ZONE-KP®

Full DTMF Keypad & High Res Screen.

USER GUIDE

SPECIFICATIONS

General	
Frequency Range	UHF 400-470MHz
Channel Capacity	ZONE-KP : 1000 ZONE: 32
Zone Capacity (16 channels per zone)	ZONE-KP :256 ZONE: 2
Channel Spacing	Analog : 25/12.5kHz, Digital : 12.5kHz
Working Voltage	7.4V Rated
Frequency Stability	±1.5 ppm
Antenna Impedance	50Ω
Dimensions (H*W*D)	5.3" x 2.4" x 1.6"
Weight	9 ounces with battery, antenna, belt clip.

Transmitter	
Power Output	4W/1W - UHF
FM Modulation	11KΦF3E @ 12.5 kHz; 16KΦF3E @ 25 kHz
4FSK Digital Modulation	12.5kHz Data only: 7K60FXD 12.5kHz Data & Voice: 7K60FXW
Spurious Emission	-36dBm<1GHz; -30dBm>1GHz
Modulation Limiting	±2.5kHz @ 12.5 kHz; ±5.0kHz @ 25 kHz
FM Hum & Noise	40dB @ 12.5 kHz; 45dB @ 25 kHz
Adjacent Channel Power	60dB @ 12.5 kHz; 70dB @ 20/25 kHz
Audio Response	+1~-3dB
Audio Distortion	5% (3% typical)

Receiver	
Sensitivity (Analog)	0.2μV (12dB SINAD)
Sensitivity (Digital)	0.3μV /BER5%
Selectivity TIA603 ETSI	60dB @ 12.5kHz / 70dB @ 25kHz 60dB @ 12.5kHz / 70dB @ 25kHz
Intermodulation TIA603 ETSI	65dB @ 12.5/25 kHz
Spurious Response Rejection TIA603 ETSI	70dB @ 12.5/25 kHz
SNR	40dB @ 12.5 kHz 45dB @ 25 kHz
Conducted Spurious Emission	-57 dBm
Audio Power Output	1W
Audio Distortion	3% (typical)
Audio Response	+1~-3dB
Digital Vocoder Type	AMBE+2™
Digital Protocol	ETSI TS 102 361-1, -2, -3

DIGITAL VHF UHF

ANALOG VHF UHF

3 YEAR REPLACEMENT WARRANTY

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Safety Information

- Please read the following safety information before you use the radio.
- Turn off the radio before entering a potentially explosive or flammable environment.
- Do not replace or charge the battery pack in a potentially explosive or flammable environment.
- Turn off the radio when you are close to a blast area or detonator zone.
- Do not use any radio which has a damaged antenna. Damaged antenna may cause burns.
- Only qualified technicians are allowed to maintain this two-way radio. Do not disassemble.
- To avoid problems caused by electromagnetic interference or electromagnetic compatibility, please turn off the radio in places with a Wireless Communication Transmit Equipment Prohibited ± mark, such as hospitals or other health care facilities..
- Turn off your radio before boarding an aircraft. Any use of the radio must be in accordance with Airline regulations and flight crew's instructions.
- Do not put the radio within the possible range of an air bag in a car.
- Do not expose the radio to direct sunlight or near heating devices for a long time.
- Do not place the radio in any excessively dusty, humid or wet place, nor on an unstable surface.
  Keep the radio vertical and speak near the microphone during transmitting.
- If you carry the radio on the body, please keep the antenna 1 inch (2.5cm) away from the body when transmitting.

Klein Electronics, Inc.

Product Check

Before use, we suggest you to check the box and identify the items listed in following table. If you find any missing or damaged items, please contact your dealer immediately.

Items	QTY.
Radio	1
Antenna	1
Battery	1
AC-Adaptor	1
Charger	1
Belt Clip	1
Belt Clip Screws	2
Hand Strap	1
User Manual	1

Radio

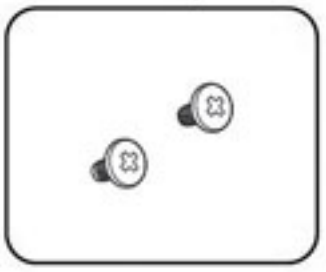
Antenna

Battery

Adaptor

Charger

Belt Clip



Screws

User Manual

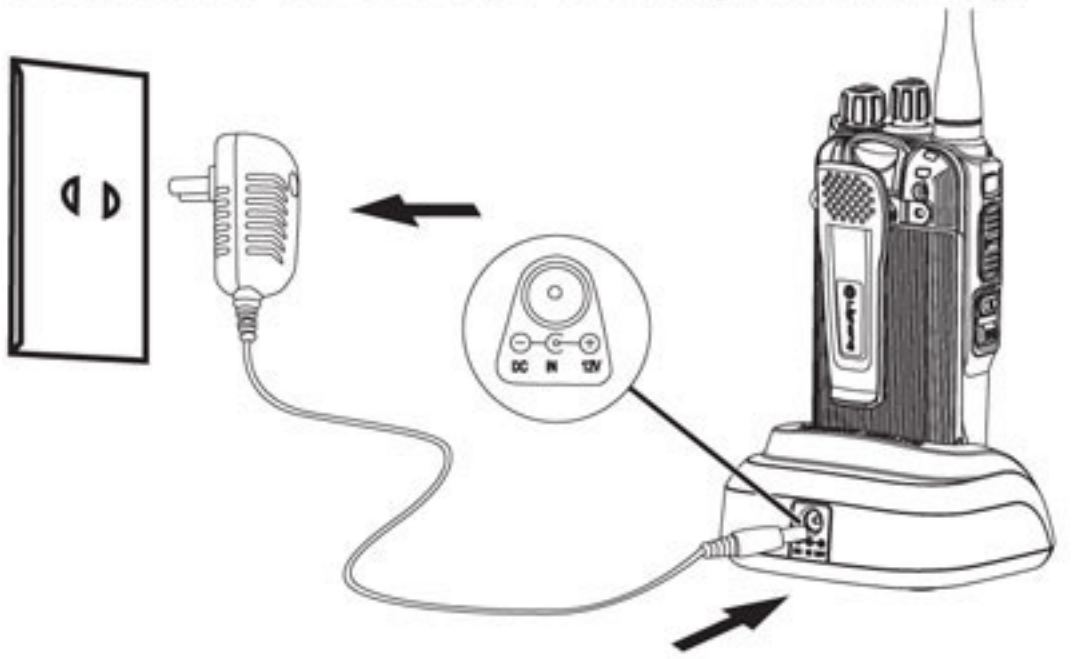
Hand Strap

Preparing Your Radio for Use

Charging the Battery

Only use blackbox specified batteries. Charging with other types of batteries may cause an explosion, fire, personal injury or property damages.

Please follow these steps to charge the battery:



Before charging, please plug the AC adaptor cable into the adaptor jack located at the rear of the charger.

- Plug the AC adaptor into an AC outlet. You will see an amber LED flash and then turn off.
- Slide the radio or battery into the cradle of the charger by aligning the battery groves with the charger tabs.
- The LED will glow red indicating charging.
- The charging will last about 4 hours. When the LED glows green, the battery is fully charged.
- Unplug the power cord and remove the radio or battery from the charging cradle.

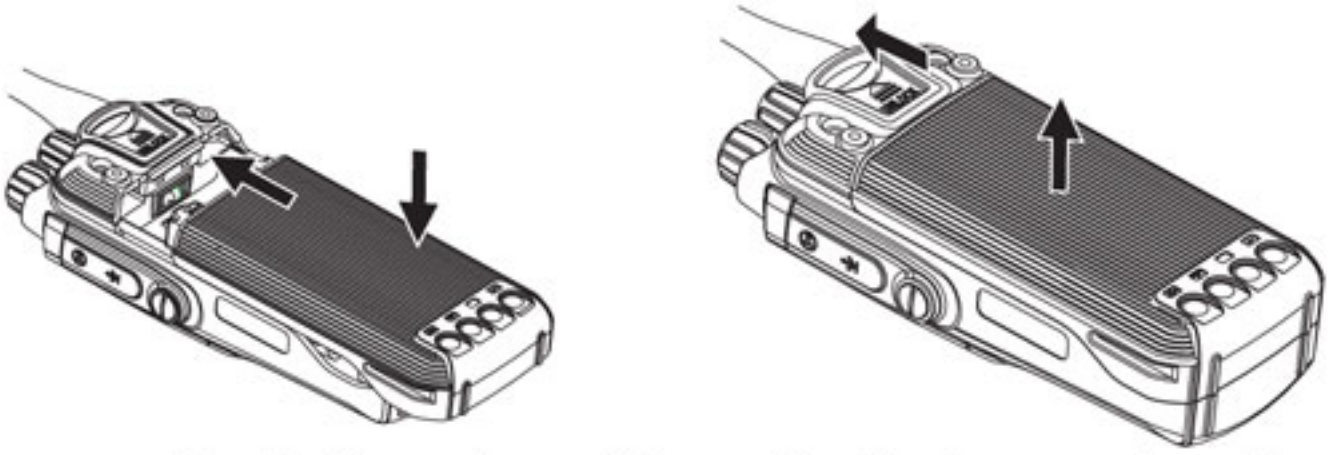
Note:

1 .Make sure the radio is switched off during charging.

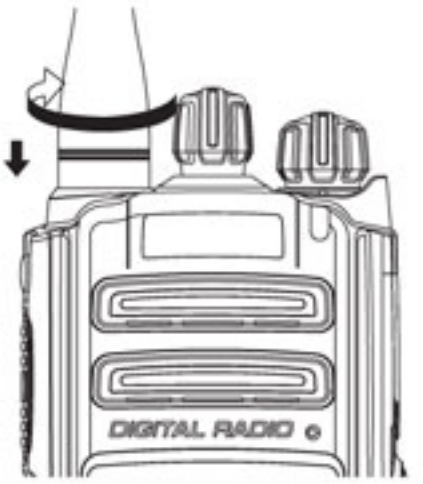
2. Do not charge below 35°F (3°C) or above 110°F (42°C).

Attaching the Battery

Align the battery with the rails on the back of the radio. Press the battery firmly, and slide upward until you hear a ‘click’ sound.



To remove the battery: turn off the radio; Push upward on the battery latch until it is in the unlock position and hold it there; then slide the battery down and off the rails



Attaching the Antenna

Turn off the radio, set the antenna in its receptacle and turn clockwise.

Attaching the Belt Clip

Remove the battery, line up the holes of the belt clip with the holes on the radio and insert the two screws. Use the correct size screwdriver and turn clockwise to tighten.

Powering Up the Radio

Rotate the On/Off/Volume Control Knob clockwise until you hear a click. The radio LED will flash green once. You will see BlackBox (DMR) on the radio's display momentarily and if the backlight setting is set to turn on the Home screen will be displayed.

Adjusting the Volume

To increase the volume, turn the On/Off/Volume Control Knob clockwise.
To decrease the volume, turn this knob counterclockwise .

Select a Channel

Turn the channel knob to select the channel number. The ZONE-KP radio can have up to 1000 channels and up to 250 channel zones (a maximum of 16 channels per zone). The ZONE radio can have up to 32 channels and 2 channel zones (a maximum of 16 channels per zone). Each channel can be set to Analog or Digital mode. You can select the channel zones from the LCD menu on the ZONE-KP. The ZONE can toggle between channel zones by a programmed key. Some functions can't be used in Analog mode; the icon referring to the digital function will be grey. You can cancel some functions using the PC software. Canceled function icons will not be displayed on the LCD menu.

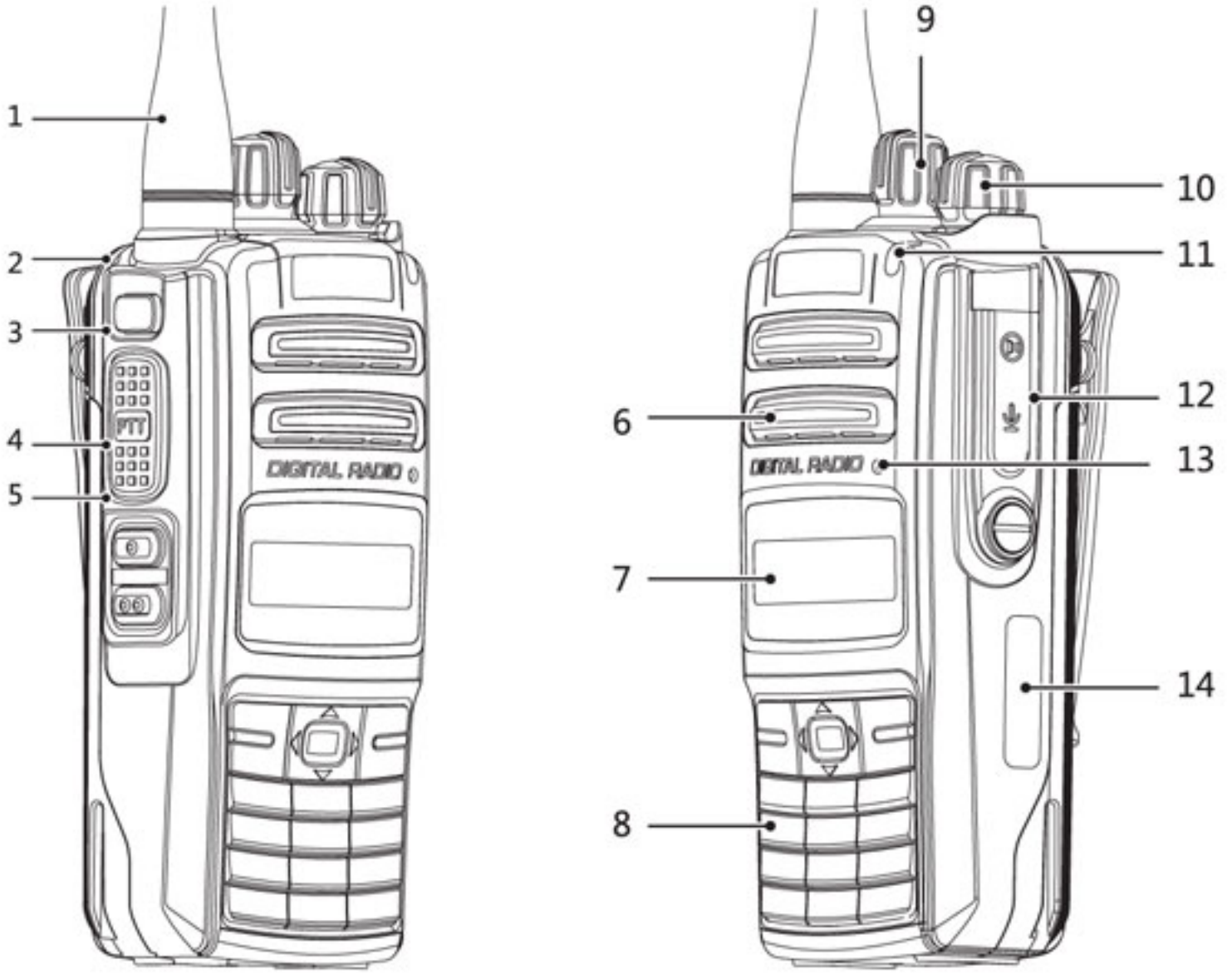
Transmit/Receive

Hold the radio about 1 to 2 inches (2.5cm to 5cm) from your mouth. It is important that the antenna is at least 1 inch (2.5 cm) away from your face. Press

and hold the PTT button, the red LED will be illuminated, speak into the microphone in your normal voice.

Release the PTT key to receive, the ZONE-KP LCD displaces the caller and a green LED will illuminate on the ZONE.

Radio Overview



No.	Items	No.	Items
1	Antenna	8	Keypad (ZONE-KP model only)
2	Top Button		
3	PTT Key	9	Channel Knob
4	Side Button 1	10	On/Off/Volume Control Knob
5	Side Button 2	11	LED Indicator
6	Speaker	12	Accessory Port Cover
7	LCD Display (ZONE-KP model only)	13	MIC
		14	Battery

Side Button 1 / 2 and Top Button

Note: These side buttons top, 1 and 2 can be programmed for certain functions by the PC software. The function features that can be programmed are listed below, you can active/deactivate the function by a short press or a long press once the key is programmed.

- Short press – Pressing and releasing immediately.
- Long press – Pressing and holding for the programmed duration

No.	Programmable functions on side button
1	All Alert Tones On/Off
2	Emergency On
3	Emergency Off
4	High/Low Power
5	Monitor
6	One Touch Access “1” (ZONE-KP only)
7	One Touch Access “2” (ZONE-KP only)
8	One Touch Access “3” (ZONE-KP only)
9	One Touch Access “4” (ZONE-KP only)
10	One Touch Access “5” (ZONE-KP only)
11	One Touch Access “6” (ZONE-KP only)
12	Repeater/Talk Around
13	Scan On/Off
14	Tight/Normal Squelch
15	Privacy On/Off
16	VOX On/Off
17	Manual Dial For Private (ZONE-KP only)
18	Lone Worker On/Off
19	Zone Toggle (ZONE only)
20	Battery Indicator (ZONE only)

• ZONE-KP LCD Display Icons

The LCD display of your radio shows radio status, text entries, and menu entries. The following are icons that appear on the status bar at the top of the radio's display. Icons are displayed on the status bar, arranged left-to-right, in order of appearance/usage and are channel specific. Canceled function icons will not be displayed

Received Signal Strength Indicator

The number of bars displayed represents the radio signal strength. Four bars indicate the strongest signal.
This icon is only displayed while receiving.

L H Power Level

Radio is set at Low power or High power.

Battery

The number of bars (0-4) shown indicates the charge remaining in the battery. If it is blinking the battery is low.

Encryption

The privacy feature is enabled.

Monitor

Selected channel is being monitored.

Emergency

Radio is in Emergency mode.

Scan

Scan feature is enabled.

Unread Message

The text message has not been read.

Full Message

The text message memory is full.

Tones Disable

Tones are turned off.

Talk Around

In the absence of a repeater, radio is currently configured for direct radio to radio communication.

Call Icons

Private Call

Indicates that a Private Call in progress.
In the Contacts list, it indicates a subscriber alias(name) or ID (number).

Group Call/All Call

Indicates that a Group Call or All Call in progress.
In the contacts list, it indicates a group alias(name) or ID(number).

• LED Indicator

The LED indicator shows operation status of your radio.
Red: Radio is transmitting a signal, sending a test message, sending a privacy-enabled call or data.
Green: Radio is Powered on or receiving a signal, receiving a text message, receiving a privacy-enabled call or data.
Blinking Red: Radio is in scan mode.

• Keypad

- Users can scroll through the function menu by pressing 【◄ ▲ ▼ ►】, to select a function, press 【OK】 to confirm or press 【 ⮌ 】 to go back to the last menu.
- Users can use the 3 X 4 alphanumeric keypad to input the contact aliases, ID and text messaging. Many characters require that you press a key multiple times. The table below shows the number of

times a key needs to be pressed to generate the required character.

key	Number of Times Key is Pressed 1 2 3 4 5 6 7 8 9 10 11 12 13	
1..?	1 . , ? ! @ & ' % - : * #	
2ABC	A B C 2	
3DEF	D E F 3	
4GHI	G H I 4	
5JKL	J K L 5	
6MNO	M N O 6	
7PQRS	P Q R S 7	
8TUV	T U V 8	
9WXYZ	W X Y Z 9	
OCAPS	0	**Note:** Press To Enter "O" And Long Press To Activate The CAPS Lock Another Long Press To Turn Off The CAPS Lock
*DEL	* or del	**Note:**press during text entry to delete the character. Press during numeric entry to enter a "*".
#⌴	# or space	**Note:**press during text entry to insert a space. Press during numeric entry to enter a "#"

Functions Operation Instruction

1. Making and Receiving Calls

PTT Key

1. Tune the channel knob to select the desired channel.
2. Press PTT to send the signal, release the PTT to receive.
3. If the talk permit tone is activated, wait for the Tone to finish, then speak clearly into the microphone.
4. If the “Channel free warning” function is activated, when the other radios release PTT key, you can hear a tone. This means this channel is free for you to use.
5. If you don’t want to hear the warnings, you can activate the Disable All Tone function.

Select a Zone

A Zone is a channel zone Each zone supports 16 channels.

ZONE-KP

The ZONE-KP radio can support max 250 channel zones. Follow the procedure below to select a channel zone.

1. Press key 【 ◂▴▸▾ 】 to access menu.
2. Press to 【 ◂▴▸▾ 】 select the “Zone”. Then press 【 OK 】 key to confirm.
3. The LCD will show √ icon to indicate the current channel Zone.
4. Press key 【 ◂▴▸▾ 】 to select the Zones which you want. Then press key 【 OK 】 to confirm.
5. The LCD will display the Zone name, then return to standby.

ZONE

The ZONE radio can support 2 channel zones. A programmable side key must be programmed to Zone Toggle. Press the Zone Toggle key, you will hear a beep for Zone 1 and a double Beep for Zone 2.

Select the channels

After you confirm the channel zone, turn the channel knob to select the channel.

Receive and Respond to a call.

When the LED is green, the radio is receiving. When the LED is red, the radio is transmitting.

Receive and Respond to a Zone Call

Your radio should be within the selected zone. When your radio is receiving a zone call:

1 The LED will be green.

2. The first line of LCD will display the signal bar and alias of call party. The second line of LCD will show the alias of zone and the icon of a zone call (only available on the ZONE-KP in digital mode.)
3. Press PTT key to respond to the call. The LED will be red.
4. Speak into the microphone.
5. Release the PTT to receive.

Receive and Respond to a Private Call.

A Private Call is a call from one radio to one other radio.

There are two types of private calls. The first is to check if the other radio is available prior to call. The other type initiates the call immediately.

When you receive a private call:

1. LED will be green.
2. The first line of LCD will show signal ICON and the caller ID. The second line will show private call and ICON.(ZONE-KP model only)
3. Press PTT to talk. If the radio's "channel free indicator" function is active, when you release the PTT key, you will hear a short tone. It means this channel is free now.
4. Press PTT key to reply the call. LED will be red.
5. Wait for the talk permit tone(if activated) then talk into the microphone.
6. Release PTT key to receive.
7. If no signal is received during set time, the call will be end.
8. You will hear a short warning, and the ZONE-KP LCD will show that the call is over.

Receive an All call.

All call is one radio calling all radios on one channel.

When you receive the all call:

1. LED will be green.
2. The first line of LCD will show the signal icon and the caller alias. The second line will show the all call and icon. (ZONE-KP model only)
3. When the all call is over, radio will return to standby. If the "channel free indictor" function is active, when the other radio's PTT is released, you will hear a short tone. It means this channel is free now.
4. You cannot reply to an all call.

   Note: When you are receiving an all call, if you turn to another channel, the radio will stop receiving the all call. During the all call, the pre-programmed function keys are disabled, until the all call has ended.

Making a Radio Call

Select a channel, subscriber alias or ID, or group alias or ID by using:

- The Channel Selector Knob
- A programmed One Touch Access button
- The Contacts list (ZONE-KP model only)
- Manually dial(by contact lists) (ZONE-KP model only)

Note: If the "Privacy" function is not active, the radio can't send the encryption codes. Only radios with the same encryption codes are able to unscramble the transmissions to each other.

Making a Call with the Channel Selector Knob

Making a Group Call

To make a call to a group of users, your radio must be configured as part of that group.

Procedure bellow:

1. Select the channel with the active group alias or ID. Press the programmed One Touch Access button.
2. Hold the radio vertically 1 to 2 inches(2.5 to 5.0cm) from your mouth.

3. Press the PTT button to make the call. The LED lights up solid red. The ZONE-KP LCD displays the group alias or ID.
4. Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
5. Release the PTT button to listen, and when the target radio responds, the LED blinks green. ZONE-KP you will see the Group Call icon, the group alias or ID, and transmitting radio alias or ID on your display.
6. If the Channel Free Indication feature is enabled, you will hear a short tone when the target radio releases the PTT button, indicating that the channel is free for you to respond. Press the PTT button to respond or if there is no activity for the preset period of time, the call will end.
7. Radio returns to the screen you were on prior to the call initiating. You can also make a Group Call using the Contacts list.

Making an All Call

The ALL Call feature allows you to transmit to all users on a channel. Your radio must be programmed to allow this feature.

1. Use the channel knob to select the channel with the active group alias or ID.
2. Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.
3. Press the PTT button to make the call. The LED lights up solid green. ZONE-KP The Group Call icon appears in the display.
4. Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.

   Note: Users on the channel cannot respond to an All Call.

Making a Group Call or Private Call with the One Touch Access Button

The One Touch Access feature allows you to make a Group or Private Call to a predefined alias or ID easily. This feature can be assigned to a short or long press on a programmable side button, or to a long numeric button press on the ZONE-KP model.

You can ONLY have one alias or ID assigned to a One Touch Access button press. Your radio can have up to six One Touch Access buttons programmed.

1. Press the programmed One Touch Access button to make a Group or Private Call to the predefined alias or ID.
2. Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.
3. Press the PTT button to make the call. The LED lights up solid red. The caller alias/Group/Private Call icon appears in the display of the ZONE-KP.
4. Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
5. Release the PTT button to listen. When the target radio responds, the LED blinks green
6. If the Channel Free Indication feature is enabled, you hear a short alert tone when the target radio releases the PTT button, indicating the channel is free for you to respond. Press the PTT button to respond. Or if there is no voice activity for a predetermined period of time, the call ends.
7. Radio returns to the screen you were on prior to initiating the call. **Note:** On a Private Call, you will hear a short tone when the call ends.

Talkaround

You can continue to communicate when your repeater is not operating, or when your radio is out of the repeater's range but within talking range of other radios. This is called "talkaround".

Procedure:

Press the programmed Repeater/Talkaround button to toggle between talkaround and repeater modes. Or follow the procedure below for the ZONE-KP:

1. Press 【 】 to access the menu, press 【OK】 to select.
2. Press 【 】 to 'Utilities' and press 【OK】 to select.
3. Press 【 】 to 'Talkaround' and press 【OK】 to confirm.
4. If radio now in 'Repeater' mode, then you will see 'Repeater'. But if

radio now in 'Talkaround', then you will see 'Talkaround'.

5. Press 【‹ ^ ›】 to select, the display show 'Talkaround' or 'Repeater'.
6. The screen automatically returns to the previous menu.
   Note: The Talkaround setting is retained even after powering down.

Monitor Feature (Only available in Analog mode)

You can use the Monitor feature to make sure a channel is clear before transmitting.

1. Press and hold the programmed Monitor button and listen for activity. the LED lights up green. The monitor icon appears on the status bar of the ZONE-KP
2. Press the programmed Monitor button again to exit Monitor status. The radio will alert a tone, LED turns off and the ZONE-KP monitor icon disappears on the status bar.

Radio Check (ZONE-KP model only)

If enabled, this feature allows you to determine if another radio is active in a system without disturbing the user of that radio. No audible or visual notification is shown on the target radio. This feature is only applicable for subscriber aliases or IDs

Sending a Radio Check

Procedure below:

1. Press 【‹ ^ ›】 to access the menu to 'Contacts', press 【OK】 to select.
2. Press 【‹ ^ ›】 to the required 'subscriber alias or ID' and press 【OK】 to confirm. Select or manual dial, then press 【OK】 to confirm, display show 'manual dial Radio Number', press 【OK】 again to confirm.
3. Press 【‹ ^ ›】 to 'Radio Check', and then press 【OK】 to select.
4. The display shows Radio Check, 'subscriber alias or ID', which indicates the requirement is in progress, LED lights up solid Red light.

5. Wait for acknowledgement.
6. If successful, a positive indicator tone sounds and the display shows positive mini notice. OR If unsuccessful, a negative indicator tone sounds and the display shows negative mini notice.
7. Radio returns to the subscriber alias or ID screen.
   Note: f the button is pressed when the radio is waiting for acknowledgement, a tone sounds, and the radio terminates all retries and exits Radio Check mode.

Remote Monitor (ZONE-KP model only)

Use the Remote Monitor feature to turn on the microphone of a target radio (subscriber alias or IDs only). No audible or visual indication is given to the target radio. You can use this feature to monitor, remotely, any audible activity surrounding the target radio. Your radio must be programmed to allow you to use this feature.

Initiating Remote Monitor

Procedure below:

1. Press 【‹ ^ ›】 to access the menu to 'Contacts', press to select.
2. Press 【‹ ^ ›】 to the required 'subscriber alias or ID' and press 【OK】 to confirm. Select or manual dial, then press 【OK】 to confirm, display show manual dial Radio Number, press 【OK】 again to confirm.
3. Press 【‹ ^ ›】 to 'Remote Monitor', and press 【OK】 select.
4. The display shows 'Radio Check', 'subscriber alias or ID', which indicates the requirement is in progress, LED lights up solid Red light.
5. The radio alert tone beeps, and the LED lights up solid red light.
6. Wait for acknowledgement.
7. If successful, your radio starts playing audio from the monitored radio for a programmed duration and display shows Rem. Monitor. Once the timer expires, the radio sounds an alert tone and the LED turns off.
8. If unsuccessful, radio returns to screen.

Scan Lists

Scan lists are created and assigned to individual channels/groups. Your radio scans for voice activity by cycling through the channel/ group sequence specified in the scan list for the current channel/group. Your radio can support up to 250 scan lists, with a maximum of 31 members in a list. Each scan list supports a mixture of both analog and digital entries. You can add, delete, or prioritize channels by editing a scan list. You can attach a new scan list to your radio via Front Panel

Viewing an Entry in the Scan List (ZONE-KP model only)

1. Press 【▲▼◀▶】 to access the menu to 'Contacts', press 【OK】 to select.
2. Press 【▲▼◀▶】 to 'Scan List', press 【OK】 to select.
3. Press 【▲▼◀▶】 view each member on the list. The priority icon appears left of the member's alias, if set, to indicate whether the member is on a Priority 1 or Priority 2 channel list. You cannot have multiple Priority 1 or Priority 2 channels in a scan list. There is no priority icon if priority is set to None.

Editing the Scan List

If you want to set up priority channels, or add/delete channel in scan list, you need program and operate them via software.

Scan

When you start a scan, your radio cycles through the programmed scan list for the current channel looking for voice activity. The LED blinks red and the scan icon appears on the status bar.
During a dual mode scan, if you are on a digital channel, and your radio locks onto an analog channel, it automatically switches from digital mode to analog mode for the duration of the call. This is also true for the reverse.

There are two ways of initiating scan:

- Main Channel Scan (Manual): Your radio scans all the

channels/groups in your scan list. On entering scan, your radio may – depending on the settings – automatically start on the last scanned "active" channel/group or on the channel where scan was initiated. depending on the settings – automatically start on the last scanned "active" channel/group or on the channel where scan was initiated.

- Auto Scan (Automatic): Your radio automatically starts scanning when you select a channel/group that has Auto Scan enabled.

Starting and Stopping Scan

Press the programmed Scan button to start or stop Scan. OR on ZONE-KP Follow the procedure below.

1. Use the Channel Selector Knob to select a channel programmed with a scan list.
2. Press 【‹ ^ ›】 to access the menu, press 【OK】 to select.
3. Press 【‹ ^ ›】 to 'Scan State' and press 【OK】 to select.
4. Press 【‹ ^ ›】 to required scan state and press 【OK】 to select
5. The display shows Scan On when scan is enabled. The LED blinks red and the scan icon appears. OR The display shows Scan Off if scan is disabled. The LED turns off and the scan icon disappears.

Responding to a Transmission During a Scan

During scanning, your radio stops on a channel/group where activity is detected. The radio stays on that channel for a programmed time period known as "hang time". Procedure below;

1. Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth. If the Channel Free Indication feature is enabled, you hear a short alert tone the moment the transmitting radio releases the PTT button, indicating the channel is free for you to respond.
2. Press the PTT button during hang time. The LED lights up solid red.
3. Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone. OR Wait for the PTT Side tone to finish (if enabled) and speak clearly into the microphone.
4. Release the PTT button to listen.

5 If you do not respond within the hang time, the radio returns to

scanning the other channels/groups.

Contacts Settings

Contacts provide “address-book” capabilities on your radio. Each entry corresponds to an alias or ID that you use to initiate a call. Each entry, depending on context, associates with one of five types of calls: Group Call, Private Call, All Call.

Note: If the Privacy feature is enabled on a channel, you can make privacy-enabled Group Call, Private Call, and All Call on that channel. Only target radios with the same Privacy Key OR the same Key Value and Key ID as your radio are able to unscramble the transmission.

Your radio supports digital Contacts lists with a maximum of 1000 members.

Each entry within Contacts displays the following information:

- Call Type
- Call Alias
- Call ID

Note: You can add, or edit subscriber IDs for the Digital Contacts list. Deleting subscriber IDs can only be performed with the programming software.

Making a Private Call from Contacts (ZONE-KP model only)

Procedure below;

1. Press 【▲▼◀▶】 to access the menu, press 【OK】 to select.
2. Press 【▲▼◀▶】 to ‘Contacts’ and press 【OK】 to select; Or input a radio ID number to keypad, the radio display call ID and press 【OK】 to confirm.
3. Press PTT to start a call, LED will be red. The LCD will show ‘Channel alias or ID’ and single call icon. The target radio LED will be red. Then LCD will show ‘Channel alias or ID’ and single call icon.
4. Wait for the Talk Permit Tone to finish (if enabled) and speak clearly into the microphone.
5. Release the PTT to receive. The LED will be green. And the LCD

will show the user ID from target radio.

6. If you active “Channel Free Indictor” function, when target radio release the PTT, you will hear a short warning. It means this channel is free now.
7. If haven’t any call within pre-programmed time, the call will be finished. The radio will sent out a warning.

Call Indicator Settings (ZONE-KP model digital only)

You can select, or turn on or off ringing tones for a received Call Alert, procedure below:

1. Press 【▲▼◀▶】 to access the Utilities menu, press 【 OK】 to select.
2. Press 【▲▼◀▶】 to ‘Radio Settings’, press 【 OK 】 to select.
3. Press 【▲▼◀▶】 to ‘Tones/Alerts’, press 【 OK 】 to select.
   Press 【▲▼◀▶】 to access All Tone, Talk Permit or Keypad Tones, press 【 OK】 to select. The display shows Turn Off, press 【OK 】 to I turn the tone off. If the display shows Tune On, press 【 OK】 to I turn the tone on.

Viewing Recent Calls (ZONE-KP model digital only)

The lists are Missed, Answered, and Outgoing. Procedure below:

1. Press 【▲▼◀▶】 to access the menu to Call Log, press 【OK 】 to select.
2. Press 【▲▼◀▶】 to scroll through the lists and press 【 OK】 to select.
3. The display shows the most recent entry at the top of the list
4. Press 【▲▼◀▶】 to view the list.

Storing Answered/Un-answered Call

The lists are Answered/Un-answered Call, Procedure below:

1. Press 【▲▼◀▶】 to access the menu to Call Log, press 【OK 】 to select.
2. Press 【▲▼◀▶】 to Call Alias/ID to choose storing menu and press 【OK 】 to select.
3. The display blink and input the name and ID, press 【 OK】 to confirm.

Deleting a Call from a Call List (ZONE-KP model digital only)

1. Press 【◂▴▸▾】 to access the Call Log and press 【 OK】 to select..
2. Press 【 ◂▴▸▾】 to scroll through the list and press 【 OK 】 to select.
3. Press 【◂▴▸▾】 to scroll through the alias or ID and press 【OK 】 to select.
4. Press 【 ◂▴▸▾】 to Delete and press 【 OK】 to select.
6. Press 【◂▴▸▾】 to select yes to delete the entry.
   OR press 【◂▴▸▾】 to select No to return to the previous screen.

Viewing un-answered calls (ZONE-KP model digital only)

When a call is missed, Missed Calls: is displayed on the LCD
You can press 【 ◂▴▸▾】 to select to View? or View Later

1. The display will show Missed Calls, and the call ID and check?
2. Press 【◂▴▸▾】 to view call list, press 【 OK】 to select.
3. Press 【 ◂▴▸▾】 to un-answered call, and then press 【OK】 to select.
4. Press 【◂▴▸▾】 to un-answered ID, the list show on the screen.

Emergency Operation

An Emergency Alarm is used to indicate a critical situation. You are able to initiate an Emergency at any time on any screen display even when there is activity on the current channel

Your radio supports three Emergency Alarms:

- Regular – Radio transmits an alarm signal and shows audio indicators.
- Silent – Radio transmits an alarm signal without any audio indicators.
- Silent with Voice –Radio transmits an alarm signal without any audio indicators, but allow incoming calls to sound through the radio's speaker

Note: Only ONE of the Emergency Alarms above can be assigned to the programmed Emergency button.

Text Message Features

Sending a Quick Text Message with the One Touch Access Button (ZONE and ZONE-KP)

1. Press the pre-programmed One Touch Access button to send a predefined Quick Text message to a predefined alias or ID.
2. The display shows 'Sending to:' and the alias or ID confirming your message is being sent.
3. If the message is sent successfully, there will be a high tone, and the LCD will display "Message Sent". If the message fails to send, there will be a low tone and LCD will show "Message Send Failed".

Text Message Features ZONE-KP model only

Editing and sending a message

The ZONE-KP radio supports a maximum of 144 characters message.

1. Press 【‹ ^ ›】 to access menu mode to "Messages" item. Press 【 OK 】 to enter
2. Press 【‹ ^ ›】 to select the "Write" item, press 【 OK】 to enter.
3. Editing the messages by keypad, press 【‹ ^ ›】 leftward/right forward one position, , # key is blank, * key cancel one character.
4. After editing, press 【 OK 】 to confirm.
5. Press 【‹ ^ › 】 to "Send" item, Press 【 OK 】 to confirm. Then press 【 ‹ ^ ›】 to select one ID to send the message. Or you can select the "Manual Dial" item to input a ID. Press 【 OK】 to confirm and send the message.
6. The LCD display show "Sending to ID/ alias".
7. If the message is sent successfully, there will be a high tone, and the LCD will display "Message Sent". If the message fails to send, there will be a low tone and LCD will show "Message Send Failed".

Sending a Quick Text Message

Your radio supports a maximum of 50 Quick Text messages programmed with the software.

While Quick Text messages are predefined, you can edit each message on the ZONE-KP before sending it. The ZONE-KP radio supports a maximum of 144 character message.

1. Press 【‹ ^ ›】 to access the menu
2. Press 【 ‹ ^ ›】 to select 'Messages' and press 【 OK 】 to confirm

3. Press 【 ▲▼◀▶ 】 to select 'Quick Text' and press 【 OK 】 to confirm
4. Press 【 ▲▼◀▶ 】 to scroll through the Quick Text and press 【 OK 】 to select.
5. Modify the test message using the keypad and press 【 OK 】 .
6. Press 【 ▲▼◀▶ 】 o select send and press 【 OK 】 .
7. Press 【 ▲▼◀▶ 】 to scroll through the alias or ID and press 【 OK 】 to confirm.
8. The display shows 'Sending to:' and the alias or ID confirming your message is being sent.
9. If the message is sent successfully, there will be a high tone, and the LCD will display "Message Sent". If the message fails to send, there will be a low tone and LCD will show "Message Send Failed".

Forwarding a Text Message

1. Press 【 ▲▼◀▶ 】 to access the menu and select 'Messages', press 【 OK 】 to confirm.
2. Press 【 ▲▼◀▶ 】 to select 'Inbox', press 【 OK 】 to confirm.
3. Press 【 ▲▼◀▶ 】 to select the message to forward press 【 OK 】 to confirm.
4. The display will show the text message, press 【 OK 】 to confirm
5. Press 【 ▲▼◀▶ 】 to select 'Forward, press 【 OK 】 to confirm
6. Press 【 ▲▼◀▶ 】 to select the alias or ID, and press 【 OK 】 to confirm.
   Or press 【 ▲▼◀▶ 】 to select 'Manual Dial', press 【 OK 】 to confirm. Input user ID and press 【 OK 】 to confirm.
7. The display shows 'Sending to:' and the alias or ID confirming your message is being sent.
8. If the message is sent successfully, there will be a high tone, and the LCD will display "Message Sent". If the message fails to send, there will be a low tone and LCD will show "Message Send Failed".

Managing Sent Text Messages

Once a message is sent to another radio, it is saved in Sent Items. The most recent sent text message is always added to the top of the Sent Items list. The Sent Items folder is capable of storing a

maximum of fifty (50) sent messages. When the folder is full, the next sent text message automatically replaces the oldest text message in the folder.

Viewing a Sent Text Message

1. Press 【▲▼◀▶】 to access the menu and select 'Messages', press 【OK】 to confirm.
2. Press 【▲▼◀▶】 to select 'Sent Items', press 【OK】 to confirm.
3. Press 【▲▼◀▶】 to the select the message and press 【OK】 to view the message, press 【OK】 to select the options from the menu.

Sending a Sent Text Message

You can select one of the following options while viewing a sent message:

- Resend – Select resend, will resend the selected message to target group alias or ID.
- Forward – Select forward, will forward the selected message to target group alias or ID.
- Edit – Select Edit, will edit the message before sending.

  Delete – Delete message

Note1: If you exit the message sending screen while the message is being sent, the radio updates the status of the message in the Sent Items folder without providing any indication in the display or via sound.

Note 2: If the radio changes mode or powers down before the status of the message in Sent Items is updated, the radio cannot complete any In-Progress messages and automatically marks it with a Send Failed icon

Note 3: The radio supports a maximum of five (5) In-Progress messages at one time. During this period, the radio cannot send any new message and automatically marks it with a Send Failed icon.

Deleting All Sent Text Messages from Sent Items

1. Press 【▲▼◀▶】 to access the menu and select 'Messages', press

【OK】 to confirm.

2. Press 【◂▴▸▾】 to select 'Sent Items', press 【OK】 to confirm.
3. Press 【◂▴▸▾】 to select 'Delete All', press 【OK】 to confirm.
4. Press 【◂▴▸▾】 to 'Yes' and press 【OK】 to delete, the display shows 'Sent Items Cleared' OR press 【◂▴▸▾】 to 'No' and press 【OK】 to return to the previous screen.

Receiving a Text Message

When your radio receives a text message, the display shows the message icon with the alias or ID of the sender and the message icon.

You can select one of the following options when receiving a text message:

- Read?
- Read Later
- Delete

Note: The radio exits the Text Message alert screen and sets up a Private or Group Call to the sender of the message if the PTT button is pressed when the radio is displaying the alert screen.

Managing Received Text Messages

Use the Inbox to manage your text messages. The inbox is capable of storing a maximum of 30 messages.

Your radio supports the following options for text messages:

- Reply
- Forward
- Delete
- Delete All

Note: Text messages in the Inbox are sorted according to the most recently received.

Viewing a Text Message from the Inbox

1. Press 【◂▴▸▾】 to access the menu and select 'Messages', press 【OK】 to confirm.
2. Press 【◂▴▸▾】 to select 'Inbox', press 【OK】 to confirm.

3. Press 【 ▲▼◀▶ 】 scroll through the messages, press 【 OK 】 to view the message.
4. Press 【 ▲▼◀▶ 】 to select the current message, and press 【 OK 】 again to reply, forward, or delete that message. Unread messages will show an exclamation mark '!' in the first line next to the number of messages.

Viewing a Telemetry Status Text Message from the Inbox

1. Press 【 ▲▼◀▶ 】 to access menu
2. Press 【 ▲▼◀▶ 】 to message item, press 【 OK 】 to select
3. Press 【 ▲▼◀▶ 】 to inbox, press 【 OK 】 to select
4. Press 【 ▲▼◀▶ 】 to the required message, press 【 OK 】 to select, press 【 OK 】 again to enter sub-menu.
5. Press 【 ▲▼◀▶ 】 to reply, press 【 OK 】 to select
6. Press 【 ▲▼◀▶ 】 to edit message, press 【 OK 】 to select. Your LCD display will show blink cursor. You can edit message by keypad or send predefined Quick Text message,
7. After editing a message, press 【 OK 】 to select
8. The display shows 'Sending to:' and the alias or ID confirming your message is being sent.
9. If the message is sent successfully, there will be a high tone, and the LCD will display "Message Sent". If the message fails to send, there will be a low tone and LCD will show "Message Send Failed"..

Deleting a Text Message from the Inbox

1. Press 【 ▲▼◀▶ 】 to access menu.
2. Press 【 ▲▼◀▶ 】 to message item, press 【 OK 】 to select
3. Press 【 ▲▼◀▶ 】 to inbox, press 【 OK 】 to select
4. Press to the required message, press 【 OK 】 to select, press 【 OK 】 again to enter sub-menu.
5. Press 【 ▲▼◀▶ 】 to delete, press 【 OK 】 to select
6. Your display will show or Yes and press 【 OK 】 to select.
7. The display shows 'Message Deleted'
8. The screen will return to the Inbox.

Deleting All Text Messages from the Inbox

1. Press 【 】 to access menu.
2. Press 【 】 to message item, press 【 OK 】 to select
3. Press 【 】 to inbox, press 【 OK 】 to select
4. Press 【 】 to Delete All, press 【 OK 】 to select
5. Your display will show or Yes and press 【 OK 】 to select.
6. The display shows 'Inbox Cleared'
7. The screen returns to the Text Message menu.

Note: When you select the Inbox and it contains no text messages, the display shows 'List Empty'

Privacy

If enabled, this feature helps to prevent eavesdropping by unauthorized users on a channel by the use of a software based scrambling solution. The signaling and user identification portions of a transmission are not scrambled.

Your radio must have privacy enabled on the channel to send a privacy-enabled transmission, although this is not a requirement for receiving a transmission. While on privacy enabled channel, the radio is still able to receive clear (unscrambled) transmissions.

Your radio supports Enhanced Privacy. To unscramble a privacy-enabled call or data transmission, your radio must be programmed to have the same Key Value and Key ID as the transmitting radio.

If your radio receives a scrambled call that is of a different Key Value and Key ID, you will hear nothing at all.

Security

You can enable or disable any radio in the system. For example, you might want to disable a stolen radio, to prevent the thief from using it, and enable that radio, when it is recovered.

Radio Disable (ZONE-KP model only)

1. Press 【 】 to access menu to 'contacts', press 【 OK 】 to select
2. press 【 】 to the required alias or ID, Press 【 OK 】 to select

3. Press 【▲▼】 to 'Disable', 【OK】 to select
4. The display shows transitional mini notice, indicating the request is in progress. The LED blinks green.
5. If successful, a positive indicator tone sounds and the display shows positive mini notice. Or if unsuccessful, a negative indicator tone sounds and the display shows negative mini notice

Radio Enable (ZONE-KP model only)

1. Press 【▲▼】 to access menu to 'contacts', press 【OK】 to select
2. press 【▲▼】 to the required alias or ID, Press 【OK】 to select
3. Press 【▲▼】 to 'Enable', 【OK】 to select
4. The display shows Radio Enable and the subscriber alias or ID. The LED lights up solid red.
5. If successful, the radio sounds a positive indicator tone and the display shows positive mini notice.
   OR If unsuccessful, the radio sounds a negative indicator tone and the display shows negative mini notice.

Utilities (ZONE-KP model only)

Lock keyboard or unlock keyboard

You can lock the keyboard to prevent un-intentional input. Procedure below:

1. Press 【▲▼】 to access menu, press 【OK】 to select
2. Press 【▲▼】 to 'Utilities', press 【OK】 to select
3. Press 【▲▼】 to 'Radio Settings'', press 【OK】 to select
4. Press 【▲▼】 to 'Keyboard Lock', press 【OK】 to select
5. The display show Keyboard Locked, and return to main screen.
6. If want to unlock the keyboard, press 【OK】 to select, and then press 【*DEL】 .
7. The display show keyboard unlocked, and returns to the main screen.

Turning the Radio Tones/Alerts On or Off

You can enable and disable all radio tones and alerts if needed.

1. Press 【▲▼】 to access menu

2. Press 【 ◂ ▴ ▸ ▾ 】 to 'Utilities', press 【 OK 】 to select
3. Press 【 ◂ ▴ ▸ ▾ 】 to 'Radio Settings'', press 【 OK 】 to select
4. Press 【 ◂ ▴ ▸ ▾ 】 to 'Radio Tones/Alerts'', press 【 OK 】 to select
5. Press 【 ◂ ▴ ▸ ▾ 】 to enable all tones. The display shows √ beside Enabled.
   OR Press 【 OK 】 to disable all tones. The √ disappears from beside Enabled.

Setting the Squelch Level

You can adjust your radio's squelch level to filter out unwanted calls with low signal strength or channels that have a higher than normal background noise

Settings: 'Normal' is the default. 'Tight' filters out (unwanted) calls and/or background noise.

However, calls from remote locations may also be filtered out.

Procedure below:

1. Press 【 ◂ ▴ ▸ ▾ 】 to access menu
2. Press 【 ◂ ▴ ▸ ▾ 】 to 'Utilities', press 【 OK 】 to select
3. Press 【 ◂ ▴ ▸ ▾ 】 to 'Radio Settings'', press 【 OK 】 to select
4. Press 【 ◂ ▴ ▸ ▾ 】 to 'Squelch'', press 【 OK 】 to select
5. The display shows 'Tight and Normal'. Press 【 OK 】 to the required setting and press 【 OK 】 to enable. The √ appears besides selected setting
6. Screen returns to the previous menu.

Setting the Power Level

You can customize your radio's power setting to high or low for each channel.

Settings: 'High' enables communication with radios located at a considerable distance from you.

'Low' enables communication with radios in closer proximity.

Procedure below:

1. Press 【 ◂ ▴ ▸ ▾ 】 to access menu
2. Press 【 ◂ ▴ ▸ ▾ 】 to 'Utilities', press 【 OK 】 to select
3. Press 【 ◂ ▴ ▸ ▾ 】 to 'Radio Settings'', press 【 OK 】 to select

4. Press 【 】 to 'Power", press 【 OK 】 to select the required setting and press 【 OK 】 to select. √appears beside selected setting.
5. Screen returns to the previous menu.

Turning the LED indicator On or Off

You can enable and disable the LED indicator if needed.

1. Press 【 】 to access menu
2. Press 【 】 to 'Utilities', press 【 OK 】 to select
3. Press 【 】 to 'Radio Settings", press 【 OK 】 to select
4. Press 【 】 to 'LED Indicator", press 【 OK 】 to select the required setting and press 【 OK 】 to select. √ appears beside selected setting.
5. Screen returns to the previous menu.

Turning the Intro Screen On or Off

You can enable and disable Intro Screen if needed.

1. Press 【 】 to access menu
2. Press 【 】 to 'Utilities', press 【 OK 】 to select
3. Press 【 】 to 'Radio Settings", press 【 OK 】 to select
4. Press 【 】 to 'Intro Screen", press 【 OK 】 to select the required setting and press 【 OK 】 to select. √ appears beside selected setting.
5. Screen returns to the previous menu.

Turning the VOX On or Off

You can enable and disable VOX if needed.

1. Press 【 】 to access menu
2. Press 【 】 to 'Utilities', press 【 OK 】 to select
3. Press 【 】 to 'Radio Settings", press 【 OK 】 to select
4. Press 【 】 to 'VOX", press 【 OK 】 to select the required setting and press to select. √ appears beside selected setting.
5. Screen returns to the previous menu.

Language

You can freely select the Chinese/English if needed.

1. Press【 】 to access menu
2. Press【 】 to 'Utilities', press【 OK】 to select
3. Press【 】 to 'Radio Settings", press【 OK】 to select
4. Press【 】 to 'Language", press【 OK】 to select the required setting and press【 OK 】 to select. √ appears beside selected setting.
5. Screen returns to the previous menu.

Turning the Password and Lock On or Off

You can enable and disable Password and Lock if needed.

1. Press【 】 to access menu
2. Press【 】 to 'Utilities', press【 OK 】 to select
3. Press【 】 to 'Radio Settings", press【 OK】 to select
4. Press【 】 to 'Password Lock", press【 OK 】 to select. Enter your current password.
5. If the password is correct:
   Press【 OK 】 to enable Password Lock. The display shows√ beside Enabled.
   OR Press【 OK 】 to disable Password Lock. The √ disappears from beside Enabled.
   OR If the password is incorrect:
   The display shows Wrong Password and automatically returns to the previous menu.

Changing the Password

1. Press【 】 to access menu
2. Press【 】 to 'Utilities', press【 OK】 to select
3. Press【 】 to 'Radio Settings", press 【OK 】 to select
4. Press【 】 to 'Passwd Lock", press【 OK】 to select
5. If the password is correct: Press【 】 to Change 'Pwd' and press【 OK】 to select.
   OR If the password is incorrect: The display shows 'Wrong Password' and automatically returns to the previous menu.

6. Enter a new password.
7. Re-enter the new eight-digit password.
8. 8 If both of the new password inputs match: The display shows Password Changed.
   OR If both of the new password inputs do not match, the display shows Passwords Do Not Match.

Accessing General Radio Information

Your radio contains information on the following:

- Local Radio alias and ID
- Firmware version
- CPU version

Checking the Radio Alias and ID

Displays the ID of your radio

Procedure:

Press the programmed Radio Alias and ID button to check your radio alias and ID. You hear a positive indicator tone.

OR follow the procedure below.

1. Press 【 】 to access the menu.
2. Press 【 】 to 'Utilities' and press 【 OK 】 to select.
3. Press 【 】 to 'Radio Info' and press 【 OK 】 to select.
4. Press 【 】 to 'My Number' and press 【 OK 】 to select.
5. The first line of the display shows the radio alias. The second line of the display shows the radio ID
   You can also press the programmed Radio Alias and ID button
6. press 【 OK 】 to return to the previous screen

Checking the Firmware Version

Display the firmware and codeplug versions on your radio. Procedure below:

1. Press 【 】 to access the menu.
2. Press 【 】 to 'Utilities' and press 【 OK 】 to select.
3. Press 【 】 to 'Radio Info' and press 【 OK 】 to select.
4. Press 【 】 to 'Versions' and press 【 OK 】 to select.
5. The display shows the current firmware and codeplug versions.

Checking the CPU Version

1. Press 【 ▲ ◀ ▶ ▼ 】 to access the menu.
2. Press 【 ▲ ◀ ▶ ▼ 】 to 'Utilities' and press 【 OK 】 to select.
3. Press 【 ▲ ◀ ▶ ▼ 】 to 'Radio Info' and press 【 OK 】 to select.
4. Press 【 ▲ ◀ ▶ ▼ 】 to 'CP Ver.' and press 【 OK 】 to select.
5. The display shows the current CPU version.

SPECIFICATION

General	
Frequency Range	400-470MHz
Channel Capacity	ZONE-KP : 1000 ZONE: 32
Zone Capacity (16 channels per zone)	ZONE-KP :250 ZONE: 2
Channel Spacing	Analog: 25/12.5kHz, Digital: 12.5kHz
Working Voltage	7.4V Rated
Frequency Stability	±1.5 ppm
Antenna Impedance	50Ω
Dimension (H*W*D)	5.3" x 2.4" x 1.6"
Weight	About 9 ounces (with battery,
	antenna, belt clip)

Transmitter	
Power Output	4W/1W
FM Modulation	11KΦF3E @ 12.5 kHz; 16KΦF3E @ 25 kHz
4FSK Digital Modulation	12.5kHz Data only: 7K60FXD 12.5kHz Data & Voice: 7K60FXW
Spurious Emission	-36dBm<1GHz; -30dBm>1GHz
Modulation Limiting	±2.5kHz @ 12.5 kHz; ±5.0kHz @ 25 kHz
FM Hum & Noise	40dB @ 12.5 kHz; 45dB @ 25 kHz
Adjacent Channel Power	60dB @ 12.5 kHz; 70dB @ 20/25 kHz
Audio Response	+1~-3dB
Audio Distortion	5% (3% typical)

Receiver	
Sensitivity (Analog)	0.2μV (12dB SINAD)
Sensitivity (Digital)	0.3μV /BER5%
Selectivity TIA603 ETSI	60dB @ 12.5kHz / 70dB @ 25kHz 60dB @ 12.5kHz / 70dB @ 25kHz
Intermodulation TIA603 ETSI	65dB @ 12.5/25 kHz
Spurious Response Rejection TIA603 ETSI	70dB @ 12.5/25 kHz
SNR	40dB @ 12.5 kHz 45dB @ 25 kHz

Conducted Spurious Emission	-57 dBm
Audio Power Output	1W
Audio Distortion	3% (typical)
Audio Response	+1~-3dB
Digital Vocoder Type	AMBE+2™
Digital Protocol	ETSI TS 102 361-1, -2, -3