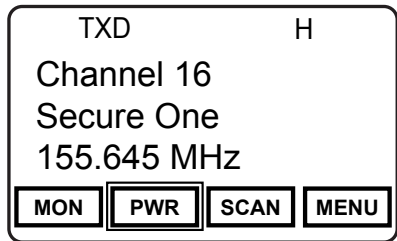


## Transmit Power



Transmit Power can be selected between the programmed high and low settings. The power output of the settings depend on radio options, model and editor settings.

When operating in the high power mode, "H" will be displayed on the top line of the LCD. In low power mode, "L" is displayed.

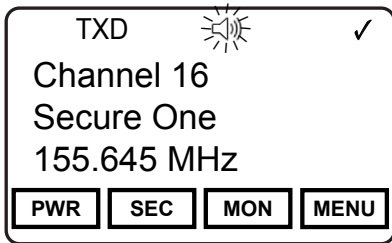
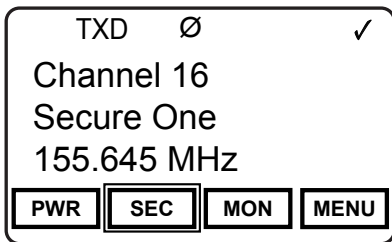
Transmit Power Selection can be assigned as a touch screen or menu list item or on a microphone function button.

When assigned to the touch screen or as a microphone function button, press the assigned button to switch between high and low power.

When assigned as a menu item, open the menu as described in the Navigation section and select "High" or "Low" from the menu.

Press "ENTER" to set the selection.

## Transmit Secure



When SEC is on, encrypted channels programmed for switchable encryption will transmit an encrypted signal.

NOTE: The SEC switch has no effect on channels programmed as Encrypted Only or Clear Only.

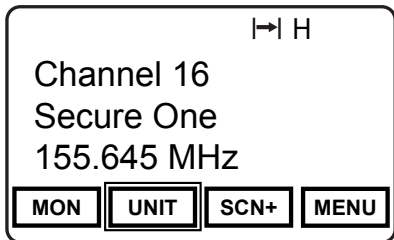
Channels in the Ready-to-Transmit Encrypted mode will display the Ø symbol on the top line of the LCD.

When transmitting or receiving an encrypted signal a flashing Ø symbol will be displayed.

Transmit Secure selection can be assigned as a touch screen, menu list item or on a microphone function button.

Transmit Secure is either "Secure" or "CLEAR".

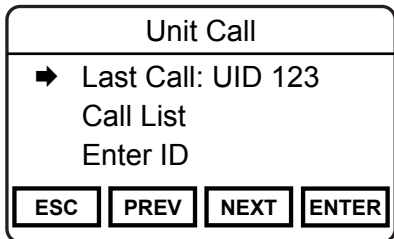
## Unit Call



P25 Unit IDs allow for Unit-To-Unit calls when the radio is operating in Digital Mode. The function must be enabled by radio programming to allow this mode of operation.

Unit Call operation can be assigned as a touch screen or menu list item or on a microphone function button.

Channels programmed for analog only operation will not be able to transmit or receive Unit-To-Unit calls.



### **Sending a Unit-to-Unit Call**

Open the menu as described in the Navigation section.

There are three ways to select a P25 ID for sending a Unit-to-Unit call.

**Last Call** - Uses the P25 ID of the last Call.

**Call List** - Uses the programmed P25 ID List.

**Enter ID** - Enter a P25 ID with the keypad.

**Sending a Unit-to-Unit Call (cont.)**

"Last Call" displays the ID of the last active unit call whether received or transmitted. If the Unit ID is part of the radio's call list the associated label will be displayed. Select to initiate a call to the displayed ID.

Call List			
➔	1: Call 1		
	2: Call 2		
	3: Call 3		
ESC	PREV	NEXT	ENTER

Select "Call List" to choose a P25 ID from the programmed list. Programmed IDs will display the associated label.

Select the desired label to initiate the call.

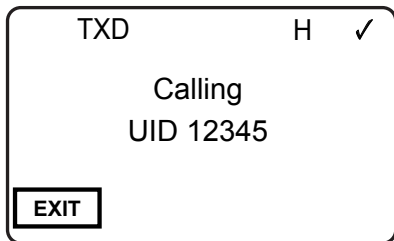
Enter Call ID			
12345			
ESC	PREV	NEXT	ENTER

A P25 ID number can be entered with the microphone keypad by selecting "Enter ID". Press the number keys to enter the ID.

Select "ENTER" to initiate the call.

## ***KNG Mobile Operation***

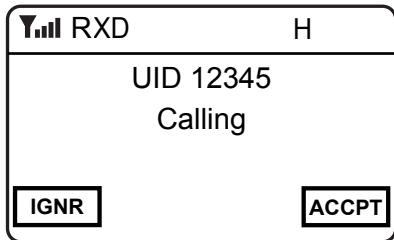
### **Sending a Unit-to-Unit Call (cont.)**



Once the Unit Call function is activated the "Calling" message will be displayed showing the currently active ID. Each push-to-talk will generate a unit-to-unit call with the displayed ID.

Select "Exit" to return to normal operation.

If there is no activity for one minute the radio automatically returns to normal operation.



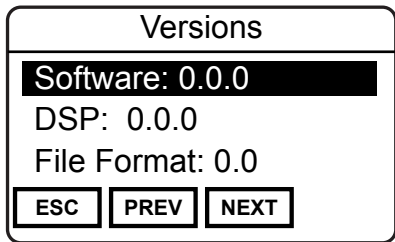
### **Receiving a Unit Call**

When an incoming Unit Call is detected, an incoming message display is shown with the incoming radio ID.

Select "Accept" to return a Unit Call.

Selecting "Ignore" will return to normal operation.

## Versions



Information about your radio can be viewed via a Versions menu item.

To review the information, open the Versions menu as described in the Navigation section. Use the NEXT or PREV to view the installed revisions of individual items.

Version information includes:

**Software:** Date code of installed software firmware.

**DSP:** Date code of installed DSP firmware.

**File Format:** Currently installed file format.

**BSP:** Date code of installed BSP firmware.

**PCB Revision:** Installed printed circuit board revision number.

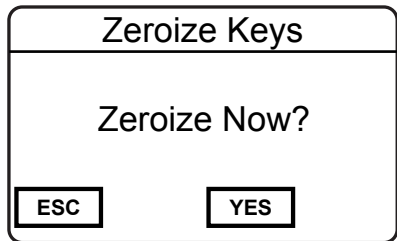
**Date of Manufacture:** Date of manufacture.

**FIPSCOM Bootloader:** Revision required for encryption installation.

**FIPSCOM Application:** Installed encryption source file.

Information on current versions can be found in the service section at [www.relm.com](http://www.relm.com).

## Zeroize Keys



For radios with the digital encryption option, the radio provides a method for the user to "panic-zeroize" all encryption keys. Zeroizing removes all encryption keys from the radio, including keys used for OTAR and Tactical OTAR operation.

Zeroize can be assigned as a touch screen or menu list item or on a microphone function button.

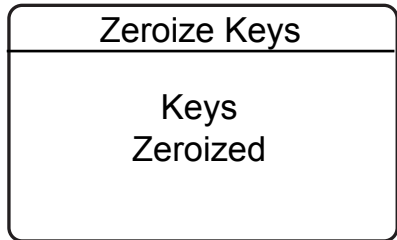
When assigned to the touch screen or as a microphone function button, press the assigned button to open the zeroize menu.

When assigned as a menu item, open the "Zeroize Keys" menu as described in the Navigation section.

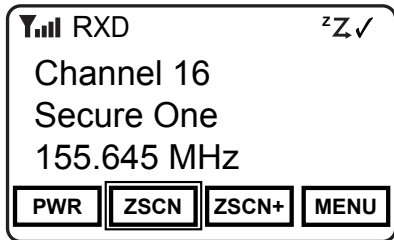
Press "YES" to erase all encryption keys or "ESC" to cancel the action.

When the keys are successfully removed the "Keys Removed" message will momentarily be displayed.

Press "ESC" to return to normal operation.



## Zone Scan



When Zone Scan is on, the radio scans all programmed scan channels in zones designated as Zone Scan zones.

If allowed, the scanned zone list can be edited by the radio user. (See Zone Scan List).

When Zone Scan is on, the <sup>z</sup>Z symbol will be shown at the top of the LCD display.

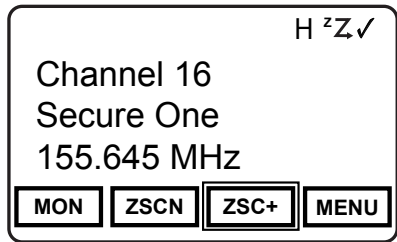
Zone Scan operation can be assigned as a touch screen or menu list item or on a microphone function button.

Zone Scan is either On or Off.

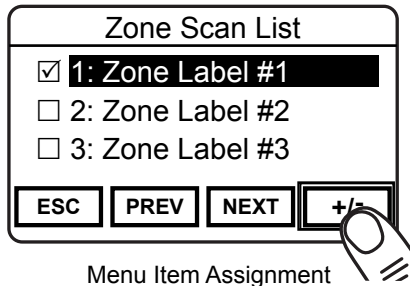
Zone Scan may be used in conjunction with Priority Scan operation.



## Zone Scan List



Touch Screen or Button Assignment



Menu Item Assignment

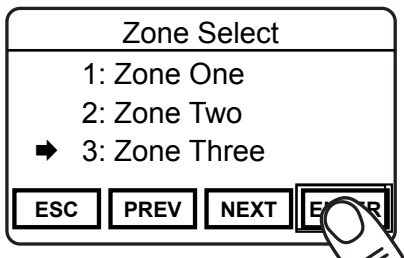
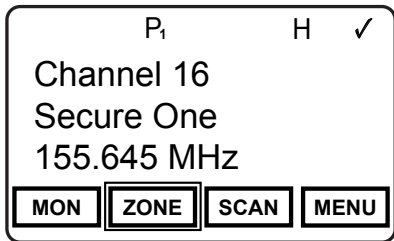
The Zone Scan List allows the radio user to add or remove zones from the list of zones to be scanned.

The Zone Scan List operation can be assigned as a touch screen or menu list item or on a microphone function button.

When Zone Scan List is assigned to the touch screen [ZSC+] or as a microphone function button, press the button to add or remove the currently operating zone from the scan list.

When assigned as a menu item, open the menu as described in the Navigation section and select the Zone you wish to add or remove from the scan list. Press "ENTER" to add or remove. Zones in the scan list will be indicated with the  symbol.

## Zone Select



Zone Select allows the radio user to switch between programmed channel zones.

The Zone Select operation can be assigned to a touch screen or menu list item or on a microphone function button.

When Zone is assigned to the touch screen or as a microphone function button, press the button to open the menu of available zones.

When assigned as a menu item, open the menu as described in the Navigation section.

Select the Zone you want to use.

Press "ENTER" select the Zone.

Additionally, the channel select knob can be used to change the operating zone. (Refer to your radio editor software documentation.)

## **User Picklist Options**

---

The KNG provides users the ability to select and assign Picklist functions to specific channels.

Picklist Options can be assigned to a touch screen or menu list item or on a microphone function button.

Available Pick List options include:

- Transmit Code Guards

- Receive Code Guards

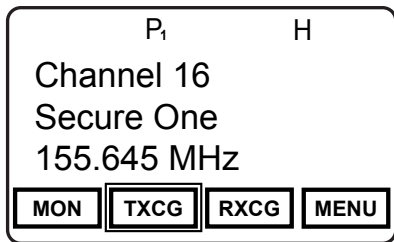
- Transmit Network Access Codes

- Receive Network Access Codes

- Talk Group IDs

- Encryption Keys

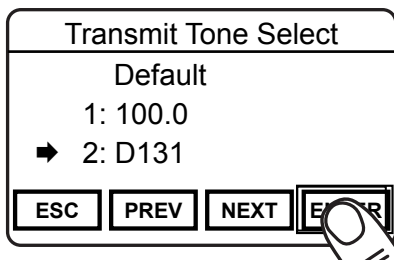
## User Selectable CTCSS/CDCSS Code Guard



Selecting a CTCSS/CDCSS Code Guard from the Pick List will assign the tone to a currently select analog or mixed-mode channel.

User assigned Transmit and Receive Code Guards are selected independently.

User selectable menu access can be assigned to a touch screen or menu list item or on a microphone function button.



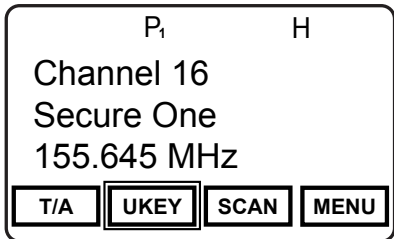
When assigned as a touch screen button, "TXCG" opens the Transmit Code Guard menu and "RXCG" opens the Receiver Code Guard menu.

To change a Code Guard, open the RXCG or TXCG menu, select the desired tone and press "ENTER".

To return the tone to the pre-programmed value select "Default".

If allowed, picklist values can be changed through keypad programming. See "Keypad Programming".

## User Selectable Encryption Key



### Encrypted radios only.

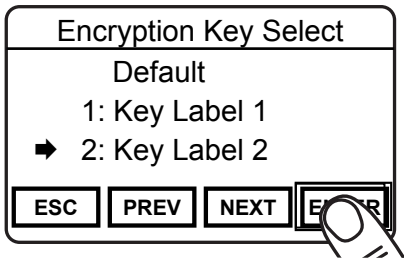
Selecting an Encryption Key from the Picklist will assign the Key to *all* encrypted channels that do not have 'Key Lock' programmed. Locked key channels will continue to use their pre-programmed key.

User selectable menu access can be assigned to a touch screen or menu list item or on a microphone function button.

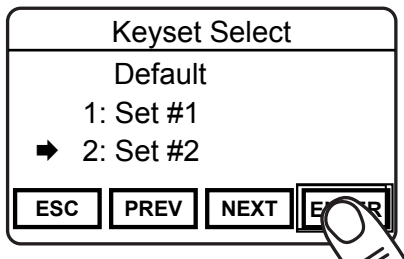
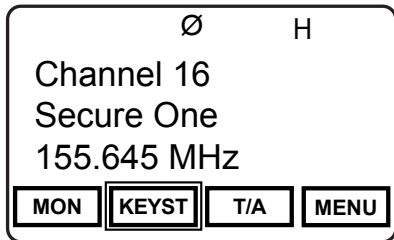
To change an encryption key, open the UKEY menu. Programmed Key labels will be displayed.

Select the desired key and press "ENTER".

To return the tone to the pre-programmed value select "Default".



## User Selectable Encryption Keyset



### OTAR equipped radios only.

Selecting a Key Set from the Pick List will cause the radio to use encryption keys from the selected Key Set.

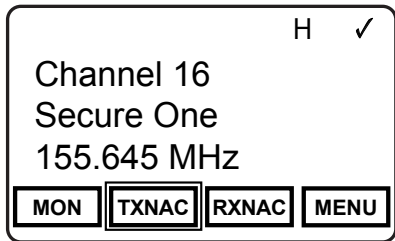
User selectable menu access can be assigned to a touch screen or menu list item or on a microphone function button.

To change an encryption key, open the KEYST menu. Programmed Keyset labels will be displayed.

Select the desired keyset and press "ENTER".

To return the tone to the pre-programmed value select "Default".

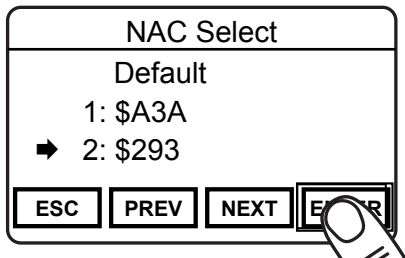
## User Selectable Network Access Codes



Selecting a Network Access Code (NAC) from the Pick List will assign the NAC to a currently select digital or mixed-mode channel.

User assigned Transmit and Receive NACs are selected independently.

User selectable menu access can be assigned to a touch screen or menu list item or on a microphone function button.



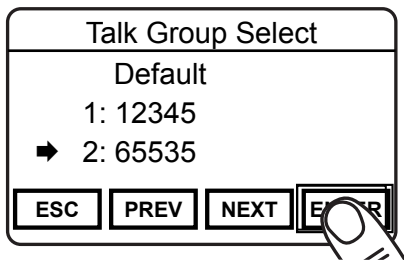
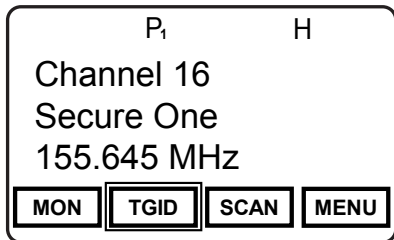
When assigned as a touch screen button, "TXNAC" opens the Transmit NAC menu and "RXNAC" opens the Receiver NAC menu.

To change a NAC, open the RXNAC or TXNAC menu, select the desired NAC and press "ENTER".

To return the NAC to the pre-programmed value select "Default".

If allowed, picklist values can be changed through keypad programming. See "Keypad Programming".

## User Selectable Talk Group ID



Selecting a Talk Group ID from the Pick List will assign the TGID to the currently select channel. All other channels are unaffected.

User selectable menu access can be assigned to a touch screen or menu list item or on a microphone function button.

When assigned to the touch screen or as a microphone function button, press the button to open the menu of available TGIDs.

When assigned as a menu item, open the menu as described in the Navigation section.

Select the Talk Group ID you want to use.

Press "ENTER" select.

To return the TGID to the pre-programmed value select "Default".

If allowed, picklist values can be changed through keypad programming. See "Keypad Programming".



## Keypad Programming Options

---

**NOTE:** Radio programming is to be performed only by authorized personnel. Any or all programmable functions are password protected to prevent unauthorized access. Check with your RELM/BK Radio dealer or communications officer for information on the programmed functions of your radio.

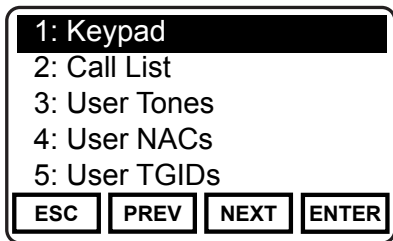
Programmable categories include Individual P25 ID Quick Call/Receive List, User Tone List, User NAC List, User Talk Group ID List and Keypad Programming of Channel, Zone, Global and System parameters.

### Entering Programming Mode

1: TX Digital
2: TX Secure
3: Talkaround
<b>4: Keypad Programming</b>
ESC    PREV    NEXT    ENTER

Select "Keypad Programming" from the Menu List.

Enter the User or Administrator password at the prompt.



Select programming menu from the list of available options.

**Keypad** - Used for programming Channel, Zone, System and Global radio information including frequencies, labels, priority scan rate, etc.

**Call List** - Used to edit labels and P25 IDs in the stored User Call List.

**User Tones** - Used to edit the 32 User Selectable CTCSS/CDCSS tones stored in the list.

**User NACs** - Used to edit the 32 User Selectable NACs stored in the list.

**User TGIDs** - Used to edit the 32 User Selectable TGIDs stored in the list.

## Keypad Programming

Keypad programming consists of four sections: Global, System, Zone and Channel.

<b>1: Global</b>			
2: System			
3: Zone			
4: Channel			
ESC	PREV	NEXT	ENTER

Global parameters apply to settings that effect all systems, zones and channels.

System parameters, such as scan hold time, effect all conventional zones.

Zone parameters pertain to settings in a select zone of channels.

Channel parameters include channel specific information such as frequencies, tones, operational modes, etc.

## Programming Global Parameters

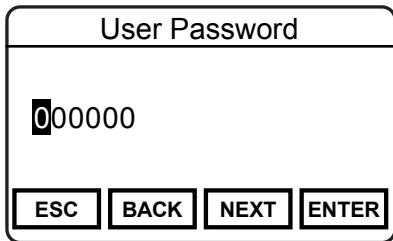
User Password		
000000		
ESC	CLEAR	EDIT

### User Password

The User Password is used only for entering the keypad programming mode. The Administrator and Startup Passwords cannot be changed via the keypad.

Select "CLEAR" to reset the password to all zeros. Use the microphone keypad to enter a new six-digit password.

### User Password (cont.)

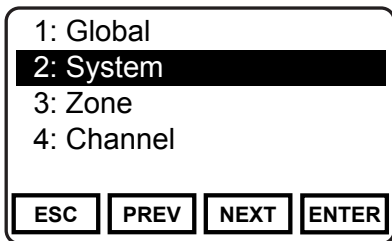


To edit individual digits select "EDIT". Use "PREV" and "NEXT" to highlight the digit to change.

Use the microphone keypad to enter a new digit.

Select "ENTER" to set the password and return to the previous step.

### Programming System Parameters



Programmable System Parameters include:

System Priority Channels

Transmit on Priority 1 selection

Scan Hold Time

Busy Channel Mode

Transmit Time-out setting

Transmit Power Setting

System P1 Channel			
Off			
Use Main			
➔	Select	Z:1	C:12
ESC	PREV	NEXT	ENTER

### System Priority 1 Channel

A priority channel can be assigned on a system wide basis. If allowed, a system priority channel will be monitored during priority scan regardless of the currently operation zone.

When set to "Off", the Priority 1 Channel is designated by the currently selected zone setting. (See Programming Zone Parameters)

When set to "Use Main" the channel selected by the channel knob is the Priority 1 channel.

Choose "Select" to designate a specific channel as the System Priority1 channel.

Use "PREV" and "NEXT" to highlight the Zone of the desired Priority channel. Press "ENTER" to set the zone.

Use "PREV" and "NEXT" to highlight the desired Priority channel. Press "ENTER" finalize the selection.

Priority 1 Zone			
1: Zone 1 Label			
2: Zone 2 Label			
➔	3: Zone 3 Label		
ESC	PREV	NEXT	ENTER

Tx in Priority 1			
Off			
➔ On			
ESC	PREV	NEXT	ENTER

### **Transmit on Priority 1**

If Transmit on Priority 1 is "On" the radio will transmit on the programmed Priority 1 channel whenever priority scan is turned on.

Use "PREV" and "NEXT" to highlight the desired Operation. Press "ENTER" finalize the selection.

System P2 Channel			
Off			
Use Main			
➔ Select Z:5 C:7			
ESC	PREV	NEXT	ENTER

### **System Priority 2 Channel**

A priority channel can be assigned on a system wide basis. If allowed, a system priority channel will be monitored during priority scan regardless of the currently operation zone.

When set to "Off", the Priority 2 Channel is designated by the currently selected zone setting. (See Programming Zone Parameters)

## *KNG Mobile Operation*

### System Priority 2 Channel (cont.)

Priority 2 Zone
1: Zone 1 Label
2: Zone 2 Label
➡ 3: Zone 3 Label
<b>ESC</b> <b>PREV</b> <b>NEXT</b> <b>ENTER</b>

Priority 2 Channel
1: Channel 1 Label
2: Channel 2 Label
➡ 3: Channel 3 Label
<b>ESC</b> <b>PREV</b> <b>NEXT</b> <b>ENTER</b>

When set to "Use Main" the channel selected by the channel knob is the Priority 2 channel.

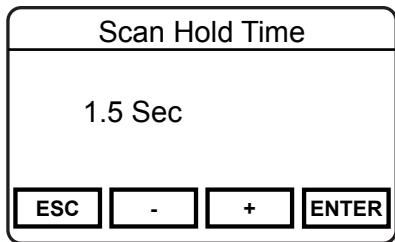
Choose "Select" to designate a specific channel as the System Priority 2 channel.

Use "PREV" and "NEXT" to highlight the Zone of the desired Priority channel.

Press "ENTER" to set the zone.

Use "PREV" and "NEXT" to highlight the desired Priority channel.

Press "ENTER" finalize the selection.



### **Scan Hold Time**

Scan Hold Time designates how long a scanned to channel is monitored before resuming scanning operation. The hold time can be set from 0 to 7.5 seconds.

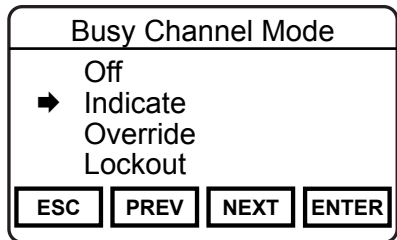
Scan Hold Time is also used as the hold time for programmed talkback functions.

To edit the setting select "Scan Hold Time" from the System menu.

Use the "+" and "-" buttons to adjust the setting in .5 second increments.

Press "ENTER" to set the selection.





### Busy Channel Mode

Busy Channel Mode determines how the radio operates when receiving an incoming signal.

**Off** - No busy channel indication.

**Indicate** - LED flashes green when the selected channel is busy.

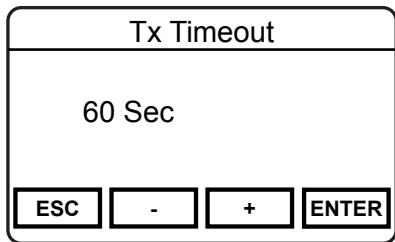
**Lockout** - Disallows transmitting while the channel is busy.

**Override** - While channel is busy, transmit is locked during initial push-to-talk. Releasing and re-pressing PTT overrides the lockout setting and allows transmit.

To edit the setting select "Busy Channel Mode" from the System menu.

Use the "PREV" and "NEXT" buttons to Select the setting.

Press "ENTER" to set the selection.



### **Transmit Time-out Timer**

Transmit Time-out Timer determines maximum time allowed per push-to-talk. The time-out time can be set from Off to 225 seconds.

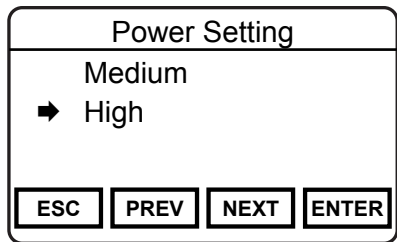
Five seconds prior to reaching the programmed time limit the radio will emit a warning tone. At the end of the programmed time an audible warning signal is emitted and the display shows "Tx Timeout"

To re-transmit, release the PTT and re-press.

To edit the setting select "Tx Timeout" from the System menu.

Use the "+" and "-" buttons to adjust the setting in 15 second increments.

Press "ENTER" to set the selection.



## **Power Setting**

The Power Setting determines transmit power when operation in High Power mode.

Select "High" to transmit at the radios full rated power output.

Select "Medium" to set the maximum output to the the tuned medium power setting.

To change the setting select "Power setting" from the System menu.

Press "ENTER" to set the selection.

## Programming Zone Parameters

1: Global
2: System
<b>3: Zone</b>
4: Channel
<b>ESC</b> <b>PREV</b> <b>NEXT</b> <b>ENTER</b>

Programmable Zone Parameters include:

Zone Label

Zone PR1 Chan

Zone Tx on PR1

Zone P2 Channel

DTMF Overdial

Select Zone
1: Zone 1 Label
2: Zone 2 Label
➔ 3: Zone 3 Label
<b>ESC</b> <b>PREV</b> <b>NEXT</b> <b>ENTER</b>

To edit zone parameters select "Zone" from the Keypad Programming menu.

Use "PREV" and/or "NEXT" to select the zone to be programmed.

Press "ENTER" to open the Zone Parameters menu.

## ***KNG Mobile Operation***

➔ 1: Zone Label  
2: Zone P1 Channel  
3: Zone Tx on P1  
4: Zone P1 Channel  
5: DTMF Overdial

**ESC** **PREV** **NEXT** **ENTER**

Select the desired parameter with "PREV" and/or "NEXT".

Press "ENTER" to program the selection.

Zone Label

---

Zone 1 Label

**ESC** **CLEAR** **EDIT**

### **Zone Label**

Select "CLEAR" to reset the label. Use the microphone keypad to enter a new alphanumeric label.

To edit individual digits select "EDIT". Use "PREV" and "NEXT" to highlight the digit to change.

Select "ENTER" to set the label and return to the previous step.

Zone 1 P1 Channel			
Off			
Use Main			
➔ Select: Chan: 1			
ESC	PREV	NEXT	ENTER

Zone 1 P1 Channel			
1: Channel 1 Label			
2: Channel 2 Label			
➔ 3: Channel 3 Label			
ESC	PREV	NEXT	ENTER

### **Zone Priority 1 Channel**

A priority channel can be assigned on a zone basis. If allowed, a system priority channel will be monitored during priority scan regardless of the selected zone settings. (See "System Priority Channel")

When set to "Off", Priority 1 is ignored.

When set to "Use Main" the channel selected by the channel knob is the Priority 1 channel.

Choose "Select" to designate a specific channel as the Priority1 channel.

Use "PREV" and "NEXT" to highlight the desired Priority channel.

Press "ENTER" finalize the selection.

Tx on Priority 1			
➔	Off On		
ESC	PREV	NEXT	ENTER

### Transmit on Priority 1

If Transmit on Priority 1 is "On" the radio will transmit on the programmed Priority 1 channel whenever priority scan is turned on.

Use "PREV" and "NEXT" to highlight the desired Operation.

Press "ENTER" finalize the selection.

Zone 1 P2 Channel			
	Off Use Main		
➔	Select: Chan: 1		
ESC	PREV	NEXT	ENTER

### Zone Priority 2 Channel

A priority channel can be assigned on a zone basis. If allowed, a system priority channel will be monitored during priority scan regardless of the selected zone settings. (See "System Priority Channel")

When set to "Off", Priority 2 is ignored.

When set to "Use Main" the channel selected by the channel knob is the Priority 2 channel.

**Zone Priority 2 Channel (cont.)**

Zone 1 P2 Channel			
1: Channel 1 Label			
2: Channel 2 Label			
➔ 3: Channel 3 Label			
ESC	PREV	NEXT	ENTER

Choose "Select" to designate a specific channel as the Priority 2 channel.

Use "PREV" and "NEXT" to highlight the desired Priority channel.

Press "ENTER" finalize the selection

DTMF Overdial			
➔ Off			
On			
ESC	PREV	NEXT	ENTER

**DTMF Overdial**

If DTMF Overdial is "On", DTMF tones can be generated during transmit. Press the microphone keypad during PTT to send a the DTMF tone. Use the radio touchscreen to send A, B, C or D characters.

Use "PREV" and "NEXT" to highlight the desired Operation.

Press "ENTER" finalize the selection.



Allow Inbound Clone			
➡	No		
	Yes		
ESC	PREV	NEXT	ENTER

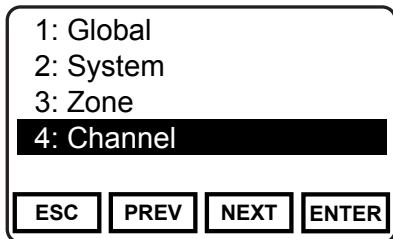
**Allow Inbound Clone**

Individual zones can be blocked from receiving information via radio cloning. Select "No" to block overwriting of zone information.

Use "PREV" and "NEXT" to highlight the desired Operation.

Press "ENTER" finalize the selection.

## Programming Channel Parameters



Programmable Channel Parameters include:

Channel Label  
Receive Frequency  
Receive Mode  
Receive CTCSS/CDCSS Tones  
Receive Network Access Codes  
Digital Squelch Mode  
Analog Bandwidth  
Transmit Power  
Transmit Frequency  
Transmit Mode  
Transmit CTCSS/CDCSS Tones  
Transmit Network Access Codes  
Talkgroup ID  
Default Encryption Key  
Secure Mode

Select Zone			
1: Zone 1 Label			
2: Zone 2 Label			
➡ 3: Zone 3 Label			
ESC	PREV	NEXT	ENTER

Select Channel			
1: Channel 1 Label			
2: Channel 2 Label			
➡ 3: Channel 3 Label			
ESC	PREV	NEXT	ENTER

### **Accessing Channel Parameters**

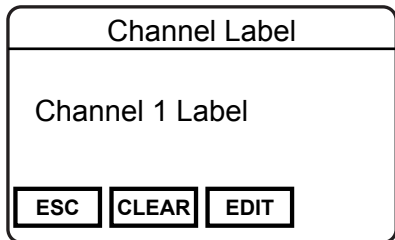
To edit channel parameters select "Channel" from the Keypad Programming menu.

Use "PREV" and/or "NEXT" to select the zone of the channel to be programmed.

Press "ENTER" to select the zone.

Use "PREV" and/or "NEXT" to select the channel to be programmed.

Press "ENTER" to open the Channel Parameters Menu.

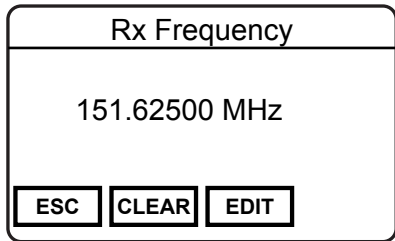


### **Channel Label**

Select "CLEAR" to reset the label. Use the microphone keypad to enter a new alphanumeric label.

To edit individual digits select "EDIT". Use "PREV" and "NEXT" to highlight the digit to change.

Select "ENTER" to set the label and return to the previous step.



### **Receive Frequency**

Select "CLEAR" to reset the frequency to all zeros. Use the microphone keypad to enter a new frequency.

To edit individual digits select "EDIT". Use "PREV" and "NEXT" to highlight the digit to change.

Select "ENTER" to set the frequency and return to the previous step.

NOTE: Entering zero sets selects the lowest valid frequency for the model type.

## *KNG Mobile Operation*

Rx Mode			
Analog			
Digital			
➔ Mixed			
ESC	PREV	NEXT	ENTER

### **Receive Mode**

Use "PREV" and/or "NEXT" to select the desired mode.

Press "ENTER" to set the selection and return to the previous step.

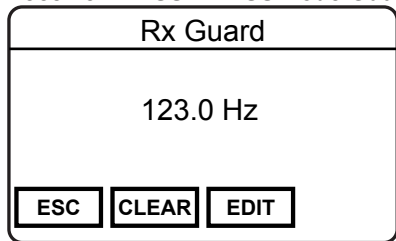
Rx Guard			
➔ Off			
Tone:	123.0 Hz		
Digital:			
ESC	PREV	NEXT	ENTER

### **Receive CTCSS/CDCSS Code Guard**

Receiver Code Guards only apply to analog or mixed mode operation. Code Guards can be subaudible tones or digital codes.

Select "Off" for analog signals to operate in carrier squelch mode.

**Receive CTCSS/CDCSS Code Guard (cont.)**

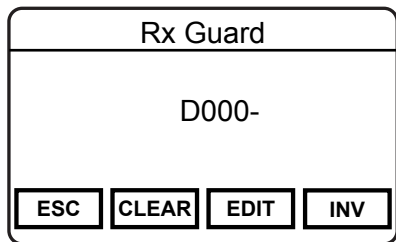


To enter a CTCSS tone, select "Tone" from the menu.

Select "CLEAR" to reset the tone to all zeros. Use the microphone keypad to enter a new frequency.

To edit individual digits select "EDIT". Use "PREV" and "NEXT" to highlight the digit to change.

Select "ENTER" to set the frequency and return to the previous step.



To enter a CDCSS value, select "Digital" from the menu.

Select "CLEAR" to reset the code to all zeros. Use the microphone keypad to enter a new tone. Use "INV" to invert the tone.

To edit individual digits select "EDIT". Use "PREV" and "NEXT" to highlight the digit to change.

Select "ENTER" to set the tone and return to the previous step.

Rx NAC			
➔ Enter	\$293		
Select			
ESC	PREV	NEXT	ENTER

Rx NAC		
293		
ESC	CLEAR	EDIT

### Receive Network Access Code

Receiver NACs only apply to digital or mixed mode operation. NACs are programmed as three digit hexadecimal numbers. \$F7E and \$F7F are invalid NACs.

To program a NAC, select "ENTER".

Select "CLEAR" to reset the NAC to all zeros. Use the microphone keypad to enter a new three digit value.

To edit individual digits select "EDIT". Use "PREV" and "NEXT" to highlight the digit to change.

Select "ENTER" to set the NAC and return to the previous step.

**Receive Network Access Code (cont.)**

Rx NAC	
NAC-01	\$123
NAC-02	\$456
➔ NAC-03	\$F73

ESC    PREV    NEXT    ENTER

To select a NAC from the programmed picklist, choose "Select" from the menu.

Use "PREV" and "NEXT" to highlight the desired NAC or press the number buttons on the microphone to go directly to a picklist slot.

(Pressing "5" will go to "NAC-5" in the picklist.)

Select "ENTER" to set the NAC and return to the previous step.

Squelch Mode	
➔ Selective	
Normal	

ESC    PREV    NEXT    ENTER

**Squelch Mode**

Use "PREV" and "NEXT" to select Normal or Selective. (Selective squelch is required for Individual Calls and use of Talkgroup IDs.)

Select "ENTER" to set the mode.



Bandwidth			
➡ Narrowband Wideband			
ESC	PREV	NEXT	ENTER

### **Analog Bandwidth**

Bandwidth selection applies only to analog operation. Digital operation is always narrowband regardless of setting.

Use "PREV" and "NEXT" to select Narrowband or Wideband.

Select "ENTER" to set the mode.

Tx Power			
➡ Low Power Hi Power Selectable			
ESC	PREV	NEXT	ENTER

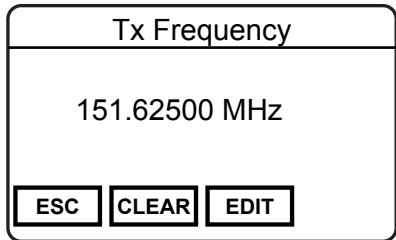
### **Transmit Power**

Individual channels can be designated to always transmit in low or high power.

Use "PREV" and "NEXT" to select "Low" or "High" power.

Choosing "Selectable" allows the transmit power to be selected by a programmed Tx Power switch.

Select "ENTER" to set the mode.



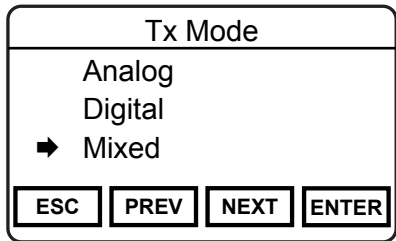
**Transmit Frequency**

Select "CLEAR" to reset the frequency to all zeros. Use the microphone keypad to enter a new frequency.

To edit individual digits select "EDIT". Use "PREV" and "NEXT" to highlight the digit to change.

Select "ENTER" to set the frequency and return to the previous step.

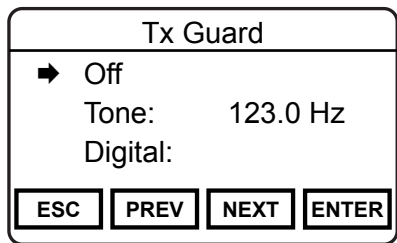
NOTE: Entering zero selects the lowest valid frequency for the model type.



**Transmit Mode**

Use "PREV" and/or "NEXT" to select the desired operating mode.

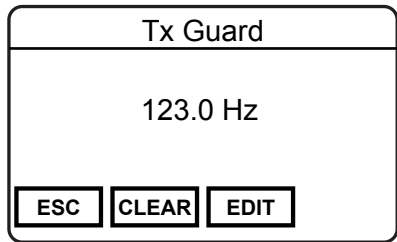
Press "ENTER" to set the selection and return to the previous step.



### **Transmit CTCSS/CDCSS Code Guard**

Transmit Code Guards only apply to analog or mixed mode operation. Code Guards can be subaudible tones or digital codes.

Select "Off" transmit with no Code Guard tone.



To enter a CTCSS tone, select "Tone" from the menu.

Select "CLEAR" to reset the tone to all zeros. Use the microphone keypad to enter a new frequency.

To edit individual digits select "EDIT". Use "PREV" and "NEXT" to highlight the digit to change.

Select "ENTER" to set the frequency and return to the previous step.

**Transmit CTCSS/CDCSS Code Guard (cont.)**

Tx Guard			
D000-			
ESC	CLEAR	EDIT	INV

To enter a CDCSS value, select "Digital" from the menu.

Select "CLEAR" to reset the tone to all zeros. Use the microphone keypad to enter a new tone. Use "INV" to invert the tone.

To edit individual digits select "EDIT". Use "PREV" and "NEXT" to highlight the digit to change.

Select "ENTER" to set the tone and return to the previous step.

Tx NAC			
➔	Enter	\$293	
	Select		
ESC	PREV	NEXT	ENTER

**Transmit Network Access Code**

Transmitter NACs only apply to digital or mixed mode operation. NACs are programmed as three digit hexadecimal numbers.

\$F7E and \$F7F are invalid NACs.

## ***KNG Mobile Operation***

### **Transmit Network Access Code (cont.)**

Tx NAC		
293		
ESC	CLEAR	EDIT

To program a NAC, select "ENTER".

Select "CLEAR" to reset the NAC to all zeros. Use the microphone keypad to enter a new three digit value.

To edit individual digits select "EDIT". Use "PREV" and "NEXT" to highlight the digit to change.

Select "ENTER" to set the NAC and return to the previous step.

Tx NAC			
NAC-01	\$123		
NAC-02	\$456		
➔ NAC-03	\$F73		
ESC	PREV	NEXT	ENTER

To select a NAC from the programmed picklist, choose "Select" form the menu.

Use "PREV" and "NEXT" to highlight the desired NAC or press the number buttons on the microphone to go directly to a picklist slot.

(Pressing "5" will go to "NAC-5" in the picklist.)

Select "ENTER" to set the NAC and return to the previous step.

TGID			
➔ Enter:	1		
Select:			
ESC	PREV	NEXT	ENTER

### **Talk Group ID**

The Talk Group ID applies only to digital or mixed mode operation.

TGID can be programmed from 1 to 65535.

TGID		
65535		
ESC	CLEAR	EDIT

To program a TGID, select "ENTER".

Select "CLEAR" to reset the TGID to all zeros. Use the microphone keypad to enter the new TGID.

To edit individual digits select "EDIT". Use "PREV" and "NEXT" to highlight the digit to change.

Select "ENTER" to set the TGID and return to the previous step.

## ***KNG Mobile Operation***

### **Talk Group ID (cont.)**

TGID			
TGID-01	1		
TGID-02	2		
➔ TGID-03	\$F73		
ESC	PREV	NEXT	ENTER

To select a TGID from the programmed picklist, choose "Select" from the menu.

Use "PREV" and "NEXT" to highlight the desired TGID or press the microphone number buttons to go directly to a picklist slot. (Pressing "5" will go to "TGID-5" in the picklist.)

Select "ENTER" to set TGID and return to the previous step.

Encryption Key			
Key Label 1			
Key Label 2			
➔ Key Label 3			
ESC	PREV	NEXT	ENTER

### **Encryption Key**

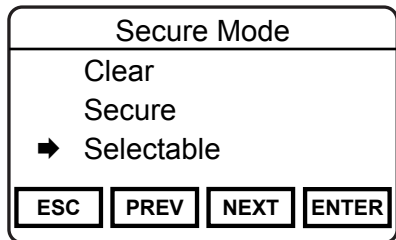
In radios equipped for encryption, a default encryption key can be assigned to a channel. If allowed by PC programming, a different key can be assigned during normal operation from a Key picklist.

To assign an encryption key select "Key" from the programming menu.

**Encryption Key (cont.)**

Use "PREV" and "NEXT" to highlight the desired Key or press the number buttons on the microphone to go directly to a picklist slot.  
(Pressing "5" will go to "Key-5" in the picklist.)

Select "ENTER" to set the Key and return to the previous step

**Secure Mode Selection**

In radios equipped for encryption, each channel can be set to always transmit in Clear or Secure mode.

Or, by choosing "Selectable", the encryption can be switched on or off by a programmed button, touchscreen or menu item.

To assign an encryption mode select "Secure Mode" from the programming menu.

Use "PREV" and "NEXT" to highlight the desired operation.

Select "ENTER" to set the Key and return to the previous step.



## Call List Programming

To program the P25 Unit-to-Unit call list, select "Call List" from the Keypad programming menu.

Program Call List			
➔	Call 1: Label		
	Call 2: Label		
	Call 3: Label		
ESC	PREV	NEXT	ENTER

Use "PREV" and "NEXT" to highlight the desired Call List item or press the number buttons on the microphone to go directly to a picklist slot.

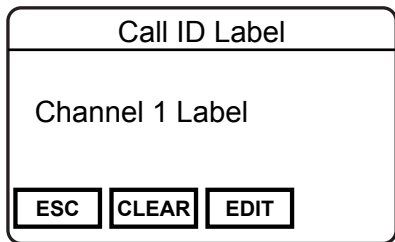
(Pressing "5" will go to "Call 5" in the picklist.)

Select "ENTER" to select the item to be programmed.

Call ID			
Label: Call 1 Label			
ID: 12345			
ESC	PREV	NEXT	ENTER

Use "PREV" and "NEXT" to highlight the information you wish to program.

Select "ENTER" to select the item to open the item's programming window.

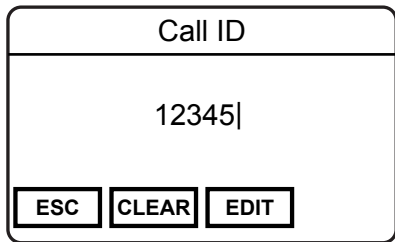


### **Programming the Unit Call Label**

Select "CLEAR" to reset the label. Use the microphone keypad to enter a new label.

To edit individual characters select "EDIT". Use "PREV" and "NEXT" to highlight the character to change.

Select "ENTER" to set the label and return to the previous step.



### **Programming the Unit Call ID**

Select "CLEAR" to reset the P25 ID. Use the microphone keypad to enter the new P25 ID.

To edit individual digits select "EDIT". Use "PREV" and "NEXT" to highlight the digit to change.

Select "ENTER" to set the ID and return to the previous step.

## **Code Guard Picklist Programming**

To program the User Selectable Code Guard List, select "User Tones" from the Keypad programming menu.

Code Guard Picklist	
CG-01	123.0 Hz
GC-02	67.0 Hz
➔ CG-03	D023-

**ESC** **PREV** **NEXT** **ENTER**

Use "PREV" and "NEXT" to highlight the Code Guard to be programmed or press the number buttons on the microphone to go directly to a picklist slot.  
(Pressing "5" will go to "CG-05" in the picklist.)

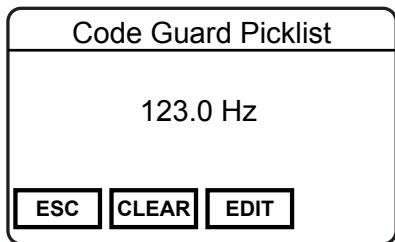
Press "ENTER" to select the item to open the Code Guard menu.

Code Guard Picklist	
➔ Tone:	123.0 Hz
Digital:	

**ESC** **PREV** **NEXT** **ENTER**

To enter a CTCSS tone, select "Tone" form the menu.

To enter a CDCSS value, select "Digital" form the menu.



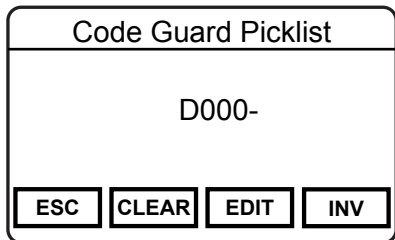
**CTCSS Tone**

To enter a CTCSS tone, select "Tone" from the menu.

Select "CLEAR" to reset the tone to all zeros. Use the microphone keypad to enter a new frequency.

To edit individual digits select "EDIT". Use "PREV" and "NEXT" to highlight the digit to change.

Select "ENTER" to set the frequency and return to the previous step.



**CDCSS Tone**

Select "CLEAR" to reset the tone to all zeros. Use the microphone keypad to enter a new three digit tone. Use "INV" to invert the tone.

To edit individual digits select "EDIT". Use "PREV" and "NEXT" to highlight the digit to change.

Select "ENTER" to set the tone and return to the previous step.

### NAC Picklist Programming

To program the User Selectable NAC List, select "User NACs" from the Keypad programming menu. NACs are programmed as three digit hexadecimal numbers. \$F7E and \$F7F are invalid NACs.

NAC Picklist	
NAC-01	\$123
NAC-02	\$456
➔ NAC-03	\$F73

ESC	PREV	NEXT	ENTER
-----	------	------	-------

Use "PREV" and "NEXT" to highlight the NAC to be programmed or press the number buttons on the microphone to go directly to a picklist slot.

(Pressing "5" will go to "NAC-05" in the picklist.)

Press "ENTER" to open the NAC editing screen.

NAC Picklist	
293	

ESC	CLEAR	EDIT
-----	-------	------

Select "CLEAR" to reset the NAC to all zeros. Use the microphone keypad to enter a new three digit value.

To edit individual digits select "EDIT". Use "PREV" and "NEXT" to highlight the digit to change.

Select "ENTER" to set the NAC and return to the previous step.

## Talkgroup ID Picklist Programming

To program the User Selectable TGID List, select "User TGIDs" from the Keypad programming menu.

TGID Picklist	
TGID-01	7890
TGID-02	65120
➔ TGID-03	10240

Use "PREV" and "NEXT" to highlight the TGID to be programmed or press the number buttons on the microphone to go directly to a picklist slot. (Pressing "5" will go to "TGID-05" in the picklist.)

Press "ENTER" to open the TGID editing screen.

TGID
65535

To program a TGID, select "ENTER".

Select "CLEAR" to reset the NAC to all zeros. Use the microphone keypad to enter a new three digit value.

To edit individual digits select "EDIT". Use "PREV" and "NEXT" to highlight the digit to change.

Select "ENTER" to set the ID and return to the previous step.

**Notes:**

---

---

---

---

---

---

---

---

---

---

---

---

**Notes:**

---

---

---

---

---

---

---

---

---

---

---

---



## Notes:

---

---

---

---

---

---

---

---

---

---

---

## ***INDEX***

### **A**

Alphanumeric Keypad..... 17

### **B**

Backlight..... 27

Bandwidth ..... 85, 92

BSP ..... 57

Busy Channel..... 28

### **C**

Call List..... 6, 24, 37, 54, 68, 69, 100

CHAN ..... 14

Channel Label..... 87

Channel Scan..... 4, 12, 14, 23, 29, 31, 43

Channel Select..... 4, 8, 14, 23, 25, 33, 40

Clone ..... 84

Cloning ..... 34

Code Guard 6, 14, 24, 30, 37, 63, 88, 94, 102

Controls..... 3, 8, 16

CxCSS ..... 23, 37

### **D**

DEL ..... 14

DSP ..... 57

DTMF ..... 17, 79, 83

### **E**

Emergency ..... 4, 8, 35

Encryption ..... 6, 14, 23, 62, 64, 85, 99

Encryption Key ..... 6, 15, 64, 85, 98

### **F**

FCC ..... 1

FIPSCOM..... 57

## **H**

H.....	11
Home.....	8, 9

## **I**

Industry Canada.....	5
----------------------	---

## **K**

Keypad Programming.....	4, 23, 37, 63, 66, 70, 79, 86
Keyset.....	65

## **L**

L.....	11
LCD.....	3, 8, 18, 29, 32, 43, 45, 47, 49, 52, 59
LED .....	6, 8, 28, 76
LITE.....	14
Lockout.....	36

## **M**

MENU.....	14
Menu Screen.....	20
Microphone Element.....	17
MON .....	14
Monitor .....	5, 12, 14, 23, 25, 38

## **N**

NAC.....	24
Narrowband.....	92
Navigation Wheel.....	19
Nuisance Channel.....	39

## **P**

P1 .....	11, 40, 42, 72, 80, 81
P2 .....	11, 40, 73, 79, 82
PCB Revision .....	57
Picklist.....	6, 13, 23, 62, 64, 102
PRI .....	14

Priority.....	5, 11, 12, 14, 20, 29, 40, 59, 71, 81
Priority Scan.....	5, 12, 14, 23, 29,40, 43, 59
PSCN .....	14
PTT.....	6, 17, 26, 28, 30, 76, 83
PWR.....	14

## **R**

Radio Controls .....	8
Receive Frequency .....	87
Receive Mode .....	88
Rekey .....	14, 23, 44
RKY.....	14
RXA.....	11, 46
RXCG.....	14
RXD.....	11
RXNAC.....	14

## **S**

SCAN .....	14
Scan Hold.....	71, 75

Scan List .....	4, 6, 23, 29, 32, 39, 59, 60
SCN+.....	14
SEC .....	15
Secure .....	53
Secure Mode.....	99
SQ AD .....	15
Squelch .....	5, 15, 23, 38, 46, 85, 91
SURV .....	15
Surveillance .....	5, 15, 23, 47

## **I**

T/A .....	15
Tactical OTAR .....	5, 23, 48, 58
Talkaround .....	5, 12, 15, 20, 45, 68
Talkback Scan.....	30
Talk Group ID .....	6, 13, 24, 67, 97
TGID .....	15
Time-out Timer .....	77
Touch Screen .....	18
Transmit Digital .....	51
Transmit Frequency .....	93

Transmit Mode .....	93
Transmit Power .....	52, 92
TXA .....	11
TXAD.....	15
TXCG .....	15
TXD .....	11
TXNAC .....	15

## **U**

UKEY .....	15
UKST .....	15
UNIT .....	15
Unit Call.....	5, 15, 23, 54, 101
USB Port .....	8
User Password.....	70, 71

## **V**

Versions .....	57
Vote Scan.....	31

## **W**

Wideband .....	92
----------------	----

## **Z**

ZERO .....	15
Zeroize .....	5, 15, 23, 58
ZONE .....	15
Zone Scan.....	5, 6, 12, 15, 23, 31, 59
Zone Select.....	61
ZSC+ .....	15
ZSCN.....	15