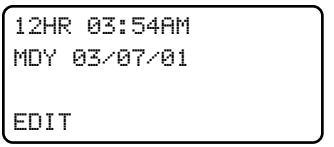




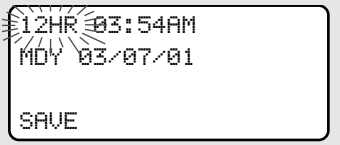
Edit Time and Date

1 Press ⊙ to find CLCK.

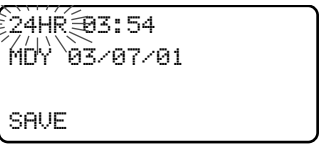
2 Press •, ••, or ⁂ directly below CLCK. The current setting is displayed.



3 Press •, ••, or ⁂ directly below EDIT. The first item flashes.



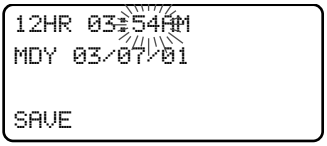
4 Press ⊙ or ⊙ to change the selected item.



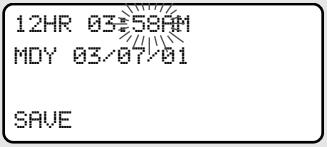
Note: Press ⌂ at any time to return to the home display without saving your changes.

OR

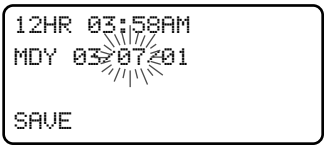
Press ⊙ one or more times to move to an item you wish to change.



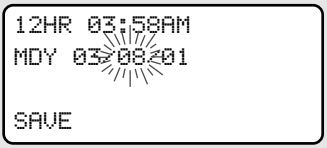
5 Press ⊙ or ⊙ to change the selected item.



6 Press ⊙ one or more times to move to an item in the date field.



7 Press ⊙ or ⊙ to change the selected item.



8 When you have made all your changes, press ⊙, ⊙, or ⊙ directly below SAVE to save your changes and return to the Home display.

Note: If a call arrives while the radio is in the clock-setting menu, the radio exits clock setting, your changes are lost, and the call information is displayed.

Notes

Helpful Tips

Radio Care

Cleaning

To clean the external surfaces of your radio:

1. Combine one teaspoon of mild dishwashing detergent to one gallon of water (0.5% solution).
2. Apply the solution sparingly with a stiff, non-metallic, short-bristled brush, making sure excess detergent does not get entrapped near the connectors, controls or crevices. Dry the radio thoroughly with a soft, lint-free cloth.
3. Clean battery contacts with a lint-free cloth to remove dirt or grease.

Caution

Do not use solvents to clean your radio. Spirits may permanently damage the radio housing.

Do not submerge the radio in the detergent solution.

Handling

- Do not pound, drop, or throw the radio. Never carry the radio by the antenna.
- Avoid subjecting the radio to an excess of liquids.
- Avoid subjecting the radio to corrosives, solvents or spirits.
- Do not disassemble the radio.
- Keep the accessory-connector cover in place until ready to use the connector. Replace the cover immediately once the accessory has been disconnected.

Service

Proper repair and maintenance procedures will assure efficient operation and long life for this product. A Motorola maintenance agreement will provide expert service to keep this and all other communication equipment in perfect operating condition. A nationwide service organization is provided by Motorola to support maintenance services. Through its maintenance and installation program, Motorola makes available the finest service to those desiring reliable, continuous communications on a contract basis. For a contract service agreement, please contact your nearest Motorola service or sales representative, or an authorized Motorola dealer.

Express Service Plus (ESP) is an optional extended service coverage plan, which provides for the repair of this product for a period of three years from the date of shipment from the factory, or the date of delivery if purchased from an authorized Motorola two-way radio dealer. For more information about ESP, contact the Motorola Radio Support Center at 3761 South Central Avenue, Rockford, IL 61102 (800) 227-6772 / (847)725-4200.

Battery

Battery Life

Battery life is determined by several factors. Among the more critical are the regular overcharge of batteries and the average depth of discharge with each cycle. Typically, the greater the overcharge and the deeper the average discharge, the fewer cycles a battery will last. For example, a battery which is overcharged and discharges 100% several times a day, will last fewer cycles than a battery that receives less of an overcharge and is discharged to 50% per day. Further, a battery which receives minimal overcharging and averages only 25% discharge, will last even longer.

Charging the Battery

Motorola batteries are designed specifically to be used with a Motorola charger and vice-versa. Charging in non-Motorola equipment may lead to battery damage and void the battery warranty. Motorola-authorized battery chargers may not charge batteries other than the ones listed on page 85.

The battery should be at about 77°F (25°C) (room temperature), whenever possible. Charging a cold battery (below 50° F [10°C]) may result in leakage of electrolyte and ultimately in failure of the battery. Charging a hot battery (above 95°F [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 batteries are charged within the temperature limits stated above.

Battery Charge Status

Your radio can indicate your battery's charge status by the following:

LED and Sounds

- you see the LED flash red when the PTT Button is pressed indicating low battery
- you hear a low-battery "chirp" (short, high-pitched tone)

Conventional Fuel Gauge Symbol

A flashing fuel gauge symbol ( ) is displayed only when the battery voltage drops to low level. In this case, replace the battery with a fully charged one.

Smart Fuel Gauge Symbol

Note: Smart battery will be available at a future date.

Consult the Smart Battery manual. All conditions must be met for a battery to be classified as a “Smart Battery.” When your radio has a Smart Battery installed, the fuel gauge symbol is always displayed.

Gauge shows:	if the battery’s charge is:
	71% to 100% full
	41% to 70%
	11% to 40%
	10% or less (at 10%, the gauge begins flashing)

Replace the battery with a fully charged one when the fuel gauge shows the lowest level.

Battery Recycling and Disposal

Nickel-cadmium (NiCd) rechargeable batteries can be recycled. However, recycling facilities may not be available in all areas. Under various U.S. state laws and the laws of several other countries, NiCd batteries must be recycled and cannot be disposed of in landfills or incinerators. Contact your local waste management agency for specific requirements and information in your area.

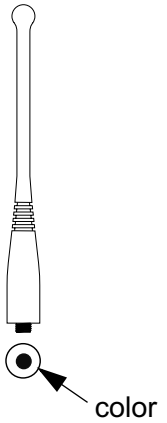
Motorola fully endorses and encourages the recycling of NiCd batteries. In the U.S. and Canada, Motorola participates in the nationwide Rechargeable Battery Recycling Corporation (RBRC) program for NiCd battery collection and recycling. Many retailers and dealers participate in this program.

For the location of the drop-off facility closest to you, access RBRC's Internet web site at www.rbrc.com or call 1-800-8-BATTERY. This internet site and telephone number also provide other useful information concerning recycling options for consumers, businesses, and governmental agencies.

Antenna

Radio Operating Frequencies

Before installing the antenna, make sure it matches your radio's operating frequency. Antennas are frequency-sensitive and are color-coded according to their frequency range. The color code indicator is located in the center of the antenna's base.



The following antenna types are compatible with your radio:

Antenna type	Approx. length		Insulator color code	Frequency range	Antenna kit no.
	in.	mm			
800 MHz Whip, Halfwave	7	175	RED	806-870 MHz	NAF5037
800 MHz Stubby, Quarterwave	3.3	83	WHITE	806-870 MHz	NAF5042
700/800 MHz Whip	7	185	GREEN	764-870 MHz	NAF5080

Accessories

Motorola provides the following approved accessories to improve the productivity of your XTS 2500 portable two-way radio.

For a list of Motorola-approved antennas, batteries, and other accessories, visit the following web site which lists approved accessories: <http://www.motorola.com/cgiss/index.shtml>

Antennas

NAD6563	VHF Whip Antenna (136-174)
NAD6566	VHF Antenna (136-150.8)
NAD6567	VHF Antenna (150.8-162)
NAD6568	VHF Antenna (162-174)
NAF5037	800 MHz whip, halfwave (806-870 MHz)
NAF5039	800 MHz Antenna -Dipole (806-870 MHz)
NAF5042	800 MHz stubby, quarterwave (806-870 MHz)
NAF5080	700/800 MHz whip (764-870 MHz)

Batteries

HLN6847	NiCd High Capacity
HLN6848	NiCd High Capacity, Factory Mutual Intrinsically Safe
HLN6849	NiMH Ultra-High Capacity, Factory Mutual Intrinsically Safe
HLN6850	NiMH Ultra-High Capacity, Factory Mutual Intrinsically Safe
NTN9815	NiCd High Capacity
NTN9816	NiCd High Capacity, Factory Mutual Intrinsically Safe
NTN9857	NiMH Ultra-High Capacity, Factory Mutual Intrinsically Safe
NTN9858	NiMH Ultra-High Capacity

Carry Accessories

Belt Clips

HLN6853	Belt Clip, 2 1/4 inch
HLN9844	Belt Clip, 2 inch
NNTN4520	High Activity D Clip and Belt Loop Combination
NNTN4521	High Activity Swivel D Clip

Body-Worn

NNTN4115	Carrying case, Leather with 3” Swivel Belt Loop and T-strap
NNTN4116	Carrying case, Leather with 2.5” Swivel Belt Loop and T-strap
NNTN4117	Carrying case, Leather with 3” Belt Loop and T-strap
NLN6349	Shoulder strap for carrying radio
NTN5243	Shoulder strap for carrying radio
TDN9675	Wrist Strap for carrying radio

Chargers

NTN1168	Single Unit Dual Rate, Rapid Charger 120 V
NTN1169	Single Unit Dual Rate, Rapid Charger 220 V (2-prong Euro plug)
NTN1170	Single Unit Dual Rate, Rapid Charger 240 V (3-prong UK plug)
NTN1177	Multi-Unit, Dual Rate, Rapid: 110 V
NTN1178	Multi-Unit, Dual Rate, Rapid: 240 V (3-prong UK plug)

NTN1179	Multi-Unit, Rapid, 240V (UK 13 MAP Plug)
NTN1667	Tri-Chemistry, 110V
NTN1669	Tri-Chemistry, 230V
NTN1873	IMPRES™ Rapid, 110V Single Unit Charger
NTN1874	IMPRES™ Rapid, 220V Single Unit Charger
NTN1875	IMPRES™ Rapid, 240V Single Unit Charger
NTN4796	Multi-unit, tri-chemistry, rapid rate, 110 V
NTN7209	Single-Unit Dual Rate, Rapid w/o Cord
NTN8726	220V Universal Multi-unit Charger
NTN8727	240V Universal Multi-unit Charger
NTN9176	Charger Vehicular Tri Chemistry. Compatible with XTS3000, XTS 3500 and PAC-RT

Enhanced and Multi-Unit Line Cords

NTN7373	110 V interchangeable line
NTN7374	220 V interchangeable line (2-prong Euro plug)
NTN7375	240 V interchangeable line (3-prong UK plug)

Surveillance Accessories

Earpieces

BDN6641	Ear mic, high noise level up to 105 dB, grey (must order BDN6671 interface module)
BDN6664	Earpiece with standard earphone, beige
BDN6665	Earpiece with extra-loud earphone (exceeds OSHA limits), beige
BDN6666	Earpiece with volume control, beige
BDN6667	Earpiece, mic and PTT combined, beige

BDN6668	Earpiece, mic and PTT separate, beige
BDN6669	Earpiece, mic and PTT combined, with extra-loud earphone (exceeds OSHA limits), beige
BDN6670	Earpiece, mic and PTT separate with extra-loud earphone (exceeds OSHA limits), beige
BDN6677	Ear mic, standard, noise up to 95 dB (must order BDN6671 interface module), black
BDN6678	Ear mic, standard, noise up to 95 dB (must order BDN6671 interface module), beige
BDN6719	Earpad, with 3.5mm threaded plug
BDN6726	Earpiece with standard earphone, black
BDN6727	Earpiece with extra-loud earphone (exceeds OSHA limits), black
BDN6728	Earpiece with volume control, black
BDN6729	Earpiece, mic and PTT combined, black
BDN6730	Earpiece, mic and PTT separate, black
BDN6731	Earpiece, mic and PTT combined, with extra-loud earphone (exceeds OSHA limits), black
BDN6732	Earpiece, mic and PTT separate, with extra-loud earphone (exceeds OSHA limits), black
BDN6780	Earbud, single with Mic and PTT combined, beige
BDN6781	Earbud, single, receive only, black
BDN6782	Earbud, dual, receive only, black

Headsets and Headset Accessories

BDN6635	Heavy-duty VOX headset with noise-canceling boom mic (requires BDN6673 adapter)
BDN6636	Heavy-duty VOX headset with throat mic (requires BDN6673)

BDN6645	Noise-canceling boom mic headset with PTT on earcup
BDN6673	Headset adapter cable (for use with BDN6635 and BDN6645)
BDN6676	Jedi adapter
NMN1020	Safety helmet headset (requires BDN6676 adapter)
NMN6245	Light-weight headset
NMN6246	Ultralite headset with boom mic
NMN6258	Over-the-head headset with in-line PTT
NMN6259	Medium-weight, dual headset with NC mic
RMN4049	Jedi “TEMCO” temple transducer

Radio Interface Modules for Ear Microphones

BDN6671	Push-to-talk (PTT) and voice-activated (VOX) interface module (for use with BDN6641, BDN6677 and BDN6678)
BDN6708	PTT interface module (for use with BDN6641, BDN6677 and BDN6678)

Speaker, Remote Speaker

NMN6191	RSM noise-canceling (includes 6.0' coiled cord assembly, 3.5mm earjack, swivel clip, quick disconnect)
NMN6193	Remote speaker mic

Notes

Glossary

This is a list of specialized terms used in this manual.

ACK	Acknowledgment of communication.
Active Channel	A channel that has traffic on it.
Analog Signal	An RF signal that has a continuous nature rather than a pulsed or discrete nature.
ASTRO 25 Trunking	Motorola standard for wireless digital trunked communications.
ASTRO Conventional	Motorola standard for wireless analog or digital conventional communications.
Call Alert	Privately page an individual by sending an audible tone.
Carrier Squelch	Feature that responds to the presence of an RF carrier by opening or unmuting (turning on) a receiver's audio circuit. A squelch circuit silences the radio when no signal is being received so that the user does not have to listen to noise.
Central Controller	A software controlled, computer-driven device that receives and generates data for the trunked radios assigned to it. It monitors and directs the operations of the trunked repeaters.
Channel	A group of characteristics such as transmit/receive frequency pairs, radio parameters, and encryption encoding.
Control Channel	In a trunking system, one of the channels that is used to provide a continuous, two-way/data communications path between the central controller and all radios on the system.
Conventional	Typically refers to radio-to-radio communications, sometimes through a repeater. (See Trunking.)

Cursor	A visual tracking marker (a blinking line) that indicates a location on the display.
Deadlock	Displayed by the radio after three failed attempts to unlock the radio.The radio must be powered off and on prior to another attempt.
Digital Private Line (DPL)	A type of coded squelch using data bursts. Similar to PL except a digital code is used instead of a tone.
Digital Signal	An RF signal that has a pulsed, or discrete nature, rather than a continuous nature.
Dispatcher	An individual who has radio system management duties.
Dynamic Regrouping	A feature that allows the dispatcher to temporarily reassign selected radios to a single special channel so they can communicate with each other.
Failsoft	A feature that allows communications to take place even though the central controller has failed. Each trunked repeater in the system will transmit a data word informing every radio that the system has gone into failsoft.
FCC	Federal Communications Commission.
Hang Up	Disconnect.
Home Display	The first display information after the radio completes its self test.
LCD	Liquid Crystal Display.
LED	Light-emitting diode.
Menu Entry	A software-activated feature shown at the bottom of the display — selection of these features is controlled by the , , and buttons.

Monitor	Check channel activity by pressing the Monitor button. If the channel is clear, you will hear static. If the channel is in use, you will hear conversation. It also serves as a way to check the volume level of the radio, as the radio will “open the squelch” when pressing the monitor button.
Network Access Code	Network Access Code (NAC) operates on digital channels to reduce voice channel interference between adjacent systems and sites.
NiCd	Nickel Cadmium.
NiMH	Nickel Metal Hydride.
Non-tactical/Revert	The user will talk on a preprogrammed emergency channel. The emergency alarm is sent on this same channel.
Page	A one-way alert, with audio and/or display messages.
Personality	A set of unique features specific to a radio.
Preprogrammed	A feature that has been assigned in advance by a qualified technician.
Private (Conversation) Call	Allows you to have a private conversation with another radio user in the group.
Private Line (PL)	A sub-audible tone that is transmitted such that only receivers decoding this tone will hear the message.
Programmable	A radio control that can have a radio feature assigned to it.
PTT	Push-To-Talk — the **PTT** button engages the transmitter and puts the radio in transmit (send) operation when pressed.

Radio Frequency (RF)	The part of the general frequency spectrum between the audio and infrared light regions (about 10 kHz to10,000,000 MHz).
Repeater	A conventional radio feature, where you talk through a receive/transmit facility (repeater), that re-transmits received signals in order to improve communications range and coverage.
Selective Switch	Any digital P25 traffic having the correct Network Access Code and the correct talkgroup.
Squelch	Special electronic circuitry added to the receiver of a radio which reduces, or squelches, unwanted signals before they are heard in the speaker.
Standby	An operating condition whereby the radio's speaker is muted but still continues to receive data.
Tactical/Non-revert	The user will talk on the channel that was selected before the radio entered the emergency state.
Talkaround	Bypass a repeater and talk directly to another unit for easy local unit-to-unit communications.
Talkgroup	An organization of radio users who communicate with each other.
Trunking	The automatic sharing of communications paths between a large number of users. (See Conventional.)
Zone	A grouping of channels.

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