ASTRO®
XTS™ 2500 & XTS™ 2500I
Model 3
User Guide
Select a Zone Using the Menu
1 Press \( \text{[ } \) until \( \text{ZONE} \).
2 Press \( \text{[ } \) \( \text{[ } \) \( \text{[ } \) directly below \( \text{ZONE} \).
3 Press \( \text{[ } \) until the zone you desire is shown OR Use the keypad directly to dial the zone number.
4 Press \( \text{[ } \) to confirm, or press PTT to transmit.

Send Silent Emergency Alarm
1 Turn the radio ON and press Emergency button. You will see no LED; you will hear no tone.
2 Press PTT.
3 Alarm continues until you exit by:
   • Press and hold Emergency button for one second.
   OR
   • Press PTT again.

Select a Channel
Method 1: Using the Select Knob
After selecting the desired zone, turn the 16-position Select Knob to the desired channel.
Method 2: Using the Menu
1 Press \( \text{[ } \) until \( \text{CHRN} \).
2 Press \( \text{[ } \) \( \text{[ } \) \( \text{[ } \) directly below \( \text{CHRN} \).
3 Press \( \text{[ } \) until channel you desire is shown.
4 Press \( \text{[ } \) to confirm, or press PTT to transmit.

Send an Emergency Alarm
1 Turn the radio ON and press Emergency button. You will see a red LED; you hear a short, medium-pitched tone.
2 Display shows \( \text{EMERGENCY} \).
3 When acknowledgment is received, you hear four tones; alarm ends; radio exits emergency.

Answer a Phone Call
1 Phone-like ringing, LED blinks GREEN, PHONE CALL and \( \text{[ } \) are displayed.
2 Press Call Response button.
3 Press PTT button to talk; release to listen.
4 Press \( \text{[ } \) to hang up.

Send a Phone Call
1 Press \( \text{[ } \) until \( \text{PHON} \).
2 Press \( \text{[ } \) \( \text{[ } \) \( \text{[ } \) directly below \( \text{PHON} \).
3 Press \( \text{[ } \) or \( \text{[ } \) to scroll to phone number.
4 Press PTT (or Quick Access button, if programmed) to talk, release to listen.
Display Status Symbols

- **Call Received**: Receiving an individual call.

- **View/Program Mode**: The radio is in the view or program mode; **On Steady** = view mode; **Blinking** = program mode.

- **Received Signal Strength Indication (RSSI)**: Received signal strength for the current site (trunking only). The more signal bars in the symbol, the stronger the signal.

- **Battery**
  - Conventional = Blinks when the battery is low.
  - Smart = The number of bars (0-3) shown indicates the charge remaining in your battery.

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

- **Talkaround**: You are talking directly to another radio or through a repeater; **On** = direct; **Off** = repeater

- **Monitor (Carrier Squelch)**: This channel is being monitored.

- **Scan**: The radio is scanning a scan list.

- **User Login Indicator (IP Packet Data)**
  - **On** = User is associated with the radio;
  - **Off** = User is not associated with the radio;
  - Blinking = Registration with the server failed.

---

**Location Signal**
- **Off** = Location feature disabled, or insufficient battery power in location accessory device;
- **Blinking** = Location feature enabled, but no location signal available;
- **On** = Location feature enabled, and location signal available.

---

**Menu Entries (Use With Menu Navigation)**

<table>
<thead>
<tr>
<th>Entry</th>
<th>Menu Selection</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRTT</td>
<td>*Smart Battery</td>
<td>19</td>
</tr>
<tr>
<td>CALL</td>
<td>Private Call</td>
<td>60</td>
</tr>
<tr>
<td>CHNH</td>
<td>Select a Channel</td>
<td>28</td>
</tr>
<tr>
<td>CLOCK</td>
<td>Edit Time and Date</td>
<td>78</td>
</tr>
<tr>
<td>DIR</td>
<td>Repeater/Direct</td>
<td>66</td>
</tr>
<tr>
<td>KILL</td>
<td>Radio Kill</td>
<td>67</td>
</tr>
<tr>
<td>MUTE</td>
<td>Keypad Mute</td>
<td>37</td>
</tr>
<tr>
<td>NAME</td>
<td>Text Select</td>
<td>49</td>
</tr>
</tbody>
</table>

*Available at a future date.

---

**Menu Navigation**

- **to find Menu Entry**
- **or** \(\) or \(\) \(\) or \(\) directly below Menu Entry to select
- **to exit**

- **or** \(\) or \(\) to scroll through sub-list
- **or** \(\) or \(\) \(\) or \(\) directly below Menu Entry to select

---

**Entry** | **Menu Selection** | **Page**
---|---|---
NUM | Number Select | 47
PAGE | Call Alert Page | 62
PHON | Phone | 55
PROG | Editing | 47
PSWD | Password | 36
RPGM | Reprogram Request | 71
SCRN | Scan On/Off | 51
SITE | Site Lock | 75
STUN | Radio Stun | 68
TGRP | Talkgroup Call | 65
TMS | Text Messaging | 93
USER | User Login | 87
VIEW | Viewing a List | 45
ZONE | Select a Zone | 26
This declaration is applicable to your radio only if your radio is labeled with the FCC logo shown below.

DECLARATION OF CONFORMITY
Per FCC CFR 47 Part 2 Section 2.1077(a)

Responsible Party
Name: Motorola, Inc.
Address: 1301 East Algonquin Road, Schaumburg, IL 60196-1078, USA
Phone Number: 1-800-927-2744
Hereby declares that the product:
Model Name: XTS 2500 / XTS 2500i
conforms to the following regulations:
FCC Part 15, subpart B, section 15.107(a), 15.107(d) and section 15.109(a)

Class B Digital Device
As a personal computer peripheral, this device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. this device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.
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!

This radio is restricted to occupational use only to satisfy FCC 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 enclosed with your radio (Motorola Publication part number 6881095C98) to ensure compliance with RF energy exposure limits.

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

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Important Rebanding Information

This radio supports the new FCC 800 MHz Public Safety frequency band definition. The FCC has reorganized the 800 MHz band to reduce particular types of interference impacting public safety radio systems by moving the NPSPAC transmit frequencies from 821-824MHz to the 806-809 MHz area. This change consolidates 700 MHz and 800 MHz public safety transmit frequencies into a single contiguous block of spectrum with a greater degree of separation from cellular and Enhanced SMR frequencies. This separation should limit any harmful out-of-band emission and receiver intermodulations.

**Note:** In accordance with the FCC 800 MHz rebanding Report and Order (Docket 02-55), Motorola has offered rebanding replacement products to allow 800 MHz licensees to comply with the new band plan. These rebanding products are part of Motorola’s current ASTRO Digital XTS and XTL product portfolio and are denoted by an RB at the end of the product title. These products offer all of the features of the current products but have the channel capacity and call list sizes equivalent to the MTS 2000 and MCS 2000 products.
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Use the chart below to map the channels (C) and zones (Z) for your radio.

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<tr>
<th>Table 1: Channel Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
</tr>
<tr>
<td>Z1</td>
</tr>
</tbody>
</table>
General Radio Operation

Notations Used in This Manual

You will notice the use of WARNING, CAUTION, and Note 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:

<table>
<thead>
<tr>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Light</strong> button, or 🔁</td>
<td>Buttons and keys are shown in <strong>bold</strong> print, or as representative symbols.</td>
</tr>
<tr>
<td><strong>PHONE CALL</strong></td>
<td>Information appearing in the radio’s display is shown using the special display font.</td>
</tr>
<tr>
<td><strong>PHONE</strong></td>
<td>Menu entries are shown similar to the way they appear in the radio’s display.</td>
</tr>
<tr>
<td>**Press **</td>
<td>This means “Press the right side of the 4-Way Navigation button.”</td>
</tr>
</tbody>
</table>
General Radio Operation

XTS 2500 / XTS 2500I Model III Radio

10
11
12
13
14
15
16
17
18
19
20
1
2
3
4
5
6
7
8
9

MOTOROLA
XTS2500I
# Physical Features of the XTS 2500 / XTS 2500I Model III Radio

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

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

<table>
<thead>
<tr>
<th>Feature</th>
<th>Page</th>
<th>Feature</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call Alert Page</td>
<td>62</td>
<td>Radio Kill</td>
<td>67</td>
</tr>
<tr>
<td>Call Response</td>
<td>55</td>
<td>Radio Stun</td>
<td>68</td>
</tr>
<tr>
<td>Channel Selection</td>
<td>28</td>
<td>Repeater/Direct</td>
<td>66</td>
</tr>
<tr>
<td>Dynamic Priority</td>
<td>54</td>
<td>Reprogram Request</td>
<td>71</td>
</tr>
<tr>
<td>Emergency</td>
<td>41</td>
<td>Scan On/Off</td>
<td>51</td>
</tr>
<tr>
<td>Keypad Mute</td>
<td>37</td>
<td>Site Lock/Unlock</td>
<td>75</td>
</tr>
<tr>
<td>Light</td>
<td>5</td>
<td>Site Search</td>
<td>76</td>
</tr>
<tr>
<td>Monitor</td>
<td>33</td>
<td>*Smart Battery</td>
<td>19</td>
</tr>
<tr>
<td>Nuisance Delete</td>
<td>53</td>
<td>Text Messaging</td>
<td>93</td>
</tr>
<tr>
<td>Outdoor Location</td>
<td>80</td>
<td>TMS Quick Text</td>
<td>92</td>
</tr>
<tr>
<td>Phone</td>
<td>55</td>
<td>User Login</td>
<td>87</td>
</tr>
<tr>
<td>PL Defeat</td>
<td>39</td>
<td>Volume Set</td>
<td>31</td>
</tr>
<tr>
<td>Private Call</td>
<td>59</td>
<td>Zone Selection</td>
<td>26</td>
</tr>
</tbody>
</table>

*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 the control.
General Radio Operation

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. You can also turn them off immediately by pressing the Light button again.
General Radio Operation

**Status Symbols**
The top two rows in the display contain symbols indicating the radio’s status.

**Table 2: Status Symbols**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Indication</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Symbol" /></td>
<td><strong>Call Received.</strong> Blinks when an Individual Call is received.</td>
<td>59</td>
</tr>
</tbody>
</table>
| ![Symbol](image) | **View/Program Mode.**  
  • View a list (steady).  
  • Program a list (blinking). | 45   |
| ![Symbol](image) | **Received Signal Strength Indication (RSSI).**  
  The received signal strength for the current site.  
  Trunked only. The more signal bars in the symbol, the stronger the received signal. | 76   |
| ![Symbol](image) | **Battery.**  
  • Conventional = Blinks when the battery is low.  
  • Smart = The number of bars (0-3) shown indicates the charge remaining in your battery. Blinks when battery level reaches 10% or less.  
  **Note:** Smart battery will be available at a future date. | 17   |
| ![Symbol](image) | **Talkaround.**  
  • On = Talking directly to another radio, not through a repeater. Conventional operation only.  
  • Off = Talking through a repeater. | 66   |
| ![Symbol](image) | **Monitor (Carrier Squelch).** The selected channel is being monitored. Conventional operation only. | 33   |
| ![Symbol](image) | **Scan.** The radio is scanning a scan list. | 51   |
## General Radio Operation

### Table 2: Status Symbols (Continued)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Indication</th>
<th>Page</th>
</tr>
</thead>
</table>
| ![Symbol](image) | **User Login Indicator (IP Packet Data)**  
- On (Tinted) = User is currently associated with the radio;  
- Off (Not tinted) = User is currently not associated with the radio;  
- Blinking = Device registration or user registration with the server failed due to an invalid username or pin. | 90   |
| ![Symbol](image) | **Location Signal**  
- Off = Location feature disabled, or insufficient battery power in location accessory device;  
- Blinking = Location feature enabled, but no location signal available;  
- On = Location feature enabled, and location signal available. | 80   |
General Radio Operation

**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:

![Diagram of menu select buttons](image)

Example: To turn scan on:

1. **Press .**
2. The display shows the selected state.

![Example display](image)
General Radio Operation

Menu Entry Features
In most cases, press 📷 to display the following feature selections.

Table 3: Menu Entry Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Menu Entry</th>
<th>Page</th>
<th>Feature</th>
<th>Menu Entry</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call Alert Page</td>
<td>PAGE</td>
<td>63</td>
<td>Reprogram Request</td>
<td>RPM</td>
<td>71</td>
</tr>
<tr>
<td>Channel Selection</td>
<td>CHAN</td>
<td>28</td>
<td>Scan On/Off</td>
<td>SCAN</td>
<td>51</td>
</tr>
<tr>
<td>Edit a List</td>
<td>PROG</td>
<td>47, 49</td>
<td>Site Lock/Unlock</td>
<td>SITE</td>
<td>75</td>
</tr>
<tr>
<td>Keypad Mute</td>
<td>MUTE</td>
<td>37</td>
<td>Smart Battery*</td>
<td>BATT</td>
<td>19</td>
</tr>
<tr>
<td>Number Select</td>
<td>NUM</td>
<td>47</td>
<td>Talkgroup Call</td>
<td>TGRP</td>
<td>65</td>
</tr>
<tr>
<td>Password</td>
<td>PSWD</td>
<td>36</td>
<td>Text Select</td>
<td>NAME</td>
<td>49</td>
</tr>
<tr>
<td>Phone</td>
<td>PHON</td>
<td>56</td>
<td>Text Messaging</td>
<td>TMS</td>
<td>93</td>
</tr>
<tr>
<td>Private Call</td>
<td>CALL</td>
<td>60</td>
<td>Time/Date</td>
<td>CLCK</td>
<td>78</td>
</tr>
<tr>
<td>Radio Lock</td>
<td>RADIO LOCKED</td>
<td>35</td>
<td>User Login</td>
<td>USER</td>
<td>87</td>
</tr>
<tr>
<td>Radio Kill</td>
<td>KILL</td>
<td>67</td>
<td>View a List</td>
<td>VIEW</td>
<td>45</td>
</tr>
<tr>
<td>Radio Stun</td>
<td>STUN</td>
<td>68</td>
<td>Zone Selection</td>
<td>ZONE</td>
<td>26</td>
</tr>
<tr>
<td>Repeater/Direct</td>
<td>DIR</td>
<td>66</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Available at a future date.
General Radio Operation

**Home Button ( hiatus)***
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 (TMS Feature Button)**
This button brings you to the Text Messaging Service (TMS) feature screen.

**4-Way Navigation Button ( hiatus)**
This button is used to scroll through the radio’s lists or items in the display.
General Radio Operation

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

<table>
<thead>
<tr>
<th>Key</th>
<th>Number of times the key is pressed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1  2  3  4  5  6  7  8  9</td>
</tr>
<tr>
<td>0</td>
<td>0(&gt;)&lt;</td>
</tr>
<tr>
<td>1</td>
<td>1&amp;%</td>
</tr>
<tr>
<td>2 #bc</td>
<td>A B C 2 a b c</td>
</tr>
<tr>
<td>3 #de</td>
<td>D E F 3 d e f</td>
</tr>
<tr>
<td>4 #hi</td>
<td>G H I 4 g h i</td>
</tr>
<tr>
<td>5 #jk</td>
<td>J K L 5 j k l</td>
</tr>
<tr>
<td>6 #mnop</td>
<td>M N O 6 m n o</td>
</tr>
<tr>
<td>7 #pqrst</td>
<td>P Q R S 7 p q r s</td>
</tr>
<tr>
<td>8 #tvu</td>
<td>T U V 8 t u v</td>
</tr>
<tr>
<td>9 #wxyz</td>
<td>W X Y Z 9 w x y z</td>
</tr>
<tr>
<td>#</td>
<td>* / + - =</td>
</tr>
<tr>
<td>*</td>
<td># . ! ? , ;</td>
</tr>
</tbody>
</table>
General Radio Operation

LED Indicators

Table 5: LED Indicators

<table>
<thead>
<tr>
<th>This LED Color:</th>
<th>Indicates:</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED (Illuminated)</td>
<td>Transmitting</td>
</tr>
<tr>
<td>RED (Blinking)</td>
<td>• Channel Busy</td>
</tr>
<tr>
<td></td>
<td>• Low Battery (lights while transmitting)</td>
</tr>
<tr>
<td>GREEN (Blinking)</td>
<td>Receiving Individual Call</td>
</tr>
</tbody>
</table>
General Radio Operation

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

Table 6: Alert Tones

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

### Table 6: Alert Tones (Continued)

<table>
<thead>
<tr>
<th>You hear</th>
<th>Tone Name</th>
<th>Heard:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A Group of Low-Pitched Tones (Busy Tone)</strong></td>
<td><strong>Busy</strong></td>
<td>when the system is busy.</td>
</tr>
<tr>
<td><strong>Short, Medium-Pitched Tone</strong></td>
<td><strong>Valid Key-Press</strong></td>
<td>when the correct key is pressed.</td>
</tr>
<tr>
<td></td>
<td><strong>Radio Self-Test Pass</strong></td>
<td>when the radio passes its power-up self-test.</td>
</tr>
<tr>
<td></td>
<td><strong>Priority Channel Received</strong></td>
<td>when activity on a priority channel is received.</td>
</tr>
<tr>
<td></td>
<td><strong>Emergency Alarm Entry</strong></td>
<td>when entering the emergency state.</td>
</tr>
<tr>
<td></td>
<td><strong>Central Echo</strong></td>
<td>when the central controller has received a request from a radio.</td>
</tr>
<tr>
<td><strong>Long, Medium-Pitched Tone</strong></td>
<td><strong>Volume Set</strong></td>
<td>when volume changed on a quiet channel.</td>
</tr>
<tr>
<td></td>
<td><strong>Emergency Exit</strong></td>
<td>upon exiting the emergency state.</td>
</tr>
</tbody>
</table>
Table 6: Alert Tones (Continued)

<table>
<thead>
<tr>
<th>You hear:</th>
<th>Tone Name</th>
<th>Heard:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A Group of Medium-Pitched Tones</strong></td>
<td>Failsoft</td>
<td>when the trunking system fails.</td>
</tr>
<tr>
<td></td>
<td>Automatic Call Back</td>
<td>when the voice channel is available from the previous request.</td>
</tr>
<tr>
<td></td>
<td>Talk Permit</td>
<td>(When pressing the PTT button) verifies the system is accepting transmissions.</td>
</tr>
<tr>
<td></td>
<td>Console Acknowledge</td>
<td>when a status, emergency alarm, or reprogram request acknowledgment is received.</td>
</tr>
<tr>
<td></td>
<td>Received Individual Call</td>
<td>when a Call Alert, or Private Conversation Call is received.</td>
</tr>
<tr>
<td></td>
<td>Call Alert Sent</td>
<td>when a Call Alert is received by the target radio.</td>
</tr>
<tr>
<td><strong>A Group of Low-Pitched Tones followed by a group of High-Pitched Tones</strong></td>
<td>Scan Alert On</td>
<td>when the Scan feature is activated through the pre-programmed button or 3-Position Rotary Switch.</td>
</tr>
<tr>
<td><strong>A Group of High-Pitched Tones followed by a group of Low-Pitched Tones</strong></td>
<td>Scan Alert Off</td>
<td>when the Scan feature is deactivated through the pre-programmed button or 3-Position Rotary Switch.</td>
</tr>
<tr>
<td><strong>Short, High-Pitched Tone (Chirp)</strong></td>
<td>Low-Battery Chirp</td>
<td>when the battery is below the preset threshold value.</td>
</tr>
</tbody>
</table>
General Radio Operation

Table 6: Alert Tones (Continued)

<table>
<thead>
<tr>
<th>You hear:</th>
<th>Tone Name</th>
<th>Heard:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ringing</strong></td>
<td>Fast Ringing</td>
<td>when the system is searching for the Private Conversation Call target radio.</td>
</tr>
<tr>
<td></td>
<td>Enhanced Call Sent</td>
<td>when waiting for the Private Conversation Call target radio to respond to the call.</td>
</tr>
<tr>
<td></td>
<td>Phone Call Received</td>
<td>when a landline phone call is received.</td>
</tr>
<tr>
<td><strong>Gurgle</strong></td>
<td>Dynamic Regrouping</td>
<td>when the PTT button is pressed, a dynamic ID has been received.</td>
</tr>
<tr>
<td><strong>Unique, low-pitched chirp</strong></td>
<td>New Message</td>
<td>when a new message is received.</td>
</tr>
<tr>
<td><strong>Unique, high-pitched chirp</strong></td>
<td>Priority Message</td>
<td>when a priority message is received.</td>
</tr>
</tbody>
</table>
General Radio Operation

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 / XTS 2500I radio, see “Batteries” on page 114.

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 115.
General Radio Operation

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 allows you to view the condition of your Smart Battery.

Use the Menu

1. Press \( \mathbf{\text{C}} \) to find \( \mathbf{BATT.} \)

2. Press \( \mathbf{\text{C}}, \mathbf{\text{D}} \), or \( \mathbf{\text{E}} \) directly below \( \mathbf{BATT.} \)
   - CAPACITY: 70%
   - INIT: 10/01
   - EST CHGS: 11

Note: If a Smart Battery is not powering your radio.
   - SMART BATT
   - DATA NOT AVAILABLE

3. Press \( \mathbf{\text{F}} \) to exit.

Use the Preprogrammed Smart Battery Button

1. Press the \( \mathbf{\text{Smart Battery}} \) button.
   - CAPACITY: 70%
   - INIT: 10/01
   - EST CHGS: 11

Note: If a Smart Battery is not powering your radio.
   - SMART BATT
   - DATA NOT AVAILABLE

2. Press \( \mathbf{\text{G}} \) to exit.
General Radio Operation

Antenna

For information regarding other available antennas, see page 113.

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.
General Radio Operation

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.
General Radio Operation

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.
General Radio Operation

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 116) 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.
General Radio Operation

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.
General Radio Operation

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 Entry ZONE

1 Press ☐ to find ZONE.

2 Press ☐, ☐, or ☐ directly below ZONE.
The current zone (in this case, POL) blinks and the channel name (DISP NW), does not blink.

3 Press ☐ to find the zone you want. For example, FIRE.
OR
Use the keypad directly to dial the zone number.

4 Press ☐ to confirm the displayed zone and channel.
OR
Press the PTT button to transmit on the displayed zone/channel.
### General Radio Operation

#### Use the Menu Entry ZHUP or ZNDN

1. **Press** † to find ZHUP and ZNDN.

2. **Press** ‡, §, or ¶ directly below ZHUP or ZNDN until the zone you want appears.

**Note:** Positions of ZHUP and ZNDN on the display may differ each time you release ‡, §, or ¶. Read carefully before you press.

#### 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.

2. **Press** ‡ to confirm the displayed zone and channel.

**Note:** If the zone you selected is unprogrammed, repeat step 1.
General Radio Operation

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

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

Use the Menu CHAN

1 Press ◄ to find CHAN.

2 Press ◄, ►, or ◄ directly below CHAN.

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

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.
General Radio Operation

4 Press to confirm the displayed zone and channel.

OR

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

Use the Menu Entry CHUP or CHDN

1 Press to find CHUP and CHDN.

2 Press , , or directly below CHUP or CHDN until the channel name you want appears.

Note: Positions of CHUP and CHDN on the display may differ each time you release , , or .
Read carefully before you press.

3 Press the PTT button to transmit on the displayed zone/channel.
General Radio Operation

Mode Select Button
This feature lets you program the current zone and channel to a Mode Select button with a long press on the Mode Select button. After the buttons are programmed, you can return to the pre-programmed zone and channel with a short press on the programmed Mode Select button.

The buttons that are assigned for this feature are labeled in the following picture.

Note: 1 (234) or (567) require a qualified technician to enable as the Mode Select buttons.
General Radio Operation

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).
General Radio Operation

**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).
General Radio Operation

**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

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.
Common Radio Features

## Change Your Password

1. Press \(\text{SEL}\) to find PSWD.

2. Press \(\text{SEL}\), \(\text{SEL}\), or \(\text{SEL}\) directly below PSWD.

3. Enter the old password.

4. Press \(\text{SEL}\), \(\text{SEL}\), or \(\text{SEL}\) directly below SEL.

5. Enter new password.

6. Press \(\text{SEL}\), \(\text{SEL}\), or \(\text{SEL}\) directly below SEL.

7. Re-enter password.

8. Press \(\text{SEL}\), \(\text{SEL}\), or \(\text{SEL}\) directly below SEL. The password is updated.

If the two passwords do not match, repeat steps 5 through 8.

**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 \( \text{MUTE} \) to find MUTE.

2. Press \( \text{TONES} \), \( \text{OFF} \), or \( \text{ON} \) directly below MUTE. The current state is shown.

3. Press \( \text{ON} \) or \( \text{OFF} \) directly below.

Note: Press the \( \text{PTT} \) button to exit without changing the setting.

Using the Preprogrammed Side Button
Press the preprogrammed side button to turn the tones off or on.
Common Radio Features

Conventional Squelch Options

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

<table>
<thead>
<tr>
<th>When in...</th>
<th>this condition occurs:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrier squelch (l=)</td>
<td>You hear all traffic on a channel.</td>
</tr>
<tr>
<td>PL, DPL</td>
<td>The radio responds only to your messages.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>This option...</th>
<th>allows you to hear:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Carrier-Operated Squelch (COS)</td>
<td>any digital traffic.</td>
</tr>
<tr>
<td>Normal Squelch</td>
<td>any digital traffic having the correct Network access code.</td>
</tr>
<tr>
<td>Selective Switch</td>
<td>any digital traffic having the correct Network access code and correct talkgroup.</td>
</tr>
</tbody>
</table>
Common Radio Features

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.
Common Radio Features

**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.**
   - Short warning tone
   - Transmission is cut-off
   - LED goes out

   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.

2. **Release the PTT button.**
   - LED re-lights
   - Timer resets

3. **Press the PTT to re-transmit.**
   - Timer restarts
   - RED LED

   Time-out timer restarts.
Common Radio Features

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.
Common Radio Features

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.

If no acknowledgement is received, you see NO ACKNOWLEDG, 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:

<table>
<thead>
<tr>
<th>Using this operation:</th>
<th>means you will talk:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tactical/Non-Revert</td>
<td>on the channel you selected before you entered the emergency state.</td>
</tr>
<tr>
<td>2. Non-Tactical/Revert</td>
<td>on a preprogrammed emergency channel. The emergency alarm is sent to this same channel.</td>
</tr>
</tbody>
</table>
Common Radio Features

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.

   **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.

   - Display does not change
   - LED does not light
   - No tones

   The display does not change, the LED does not light, and no tones sound.
Common Radio Features

**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.

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).
Common Radio Features

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.

   FIRE CHIEF □ 701234

5. Press or to view other list members.

6. Press to exit.
Common Radio Features

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.
Common Radio Features

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. Blinking 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.
Common Radio Features

6 Press \( \text{\#} \) to erase digits. If you erase the entire number and press \( \text{\#} \) or \( \text{\#} \), you exit the edit mode without saving your changes. Press a keypad button to add a digit.

7 Press \( \text{•} \), \( \text{•} \), or \( \text{•} \) directly below \( \text{S} \) to save your change.

Return to step 4 to make more changes.

OR

Press \( \text{\#} \) to return to home display.
Common Radio Features

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. Blinking □ 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.
Common Radio Features

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

Press a keypad button to add a character. See "Keypad" on page 11.

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.
Common Radio Features

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 \( \text{\#} \) to find \( \text{SCAN} \).
2. Press \( \text{\#}, \text{\#,} \), or \( \text{\#} \)
directly below \( \text{SCAN} \).
The current scan state is displayed.
3. Press \( \text{\#}, \text{\#,} \), or \( \text{\#} \)
directly below \( \text{ON} \) or \( \text{OFF} \). When scan is on, the scan status symbol (\( \text{\#} \)) is displayed.
OR
To exit the display menu without changing the scan state, press \( \text{\#} \) or \( \text{PTT} \).
Common Radio Features

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 (%) 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.
Common Radio Features

**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.
Common Radio Features

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 blinks GREEN, the call-received symbol (♦) blinks, and PHONE CALL is displayed.

   - Telephone ringing
   - Blinking 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.
Common Radio Features

Make a Phone Call

Use the Menu

1. Press \( \text{\#} \) to find PHON.

2. Press \( \text{\#}, \text{\#}, \text{\#}, \text{\#}, \text{\#} \) 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 \( \text{\#} \) or \( \text{\#} \) to scroll to the phone number you want in the list. Press \( \text{\#}, \text{\#}, \text{\#}, \text{\#} \) or \( \text{\#} \) 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.
Common Radio Features

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.
Common Radio Features

Phone Call Display and Alert Prompts

<table>
<thead>
<tr>
<th>Feature</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>When you press the PTT button and the phone system is not available,</td>
<td>NO PHONE</td>
</tr>
<tr>
<td>a long tone sounds. Press ⑥ button, to hang up. Radio returns to the</td>
<td></td>
</tr>
<tr>
<td>home display.</td>
<td></td>
</tr>
<tr>
<td>When a channel is not available, a busy tone sounds. The radio will</td>
<td>PHONE BUSY</td>
</tr>
<tr>
<td>automatically connect when a channel opens.</td>
<td></td>
</tr>
<tr>
<td>When the phone system is busy, a long tone sounds. Try your call</td>
<td>PHONE BUSY</td>
</tr>
<tr>
<td>later. Press ⑥ button, to hang up. Radio returns to the home display.</td>
<td></td>
</tr>
<tr>
<td>The system does not acknowledge your call. Press ⑥ button, to hang</td>
<td>NO ACKNOWLEDG</td>
</tr>
<tr>
<td>up. Radio returns to the home display.</td>
<td></td>
</tr>
</tbody>
</table>

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.
Common Radio Features

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 blinks GREEN, the call-received symbol (#) blinks, and CALL RECEIVED is displayed.
   - Two tones
   - Blinking 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.
Common Radio Features

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.
### Common Radio Features

#### Use the Keypad

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Displayed ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Press 📲 to find CALL.</td>
<td>CALL</td>
</tr>
<tr>
<td>2</td>
<td>Press 🔰, 🔱, or 🔳 directly below CALL.</td>
<td>FIRE CHIEF ID: 701234 LIST</td>
</tr>
<tr>
<td></td>
<td>You see the last transmitted or received ID number.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Use the keypad to enter the ID number you want to call.</td>
<td>FIRE CHIEF ID: 701234 LIST</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Displayed ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>The called ID is momentarily displayed, followed by PLEASE WAIT. The called ID is displayed once connected.</td>
<td>PLEASE WAIT</td>
</tr>
<tr>
<td></td>
<td>If the system does not acknowledge the call, NO_ACKNOWLEDG is displayed.</td>
<td>NO_ACKNOWLEDG</td>
</tr>
<tr>
<td></td>
<td>If the target radio does not respond before the time out, NO ANSWER is displayed.</td>
<td>NO_ANSWER</td>
</tr>
</tbody>
</table>

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**ASTRO XTS 2500/XTS 2500I Model III**

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Common Radio Features

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 blinks GREEN, the call-received symbol (#) blinks, and PAGE RECEIVED is displayed.

   - Four repeating alert tones
   - Blinking GREEN LED

2. Press and hold the PTT button to talk, release it to listen.
Common Radio Features

Make a Call Alert

Use the Menu

1. Press \( \bullet \) to find PAGE.

2. Press \( \bullet \), \( \bullet \bullet \), or \( \bullet \bullet \) 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.

\( \text{PLEASE WAIT is displayed.} \)

The home display appears once you are connected.

If the system does not acknowledge the call, NO ACKNOWLEDG is displayed.
Common Radio Features

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.
Common Radio Features

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 \( \text{\#} \) to find TGRP.

2  Press \( \text{\#}, \text{\#}, \text{\#} \), or \( \text{\#} \) directly below TGRP.

3  Press \( \text{\#} \) or \( \text{\#} \) to find the talkgroup you want.

OR

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

4  Press \( \text{\#}, \text{\#}, \text{\#} \), or \( \text{\#} \) 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 \( \text{\#} \) or the PTT button, or turn the 16-Position Select knob.
Common Radio Features

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.

3. Press ☛, ☜, or ☜ directly below DIR or RPTR.

If DIR is selected, the display shows |(DIR| and DIRECT MODE.

4. Press ☛ to exit display menu without changing the current operation.
Special Radio Features

Radio Kill
This feature allows you to render your radio or another radio inoperable if the radio is misplaced or lost. When a radio is killed, the display blanks and all functions of the radio will not be usable.

Note: Radio can only be recovered from KILL with a special device. Contact your Authorized Service Personnel.

There are two ways to initiate the Radio Kill feature:

Remote Kill
Remote Kill allows you to render another radio inoperable by sending an over the air command using the menu.

1 Press to find KILL.

2 Press , or directly below KILL.

   Enter your Tactical Inhibit
   Encode Password.

3 Press Button 1 to proceed

4 Enter the targeted Radio ID
   manually or select from call list.

5 Press directly below SEND
   to initiate command.

Direct Kill
Direct Kill allows you to make your own radio inoperable.

1 Press and hold Button 1 then press the Orange button until the display blanks.
Special Radio Features

Radio Stun
This feature allows you to stun another radio by sending an over the air command using the menu. When a radio is stunned, it will be locked to prevent any unauthorized usage of the radio. A password is required to re-activate the stunned radio.

1. Press to find STUN.

2. Press , , or directly below STUN.

   Enter your Tactical Inhibit
   Encode Password.

3. Press Button 1 to proceed.

4. Enter the targeted Radio ID manually or select from call list.

5. Press directly below SEND to initiate command.

Note: To un-stun a radio, follow the "Unlock Your Radio" on page 35.
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.
Special Radio Features

View Your Radio’s ID Number

Use the Menu

1. Press ( or ) to find CALL or PAGE.
2. Press (, , , ) 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
Special Radio Features

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.
Special Radio Features

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 ACKNOWLEDG and hear a low-pitched alert tone.
     • An alert tone
     Try again or press .

Use the Preprogrammed Reprogram Request Button

1 Press the Reprogram Request button. You see REPRGRM ROST.

The reprogram request is sent to the dispatcher.
Special Radio Features

2. If you hear **one beep**
   - Press the PTT button to send the reprogram request again
   **OR**
   - Press ⑤ to hang up 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 ACKNOWLEDGE** and hear an alert tone.

   Try again or press ⑤.

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.
Special Radio Features

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.
- You hear a medium-pitched tone every 10 seconds.

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.

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.

- **OUT OF RANGE**
  - Low-pitched tone
  - Locks onto a control channel, or
  - Locks onto a failsoft channel, or
  - Turned off.
Special Radio Features

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.

2 Press ◀, ▶, or ▼ directly below SITE.
   The current lock state is displayed.

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.

2 Press and hold the Site Lock/Unlock button until you see the desired lock state.
Special Radio Features

**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 TRUNKING” 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 ("""

OR
If the radio is scanning for a new site, the display momentarily shows **SCANNING SITE**.
Special Radio Features

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 SCANNING SITE while the radio scans for a new site.

The radio returns to the home display when it finds a new site.
**Special Radio Features**

---

**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.  
  
  12HR 00:00AM

- If a 24-hour clock is selected, AM/PM selection is not available.  
  
  MDY 00/00/00

**Edit Time and Date**

1 Press 🔄 to find CLCK.  

CLCK

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

12HR 03:54AM  
MDY 03/07/01  
EDIT

3 Press 🔄, 🔄, or 🔄 directly below EDIT. The first item blinks.  

12HR 03:54AM  
MDY 03/07/01  
SAVE

4 Press 🍁 or 🍁 to change the selected item.  

24HR 03:54  
MDY 03/07/01  
SAVE
Special Radio Features

**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.
Special Radio Features

Outdoor Location (using GPS)
The Outdoor Location (using GPS) feature allows radio users to determine their current location using a location menu. Radio location may be requested and reported over-the-air.

This feature is only available when a location enabled accessory such as the GPS Remote Speaker Microphone (RSM) is attached to the radio.

Access the Location feature

Use the Menu

1  Press ❯ to find LOC. LOC

2  Press ◀, ▲, or ◀ directly below LOC.

   If radio has just been switched on, or no location signal is available (blinking icon), the display shows the latitude and longitude of the last successful location fix. The top line will display PREVIOUS LOC.

   As soon as a location signal is detected (solid icon), the display will be updated with the new location coordinates.

   The location coordinates will be updated automatically every four minutes while the location signal is present.
Special Radio Features

3. Press \(\bullet\), \(\bullet\'), or \(\bullet\) directly below RFSH to obtain a new location fix. The top line will temporarily display PLEASE WAIT while the new location is being determined.

**Note:** While the new location is being determined, the location signal can be solid or blinking icon.

4. Press \(\bullet\), \(\bullet\'), or \(\bullet\) directly below OFF to disable the location feature to save battery power.

**OR**

Press \(\bullet\), \(\bullet\'), or \(\bullet\) directly below ON to enable the location feature.

**Note:** An ON/OFF menu key may be present on the location menu if it is programmed by the service technician.

Press \(\bullet\) or the PTT button to exit this menu.

If the emergency button is pressed or the GPS RSM is disconnected, radio will also exits this menu.
Special Radio Features

Location and Emergency Feature Interaction
When the Emergency feature is activated by pressing the emergency button, the radio will exit the Location menu and return to the home (default) display so that you can see which channel the emergency signal is going out on. However, you may re-enter the Location menu while still in emergency mode, provided that Silent Emergency has not been activated.

If you have turned Location off using the ON/OFF menu key, it will be automatically turned back on when Emergency is activated.

GPS Enabled
Your RSM’s GPS Enabled feature uses information from the Global Positioning System (GPS) satellites orbiting the Earth to determine the approximate geographical location of your RSM, expressed as latitude and longitude. The availability and accuracy of this location information (and the amount of time that it takes to calculate it) will vary depending on the environment in which you are using the GPS feature.

For example, GPS location fixes are very difficult to obtain indoors, in covered locations, between high buildings, or in situations where you have not established a clear broad view of the sky.

IMPORTANT: Things to Keep in Mind
The GPS technology uses radio signals from earth orbiting satellites, to establish the location co-ordinates, maximizing your view of clear unobstructed sky is essential for optimum performance. Where adequate signals from multiple satellites are not available (usually because you cannot establish a view of a wide area of the sky), the GPS feature of your RSM will not work. Such situations include but are not limited to:

• In underground locations.
• Inside of buildings, trains, or other covered vehicles.
• Under any other metal or concrete roof or structure.
• Between tall buildings or under dense tree-cover.
Special Radio Features

- In temperature extremes outside the operating limits of your RSM. Even where location information can be calculated in such situations, it may take longer to do so, and your location estimate may not be as accurate. Therefore, in any emergency situation, always report your location to your dispatcher.

Furthermore, please note that even where adequate signals from multiple satellites are available, your GPS feature will only provide an approximate location, often within 20-100 meters from your actual location, but sometimes much further from the actual location.

Keep in mind that the accuracy of the location information and the time it takes to obtain it varies depending upon circumstances, particularly the ability to receive signals from an adequate number of satellites.

The satellites used by the GPS feature are controlled by the U.S. government and are subject to changes implemented in accordance with the Department of Defense GPS user policy and the Federal Radio Navigation Plan. These changes may affect the performance of the GPS feature on your RSM.

Enhancing GPS Performance
Sometimes, the GPS feature of your RSM may be unable to complete a location calculation successfully. You will then see a message indicating that your RSM cannot see enough visible satellites.

To maximize the ability of your RSM to determine a fix, please note the following guidelines:

- Stay in the open. The GPS feature works best where there is nothing between your RSM and a large amount of open sky.
- Wear your RSM outside all clothing. Keep it as high on your body as possible, ideally at shoulder level.
Special Radio Features

Notes
ARS User Login and Text Messaging Features

Automatic Registration Service (ARS)
The Automatic Registration Service feature provides an automated data application registration for the radio. When you turn on the radio, the device automatically registers with the server. Data applications within the fixed network can determine the presence of a device on the system and send data to the device. For example: Text Messaging Service (TMS).

The Automatic Registration Service for the radio consists of 2 modes:
- ARS Server Mode (default mode)
- ARS Non Server Mode

Note: The default ARS mode can be changed by a qualified radio technician using the radio’s programming software.

Selecting or Changing ARS Mode
Consult a qualified radio technician for the right choice between the following methods:

Method 1: Use the Preprogrammed 16-Position Select Knob
After the zone you want is displayed, turn the 16-Position Select knob to the desired mode.

Method 2: Use the Menu
1 Press \( + \) to find CHAN.

ASTRO XTS 2500/XTS 2500I Model III
ARS User Login and Text Messaging Features

2 Press ••• or •• directly below CHRN.
   The display shows the current channel name (in this case, NONSUR) blinking and
   the zone (Z1), not blinking.

3 Press • to find the channel / mode you want.

   Server mode

   ARS non-server mode

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

4 Press • to confirm the displayed zone and channel.
ARS User Login and Text Messaging Features

ARS User Login Feature
The user login feature allows you as the user to be associated with the radio. With this association, every data application (Example: Text Messaging Service) will take on a friendly username. You can still send text messages without logging in as a user. The user login feature only enables the recipient of your message to identify you as the sender by assigning a username to your message.

Accessing the User Login Feature
The user login feature can be accessed by selecting a menu item on the display or through a programmable button.

1. Press until USER appears on the display.

2. To access the user login screen through the menu item, press below USER.
   To access the user login screen through a preprogrammed button, press the preprogrammed user button.

   **Note:** Radio buttons that are “preprogrammed” mean that a qualified radio technician must use the radio’s programming software to assign a feature to a button. Any programmable buttons on the radio can be programmed to access the user login feature. See “Programmable Features” on page 4.

3. The user login screen appears.

   ![User Login Screen]

ASTRO XTS 2500/XTS 2500I Model III
ARS User Login and Text Messaging Features

To Login as a User

1. Press ** below ID to enter your username at the prompt.

2. You can enter a username via direct entry using the keypad multitap function.

   Press the key labeled with the desired character, once for the first character, twice for the second, and so on.

   For example:
   To enter “S”, press (7) key four times. To enter “7”, press the key five times. If you do not press a key for a few seconds, the character is accepted, and the cursor moves to the next position.

<table>
<thead>
<tr>
<th>Key</th>
<th>Number of times the key is pressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>1 - * # /</td>
</tr>
<tr>
<td>2</td>
<td>A B C 2 a b c</td>
</tr>
<tr>
<td>3</td>
<td>D E F 3 d e f</td>
</tr>
<tr>
<td>4</td>
<td>G H I 4 g h i</td>
</tr>
<tr>
<td>5</td>
<td>J K L 5 j k l</td>
</tr>
<tr>
<td>6</td>
<td>M N O 6 m n o</td>
</tr>
<tr>
<td>7</td>
<td>P Q R S 7 p q r s</td>
</tr>
<tr>
<td>8</td>
<td>T U V 8 t u v</td>
</tr>
<tr>
<td>9</td>
<td>W X Y Z 9 w x y z</td>
</tr>
<tr>
<td>*</td>
<td>Space</td>
</tr>
<tr>
<td>#</td>
<td>Delete a character</td>
</tr>
</tbody>
</table>
ARS User Login and Text Messaging Features

OR

Select a predefined username from the list of predefined username. See “Selecting a Predefined Username” on page 92 for information on how to add a predefined username.

Note: Valid characters for a username entry are capital letters A-Z, small letters a-z, numbers 0-9, ‘*’, ‘#’, ‘-’, ‘,’ ‘/’ and the space character. The maximum length for a username is 8 characters. Username will not be case sensitive in server mode and will be case sensitive in non-server mode.

3 Press ⊕ below PIN to enter your PIN (Personal Identification Number) number at the prompt. The maximum PIN length is 4 digits. The PIN number will appear as asterisks.
ARS User Login and Text Messaging Features

4 To log in:
Press • below LOGIN.

- In ARS server mode:
The progress screen appears.

- In ARS non-server mode:
The logged in confirmation screen appears.

- In non-ARS enabled mode:
The display shows OFFLINE.

5 Press • below CNCL to cancel the login in progress screen and return to the initial user login screen.

6 The logged in confirmation screen appears when the login process is successful. The “successful user login” indicator (IP indicator) will be shown on the display.

7 When you enter an invalid username or PIN, login fails and the user login screen will display a momentary text LOGIN FAILED. The “user login failure” indicator (blinking IP indicator) is shown on the display.
ARS User Login and Text Messaging Features

8 To log out:

Press ‡ below LOGT

Upon pressing the LOGT button, a confirmation screen appears.

Press ‡ below YES to clear all your private data. A momentary text PRIVATE DATA CLEARED is shown.

OR

Press ‡ below NO to keep your private data.

Note: Private data refers to all messages in the text messaging inbox, Draft and Sent folder. The next user will be able to access the Inbox, Draft and Sent messages if private data is not deleted.
ARS User Login and Text Messaging Features

Selecting a Predefined Username

1  Press \( \text{up arrow} \) to scroll to the next username.

   OR

   Press \( \text{down arrow} \) to scroll to the previous username.

   Press and hold \( \text{up arrow} \) to scroll to the next usernames continuously one at a time at a fast scroll rate.

   OR

   Press and hold \( \text{down arrow} \) to scroll to the previous usernames continuously one at a time at a fast scroll rate.

2  If you log in with a selected predefined username comprising of 8 characters or more, or one with an invalid character, you will see a momentary text INVALID ID on the display.

   Note: A predefined username may sometimes be invalid because the programming software that is used to set predefined usernames allows you to set usernames comprising of 8 characters or more.
Text Messaging

The Text Messaging Service (TMS) is an application service through which you can send and receive text messages. You can send 3 types of text messages, namely

- A new text message (free form messages)
- Predefined messages (quick text messages)
- Edited quick text messages

Accessing TMS Feature

Use the Menu

1. a) Press \( \boxed{\text{button}} \) until TMS appears on the display.

   b) Press \( \boxed{\text{button}} \) directly below TMS.

Use the TMS Feature Button

1. Press \( \boxed{\text{button}} \) to access the TMS feature screen.
ARS User Login and Text Messaging Features

Use the Preprogrammed TMS Button

1 Press the preprogrammed button to access the TMS feature screen.

Pressing and holding the preprogrammed button for TMS brings you directly to the Inbox screen.

Note: Any programmable button on the radio can be programmed to access TMS feature.

See “Programmable Features” on page 4 for more information on buttons that are programmable to access TMS.

2 The TMS feature’s main menu consists of the Inbox, Compose, Draft, Sent and Back option.

See “Table 7: TMS Menu Options” on page 95 for explanation on each menu option.

Press or to scroll through the main menu options.
### Table 7: TMS Menu Options

<table>
<thead>
<tr>
<th>Menu Options</th>
<th>Description/Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>INBX</td>
<td>This is used to store new incoming messages or messages that you have received. The Inbox can hold up to 30 messages.</td>
</tr>
<tr>
<td>COMP</td>
<td>This menu option brings you to the compose screen.</td>
</tr>
<tr>
<td>DRFT</td>
<td>This is used to store all saved messages or messages that are to be sent at a later time. The Draft folder can hold up to 10 messages.</td>
</tr>
<tr>
<td>SENT</td>
<td>This is used to store the messages that you have already sent. The Sent folder can hold up to 10 messages.</td>
</tr>
<tr>
<td>BACK</td>
<td>This menu option brings you back to the TMS main menu or previous menu.</td>
</tr>
<tr>
<td>EDIT</td>
<td>This menu option brings you to the Quick Text Messages screen.</td>
</tr>
<tr>
<td>SAVE</td>
<td>This menu option allows you to save your messages to the Draft folder.</td>
</tr>
<tr>
<td>RPLY</td>
<td>This menu option allows you to reply to a message.</td>
</tr>
<tr>
<td>DEL</td>
<td>This menu option allows you to delete a message.</td>
</tr>
<tr>
<td>ADDR</td>
<td>This menu option allows you to key in the target address, or select one from the list.</td>
</tr>
<tr>
<td>NEW</td>
<td>This menu option allows you to compose a new message.</td>
</tr>
<tr>
<td>LIST</td>
<td>This menu option allows you to select a predefined message.</td>
</tr>
<tr>
<td>IMPT</td>
<td>This menu option is used to toggle on/off the “Priority” flag for an outgoing message.</td>
</tr>
</tbody>
</table>
ARS User Login and Text Messaging Features

<table>
<thead>
<tr>
<th>Menu Options</th>
<th>Description/Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>RGRP</td>
<td>This menu option is used to toggle on/off the “Request Reply” flag for an outgoing message.</td>
</tr>
<tr>
<td>CURR</td>
<td>This menu option is used to delete the current selected message.</td>
</tr>
<tr>
<td>ALL</td>
<td>This menu option is used to delete all the messages in the current message folder.</td>
</tr>
</tbody>
</table>

Table 8: TMS Status Symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Indication</th>
</tr>
</thead>
</table>
| ![Icon] | **Priority Message**  
This icon is displayed  
- when “Priority” is toggled on before sending the message.  
- in the Inbox folder for messages which are flagged with “Priority”. |
| ![Icon] | **Request Reply**  
This icon is displayed  
- when “Request Reply” is toggled on before sending the message.  
- in the Inbox folder for messages which are flagged with “Request Reply”. |
| ![Icon] | **Inbox Full**  
This icon is displayed when the Inbox folder is full. |
| ![Icon] | **New Message Icon**  
This icon is displayed when a new incoming message is received. |
ARS User Login and Text Messaging Features

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Indication</th>
</tr>
</thead>
</table>
| ![Message Sent](image1) | **Message Sent**  
This icon indicates that the selected message has been successfully sent. |
| ![Message Unsent](image2) | **Message Unsent**  
This icon indicates that the selected message was not successfully sent. |
| ![Read Message](image3) | **Read Message**  
This icon is used to indicate that the selected message in the Inbox has been read. |
| ![Unread Message](image4) | **Unread Message**  
This icon indicates that the selected message in the Inbox folder has not been read. |
| ![Message Index](image5) | **Message Index**  
This icon indicates the index of the current message the user is viewing. Example: if the user is looking at the third message out of a total of 6 messages in the Inbox folder, the icon is displayed as the icon on the left column. |
| ![Num Lock](image6) | **Num Lock**  
This icon indicates that the text entry is currently in num lock mode. |
| ![Normal Mode](image7) | **Normal Mode**  
This icon indicates that the text entry is currently in the normal mode. |
| ![Uppercase](image8) | **Uppercase**  
This icon is displayed during text editing mode to indicate that the text entry is currently in uppercase mode. |
ARS User Login and Text Messaging Features

Receive a Message
When you receive a message, a momentary text, NEW MSG appears on the display along with a new message icon.

To View Message from the Inbox.

1 Access TMS (Launch TMS).

2 Press directly below INBX.

3 The Inbox screen appears. The first message in the list is displayed. Inbox can hold up to 30 messages. Message status icons are displayed at the top of the screen. See “Table 8: TMS Status Symbols” on page 96 for further details on these icons.

4 Scroll to the message you want to read by pressing the button.

   Note: If the message fills more than one screen, scroll to read it by pressing or button.

5 To delete the message, press below DEL. See “Delete a Message” on page 104 for further details.
ARS User Login and Text Messaging Features

Compose a New Text Message

1. Press ◀ below COMP to compose a new message.
   - The Compose Message Screen appears.
   - LIST or NEW option appears on the display.

2. Press ◀ below NEW to type a new message.
   - A blinking cursor appears on the display indicating point of input.

3. Writing Text
   - Type your message using the keypad.
   - Press the key labeled with the desired character, once for the first character, twice for the second, and so on.

   **For example:**
   - To enter “s”, press 7 key four times. To enter “7”, press the key five times. If you do not press a key for a few seconds, the character is accepted, and the cursor moves to the next position.

   - Press # key to delete a character.

   - You can move the cursor by pressing ◀ or ▶.

   - Press and hold 0 to toggle between normal text entry mode, uppercase mode and num lock mode.
ARS User Login and Text Messaging Features

Note:  

i) During the uppercase mode, multi-tapping the keys will only scroll through the uppercase letters. 
(Example: A->B->C->2)

ii) During the num lock mode, pressing the keypad will only enter the numeric digits. Subsequent presses of the same key will insert the same digit to the text message (no multi-tap).

Table 9: Keypad Characters

<table>
<thead>
<tr>
<th>Key</th>
<th>Number of times the key is pressed (in normal mode)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>a</td>
</tr>
<tr>
<td>3</td>
<td>d</td>
</tr>
<tr>
<td>4</td>
<td>g</td>
</tr>
<tr>
<td>5</td>
<td>j</td>
</tr>
<tr>
<td>6</td>
<td>m</td>
</tr>
<tr>
<td>7</td>
<td>p</td>
</tr>
<tr>
<td>8</td>
<td>t</td>
</tr>
<tr>
<td>9</td>
<td>w</td>
</tr>
<tr>
<td>*</td>
<td>Space</td>
</tr>
<tr>
<td>#</td>
<td>Delete a character</td>
</tr>
</tbody>
</table>
ARS User Login and Text Messaging Features

4 Addressing a Message

Press ◀ below ADDR to address your outgoing message.

The Address input screen appears.

Press ◀ or ▶ to scroll through the address list.

OR

Use direct address entry via multi-tap.

5 Append a Priority Message or Request Reply

Before sending your message, you can append a priority message or a request reply to your message.

Press ◀ below IMPT to toggle on/off a “Priority” flag for an outgoing message. A “Priority” flag icon is displayed at the top of the screen when it is toggled on. See “Table 8: TMS Status Symbols” on page 96.

Press ◀ ◀ below RQRP to toggle on/off the “Request Reply” icon for an outgoing message. A “Request Reply” status icon is displayed at the top of the screen when it is toggled on. See “Table 8: TMS Status Symbols” on page 96.
ARS User Login and Text Messaging Features

**Note:** When you receive a message on the XTS 2500 radio that is flagged with the "Request Reply" icon, you must manually respond to the sender that you have received the message. The system will not automatically send back a notification that the radio received such message.

**Note:** The "Priority" flag on a message does not imply that the message will get higher priority over the other messages when it is being transmitted. It is just an indication that can be embedded into a message to let the receiver know that the message is important.

6 When an address has been appended to the outgoing message, press the PTT button to send your message.

OR

Press ☐☐ below SAVE to save your message for sending at a later time.

The message will be saved in the “Draft folder”. See “To Access the Draft Folder” on page 105 for further details.

Send a Predefined Message

The Quick Text Messages are messages that are predefined and usually consist of messages that are used most frequently.

1 Press ☐☐ below LIST to use the predefined message

OR

Press on the preprogrammed Quick Text button.

The first predefined message appears.
ARS User Login and Text Messaging Features

**Note:** Any programmable button on the radio can be programmed to access the Quick Text Messages feature.

See "Programmable Features" on page 4 for more information on buttons that are programmable to access Quick Text Messages.

2 When a message has been selected from the list, address your message and press the PTT button to send the message.

---

**Edit a Quick Text Message**

1 Press (●●) below EDIT to edit a quick text message.

The Editing Screen appears. A blinking cursor appears at the end of the predefined text.

Edit your message using the keypad.

2 Press (●●) below SAVE to save the edited changes. The message is saved in the Draft folder.

3 When an address has been appended to the outgoing message, press the PTT button to send the edited message.
ARS User Login and Text Messaging Features

Reply to a Received Message

1. Press ‡below †REPLY to reply to a message.
   The Compose Message Screen appears.
   LIST or NEW option appears on the display.

2. Press ‡below †NEW to type a new message.
   OR
   Press ‡‡below †LIST to use the predefined message / quick text message.

Delete a Message

1. From the Inbox, Draft or Sent screen, scroll to select a message for deletion.

2. After selecting a message, press ‡‡below †DEL. The display shows 2 delete options.
   Press ‡ below †CURR to delete only the current message.
   OR
   Press ‡‡ below †ALL to delete all messages.
ARS User Login and Text Messaging Features

3 When you select to delete all messages, a confirmation screen appears. Press below YES to delete all messages.

To Access the Draft Folder
The Draft folder stores the messages that were saved previously. The Draft folder can hold up to 10 messages. The oldest draft in the folder is deleted when the 11th message comes in.

1 Press below DRFT. The Draft screen appears.
   The first draft in the list is displayed.

2 Press or to scroll through the list of drafts.
ARS User Login and Text Messaging Features

To Access the Sent Folder

The Sent folder stores the messages that were sent out previously. The Sent folder can hold up to 10 messages. The oldest Sent message in the folder is deleted when the 11th message comes in.

1 Press ◀ below SENT. The Sent screen appears. The first sent message in the list is displayed. A message delivery icon will be displayed at the top right corner of the screen. See “Table 8: TMS Status Symbols” on page 96 for more details.

2 Press ● or ◀ to scroll through the list of other messages that have been sent.
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
Helpful Tips

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, 2204 Galvin Drive, Elgin, IL 60123, 1-800-227-6772.

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 114.

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
Helpful Tips

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 blinks 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 blinking fuel gauge symbol (uaisi) 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.

<table>
<thead>
<tr>
<th>Gauge shows:</th>
<th>if the battery’s charge is:</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="https://example.com/fuel-gauge-symbol" alt="Fuel Gauge Symbol" /></td>
<td>71% to 100% full</td>
</tr>
<tr>
<td><img src="https://example.com/fuel-gauge-symbol" alt="Fuel Gauge Symbol" /></td>
<td>41% to 70%</td>
</tr>
<tr>
<td><img src="https://example.com/fuel-gauge-symbol" alt="Fuel Gauge Symbol" /></td>
<td>11% to 40%</td>
</tr>
<tr>
<td><img src="https://example.com/fuel-gauge-symbol" alt="Fuel Gauge Symbol" /></td>
<td>10% or less (at 10%, the gauge begins blinking)</td>
</tr>
</tbody>
</table>

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

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:

<table>
<thead>
<tr>
<th>Antenna Type</th>
<th>Approx. Length</th>
<th>Insulator Color</th>
<th>Frequency Range (MHz)</th>
<th>Antenna Kit No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VHF whip</td>
<td>8 in. 203 mm</td>
<td>RED</td>
<td>136–174</td>
<td>NAD6563</td>
</tr>
<tr>
<td>VHF helical</td>
<td>7.6 in. 193 mm</td>
<td>YELLOW</td>
<td>136–150.8</td>
<td>NAD6566</td>
</tr>
<tr>
<td>VHF helical</td>
<td>7 in. 178 mm</td>
<td>BLACK</td>
<td>150.8–162</td>
<td>NAD6567</td>
</tr>
<tr>
<td>VHF helical</td>
<td>6.5 in. 165 mm</td>
<td>BLUE</td>
<td>162–174</td>
<td>NAD6568</td>
</tr>
<tr>
<td>UHF helical</td>
<td>3.3 in. 83 mm</td>
<td>RED</td>
<td>380–435</td>
<td>NAE6546</td>
</tr>
<tr>
<td>UHF helical</td>
<td>3.1 in. 78 mm</td>
<td>GREEN</td>
<td>435–470</td>
<td>NAE6547</td>
</tr>
<tr>
<td>UHF helical</td>
<td>2.8 in. 71 mm</td>
<td>BLACK</td>
<td>470–520</td>
<td>NAE6548</td>
</tr>
<tr>
<td>UHF whip, wideband</td>
<td>5.2 in. 133 mm</td>
<td>GRAY</td>
<td>380–520</td>
<td>NAE6549</td>
</tr>
</tbody>
</table>
### Helpful Tips

<table>
<thead>
<tr>
<th>Antenna Type</th>
<th>Approx. Length</th>
<th>Insulator Color Code</th>
<th>Frequency Range (MHz)</th>
<th>Antenna Kit No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>800 MHz whip, halfwave</td>
<td>7 in. 178 mm</td>
<td>RED</td>
<td>806–870</td>
<td>NAF5037</td>
</tr>
<tr>
<td>800 MHz dipole</td>
<td>8 in. 200 mm</td>
<td>RED</td>
<td>806–870</td>
<td>NAF5039</td>
</tr>
<tr>
<td>900 MHz whip, halfwave</td>
<td>6.7 in. 169 mm</td>
<td>BLUE</td>
<td>896 – 941</td>
<td>NAF5038</td>
</tr>
<tr>
<td>900 MHz dipole</td>
<td>8 in. 201 mm</td>
<td>BLUE</td>
<td>896 – 941</td>
<td>NAF5040</td>
</tr>
<tr>
<td>800/900 MHz stubby, quarterwave</td>
<td>3.4 in. 85 mm</td>
<td>WHITE</td>
<td>806–941</td>
<td>NAF5042</td>
</tr>
<tr>
<td>700/800 MHz whip</td>
<td>7 in. 178 mm</td>
<td>GREEN</td>
<td>764–870</td>
<td>NAF5080</td>
</tr>
</tbody>
</table>
Accessories

Motorola provides the following approved accessories to improve the productivity of your XTS 2500 / XTS 2500I 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/governmentandenterprise

Antennas

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
<th>Frequency Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAD6563</td>
<td>VHF whip</td>
<td>136–174 MHz</td>
</tr>
<tr>
<td>NAD6566</td>
<td>VHF</td>
<td>136–150.8 MHz</td>
</tr>
<tr>
<td>NAD6567</td>
<td>VHF</td>
<td>150.8–162 MHz</td>
</tr>
<tr>
<td>NAD6568</td>
<td>VHF</td>
<td>162–174 MHz</td>
</tr>
<tr>
<td>NAE6546</td>
<td>UHF</td>
<td>380–435 MHz</td>
</tr>
<tr>
<td>NAE6547</td>
<td>UHF</td>
<td>435–470 MHz</td>
</tr>
<tr>
<td>NAE6548</td>
<td>UHF</td>
<td>470–520 MHz</td>
</tr>
<tr>
<td>NAE6549</td>
<td>UHF whip</td>
<td>380–520 MHz</td>
</tr>
<tr>
<td>NAF5037</td>
<td>800 MHz whip, halfwave</td>
<td>806–870 MHz</td>
</tr>
<tr>
<td>NAF5038</td>
<td>900 MHz whip, halfwave</td>
<td>896–941 MHz</td>
</tr>
<tr>
<td>NAF5039</td>
<td>800 MHz dipole</td>
<td>806–870 MHz</td>
</tr>
<tr>
<td>NAF5040</td>
<td>900 MHz dipole</td>
<td>896–941 MHz</td>
</tr>
<tr>
<td>NAF5042</td>
<td>800/900 MHz stubby, quarterwave</td>
<td>806–941 MHz</td>
</tr>
<tr>
<td>NAF5080</td>
<td>700/800 MHz whip</td>
<td>764–870 MHz</td>
</tr>
</tbody>
</table>
Accessories

Batteries

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTN9815</td>
<td>NiCd high-capacity</td>
</tr>
<tr>
<td>NTN9816</td>
<td>NiCd high-capacity, Factory Mutual Intrinsically Safe</td>
</tr>
<tr>
<td>*NTN9857</td>
<td>NiMH ultra-high-capacity, Factory Mutual Intrinsically Safe, IMPRES</td>
</tr>
<tr>
<td>*NTN9858</td>
<td>NiMH ultra-high-capacity, IMPRES</td>
</tr>
<tr>
<td>*NNTN6263</td>
<td>JedRay NiMH FM, Battery Immersible, IMPRES</td>
</tr>
</tbody>
</table>

* Batteries include an over-discharge protection circuit (similar to those in Li-ion batteries) to extend life of batteries by preventing excessive battery discharge during customer use. Motorola strongly recommends charging these batteries with Motorola-approved IMPRES desktop charges programmed with version 3.4 of the IMPRES desktop charger software.

Carry Accessories

Belt Clips

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLN6853</td>
<td>Belt clip, 2 1/4 inch</td>
</tr>
</tbody>
</table>

Body-Worn

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NNTN4115</td>
<td>Carrying case, leather with 3-in. swivel belt loop and T-strap</td>
</tr>
<tr>
<td>NNTN4116</td>
<td>Carrying case, leather with 2.5-in. swivel belt loop and T-strap</td>
</tr>
<tr>
<td>NNTN4117</td>
<td>Carrying case, leather with 3-in. belt loop and T-strap</td>
</tr>
<tr>
<td>NLN6349</td>
<td>Shoulder strap for carrying radio</td>
</tr>
<tr>
<td>NTN5243</td>
<td>Shoulder strap for carrying radio</td>
</tr>
<tr>
<td>TDN9675</td>
<td>Wrist strap for carrying radio</td>
</tr>
</tbody>
</table>
## Accessories

### Chargers

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLN7967</td>
<td>Wall-mount kit for multi-unit charger</td>
</tr>
<tr>
<td>NLN7968</td>
<td>Rack-mount kit for multi-unit charger</td>
</tr>
<tr>
<td>NTN1168</td>
<td>Single-unit dual rate, rapid charger 120V</td>
</tr>
<tr>
<td>NTN1169</td>
<td>Single-unit dual rate, rapid charger 220V (2-prong Euro plug)</td>
</tr>
<tr>
<td>NTN1170</td>
<td>Single-unit dual rate, rapid charger 240V (3-prong UK plug)</td>
</tr>
<tr>
<td>NTN1177</td>
<td>Multi-unit, dual rate, rapid charger 110V</td>
</tr>
<tr>
<td>NTN1178</td>
<td>Multi-unit, dual rate, rapid charger 240V (3-prong UK plug)</td>
</tr>
<tr>
<td>NTN1179</td>
<td>Multi-unit, rapid charger 240V (UK 13 MAP Plug)</td>
</tr>
<tr>
<td>NTN1667</td>
<td>Tri-chemistry, 110V</td>
</tr>
<tr>
<td>NTN1668</td>
<td>Tri-Chemistry, 220V Single Unit Charger (2 Prong Euro Plug)</td>
</tr>
<tr>
<td>NTN1669</td>
<td>Tri-chemistry, 230V</td>
</tr>
<tr>
<td>NTN1873</td>
<td>IMPRES™ rapid charger 110V single-unit</td>
</tr>
<tr>
<td>NTN1874</td>
<td>IMPRES™ rapid charger 220V single-unit</td>
</tr>
<tr>
<td>NTN1875</td>
<td>IMPRES™ rapid charger 240V single-unit</td>
</tr>
<tr>
<td>NTN4796</td>
<td>Multi-unit, tri-chemistry, rapid rate, 110V</td>
</tr>
<tr>
<td>NTN7209</td>
<td>Single-unit dual rate, rapid charger w/o cord</td>
</tr>
<tr>
<td>RLN4884</td>
<td>Single-unit Travel Charger</td>
</tr>
</tbody>
</table>

### Enhanced and Multi-Unit Line Cords

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTN7373</td>
<td>110V interchangeable line</td>
</tr>
<tr>
<td>NTN7374</td>
<td>220V interchangeable line (2-prong Euro plug)</td>
</tr>
<tr>
<td>NTN7375</td>
<td>240V interchangeable line (3-prong UK plug)</td>
</tr>
</tbody>
</table>
Accessories

Microphones, Remote Speaker

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMN4080</td>
<td>GPS SMART/ Submersible RSM</td>
</tr>
<tr>
<td>HMN4084</td>
<td>Speaker mic Non-Submersible / GPS RSM</td>
</tr>
<tr>
<td>NMN6191</td>
<td>Remote speaker mic, noise-canceling (includes 6.0-ft coiled cord assembly, 3.5-mm earjack, swivel clip, quick disconnect)</td>
</tr>
<tr>
<td>NMN6193</td>
<td>Remote speaker mic</td>
</tr>
<tr>
<td>NNTN4285</td>
<td>Remote speaker mic adapter</td>
</tr>
<tr>
<td>ZMN6031</td>
<td>Speaker mic, 3-piece</td>
</tr>
<tr>
<td>ZMN6032</td>
<td>Speaker mic, 2-piece</td>
</tr>
<tr>
<td>ZMN6038</td>
<td>Speaker mic, 2-piece, extra loud</td>
</tr>
<tr>
<td>ZMN6039</td>
<td>Speaker mic, 3-piece, extra loud</td>
</tr>
<tr>
<td>*RMN5074</td>
<td>18 inch Public Safety Microphone</td>
</tr>
<tr>
<td>*RMN5073</td>
<td>24 inch Public Safety Microphone</td>
</tr>
<tr>
<td>*RMN5072</td>
<td>30 inch Public Safety Microphone</td>
</tr>
</tbody>
</table>

Note: Accessories *RMN5074, *RMN5073 and *RMN5072 are not to be used with VHF band radios. For 900MHz band radios, use these accessories only with antenna NAF5042.
## Surveillance Accessories

### Adapters and Adapter Cable

<table>
<thead>
<tr>
<th>Adapter Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDN6673</td>
<td>Headset adapter cable (for use with BDN6635 and BDN6645)</td>
</tr>
<tr>
<td>BDN6676</td>
<td>Jedi adapter</td>
</tr>
<tr>
<td>NTN8613</td>
<td>Surveillance accessory adapter</td>
</tr>
</tbody>
</table>

### CommPort® Integrated Microphone/Receivers

<table>
<thead>
<tr>
<th>Adapter Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTN1624</td>
<td>CommPort with palm PTT</td>
</tr>
<tr>
<td>NTN1625</td>
<td>CommPort ear mic with PTT for noise levels up to 100 dB (requires BDN6676 adapter)</td>
</tr>
<tr>
<td>NTN1663</td>
<td>CommPort ear mic with ring PTT for noise levels up to 100 dB (requires BDN6676 adapter)</td>
</tr>
<tr>
<td>NTN1736</td>
<td>CommPort ear mic with snap-on side PTT for noise levels up to 100 dB (requires BDN6676 adapter)</td>
</tr>
</tbody>
</table>

### Earpieces

<table>
<thead>
<tr>
<th>Adapter Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDN6641</td>
<td>Ear mic, high noise level up to 105 dB, grey (must order BDN6671 interface module)</td>
</tr>
<tr>
<td>BDN6664</td>
<td>Earpiece with standard earphone, beige</td>
</tr>
<tr>
<td>BDN6665</td>
<td>Earpiece with extra-loud earphone (exceeds OSHA limits), beige</td>
</tr>
<tr>
<td>BDN6666</td>
<td>Earpiece with volume control, beige</td>
</tr>
<tr>
<td>BDN6667</td>
<td>Earpiece, mic and PTT combined, beige</td>
</tr>
<tr>
<td>BDN6668</td>
<td>Earpiece, mic and PTT separate, beige</td>
</tr>
<tr>
<td>BDN6669</td>
<td>Earpiece, mic and PTT combined, with extra-loud earphone (exceeds OSHA limits), beige</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>BDN6670</td>
<td>Earpiece, mic and PTT separate with extra-loud earphone (exceeds OSHA limits), beige</td>
</tr>
<tr>
<td>BDN6677</td>
<td>Ear mic, standard, noise up to 95 dB (must order BDN6671 interface module), black</td>
</tr>
<tr>
<td>BDN6678</td>
<td>Ear mic, standard, noise up to 95 dB (must order BDN6671 interface module), beige</td>
</tr>
<tr>
<td>BDN6719</td>
<td>Earpad, with 3.5mm threaded plug</td>
</tr>
<tr>
<td>BDN6726</td>
<td>Earpiece with standard earphone, black</td>
</tr>
<tr>
<td>BDN6727</td>
<td>Earpiece with extra-loud earphone (exceeds OSHA limits), black</td>
</tr>
<tr>
<td>BDN6728</td>
<td>Earpiece with volume control, black</td>
</tr>
<tr>
<td>BDN6729</td>
<td>Earpiece, mic and PTT combined, black</td>
</tr>
<tr>
<td>BDN6730</td>
<td>Earpiece, mic and PTT separate, black</td>
</tr>
<tr>
<td>BDN6731</td>
<td>Earpiece, mic and PTT combined, with extra-loud earphone (exceeds OSHA limits), black</td>
</tr>
<tr>
<td>BDN6732</td>
<td>Earpiece, mic and PTT separate, with extra-loud earphone (exceeds OSHA limits), black</td>
</tr>
<tr>
<td>BDN6780</td>
<td>Earbud, single with mic and PTT combined, beige</td>
</tr>
<tr>
<td>BDN6781</td>
<td>Earbud, single, receive only, black</td>
</tr>
</tbody>
</table>
Accessories

Headsets and Headset Accessories

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDN6635</td>
<td>Heavy-duty VOX headset with noise-canceling boom mic (requires BDN6673 adapter)</td>
</tr>
<tr>
<td>BDN6636</td>
<td>Heavy-duty VOX headset with throat mic (requires BDN6673)</td>
</tr>
<tr>
<td>BDN6645</td>
<td>Noise-canceling boom mic headset with PTT on earcup</td>
</tr>
<tr>
<td>NMN1020</td>
<td>Safety helmet headset (requires BDN6676 adapter)</td>
</tr>
<tr>
<td>NMN6245</td>
<td>Light-weight headset</td>
</tr>
<tr>
<td>NMN6246</td>
<td>Ultralite headset with boom mic</td>
</tr>
<tr>
<td>NMN6258</td>
<td>Over-the-head headset with in-line PTT</td>
</tr>
<tr>
<td>NMN6259</td>
<td>Medium-weight, dual headset with NC mic</td>
</tr>
<tr>
<td>RMN4049</td>
<td>Jedi “TEMCO” temple transducer</td>
</tr>
</tbody>
</table>

Radio Interface Modules for Ear Microphones

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDN6671</td>
<td>Push-to-talk (PTT) and voice-activated (VOX) interface module (for use with BDN6641, BDN6677 and BDN6678)</td>
</tr>
<tr>
<td>BDN6708</td>
<td>PTT interface module (for use with BDN6641, BDN6677 and BDN6678)</td>
</tr>
</tbody>
</table>

Switches

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0180300E83</td>
<td>Remote PTT body switch</td>
</tr>
<tr>
<td>NTN7660</td>
<td>Tilt / man down switch</td>
</tr>
</tbody>
</table>
Appendix: Maritime Radio Use in the VHF Frequency Range

Special Channel Assignments

Emergency Channel

If you are in imminent and grave danger at sea and require emergency assistance, use VHF Channel 16 to send a distress call to nearby vessels and the United States Coast Guard. Transmit the following information, in this order:

1. "MAYDAY, MAYDAY, MAYDAY."

2. "THIS IS ____________________, CALL SIGN __________ ."

   State the name of the vessel in distress 3 times, followed by the call sign or other identification of the vessel, stated 3 times.

3. Repeat "MAYDAY" and the name of the vessel.

4. "WE ARE LOCATED AT ________________________________ ."

   State the position of the vessel in distress, using any information that will help responders to locate you, e.g.:
   - latitude and longitude
   - bearing (state whether you are using true or magnetic north)
   - distance to a well-known landmark
   - vessel course, speed or destination

5. State the nature of the distress.

6. Specify what kind of assistance you need.

7. State the number of persons on board and the number needing medical attention, if any.

8. Mention any other information that would be helpful to responders, such as type of vessel, vessel length and/or tonnage, hull color, etc.

9. "OVER."

10. Wait for a response.

11. If you do not receive an immediate response, remain by the radio and repeat the transmission at intervals until you receive a response. Be prepared to follow any instructions given to you.
Appendix: Maritime Radio Use in the VHF Frequency Range

Non-Commercial Call Channel
For non-commercial transmissions, such as fishing reports, rendezvous arrangements, repair scheduling, or berthing information, use VHF Channel 9.

Operating Frequency Requirements
A radio designated for shipboard use must comply with Federal Communications Commission Rule Part 80 as follows:

• on ships subject to Part II of Title III of the Communications Act, the radio must be capable of operating on the 156.800 MHz frequency.

• on ships subject to the Safety Convention, the radio must be capable of operating:
  • in the simplex mode on the ship station transmitting frequencies specified in the 156.025–157.425 MHz frequency band, and
  • in the semiduplex mode on the two frequency channels specified in the table below.

Note: Simplex channels 3, 21, 23, 61, 64, 81, 82, and 83 cannot be lawfully used by the general public in US waters.

Additional information about operating requirements in the Maritime Services can be obtained from the full text of FCC Rule Part 80 and from the US Coast Guard.

Table A-1: VHF Marine Channel List

<table>
<thead>
<tr>
<th>Channel Number</th>
<th>Frequency (MHz)</th>
<th>Transmit</th>
<th>Receive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>156.050</td>
<td></td>
<td>160.650</td>
</tr>
<tr>
<td>2</td>
<td>156.100</td>
<td></td>
<td>160.700</td>
</tr>
<tr>
<td>*</td>
<td>156.150</td>
<td></td>
<td>160.750</td>
</tr>
<tr>
<td>4</td>
<td>156.200</td>
<td></td>
<td>160.800</td>
</tr>
<tr>
<td>5</td>
<td>156.250</td>
<td></td>
<td>160.850</td>
</tr>
<tr>
<td>6</td>
<td>156.300</td>
<td></td>
<td>–</td>
</tr>
<tr>
<td>7</td>
<td>156.350</td>
<td></td>
<td>160.950</td>
</tr>
</tbody>
</table>
### Appendix: Maritime Radio Use in the VHF Frequency Range

#### Table A-1: VHF Marine Channel List (Continued)

<table>
<thead>
<tr>
<th>Channel Number</th>
<th>Frequency (MHz)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Transmit</td>
<td>Receive</td>
</tr>
<tr>
<td>8</td>
<td>156.400</td>
<td>–</td>
</tr>
<tr>
<td>9</td>
<td>156.450</td>
<td>156.450</td>
</tr>
<tr>
<td>10</td>
<td>156.500</td>
<td>156.500</td>
</tr>
<tr>
<td>11</td>
<td>156.550</td>
<td>156.550</td>
</tr>
<tr>
<td>12</td>
<td>156.600</td>
<td>156.600</td>
</tr>
<tr>
<td>13**</td>
<td>156.650</td>
<td>156.650</td>
</tr>
<tr>
<td>14</td>
<td>156.700</td>
<td>156.700</td>
</tr>
<tr>
<td>15**</td>
<td>156.750</td>
<td>156.750</td>
</tr>
<tr>
<td>16</td>
<td>156.800</td>
<td>156.800</td>
</tr>
<tr>
<td>17**</td>
<td>156.850</td>
<td>156.850</td>
</tr>
<tr>
<td>18</td>
<td>156.900</td>
<td>161.500</td>
</tr>
<tr>
<td>19</td>
<td>156.950</td>
<td>161.550</td>
</tr>
<tr>
<td>20</td>
<td>157.000</td>
<td>161.600</td>
</tr>
<tr>
<td>*</td>
<td>157.050</td>
<td>161.650</td>
</tr>
<tr>
<td>22</td>
<td>157.100</td>
<td>161.700</td>
</tr>
<tr>
<td>*</td>
<td>157.150</td>
<td>161.750</td>
</tr>
<tr>
<td>24</td>
<td>157.200</td>
<td>161.800</td>
</tr>
<tr>
<td>25</td>
<td>157.250</td>
<td>161.850</td>
</tr>
<tr>
<td>26</td>
<td>157.300</td>
<td>161.900</td>
</tr>
<tr>
<td>27</td>
<td>157.350</td>
<td>161.950</td>
</tr>
<tr>
<td>28</td>
<td>157.400</td>
<td>162.000</td>
</tr>
<tr>
<td>60</td>
<td>156.025</td>
<td>160.625</td>
</tr>
<tr>
<td>*</td>
<td>156.075</td>
<td>160.675</td>
</tr>
<tr>
<td>62</td>
<td>156.125</td>
<td>160.725</td>
</tr>
<tr>
<td>63</td>
<td>156.175</td>
<td>160.775</td>
</tr>
<tr>
<td>*</td>
<td>156.225</td>
<td>160.825</td>
</tr>
<tr>
<td>65</td>
<td>156.275</td>
<td>160.875</td>
</tr>
<tr>
<td>66</td>
<td>156.325</td>
<td>160.925</td>
</tr>
</tbody>
</table>
Appendix: Maritime Radio Use in the VHF Frequency Range

Table A-1: VHF Marine Channel List (Continued)

<table>
<thead>
<tr>
<th>Channel Number</th>
<th>Frequency (MHz)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Transmit</td>
</tr>
<tr>
<td>67**</td>
<td>156.375</td>
</tr>
<tr>
<td>68</td>
<td>156.425</td>
</tr>
<tr>
<td>69</td>
<td>156.475</td>
</tr>
<tr>
<td>71</td>
<td>156.575</td>
</tr>
<tr>
<td>72</td>
<td>156.625</td>
</tr>
<tr>
<td>73</td>
<td>156.675</td>
</tr>
<tr>
<td>74</td>
<td>156.725</td>
</tr>
<tr>
<td>75</td>
<td>***</td>
</tr>
<tr>
<td>76</td>
<td>***</td>
</tr>
<tr>
<td>77**</td>
<td>156.875</td>
</tr>
<tr>
<td>78</td>
<td>156.925</td>
</tr>
<tr>
<td>79</td>
<td>156.975</td>
</tr>
<tr>
<td>80</td>
<td>157.025</td>
</tr>
<tr>
<td>*</td>
<td>157.075</td>
</tr>
<tr>
<td>*</td>
<td>157.125</td>
</tr>
<tr>
<td>*</td>
<td>157.175</td>
</tr>
<tr>
<td>84</td>
<td>157.225</td>
</tr>
<tr>
<td>85</td>
<td>157.275</td>
</tr>
<tr>
<td>86</td>
<td>157.325</td>
</tr>
<tr>
<td>87</td>
<td>157.375</td>
</tr>
<tr>
<td>88</td>
<td>157.425</td>
</tr>
</tbody>
</table>

* Simplex channels 3, 21, 23, 61, 64, 81, 82, and 83 cannot be lawfully used by the general public in US waters.

** Low power (1 W) only

*** Guard band

Note: A – in the Receive column indicates that the channel is transmit only.
**Glossary**

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

<table>
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<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACK</td>
<td>Acknowledgment of communication.</td>
</tr>
<tr>
<td>Active Channel</td>
<td>A channel that has traffic on it.</td>
</tr>
<tr>
<td>Analog Signal</td>
<td>An RF signal that has a continuous nature rather than a pulsed or discrete nature.</td>
</tr>
<tr>
<td>ASTRO 25 Trunking</td>
<td>Motorola standard for wireless digital trunked communications.</td>
</tr>
<tr>
<td>ASTRO Conventional</td>
<td>Motorola standard for wireless analog or digital conventional communications.</td>
</tr>
<tr>
<td>Call Alert</td>
<td>Privately page an individual by sending an audible tone.</td>
</tr>
<tr>
<td>Carrier Squelch</td>
<td>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.</td>
</tr>
<tr>
<td>Central Controller</td>
<td>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.</td>
</tr>
<tr>
<td>Channel</td>
<td>A group of characteristics such as transmit/receive frequency pairs, radio parameters, and encryption encoding.</td>
</tr>
<tr>
<td>Control Channel</td>
<td>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.</td>
</tr>
<tr>
<td>Conventional</td>
<td>Typically refers to radio-to-radio communications, sometimes through a repeater. (See Trunking.)</td>
</tr>
</tbody>
</table>
## Glossary

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

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor</td>
<td>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 &quot;open the squelch&quot; when pressing the monitor button.</td>
</tr>
<tr>
<td>Network Access Code</td>
<td>Network Access Code (NAC) operates on digital channels to reduce voice channel interference between adjacent systems and sites.</td>
</tr>
<tr>
<td>NiCd</td>
<td>Nickel Cadmium.</td>
</tr>
<tr>
<td>NiMH</td>
<td>Nickel Metal Hydride.</td>
</tr>
<tr>
<td>Non-tactical/Revert</td>
<td>The user will talk on a preprogrammed emergency channel. The emergency alarm is sent on this same channel.</td>
</tr>
<tr>
<td>Page</td>
<td>A one-way alert, with audio and/or display messages.</td>
</tr>
<tr>
<td>Personality</td>
<td>A set of unique features specific to a radio.</td>
</tr>
<tr>
<td>PIN</td>
<td>Personal Identification Number.</td>
</tr>
<tr>
<td>Preprogrammed</td>
<td>A feature that has been assigned in advance by a qualified technician.</td>
</tr>
<tr>
<td>Private (Conversation) Call</td>
<td>Allows you to have a private conversation with another radio user in the group.</td>
</tr>
<tr>
<td>Private Line (PL)</td>
<td>A sub-audible tone that is transmitted such that only receivers decoding this tone will hear the message.</td>
</tr>
<tr>
<td>Programmable</td>
<td>A radio control that can have a radio feature assigned to it.</td>
</tr>
<tr>
<td>PTT</td>
<td>Push-To-Talk — the <strong>PTT</strong> button engages the transmitter and puts the radio in transmit (send) operation when pressed.</td>
</tr>
</tbody>
</table>
Glossary

<table>
<thead>
<tr>
<th><strong>Radio Frequency (RF)</strong></th>
<th>The part of the general frequency spectrum between the audio and infrared light regions (about 10 kHz to 10,000,000 MHz).</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Repeater</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Selective Switch</strong></td>
<td>Any digital P25 traffic having the correct Network Access Code and the correct talkgroup.</td>
</tr>
<tr>
<td><strong>Squelch</strong></td>
<td>Special electronic circuitry added to the receiver of a radio which reduces, or squelches, unwanted signals before they are heard in the speaker.</td>
</tr>
<tr>
<td><strong>Standby</strong></td>
<td>An operating condition whereby the radio’s speaker is muted but still continues to receive data.</td>
</tr>
<tr>
<td><strong>Tactical/Non-revert</strong></td>
<td>The user will talk on the channel that was selected before the radio entered the emergency state.</td>
</tr>
<tr>
<td><strong>Talkaround</strong></td>
<td>Bypass a repeater and talk directly to another unit for easy local unit-to-unit communications.</td>
</tr>
<tr>
<td><strong>Talkgroup</strong></td>
<td>An organization of radio users who communicate with each other.</td>
</tr>
<tr>
<td><strong>TMS</strong></td>
<td>Text Messaging Service.</td>
</tr>
<tr>
<td><strong>Trunking</strong></td>
<td>The automatic sharing of communications paths between a large number of users. (See Conventional.)</td>
</tr>
<tr>
<td><strong>Zone</strong></td>
<td>A grouping of channels.</td>
</tr>
</tbody>
</table>
Commercial Warranty

Limited Warranty

MOTOROLA COMMUNICATION PRODUCTS

I. WHAT THIS WARRANTY COVERS AND FOR HOW LONG:
MOTOROLA INC. ("MOTOROLA") warrants the MOTOROLA manufactured Communication Products listed below ("Product") against defects in material and workmanship under normal use and service for a period of time from the date of purchase as scheduled below:

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| Product Accessories | One (1) Year |

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Commercial Warranty

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Commercial Warranty

which sold you the Product, it can facilitate your obtaining warranty service. You can also call Motorola at 1-888-567-7347 US/Canada.

V. WHAT THIS WARRANTY DOES NOT COVER:

A) Defects or damage resulting from use of the Product in other than its normal and customary manner.

B) Defects or damage from misuse, accident, water, or neglect.

C) Defects or damage from improper testing, operation, maintenance, installation, alteration, modification, or adjustment.

D) Breakage or damage to antennas unless caused directly by defects in material workmanship.

E) A Product subjected to unauthorized Product modifications, disassemblies or repairs (including, without limitation, the addition to the Product of non-Motorola supplied equipment) which adversely affect performance of the Product or interfere with Motorola’s normal warranty inspection and testing of the Product to verify any warranty claim.

F) Product which has had the serial number removed or made illegible.

G) Rechargeable batteries if:

• any of the seals on the battery enclosure of cells are broken or show evidence of tampering.

• the damage or defect is caused by charging or using the battery in equipment or service other than the Product for which it is specified.

H) Freight costs to the repair depot.

I) A Product which, due to illegal or unauthorized alteration of the software/firmware in the Product, does not function in accordance with MOTOROLA's published specifications or the FCC type acceptance labeling in effect for the Product at
Commercial Warranty

the time the Product was initially distributed from MOTOROLA.

J) Scratches or other cosmetic damage to Product surfaces that does not affect the operation of the Product.

K) Normal and customary wear and tear.

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B) that MOTOROLA will have sole control of the defense of such suit and all negotiations for its settlement or compromise; and

C) should the Product or parts become, or in MOTOROLA’s opinion be likely to become, the subject of a claim of infringement of a United States patent, that such purchaser will permit MOTOROLA, at its option and expense, either to procure for such purchaser the right to continue using the Product or parts or to replace or modify the same so that it becomes non-infringing or to grant such purchaser a credit for the Product or parts as depreciated and accept its return. The depreciation will be an equal amount per year over the lifetime of the Product or parts as established by MOTOROLA.

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copyrights.

VII. GOVERNING LAW:
This Warranty is governed by the laws of the State of Illinois, USA.
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