Digital System Solutions Supplier

FC  CE  IC  CQC Approved by GB/TI9001-2008 ISO9001:2008
ID: 01609Q21255R0M

**Quanzhou TYT Electronics Co., Ltd.**

Address:Block 39-1, Optoelectronics-information industry base, Nan'an, Quanzhou, Fujian, China

Website:www.tyt888.com

E-mail:tyt@tyt888.com

Tel:86-595-27770858

Nationwide Toll Free No.: **400-699-8858**

**MADE IN CHINA**

TYT®

# MD-760
## Digital Two-Way Radio
USER'S MANUAL

Our TYT radio generators RF electromagnetic energy during transmit mode.This radio is designed for and classified as"Occupational Use Only",meaning it must be used only during the course of employment by individuals aware of the hazards,and the ways To Minimize Such hazards.

This radio is NOT intended for use by the"General Population" in an uncontrolled environment. This radio has been tested and complies with the FCC RF exposure limits for"Occupational Use Only". Inaddition, our TYT radio complies with the following Standards and Guidelines with regard to RF energy and electromagnetic energy levels and evaluation of such levels for exposure to humans:

—-IEEE Std. 1528:2013 and KDB447498, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.
—-American National Standards Institute (C95.1-1992), IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.
—-American National Standards Institute (C95.3-1992), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields-RF and Microwave.

The information listed above provides the user with the information needed to make him or her aware of RF exposure, and what to do to as-sure that this radio operates with the FCC RF exposure limits of this radio. Electromagnetic Interference/Compatibility

During transmissions, TYT radio generates RF energy that can possibly cause interference with other devices or systems. To avoid such interference, turn off the radio in areas where signs are posted to do so. DO NOT operate the transmitter in areas that are sensitive to

electromagnetic radiation such as hospitals, aircraft, and blasting sites.

Occupational/Controlled Use
The radio transmitter is used in situations in which persons are exposed as consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure.

Attention:
This radio complies with IEEE and ICNIRP exposure limits for occupational/controlled RF exposure environment at operating duty factors of up to 50% and is authorized by the FCC for occupational use only. An appropriate warning label is affixed to all units. In order to comply with RF exposure requirements, a minimum distance of 2.5cm must be maintained when held-to-face, and body-worn operations are restricted to the approved original accessories (belt clip).
Do not use this device when antenna shows obvious damages.

This product is compliance to FCC RF Exposure requirements and refers to FCC website https://apps.fcc.gov/oetcf/eas/reports/GenericSearch.cfm search for FCC ID: PODMD-760 to gain further information include SAR Values.

# To customers

Thank you very much for using our two-way radios. This product has a newly developed function menu and humanism operation design, making it easy to use. It will meet your requirement by the compact size and reasonable price.

# Welcome to use our two-way radio

Professional FM Transceiver

CTCSS/DCS

Programmable CTCSS/DCS

Wide band/narrow band selectable

End-tone detection

DTMF encode/decode

PTT ID

Password

Firmware update

Dual time slot for point to point

Dual time slot for repeater

5 watt output power

Call detection

Call prompt

Remote monitor/Emergency alarm

Contact view and edit

Message view and edit

Call info view and edit

SN、Equipment Identitly Code for device vertification

PC programmable function

Professional FM Transceiver

# CONTENTS

User's Manual

**Getting familiar**

**Safety and Overview**

**Overview**
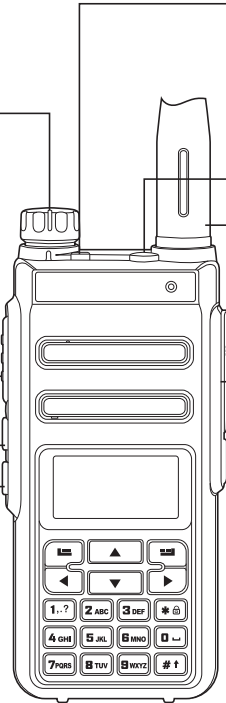
Professional FM Transceiver

# Getting familiar

**Power/ Volume knob**
To power on/off and adjust the volume. Rotate it clockwise, a "click" sound is heard and a "Du" tone prompts the radio power on, continue to rotate it to adjust the volume. Rotate it counter-clockwise until a "click" sound is heard, it powers off.

**PTT**

**Side key 1**

**Side key 2**

**LED indicator light**
The indicator light turns red when transmit, turns green when receive. It blinks red when the battery capacity is low, and blinks green
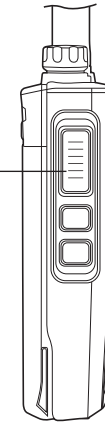
**Side key 3**
**Emergency alarm key**

**Antenna**
with threaded head, for transmitting and receiving

**Programming connector**
**Microphone connector**

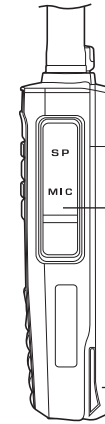**PTT switch**

**Belt clip**
You can clip the radio in the belt and is easy to take.

**Mic/speaker jack/ programming port**
Used to connect headset or external programming cable. Programmable via PC programming software.

**Li-ion battery**
For charging the radio.

Note:Long-press or short-press of Side Key 1/Side Key 2/Side Key 3(Emergency alarm key) can be programmed by software for following functions: 1,unassigned 2, all Alert Tone on 3,Emergency On 4,Emergency Off 5, High/Low Power 6,Monitor 7,Nuisance Delete 8, One Touch Access 1 9,One Touch Access 2 10,One Touch Access 3 11,One Touch Access 4 12,One Touch Access 5 13,One Touch Access 6 14,Repeater/Talkaround  15,Scan On/Off 16, Privacy On/Off 17,Vox On/Off 18,Zone Select 19,Battery Indication 20,Lone Work On/Off 21,Phone Exit

## Safety and Overview

Product safety and RF Exposure for handheld two way radio .

| | |
|---|---|
| **⚠** | Before using this two way radio, please read the manual which contain important operating instructions for safe usage, RF Energy Awarenes control information and operational instructions for compliance with R Energy Exposure limits in applicable national and international standard Also read the operational instructions for safe use. |

## Overview

### Turn on radio

Turn the volume control knob clockwise until you hear a "click" sound with a brief start-up tone, andyou will see picture or the custom characters. The LED blinks green and the screen lights up.

Note: If the radio tone / prompt is disabled, there is no power on tone. To turn off the radio, turn the knob counterclockwise until you hear a "click" sound. Custom characters can be set in software.

### Adjust the volume

Turn the volume control knob clockwise to increase the volume of radio. To decrease the volume, turn the knob counterclockwise.

# Main functions

| First menu | Second menu | Function description | Remark |
|---|---|---|---|
| Contact | Contact | Contact list, software edit or new contact add or call record contact add, up to 256 contacts | digital channel only |
| | New Contact | Manually create a new contact, enter the number, alias, tone, if the current input number are samewith one of contact list, just overwrite the old contact information | digital channel only |
| | Manual Dial | Enter the other party ID number (up to 8-bit, full call ID fixed to 16777215) and then press the Enter key. You can realize call alert, radio check, remote monitor, radio active , radio kill, the above functions can be open in software | digital channel only |
| Message | Inbox | Inbox: meaasge received latest, the maximum storage amount is 16, if you continue to receive, loop to cover the storage | digital channel only, this function can be set in software |
| | | Delete all:delete all messages received | digital channel only, this function can be set in software |
| | New Message | Text edit, the maximum input of 144 characters or 72 Chinese characters.  You can input "#" key to switch inpumode: abc (lowercase letters) / ABC (capital letters) / 123 (number) / py (Pinyin), after enter the message, press the Enter key to proceed with the operation | digital channel only, this function can be set in software |
| | Outbox | Store the latest sent messages, the maximum storage amount is  16 | digital channel only, this function can be set in software |

| | Draft | Draft list, the maximum can store 16 messages | digital channel only, this function can be set in software |
|---|---|---|---|
| | Quick Text | You can write in advance in software, the maximum can store 32 messages. Each message can enter a maximum of 144 characters or 72 Chinese characters | digital channel only, this function can be set in software |
| call logs | Outing | Dialed call list: the maximum number of calls can be stored in 32 latest record. The record can be viewed, you can also store to Contact by operation<br>Delete all: delete all records for the list | digital channel only, this function can be set in software |
| | Answered | Answered  Call List: the maximum number of calls can be stored in 32 latest record. The record can be viewed, you can also store to Contact by operation<br>Delete all: delete all records for the list | digital channel only, this function can be set in software |
| | Missed | Missed Call List: the maximum number of calls can be stored in 32 latest record. The record can be viewed, you can also store to Contact by operation<br>Delete all: delete all records for the list | digital channel only, this function can be set in software |
| set | radio set | CTCSS/DCS | C CDC/DCS: set both Encoding and Decoding; R CDC/DCS: only set Decoding;T CDC/DCS: only set Encoding;Press"*"key to switch CTCSS /DCS;press"#"key to switch positive (N)/reverse (I) in DCS. You can also input manually non-standard CTCSS/DCS by keypad, Press the confirm key to confirm, press the return key to return | analog channel only |
| | | Squelch | Strict/Normal: Strict signal is 6dBm bigger than Normal | this function can be set in software |

| | | | | |
|---|---|---|---|---|
| | | Tx Power | High/Low，High：5W,Low：1.5W | this function can be set in software |
| | | Talkaround | Talkaround on/off: this function is valid only after tick "Allow Talkaround"in software | this function can be set in software |
| | | Band | Narrow/wide band available in analog mode. Wide band：：25KHZ,Narrow band：12.5KHZ | analog channel only |
| | | Busy Lock | off/carry(QT/CC). Off: busy lock is off;Carry:Match Carrier Press PTT Prohibited; QT/CC: Match QT /CC Press PTT Prohibited | |
| | | TOT | OFF / 15S / ... / 495S optional, there is warning when close to 10 seconds before limit time. Transmitting is prohibited when limit time is up | |
| | | VOX | Off/on. Level 1 to 10 can be set in software (General Setting-VOX Sensitivity). level 1 is the highest level of sensitivity, and level 10 is the lowest level of sensitivity | this function can be set in software |
| | | Double Wait | Off/Double wait/Single wait optional Off: turn off dual standby,radio into single band mode Double Wait:main channel and sub-channel rotation scan,effective reception will lock the call, Press the PTT key to comunicate with other party.Battery saving is invalid now. Single Wait:Up and down channels through the keyboard switch, the machine only receives and transmits on the main channel | this function can be set in software |
| | | Encrypt | Off/On.Open the encryption function, both sides of radio can comunicate when match same encryption key | digital channel only, this function can be set in software |

| | | | | |
|---|---|---|---|---|
| | | Power save | Off/On, Saving ratio is 1: 4 | Power saving is ineffective when radio is in Double Wait mode |
| | | Beep | All Tone/Call Permit/Key Beep optional | |
| | | Backlight | Always/5/10/15/ sec optional | this function can be set in software |
| | | Keypad lock | Manual/5/10/15/ sec optional.Select Manual, long press "*" key for 3 seconds lock; Press the "menu" button immediately press "*" key to unlock | this function can be set in software |
| | | indicator | Off/On,When indicator off (transmit indicator, receiving indicator, power-on indicator, etc.) does not work | this function can be set in software |
| | | Passwd Lock | Enter power on password, power on password (off / on) / new password (change password, the maximum input 6 digit) | this function can be set in software |
| | | Mode | CH NO.(Channel Number)/CH Name(Channel Name can be set in software)/CH Freq(show RX frequency) | this function can be set in software |
| | | Screen | Picture (can be loaded 128 * 64 BMP picture) / preset characters (two lines, can be set in software) | this function can be set in software |
| | | Language | English / Chinese optional, Chinese and English display switching, including menu, call prompts, Call Logs and all other interfaces | |
| | Radio Info | Radio ID | 8-bit ID number, maximum 16776415 | Digital channel only |

| | | Dev. Info | Model information, serial number, CPS version, hardware version, firmware version, DSP version, programming time | |
|---|---|---|---|---|
| | Radio Cfg | Rx Freq | enter frequency manually in key pad | |
| | | Tx Freq | enter frequency manually in keypad | |
| | | Ch Name | enter channel name manually in keypad,support English/Chinese | |
| | | Color Code | Color code 0~15 optional | digital channel only, cannot be set in analog channel |
| | | Slot | slot 1/2 optional | digital channel only, cannot be set in analog channel |
| Zone | Zone | | Zone list,can support up to 250 zones | |
| Scan | On/Of | | On / Off, only the current channel is equipped with a scan list toturn on scan function. Side key can be set "scan on / off" in the software | this function can be set in software |
| | Scan list | | show current scan list, can just view | this function can be set in software |

## Double Wait Switch

Press [ ◀ ] button to switch the main channel, ➡ points main channel. Double wait can be set Manually.(Flow: Menu - Set - Radio Set-Double Wait (Off/ Double Wait / Single Wait)). When double wait is off,radios works under single band mode. When single wait is selected, radio operates on the main channel, and sub-channel does not receive the signal. When double wait is selected, main channel and sub-channel receiving scan one by one. When scanning effective reception of the signal, radio locked and work.If channel locked is not main channel, ➡ points to the temporary working channel, then press PTT, temporary Channel transmit.Timing time is up, ➡ icon disappears. No temporary icon, press PTT , ➡ point to the main channel transmission.
Note: In double wait mode, the power saving function is invalid. At this time, even if the power saving function is turned on, radio is in no power saving state and radio standby time is shortened. Since double wait mode is in the main and sub-channel scanning state, DTMF, Scan, lone worker,ARTS auxiliary function does not work.

# Launch And Receive Calls

# Emergency Function

Professional FM Transceiver

## Key usage

[☐] Menu Key/Confirm Key [▲] Up key    [◀] Left Key/ Main Channel Switch Key

[☐] Back Key    [▼] Down Key    [▶] Right Key

## Launch And Receive Calls

### Zone Selection

Zones is a channel group. Each radio can set 250 zones and each zone with max 16 channels

The menu function:

1. Press [☐] key to enter the menu.

2. Move [▲ or ▼] key to choose, after that with [☐] key to confirm.

3. Screen shows the chosen zone and named by it.

4. Move [▲ or ▼] key to chose, after that press [☐] key to confirm.

5. Screen shows the chosen zone and then return to the selected Zone screen

### Selection Of Channels,User ID Or Grouo ID

Select the needed zone (if there are more than one zone ), using [▲] or [▼] key to select the channel, user name or ID, group name or ID.

### Receive And Reply Group Call

The radio must be under a group, then can receive the group call.
When received the group call:

1. LED indicator is green color.
2. Display area: the first line shows "Group Call", the middle shows Call group alias, the bottom shows call ID and call icon 📞 (digital mode only).
3. Hold radio in a vertical position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth.
4. Press the [PTT] key to reply to the call and the LED light is red.
5. Release the [PTT] key to receive.
6. If there is no voice activity within a predetermined time period, the call end.

## Receive And Reply The Single Call

Single call means one on one call. Only with two types: One is testing presence of radio before call, and another one is to call immediately.
When Receive The Single Call:
1. LED indicator is green color.
2. Display area: the first line shows "Single Call", the middle shows "Single Call", the bottom shows call ID and call icon 📞 (digital mode only).
3. Hold the radio in a vertical position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth. If the "channel free indication tone" function is enabled, the receiver will hear a short beep when the radio transmitting release PTT key, indicating that the channel is idle and waiting for a reply. (Channel idle tone can be set in software-general setting).
4. Press PTT key to reply the call, and the LED indicator is red.
5. Release PTT key to receive.

## Receive all calls

All call means a walkie talkie call up all other users in a channel to public an important information
When receive the all calls:
1. LED indicator becomes green.
2. Display area: the first line shows "All Call", the middle shows "All Call", the bottom shows call ID and call icon 📞 (digital mode only).
3. After all call end, the radio returns to the screen before receiving all call. If "channel free indication tone" function is enabled, the receiver will hear a short beep when PTT button isreleased by radio transmitting, indicating that the channel is in use,can not reply all call.
Notice: when receive the all call, if you turn over to another channel, the radio stop to receive all call. During the all call, You cannot use any re-programmed key until the call finished.

## Launch a radio call

You can choose a channel, user ID or group call with following methods
- Channel switch
- Pre-programmed key
- Contacts
- Manual dialing (only for single call)

## Group call

The radios should be in same group if want to make a group call

1. Press ▲ or ▼ key to switch channel, and use the active call group alias or ID to select the channel.
2. Hold radio in a vertical position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth.
3. Press PTT button to initiate the call,LED indicator is red, screen displays the group alias or ID, and icon 📞 .
4. Release PTT key to receive, and when the target radio reply, the LED indicator lights green. Group Call, call group alias, and launch radio alias or ID are displayed on the screen.
5. If the "channel free indication tone" function is enabled, the receiver will hear a short beep when the target radio releases PTT key, indicating that the channel is idle and waiting for a reply. Press PTT key to reply, or if there is no voice activity within a predetermined time period, the call end.
6. The radio returns the screen before receiving the call. You can also initiate a group call from your Contacts.

## Single Call

1. Press ▲ or ▼ key to switch channel, and use the active call group alias or ID to select the channel.
2. Hold radio in a vertical position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth.
3. In the display area: the first line shows a Single Call, the middle display user alias, the bottom display ID and call icon 📞 (digital mode only).
4. Release PTT key to receive, and when the target radio reply, the LED indicator lights green.
5. If the "channel free indication tone" function is enabled, the receiver will hear a short beep when the target radio releases PTT key, indicating that the channel is idle and waiting for a reply. Press PTT key to reply, or if there is no voice activity within a predetermined time period, the call end.
6. You will hear a short tone, the screen shows the call end.

You can also use the side keys to set up a One Touch Access or contacts to initiate a single call or a quick contact access via a keyboard entry to find the desired target radio.

## All Call

This function allows you to send signals to all users on the channel. The radio must be programmed to allow you to use this function.

1. Press ▲ or ▼ key to switch channel, and use the active all call group alias or ID to select the channel.
2. Hold the radio in a vertical position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth.
3. Press PTT button to initiate the call and the LED light is red. The screen displays all call, all call alias or all call ID, and call icon 📞 .

The user on the channel can not reply to all call.

## Use a one-touch call to initiate a group call or a single call

The One-Touch Call function allows you to easily to make a group or single call to a predefined alias or ID. This function can be assigned to short programming or long programming keys. You can assign only one alias or ID to a one-touch call key, and the radio can have multiple programmed one-touch keys.

1. Initiate a group call or a single call to a predefined alias or ID by pressing a preprogrammed one-touch call key.
2. Hold radio in a vertical position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth.
3. Press PTT button to initiate the call and the LED light is red. The screen displays the group / user alias or ID, as well as icon. 📞 .
4. Release PTT key to receive, and when the target radio reply, the LED indicator lights green.
5. If the "channel free indication tone" function is enabled, the receiver will hear a short beep when the target radio releases PTT key, indicating that the channel is idle and waiting for a reply. Press PTT key to reply, or if there is no voice activity within a predetermined time period, the call end.

## Emergency alarm function

Emergency alerts are used to indicate an emergency situation.You can initiate an emergency call at any time or on any screen, even if there is activity on the currentchannel.
Note: The emergency function is set in digital emergency alarm system of the signaling system in the software and should be in the group call channel.
Your radios supports three emergency alerts:
• Emergency alert
• Emergency alerts and calls
• Emergency alert and voice

## Receive an emergency alert

1. Receive an emergency alert time code, the number of alerts received, and the received alert, which alternates with the sender's alias or ID.
2. A beep sounds and the LED flashes red.
3. If activated, your radio will automatically acknowledge an emergency alert. When an emergency alert is received by radio, the screen displays a prompt that an emergency alert has been received until an acknowledgment is sent and exit emergency mode. You will not be able to receive any other prompts or display any other calls until you exit the screen that received the emergency alert.
Note: Short press the [back] key, then press the preprogrammed alarm off key to clear the prompt for receiving an emergency alert and exit the emergency mode.

## Reply to an emergency alert

When receiving an emergency alert:

1. Press any key to stop all audible alerts that receive an emergency alert.
2. Hold the radio in a vertical position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth. If the "channel free indication tone" function is enabled, the receiving radio will hear a short beep when radio release PTT button, indicating that the channel is now available.
3. Press PTT key to initiate a call with an emergency call. LED indicator light is red. The radio is in emergency call mode.
4. Release [PTT] key to receive, and when the emergency call initiates the radio reply, the LED will light green. You will see group call, group ID, and launch radio ID on the screen.
5. After the call ends, short press [back] key, then press the preprogrammed alarm off key to clear all prompts that received an emergency call and exit the emergency mode.
6. The radio returns to the main screen.

## Send an emergency alert

This feature allows you to send an emergency alert, which is a non-voice signal that will trigger a prompt on another radio. Only the emergency alarm channel contact is group call number can send an emergency alert.

1. Press the preprogrammed alarm on key.
2. The screen displays issue an alarm that alternates with the radio ID. The LED indicator light is red and then the emergency call interface is displayed.
3. When an emergency alert is received, an emergency call beep is issued. The screen displays an emergency alert that has been received. After all retry times have been exhausted, a beep is issued and then exit the emergency alarm mode.
4. The radio exits the emergency alert mode and returns to the main screen. If your radio is set to "all tones off", it will not display any voice or visual prompt in emergency call mode.

## Send an emergency alert with call

This feature allows you to send an emergency alert to another radio. After confirming, the two radios communicate via a preprogrammed emergency channel.

1. Press the preprogrammed alarm on key.
2. The screen displays issue an alarm that alternates with the radio ID. The LED indicator light is red and then the emergency call interface is displayed.
3. When an emergency alert call is received, an emergency alarm beep is issued and the LED flashes green. The screen display alarm has been received.
4. Hold radio in a vertical position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth.
5. Press [PTT] button to initiate a call, the LED indicator is red, and the call group icon appears on the screen.
6. Release the [PTT] button to receive.
7. If the "channel free indication tone" function is enabled, the receiving radio will hear a short beep when the target intercom releases the [PTT] key, indicating that the channel is idle and waiting for a reply. Press PTT key to reply,Or press the preprogrammed alarm off key to exit the emergency mode.
8. The radio returns to the main screen. If your radio is set to "all tones off", it will not display

any voice or visual prompts in the emergency call mode and will not receive any response (call) from the target radio until you press [PTT] to initiate the call. If your radio is set to "call permit", it will not display any voice or visual prompts in emergency call mode or when you receive a call from the target radio. A prompt is displayed only when you press [PTT] key to initiate or respond to a call.

## Send an emergency alert with voice followed

This feature allows you to send an emergency alert to another radio. Your radio microphone is automatically activated, allowing you to communicate with other radio without pressing the [PTT] key. This activated microphone state is called "emergency microphone". If you press [PTT] during the preprogrammed emergency microphone transmitting, the radio ignores [PTT] and remains in the emergency mode.

Note: If you press [PTT] key during an emergency microphone transmitting and continue pressing the key after the end of the emergency microphone, the radio continues to transmit until you release [PTT] key.

1. Press the preprogrammed alarm on key.
2. The screen displays issue an alarm, the LED indicator is red and the emergency alarm call interface is displayed.
3. After screen display the emergency alarm is successful, speak to the microphone clearly. After the emergency microphone has been activated, the radio automatically transmits the signal without pressing [PTT] key until the emergency microphone time ends.
4. At the time of launch, the LED indicator light is red and the alarm call interface is displayed.
5. After the end of the emergency microphone time, the radio automatically stops sending

the signal. To launch again, press the [PTT] key.

If your radio is set to "all tones", it will not display any voice or visual prompts in the emergency call mode and will not receive any response from the target radio until the preprogrammed emergency microphone time is over and you press [PTT] key. If your intercom is set to "call permit", it will not display any voice or visual prompts when you use an emergency microphone to initiate a call in emergency call mode or when the target radio responds after a preprogrammed emergency microphone time. These prompts appear only when you press [PTT] key.

There are two situations where this can occur:

• When the radio channel is changed in the emergency mode, the emergency mode is exited. If an emergency alert is activated on the new channel, the radio restarts the emergency call.
• In the emergency call start / launch mode, press the preprogrammed alarm on key. This will cause the radio to exit the current state and then restart the emergency call.

## Exit the emergency mode

When one of the following occurs, radio exits the emergency mode:

• The maximum number of attempts to send alerts has been reached
• Press the preprogrammed alarm off key
• Press [PTT] key. Can not exit alarm mode

Note: If turn off radio, the radio exits emergency mode. When you turn on radio again, the radio will not restart emergency mode.

# Menu operation

# Settings

Professional FM Transceiver

## Menu function operation

Character input

You can use the 3x4 alphanumeric keyboard to access radio functions. When using the keyboard to enter user aliases or text messages, radios contains three modes: 1. English alphabet mode, 2. Chinese input method mode, 3. Numbers input mode. When using the keyboard to enter an ID, Can only use digital mode.

English alphabet mode:

Users have to press a key several times for getting some characters. The following table shows the number of times a key needs to be pressed to get the desired character.

| Key | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 . ! , @ - : ? () ~ / [] # <> = * + $ % ' ` & \|_^ { } | | | | | | | | | | | | |
| 2 | a | b | c | 2 | A | B | C | | | | | | |
| 3 | d | e | f | 3 | D | E | F | | | | | | |
| 4 | g | h | i | 4 | G | H | I | | | | | | |
| 5 | j | k | l | 5 | J | K | L | | | | | | |
| 6 | m | n | o | 6 | M | N | O | | | | | | |
| 7 | p | q | r | s | 7 | P | Q | R | S | | | | |
| 8 | t | u | v | 8 | T | U | V | | | | | | |
| 9 | w | x | y | z | 9 | W | X | Y | Z | | | | |
| 0 | 0  Space | | | | | | | | | | | | |
| * | * | | | | | | | | | | | | |
| # | Press # to switch input mode | | | | | | | | | | | | |

## Chinese Typing

Number 1 is a button of punctuation s selection input, Number 2-9 are correspond Pinyin input, when user input something, the screen shows the pinyin input interface, the first line of interface shows the contents inputted by user., second line of interface shows the Chinese characters what users input. When the content of the pinyin input interface show in the first row,users can move[ ◀ or ▶ ] to select Pinyin, users can press [ ▦ ]button to delete the Pinyin what they inputted previously one by one, when all the Pinyin characters were delet-ed, Pinyin input interface disappeears.

Press [ ▦ ] button to select the pinyin, press [ ▲ or ▼ ] key to select the up and down line, the user can press [ ◀ or ▶ ] key to select the Chinese character, through [ ▦ ] key to return to the phonetic selection. Press [ ▦ ] key to select the corresponding Chinese characters and displayed them in the editing area, at this time the Chinese character input is completed, Pinyin input interface disappears. Press * to display *, press 0 to display the space, and press # to switch the input mode.

Numbers input mode:
Press the numeric keys to display the corresponding digits in the numbers input mode, press * to display *, and press # to switch the input mode.

Note: When users Enter a user alias, ID, or text messages, if editing area without any content, then the [ ▦ ] button is used for returning to the higher level menu, or else if there is any content on the editor area, pressing [ ▦ ] will delete one character before the cursor at one time, until the editing area has no content, then press the [ ▦ ] button to return to the higher level menu.

## Menu Application

1. Press [ ▦ ] to enter Menu, then move up or down[ ▲ or ▼ ] to access the menu function
2. Press [ ▦ ], select a function or go into a sub menu
3. Press [ ▦ ] to return the higher level menu
Note: After a period of time not activity radio will automatically exit and return to the main menu screen (hang time is set by the programming software).

## Radio Check

If there are any activation, this feature allows you to determine whether there is other two way radio active inside the system, and does not disturb the walkie-talkie users, none-voice or visual notice appears on the target two way radio
This feature applies only to single call user aliases or IDs.

## Send Radio Check

This feature applies only to single call user aliases or IDs.Using menu:

1. Press [ ▦ ] to enter Menu
2. Move [ ▲ or ▼ ] button to select Contacts, then press [ ▦ ] to select.
3. Move [ ▲ or ▼ ] toThe required user alias or ID,then press [ ▦ ] to select
Or press [ ▲ or ▼ ] key to manual dialing, and then press [ ▦ ] key to select. If there are before calling ID, show ID and along with the flashing cursor, using the keyboard editing ID, press [ ▦ ] .
4. Move [ ▲ or ▼ ] to radio detection, and then press [ ▦ ] to select

5. When Screen displays radio detection: < user alias or ID >, it is indicating the ongoing of

   radio detection. The LED indicator light is red.

6. Waiting for confirmation

7. If the target radio is active in the system , then it makes a prompt sound, screen will show

   that target two way radio has responded shortly.

Or if the target radio in the system is not active, then it makes a prompt sound, screen will

show that target two way radio has no answer shortly.

8. Two way radio returns to user alias or ID screen. If you press [   ] when waiting for con-

   firmation, made a prompt sound, two way radio will end all retry and exit the two way radio

   detection mode.

## Monitor

Using monitoring function to open the target two way radioís microphone  (only the user alias

or ID). You can use the function to monitor  any sound around target two way radio.

Your must allow your two way radio to use this function by programming it.

## Start Monitor

Using the Menu:

1. Press [   ] to enter the Menu

2. Move [ ▲ or ▼ ] to Contacts,then press [   ] to select

3. Move [ ▲ or ▼ ] to The required single call user alias or ID, then press [   ] to select

Or move [ ▲ or ▼ ] key to manual dialing, and then press [   ] key to select

If there are any calling ID remains before, radio shows the ID and along with the flashing cur-

sor, using the keyboard to edit the ID, press [   ] key to choose.

Or move [ ▲ or ▼ ] key to manual dialing, and then press [   ] key to select. Inputting the

user alias or ID,  and then press [0k] key to select.

4. Move [ ▲ or ▼ ] to select Remote Monitor then press [   ] to select

5. When two way radio makes a prompt sound, LED light turns green.

6. Waiting for confirmation.

7. Screen displays Monitor successed,

Or screen displays Monitor failed

If success: two way radio began to receive voice signals from the radios which are being mo-

nitored voice and screen displays two way radio are moniting, until the end of the duration of

the preprogrammed, two way radio made a prompt sound, and the LED light puts out, screen

display that monitoring ends.

If failed: two way radio Repeats until reach the preprogrammed attempts.

## Contacts setting

Contacts is "address book" for handheld two way radio. Each entry corresponds to an alias or

ID used to start the call. In addition, each item, according to the different content setting, relate

to three types of call: group calling, single call, all call. Your radio support digital address book.

The Contactsí entries display in the following information

- Contacts
- New Contact
- Manual Dial

Note: you can add, delete, edit Contacts person in the digital address book(contacts)

## Group Call With Contacts

1. Press [ ▭ ] to enter Menu
2. Move [ ▲ or ▼ ] to contacts, then press [ ▭ ] to choose, entries arrange in alphabetical order.
3. Move [ ▲ or ▼ ] to required calling group's alias or ID.
4. Holding the radio and let it in a vertical position and keep mouth 1 to 2 inches (2.5 to 5.0 cm) with radio.
5. Press [PTT] to start calling, the LED turns red. The screen displays the calling group's alias or ID,as well as icon of group call.
6. Releasing (PTT) button  to receive, when any user response within the group, the LED light turns green. You will see on the screen group call icon of user's ID
7. If the "Channel Idle Beep" function is enabled, the receiver will hear a short beep when the target radio releases the [PTT] key, indicating that the channel is idle and waiting for a reply. Press the call key (PTT) to reply. If there is no voice activity during the pre-programmed group call hang time, the call end.

## Single Call With Contacts

1. Press [ ▭ ] to enter Menu
2. Move [ ▲ or ▼ ] to Contact,then press [ ▭ ] to choose single call contact, entries arrange in alphabetical order.
3. Move [ ▲ or ▼ ] to required single call alias or ID.
   Or move [ ▲ or ▼ ] key to manual dialing, and then press [ ▭ ] key to choose. If there is a user alias or ID called before, radio shows ID and along with the flashing cursor, using the keyboard editing this ID.
   Or move [ ▲ or ▼ ] key to manual dialing, and then press [ ▭ ] key to choose, using the keyboard to enter a new ID
4. Hold radio in a vertical position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth.
5. Press [PTT] button to initiate the call and the LED indicator is lit red. The first line shows "single call" user alias or ID, the second line shows single call alias, the third line shows single call number and call icon 📞 .
6. Release [PTT] key to receive. When the target radio responds, the LED is lit green and the screen displays the ID of the transmitting radio.
7. If the "channel free indication tone" function is enabled, the receiver will hear a short beep when the target radio releases [PTT] key, indicating that the channel is idle and waiting for a reply. Press call key (PTT) to reply. If there is no voice activity during preprogrammed single call hang time, the call ends.
8. You will hear a short tone, the screen shows the call is terminated.

Note:

If you release(PTT) button when you are setting up the call, and when it will exit and return to the previous screen without any remind. Radio can be preprogrammed executive two way radio are testing before establishing single call. If the target radio did not reply, you will hear a short beep, and screen shows the other radios did not reply. Two way radio return to menu before starting the radios around test.

## Call Log

Your radio can record all the recent dialed, received, and not answered call. Use the calling record function view and manage the recent calls.

### Checking New Call's Number

Menu items can show the not answer call ,received calls and dialed call.

1. Press [ ] key to enter the menu mode.
2. Move the [ ▲ or ▼ ] key to the Call Log, and then press [ ] key to choose.
3. Move [ ▲ or ▼ ] to the required list, and then press [ ] key too choose.
4. The screen on the top of the list shows the recent entries.
5. Press [ ▲ or ▼ ] key to view the list and press [PTT] key to start a single call with the currently selected alias or ID.

### Missed Call

Whenever you miss call, two way radio will display a not answered call, select view or view later.

Note:

If you press (PTT),when you're viewing missing call number, radios will exit the missing call screen and establishing a single call again.

1. The screen shows the missing call, and the missing call's number and view.
2. Press [ ] view missing call's ID, missing call's record list displayed on the screen.
   Press [ ] to store or delete this entry; Or move [ ▲ or ▼ ] key to view later, and then press [ ] key choice, return to the main screen.

### Storing Missed call's Alias Or ID

1. Press [ ] key to enter Menu.
2. Move the [ ▲ or ▼ ] key to Call Log, and then press [ ] key to choose.
3. Move the [ ▲ or ▼ ] key to missed call, and then press [ ] key to choose.
4. Move [ ▲ or ▼ ] key to missed call's alias or ID, and then press [ ] key to choose
5. Move the [ ▲ or ▼ ] key to store, and then press [ ] key to choose
6. Radio Shows flashing cursor, if needed, enter the ID alias, and then press [ ] ey.
7. The screen contacts have been saved.
   You can also enter ID without alias.

### Deleting Calling Log's Record

1. Press [ ] button to enter the menu mode.
2. Press [ ▲ or ▼ ] key to call record, and then press [ ] button to select.
3. Press the [ ▲ or ▼ ] key to the desired list, and then press [ ] button to select.

4. Press [ ▲ or ▼ ] key to the desired alias or ID, and then press [ ▭ ] button to select.
5. Press [ ▲ or ▼ ] to delete the entry? , And then press [ ▭ ] button to select whether delete the entry.
6. Select "Yes" to press [ ▭ ] button to delete the entry, the screen appears with the entry deleted; or select "No" and press [ ▭ ] button to return to the previous screen.
When you select a call list but there are no entries, the screen will show that the list is empty, and if the keyboard tone is on, a low tone tone will sound.

## Call prompt operation
Call prompt allows you to prompt a specific radio user to call you back at a possible time.
This feature is only available for single call user aliases or IDs and can be used through the menu via contacts or manual dialing.

## Receive and confirm call prompts
When you receive a call prompt, the screen displays a call prompt that alternately displays the alias or ID of the transmitting radio.
1. You will hear the tone repeat sound.
2. Press and release the [PTT] key to confirm the prompt, or press [ ▭ ] key or [ ▭ ] to select "Ignore?" to exit the call prompt.

## Starting Call Alert From Contact List
1. Press [ ▭ ] key to enter the Menu.
2. Move the [ ▲ or ▼ ] key to Contacts, and then press [ ▭ ] key to choose.

3. Move [ ▲ or ▼ ] key to missed call's alias or ID, and then press [ ▭ ] key to choose Or move [ ▲ or ▼ ] key to manual dialing, and then press [ ▭ ] key to choose, a flashing cursor appears,then enter the user ID you want to call, and then press [ ▭ ] key.
4. Move [ ▲ or ▼ ] key to Call Alert, the screen display Call Alert:< user s alias or ID >,and then press [ ▭ ] key and instructions have been sent Call Alert.
5. When the radio send call alert, the LED indicator for the red light.
6. If you receive calls prompt confirmation, issued a prompt, and display the call alert success.

## Message function
Your radio can receive data, such as text messages from another radio, with a maximum length of 144 characters.

## Edit and send text messages
Use menu function:
1. Press [ ▭ ] button to enter menu.
2. Press [ ▲ or ▼ ] key to enter message, and then press the [ ▭ ] button to select.
3. Press [ ▲ or ▼ ] to write the message, and then press the [ ▭ ] button to select.
4. A flashing cursor appears,using keyboard to input messages. Press [ ◀ ] key to move left, press [ ▶ ] key to move right,when editing area have contents,press [ ▭ ] key to delete any useless characters, otherwise return to the previous menu when there is no content.
5. After writing the message, press [ ▭ ] button to select Send or Save or Clear.
6. During editing, you can switch the input method by pressing [#] key.

7. After selecting Send, press [ ▲ or ▼ ] key to desired alias or ID, and then press [ ⌨ ] button to select.

Or press [ ▲ or ▼ ] key to manual dial, then press  [ ⌨ ] button to select, enter user ID and press [ ⌨ ] button.

8. The screen displays the message: <user / group alias or ID> to confirm that the message is being sent.

9. If the message is sent successfully, a beep will sound and the screen shows message is sent successfully.

Or if the message is not sent, a loud tone beeps, and the screen displays a message sending failure. If the message is not sent, radio returns to the retransmission selection screen.

## Send a Quick Text

Radio supports up to 32 pre-made SMS messages programmed by the agent:

When you have predefined a text message, you can edit each message before sending it.

1. Press [ ⌨ ] button to enter menu.

2. Press [ ▲ or ▼ ] key to enter message, and then press the [ ⌨ ] button to select.

3. Press [ ▲ or ▼ ] to Quick Text, and then press the [ ⌨ ] button to select.

4. Press [ ▲ or ▼ ] to required Quick Text, and then press the [ ⌨ ] button to select.

5. A flashing cursor appears,using keyboard to input messages. Press [ ◀ ] key to move left, press [ ▶ ] key to move right,when editing area have contents,press [ ⌨ ] key to delete any useless characters, otherwise return to the previous menu when there is no content.

6. After writing the message, press [ ⌨ ] button to select Send or Save or Clear.

7. During editing, you can switch the input method by pressing [#] key.

8. After selecting Send, press [ ▲ or ▼ ] key to desired alias or ID, and then press [ ⌨ ] button to select.

Or press [ ▲ or ▼ ] key to manual dial, then press  [ ⌨ ] button to select, enter user ID and press [ ⌨ ] button.

9. The screen displays the message: <user / group alias or ID> to confirm that the message is being sent.

10. If the message is sent successfully, a beep will sound and the screen shows message is sent successfully.

Or if the message is not sent, a loud tone beeps, and the screen displays a message sending failure. If the message is not sent, radio returns to the retransmission selection screen.

## Use a one-touch call key to send quick text

1. Send a pre-made SMS to a predefined alias or ID by preprogramming one-touch call key.

2. The screen displays message: <user / group name or ID>,confirm that the message is being sent.

3. If the message is sent successfully, a beep will sound and the screen shows message is sent.

Or if you can not send text messages, screen displays failed to send message. If message failed to send, radio returns to the retransmission selection screen.

## Manage failed text messages

In the retransmission selection screen, you can choose from the following options:

• Resend
• Forward
• edit
Resend text messages
1. Press [ ⌨ ] to resend the same message to the same user / group name or ID.
2. If the message is sent successfully, a beep will sound, and the screen displays the message
    has been sent or if you can not send the message, the screen displays failed to send message.

## Forward text messages
Select Forward a text message to another user / group name or ID.
1. Press [ ▲ or ▼ ] key to forward, and then press [ ⌨ ] button to select.
2. Press [ ▲ or ▼ ] key to the desired alias or ID, and then press [ ⌨ ] button to select.
Or press [ ▲ or ▼ ] key to manual dial, then press [ ⌨ ] button to select, enter user ID
and press [ ⌨ ] button.
3. The screen displays message: <user / group name or ID> to confirm that the message is
    being sent.
4. If the message is sent successfully, a beep will sound, and screen displays the message
    has been sent or if you can not send the message, a beep will sound,the screen displays
    failed to send message.

## Editing messages
Select Edit to edit a text message before sending a text message.
Note: You can not edit the subject line if you have a subject line (a text message received
from an e-mail program).

1. Press [ ▲ or ▼ ] key to edit, and then press [ ⌨ ] button to select.
2.A flashing cursor appears,using keyboard to input messages. Press [ ◀ ] key to move
    left, press [ ▶ ] key to move right,when editing area have contents,press [ ⌨ ] key to
    delete any useless characters, otherwise return to the previous menu when there is no
    content.
3. After writing the message, press [ ⌨ ] button to select Send or Save.
4. During editing, you can switch the input method by pressing [#] key.
5. After selecting Send, press [ ▲ or ▼ ] key to desired alias or ID, and then press [ ⌨ ]
    button to select.
Or press [ ▲ or ▼ ] key to manual dial, then press [ ⌨ ] button to select, enter user ID
and press [ ⌨ ] button.
6. The screen displays the message: <user / group alias or ID> to confirm that the message
    is being sent.
7. If the message is sent successfully, a beep will sound and the screen shows message is
    sent successfully.
Or if the message is not sent, a loud tone beeps, and the screen displays failed to send
message.

## Manage text messages sent
    Once message is sent to another radio, it will be saved to "Outbox". Messages sent after
sending are always added to the top of the Outbox list. Outbox folder can store up to 16
recently sent messages. When the folder is full, the next sent message will automatically
replace earlier massages in this folder.

Note: Pressing [ 🔳 ] button at any time can return to the previous screen.

## View sent text messages
Use menu :
1. Press [ 🔳 ] button to enter menu mode.
2. Press [ 🔼 or 🔽 ] key to enter message, and then press [ 🔳 ] button to select.
3. Press [ 🔼 or 🔽 ] key to Outbox, and then press [ 🔳 ] button to select.
4. Press [ 🔼 or 🔽 ] key to the desired message, and then press [ 🔳 ] button to select.
   The icon in the upper right corner of the screen indicates the status of the message.

## Send a sent message
When viewing a text message, you can choose from the following options:
• Resend
• Forward
• Edit
• Delete
1. While viewing message, press [ 🔳 ] button again.
2. Press [ 🔼 or 🔽 ] key to resend, and then press [ 🔳 ] button to select.
3. The screen display sent to: <user / group alias or ID>, confirming that the same message
   is being sent to same target radio.
4. If the message is sent successfully, a beep will sound and screen shows message is sent.
Or if message is not sent, a loud tone beeps, and the screen displays failed to send message.
If message is not sent, radio returns to the resend screen. Press [ 🔳 ] to resend message
to the same user / group name or ID.

Note: In addition to pressing [ 🔳 ], [ 🔼 or 🔽 ] key, if you press PTT or side key, it will return to exit. When you press [PTT] button to initiate a single call or group call, or respond to group call, radio will exit resend selection screen. If you receive a text message or remote sensing telemetry information, emergency call or alarm, or receive a call prompt, radio will also exit resend selection screen. If you press [PTT] key to respond to a single call (except when radio is displaying a missed call screen), or when all call ends, screen display returns to resend selection screen. Press [ 🔼 or 🔽 ] key to enter the Forward, Edit, or Delete selection screen.
• Select Forward to send selected messages to other groups / user aliases or IDs.
• Select Edit to edit the selected message before sending it.
• Select Delete to delete the selected message.
Use menu function:
1. Press [ 🔳 ] button to enter menu mode.
2. Press [ 🔼 or 🔽 ] key to enter message, and then press [ 🔳 ] button to select.
3. Press [ 🔼 or 🔽 ] key to Outbox, and then press [ 🔳 ] button to select.
4. Press [ 🔼 or 🔽 ] key to delete all, and then press [ 🔳 ] button to select.
5. Press [ 🔳 ] button to delete message. Select "Yes" to display sent messages is cleared.
When message is deleted, press [ 🔼 or 🔽 ] to No, and press [ 🔳 ] to return to previous screen. When you select "Outbox" but there is no text message, screen will show the list is empty, at this time if keyboard tone is open, it will sound a low tone .

## Receive text messages
When your radio receives a text message, the tone sounds, screen displays short message icon.

## View message

1. Press [ ▭ ] button to enter menu mode, press [ ▲ or ▼ ] key to message, press [ ▭ ] button to select Inbox, and press [ ▭ ] key to select Inbox list.

2. The selected message in the Inbox opens.

3. Press [ ▭ ] button to return to Inbox.

Or press [ ▭ ] to reply, forward or delete message.

Press [ ▲ or ▼ ] to reply or forward or delete selection screen:

• Select Reply to reply messages and select Forward to forward messages.

• Select Delete to delete received messages.

## Manage received messages

Use Inbox to manage messages. Inbox can store up to 16 text messages.

Radio support the following message options:

• Reply

• Forward

• Delete

• Delete all

Store the messages in your inbox in the order you received recently.

Note: Pressing [ ▭ ] button at any time can return to the previous screen.

## Check messages in your inbox

1. Press [ ▭ ] button to enter menu mode.

2. Press [ ▲ or ▼ ] key to enter message, and then press [ ▭ ] button to select.

3. Press [ ▲ or ▼ ] key to the Inbox, and then press [ ▭ ] button to select.

4. Press [ ▲ or ▼ ] key to view message. If message comes from an e-mail program, a subject line will appear.

5. Press [ ▭ ] button to select current message, and then press [ ▭ ] button again to reply, delete or forward the message.

Unread messages ✉ ;Already read message ✉ .

## Reply messages in your Inbox

Use menu function:

1. Press [ ▭ ] button to enter menu mode.

2. Press [ ▲ or ▼ ] key to message, and then press [ ▭ ] button to select.

3. Press [ ▲ or ▼ ] key to Inbox, and then press [ ▭ ] button to select.

4. Press [ ▲ or ▼ ] key to desired message, and then press [ ▭ ] button to select.

5. Press [ ▭ ] button again to enter the submenu.

6. Press [ ▲ or ▼ ] key to reply, and then press [ ▭ ] button to select.

7. Press [ ▲ or ▼ ] key to write message, then press [ ▭ ] button to select, the flashing cursor appears, and use your keyboard to edit your message.

Or press [ ▲ or ▼ ] to enter quick text, and then press [ ▭ ] button to select. Select desired message and press [ ▭ ] button, flashing cursor appears. If necessary, use your keyboard to edit your message.

8. After writing message, press [ ▭ ] button.

9. The screen displays message: <user / group name or ID> to confirm that the message is being sent.

10. If message is sent successfully, a beep will sound and screen shows message is sent. Or if you can not send text messages, the screen displays failed to send message. If the message is not sent, radio returns to resend selection screen.

## Delete messages in the Inbox

Use menu function:

1. Press [ 🔲 ] button to enter menu mode.
2. Press [ 🔼 or 🔽 ] key to message, and then press [ 🔲 ] button to select.
3. Press [ 🔼 or 🔽 ] key to Inbox, and then press [ 🔲 ] button to select.
4. Press [ 🔼 or 🔽 ] key to desired message, and then press [ 🔲 ] button to select.
5. Press [ 🔲 ] button again to enter the submenu.
6. Press [ 🔼 or 🔽 ] key to delete, and then press [ 🔲 ] button to select.
7. When radio shows delete massage, press [ 🔼 or 🔽 ] key to "YES", and then press [ 🔲 ] button to select.
8. Screen shows message is delete.
9. The screen returns to Inbox.

## Delete all messages in your inbox

Use menu function:

1. Press [ 🔲 ] key to enter the menu mode.
2. Press [ 🔼 or 🔽 ] to message, and then press [ 🔲 ] button to select.
3. Press [ 🔼 or 🔽 ] key to Inbox, and then press [ 🔲 ] button to select.
4. Press [ 🔼 or 🔽 ] key to delete all, and then press [ 🔲 ] button to select.

5. When radio shows delete all, press [ 🔼 or 🔽 ] key to YES, and then press [ 🔲 ] button to select.
6. The screen display Inbox has been cleared.
When you select "Inbox" but there is no text message, the screen will show that list is empty.

## Encryption

If this function is enabled, it is helpful to prevent other users on the channel from eavesdropping by unauthorized use of software encryption. The transmitted signaling and user identification sections are not encrypted. Your radio must enable encryption on the channel to send encrypted transmissions, even if it is not necessary to receive this.

## Basic Encryption

Digital channels, radio can only be assigned one of the above encryption type. To decrypt an encrypted call or a data transmission, preprogrammed radio and launch radio must have same "encryption key" (suitable for basic encryption).
If your radio receives an encrypted call with a different encryption key or a different key value and key ID, you will hear a messy sound (basic encryption).
Press the preprogrammed encryption key to turn encryption on or off.

## DTMF

Analog channels, Dual Tone Multi-Frequency function allows operate radio in a radio system with interference.
To initiate a DTMF call

1. Press and hold [PTT] button.

2. Enter the desired number.

## Secrecy

You can activate or kill any radio in the system. For example, you might want to disable a stolen radio, prevent thieves from using it, and enable it when you get it back.

Note: The implementation of radio kill or activation is limited to radio that have open (software preset) this function.

## Radio Disable(Digital mode)

Use menu mode

1. Press [ 🔲 ] key to enter the menu mode.

2. Move [ 🔼 or 🔽 ] key to Contacts, and then press [ 🔲 ] key to select, entries are in alp-
   habetical order.

3. Move [ 🔼 or 🔽 ] key to the required alias or ID, and press [ 🔲 ] key to select.

Or move [ 🔼 or 🔽 ] key to Manual Dial, then press twice [ 🔲 ] key to enter a user alias or ID, and press [ 🔲 ] key to select.

4. Move [ 🔼 or 🔽 ] key to radio disable, and then press [ 🔲 ] key to select.

5. The display shows the radio disable: <user alias or ID> and the LED indicator light is red.

6. Wait for confirmation.

7. If successful, emit a beep and the screen displays radio disable successfully.

Or if it fails, emit a beep and the screen displays radio fail to disable.

During radio disable operation, do not press the [ 🔲 ] key, because you will not get a confirmation message.

## Radio Enable(Digital mode)

Use menu function:

1. Press [ 🔲 ] key to enter the menu mode.

2. Move [ 🔼 or 🔽 ] key to Contacts, and then press [ 🔲 ] key to select, entries are in alp-
   habetical order.

3. Move [ 🔼 or 🔽 ] key to the required alias or ID, and press [ 🔲 ] key to select.

Or move [ 🔼 or 🔽 ] key to Manual Dial, then press twice [ 🔲 ] key to enter a user alias or ID, and press [ 🔲 ] key to select.

4. Move [ 🔼 or 🔽 ] key to radio enable, and then press [ 🔲 ] key to select.

5. The display shows the radio enable: <user alias or ID> and the LED indicator light is red.

6. Wait for confirmation.

7. If successful, emit a beep and the screen displays radio enable successfully.

Or if it fails, emit a beep and the screen displays radio fail to enable.

During radio enable operation, do not press the [ 🔲 ] key, because you will not get a co-nfirmation message.

## Scan list

Note: Scanning function should be used when double wait is closed!

Create a scan list and assign it to a single channel / group, and your radio can support up to 16 scan lists, up to 16 members per list.

Each scan list supports mixing of analog and digital channels. You can add / remove channels or set priorities for channel by editing scan list.

## View members in scan list

1. Press [ ▲ or ▼ ] to select a channel with a preprogrammed scan list;
2. Press [ ▭ ] button to enter menu mode;
3. Press [ ▲ or ▼ ] key to scan, and then press [ ▭ ] button to select;
4. Press [ ▲ or ▼ ] key to view / edit list, and then press [ ▭ ] button to select;
5. Use [ ▲ or ▼ ] key to view members in the list.

If priority is set, scan icon distinction display, priority 1 ⺕. or priority 2 ⺕: , no priority ⺕ when scan is on

## Scan instructions and methods

When you start scanning, your radio through cycling of pre-programmed scan list to see whether there is voice activity in the current channel. The LED flashes orange and scan icon appears on the screen.

During a dual mode scan, if you are on a digital channel and your radio locks an analog channel, it will automatically switch from digital mode to analog mode throughout the duration of the call. vice versa.

Two scanning methods:

• Manual scan: Start scanning according to preprogrammed scan on / off key or menu function, radio will detect all channels / groups in preset scan list when scanning is initiated.

• Auto Scan: When you select a channel / group that has activated Auto Scan, radio starts scanning from the channel that activated auto scan.

## Start and stop scanning

Press preprogrammed scan on / off key or enter scan menu function

1. Press [ ▲ or ▼ ] to select a channel with a preprogrammed scan list;
2. Press [ ▭ ] button to enter menu mode;
3. Press [ ▲ or ▼ ] key to scan, and then press [ ▭ ] button to select;
4. If scan is disabled, screen displays on or if scan is activated, screen displays off;
5. Press [ ▭ ] button to select.
6. When scan is activated, LED flashes red and scan icon is displayed; or when scan is disabled,LED is off and scan icon is not displayed.

## Scan reply

Scanning when radio detects an active channel / talk group, radio remains in the channel / group, which is called "scan hang time" of preprogrammed time limit.

Process:

1. Hold radio in a vertical position and keep it at a distance of 1 to 2 inches (2.5 to 5.0 cm) from the mouth. If "channel free indication tone" function is enabled, the receiver will hear a short beep when [PTT] button is released by the launch radio, indicating that the channel

is idle and waiting for a reply.

2. Press [PTT] key during hang time, and LED indicator will be on red.

3. Release [PTT] key to receive.

4. If you do not respond within hang time, radio continues to scan down.

## Set

Set include the following:

### Radio Set

• CTCSS/DCS(Analog channel)

• Squelch

• TX Power(Programmable in software)

• Talkaround(Programmable in software)

• Band(Analog channel)

• Busy Lock

• TOT

• VOX

• Double Wait(Programmable in software)

• Encrypt(Digital channel)(Programmable in software)

• Power Save

• Beep(Programmable in software)

• Backlight(Programmable in software)

•Keypad Lock(Programmable in software)

• Indocator(Programmable in software)

• Passwd Lock(Programmable in software)

• Mode(Programmable in software)

• Screen(Programmable in software)

• Language

### Radio Info

• Radio ID

• Dev. Info

### Radio Cfg

• RX Freq

• Tx Freq

• Ch Name

• Color Code

• Slot

### Radio Set

### CTCSS/DCS

In analog channels,in order to prevent interference,only match carrier and CTCSS/DCS can open the speaker.Provide 50 groups standard CTCSS, while supporting non-standard CTCSS (range 60Hz ~ 280Hz); provide 104 groups standard DCS, while supporting non-standard non-standard(Range 000 ~ 777Hz) a total of 1024 groups. CTCSS/DCS can be set in receiving CTCSS / DCS or transmitting CTCSS/DCS of analog channel in software, or CTCSS/DCS menu in radio.

| CTCSS | | | | | |
|---|---|---|---|---|---|
| 67.0 | 69.3 | 71.9 | 74.4 | 77.0 | 79.7 |
| 82.5 | 85.4 | 88.5 | 91.5 | 94.8 | 97.4 |
| 100.0 | 103.5 | 107.2 | 110.9 | 114.8 | 118.8 |
| 123.0 | 127.3 | 131.8 | 136.5 | 141.3 | 146.2 |
| 151.4 | 156.7 | 159.8 | 162.2 | 165.5 | 167.9 |
| 171.3 | 173.8 | 177.3 | 179.9 | 183.5 | 186.2 |
| 189.9 | 192.8 | 196.6 | 199.5 | 203.5 | 206.5 |
| 210.7 | 218.1 | 225.7 | 229.1 | 233.6 | 241.8 |
| 250.3 | 254.1 | | | | |

| DCS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 023 | 025 | 026 | 031 | 032 | 036 | 043 | 047 | 051 | 053 |
| 054 | 065 | 071 | 072 | 073 | 074 | 114 | 115 | 116 | 122 |
| 125 | 131 | 132 | 134 | 143 | 145 | 152 | 155 | 156 | 162 |
| 165 | 172 | 174 | 205 | 212 | 223 | 225 | 226 | 243 | 244 |
| 245 | 246 | 251 | 252 | 255 | 261 | 263 | 265 | 266 | 271 |
| 274 | 306 | 311 | 315 | 325 | 331 | 332 | 343 | 346 | 351 |
| 356 | 364 | 365 | 371 | 411 | 412 | 413 | 423 | 431 | 432 |
| 445 | 446 | 452 | 454 | 455 | 462 | 464 | 465 | 466 | 503 |
| 506 | 516 | 523 | 526 | 532 | 546 | 565 | 606 | 612 | 624 |
| 627 | 631 | 632 | 654 | 662 | 664 | 703 | 712 | 723 | 731 |
| 732 | 734 | 743 | 754 | | | | | | |

Use menu function:

1. Press [ ⌨ ] button to enter menu mode.

2. Press [ ▲ or ▼ ] key to "Set", and then press [ ⌨ ] button to select Radio Set.

3. Press [ ▲ or ▼ ] key to "CTCSS/DCS", then press [ ⌨ ] button to select "C CDC/DCS" and press [ ] button to select. Press [ ▲ or ▼ ] key to select standard CTCSS/DCS, press [*] key to switch CTCSS and DCS.Press [#] key to switch positive and negative DCS in DCS, N is positive, I is negative. Press [ ⌨ ] button to select, but also through keyboard number keys to enter Non-standard CTCSS/DCS, press [ ⌨ ] button to confirm. Press [ ⌨ ] button to cancel and return previous menu.

If in special circumstances your encoding and decoding requirements are different,you can set separately "R CDC/DCS" and "T CDC/DCS", same way as above.

4. Press continuously [ ⌨ ] to return to the main interface.

Contents set will be saved permanently, contents after turn off radio is not lost.

## Set Squelch level

You can adjust radio squelch level, filter useless calls with low signal , or channels with background noise higher than normal values. Settings: Normal is default, strict filtering (useless) calls or background noise. However, calls from remote locations may also be filtered out.

Press preprogrammed strict / normal squelch key to switch between normal and strict squelch level.

Use menu function:

1. Press [ ⌨ ] button to enter menu mode.

2. Press [ ▲ or ▼ ] key to set, then press [ ⌨ ] button to select radio set.

3. Press [ ▲ or ▼ ]key to squelch, and then press [ ⌨ ] button to select.

4. Press [ ▲ or ▼ ] key to select Strict or Normal, and then press [ ⌨ ] button to select.

5. Press continuously [ ⌨ ] to return to main screen.

## Set Power Level

You can set radio power level for each channel high or low.

Set: high power to achieve relatively far away from radio communication. Low power to achieve communication with nearest radio.

Press preprogrammed high / low power select key to switch transmit power level between high and low.

Use menu function:

1. Press [ ⌨ ] button to enter menu mode.

2. Press [ ▲ or ▼ ] key to set, then press [ ▭ ] button to select radio set.

3. Press [ ▲ or ▼ ]key to Power Level, and then press [ ▭ ] button to select.

4. Follow screen instructions to change current settings.

5. Press [ ▭ ] button to select new power level.

6. Press continuously [ ▭ ] to return to the main screen, screen displays power level icon.

## Talkaround

   You can continue to communicate when repeater does not work or when radio is outside range of repeater but is within range of other radios. This is so-called "talkaround".
   Press preprogrammed repeater / talkaround key to switch between two modes.

Use menu function:

1. Press [ ▭ ] button to enter menu mode.

2. Press [ ▲ or ▼ ] key to set, then press [ ▭ ] button to select.

3. Press [ ▲ or ▼ ]key to Radio Set, and then press [ ▭ ] button to select.

4. Press [ ▲ or ▼ ]key to Talkaround, and then press [ ▭ ] button to select.

5. Press continuously [ ▭ ] button to return to main interface.Screen displays " ↦ " to show talkaround is on.

Even after shutdown, radio still maintain talkaround setting.

## Wide and narrow band

In analog mode, channel bandwidth set to narrow band (12.5kHz) and wide band (25kHz) for transmit and receive frequencies.

Use menu function in analog channels

1. Press [ ▭ ] button to enter menu mode.

2. Press [ ▲ or ▼ ] key to set, then press [ ▭ ] button to select.

3. Press [ ▲ or ▼ ]key to Band, and then press [ ▭ ] button to select.

4. Press [ ▲ or ▼ ]key to Narrow or Wide band, and then press [ ▭ ] button to select.

5. Press continuously [ ▭ ] button to return to main interface.

Even after shutdown, radio still maintain Wide/Narrow band setting.

## Busy Lock

Settings: "Off" / "Carry" / "QT / CC"

Select "Carry" when carry is matched and reach to open squelch threshold ,press PTT to prohibit and send busy tone;

Select "QT / CC", when carry is matched and reach to open squelch threshold  and does not match QT / CC, press PTT to prohibit and send busy tone.

1. Press [ ▭ ] button to enter menu mode.

2. Press [ ▲ or ▼ ] key to set, then press [ ▭ ] button to select.

3. Press [ ▲ or ▼ ]key to Busy Lock, and then press [ ▭ ] button to select.

4. Press [ ▲ or ▼ ]key to Off or Carry or QT / CC, and then press [ ▭ ] button to select.

5. Press continuously [ ▭ ] button to return to main interface.

Even after shutdown, radio still maintain Busy Lock setting.

## TOT

1. Press [ ▭ ] button to enter menu mode.

2. Press [ ▲ or ▼ ] key to set, then press [ ▭ ] button to select.

3. Press [ ▲ or ▼ ]key to TOT, and then press [ ▭ ] button to select.

4. The screen shows OFF, 15S, 30S ... 495S and other options (with the increasing amplitude

of 15s).Press [ ▲ or ▼ ] key to corresponding option, and then press [ ⌨ ] button to select. If "OFF" is selected, TOT is closed. If you select other options, screen displays .. S has been selected.

## VOX

This feature allows you to initiate hands-free voice calls on a preprogrammed channel. When microphone on the accessory with VOX function detects the voice, radio automatically launches signal during the preprogrammed time period.

During operation of radio, pressing [PTT] key disables VOX function. To re enable VOX function, do one of following actions:

• turn off and return on radio, or

• change channels via channel knobs, or

• Perform the following procedure:

Note: Enabling or disabling this feature is limited to the radio that activates these features.

Press pre-programmed VOX on/off key to turn this function on or off.

Use menu

1. Press [ ⌨ ] button to enter menu mode.
2. Press [ ▲ or ▼ ] key to set, then press [ ⌨ ] button to select.
3. Press [ ▲ or ▼ ]key to VOX, and then press [ ⌨ ] button to select.
4. The screen shows on and off.If you select Off, press [ ⌨ ] button to disable VOX function.

If you select On, enable VOX function.Press continuously [ ⌨ ] to return to main interface.

Microphone icon in icon bar indicates that Vox is turned on

## Double Wait

Double wait can be set through radio menu, you can also set in "menu option" in software.

Use menu

1. Press [ ⌨ ] button to enter menu mode.
2. Press [ ▲ or ▼ ] key to set, then press [ ⌨ ] button to select.
3. Press [ ▲ or ▼ ]key to Double Wait, and then press [ ⌨ ] button to select.
4. Screen shows Off/Double Wait/Single Wait.When choose off,radios works under single band mode.When single wait is selected, radio operates on the main channel, and sub-channel does not receive the signal.  When double wait is selected, main channel and sub-channel receiving scan one by one.

When scanning effective reception of the signal, radio locked and work.If channel locked is not main channel, ➡ points to the temporary working channel, then press PTT, temporary Channel transmit.Timing time is up, ➡ icon disappears. No temporary icon, press PTT , ➡ point to the main channel transmission.Press continuously [ ⌨ ] to return to main interface and display the corresponding status.

## Encrypt

In digital mode, communication voice secret switch. When encryption  is on, only two-party radios matching encryption key can communicate.

Use menu

1. Press [ ⌨ ] button to enter menu mode.
2. Press [ ▲ or ▼ ] key to set, then press [ ⌨ ] button to select.
3. Press [ ▲ or ▼ ]key to Encrypt, and then press [ ⌨ ] button to select on/off.
4. Press [ ⌨ ] to confirm and press continuously [ ⌨ ] to return to main interface.

## Power Save

Power saving, the default ratio is 1: 4. Radio will open power saving function after 10 seconds be in stansby mode.

1. Press [ 🖮 ] button to enter menu mode.
2. Press [ ▲ or ▼ ] key to set, then press [ 🖮 ] button to select.
3. Press [ ▲ or ▼ ]key to Power Save, and then press [ 🖮 ] button to select on/off.
4. Press [ 🖮 ] to confirm and press continuously [ 🖮 ] to return to main interface.

## Beep

including following
• All Tone
• Call Permit
• Key Beep

All tone

If desired, you can enable or disable all radio tones and prompts (except for incoming emergency tones).

Press preprogrammed beeps on / off key to turn on or off all tones of radio.

Use Menu

1. Press [ 🖮 ] button to enter menu mode.
2. Press [ ▲ or ▼ ] key to set, then press [ 🖮 ] button to select.
3. Press [ ▲ or ▼ ]key to Beep, and then press [ 🖮 ] button to select.
3. Press [ ▲ or ▼ ]key to All Tone, and then press [ 🖮 ] button to select.
5. Press [ 🖮 ] button to select On to enable all tones and hints, and  screen shows that all tones are on.

Or press [ 🖮 ] button to select Off, all tones and prompts are turned off and screen shows all tones off. Press continuously [ 🖮 ] to return to main interface.

## Turn on/off Key Beep

Use Menu

1. Press [ 🖮 ] button to enter menu mode.
2. Press [ ▲ or ▼ ] key to set, then press [ 🖮 ] button to select.
3. Press [ ▲ or ▼ ]key to Beep, and then press [ 🖮 ] button to select.
3. Press [ ▲ or ▼ ]key to Key Beep, and then press [ 🖮 ] button to select.
5. Press [ 🖮 ] button to select On to enable key beep.Or press [ 🖮 ] button to select Off, key beep are turned off. Press continuously [ 🖮 ] to return to main interface.

## Backlight

You can turn on or off screen backlight as needed. This setting also affects menu key and keyboard backlight.

Press preprogrammed backlight key to switch backlight setting.

Use Menu

1. Press [ 🖮 ] button to enter menu mode.
2. Press [ ▲ or ▼ ] key to set, then press [ 🖮 ] button to select radio set.
3. Press [ ▲ or ▼ ]key to Backlight, and then press [ 🖮 ] button to select.
4. The screen displays Always On, 5 sec, 10 sec, 15 sec option. Press [ 🖮 ] button to select Always On, screen backlight will always be lit and will not turn off. Or if you choose 5 sec, 10 sec, 15 sec, screen will be off in the corresponding time after users no operation. Press continuously [ 🖮 ] to return to main interface.

## Keypad Lock

You can lock radio keyboard to prevent accidental key input. Ways Includes manual keyboard lock and automatic keyboard lock, Automatic keyboard lock includes 5 sec, 10 sec, 15 sec three time options.

Use Menu

1. Press [ 🖮 ] button to enter menu mode.
2. Press [ 🔼 or 🔽 ] key to set, then press [ 🖮 ] button to select.
3. Press [ 🔼 or 🔽 ]key to Keypad Lock, and then press [ 🖮 ] button to select.
4. Press [ 🔼 or 🔽 ] key to Manual,then press [ 🖮 ] button to select.Screen display Select Manual, you need to long press [*] key to lock the keypad.
5. Press [ 🔼 or 🔽 ] to select 5 sec, 10 sec, 15 sec, screen displays to select the corresponding time.The within the corresponding time,if users have notany keyboard operation, the screen display lock, return to main screen.
7. To unlock keypad, press [ 🖮 ] button, and then press [*] key. Press continuously [ 🖮 ] to return to main interface.

## Indicator

If needed, you can turn on/off LED indicator.

1. Press [ 🖮 ] button to enter menu mode.
2. Press [ 🔼 or 🔽 ] key to set, then press [ 🖮 ] button to select radio set.
3. Press [ 🔼 or 🔽 ]key to indicator, and then press [ 🖮 ] button to select.
4. Screen displays on, press [ 🖮 ] button to enable LDE indicator, screen shows indicator on. Or Screen displays off, press [ 🖮 ] button to turn off LED indicator, screen shows indicator

off. Press continuously [ 🖮 ] to return to main interface.

## Passwd Lock

1. Press [ 🖮 ] button to enter menu mode.
2. Press [ 🔼 or 🔽 ] key to set, then press [ 🖮 ] button to select radio set.
3. Press [ 🔼 or 🔽 ] key to Passwd Lock, and then press [ 🖮 ] button to select.
4. Use keypad to enter correct 6-digit password (also cen be preset in software), then press [ 🖮 ] button.
5. If password is incorrect, screen displays Password Error. If password is correct, selection option is displayed.
6. If the first line shows "On", press [ 🖮 ] button to turn on password lock, next time you need to enter correct password to turn on radio. If the first line shows "off", press [ 🖮 ] button to turn off password lock, next time you turn on the radio directly.
7. Press [ 🔼 or 🔽 ] key to change Pwd, and then press [ 🖮 ] button to select.
8. Enter new password below 6 digits and press [ 🖮 ] button to select.
9. Screen shows set Succeed. Press continuously [ 🖮 ] to return to main interface.

## Mode

Mode settings are divided into:
• CH. No.: Displays channel number
• CH Name: Displays channel name
• CH Frequency: Displays channel frequency
1. Press [ 🖮 ] button to enter menu mode.

2. Press [ ▲ or ▼ ] key to set, then press [ ⬛ ] button to select radio set.

3. Press [ ▲ or ▼ ] key to Mode, and then press [ ⬛ ] button to select.

4. Press [ ▲ or ▼ ] key to select CH. No.or CH Name or CH Frequency, and then press [ ⬛ ] button to select the corresponding display mode.  Display show corresponding mode is selected.

5. The main interface will display CH. No.or CH Name or CH Frequency(reception frequency, PTT display transmission frequency) according to the selected mode. Press continuously [ ⬛ ] to return to main interface.

## Screen

If necessary, you can enable and disable screen display.

1. Press [ ⬛ ] button to enter menu mode.

2. Press [ ▲ or ▼ ] key to set, then press [ ⬛ ] button to select radio set.

3. Press [ ▲ or ▼ ] key to Screen, and then press [ ⬛ ] button to select.

4. Press [ ⬛ ] button to select Picture or Character. When Picture is selected, the picture will be displayed when turn on radio. When the preset characters is selected, two lines of characters preset in software are displayed. Press continuously [ ⬛ ] to return to main interface.

## Language

Radios supports the following languages:

• English

• Chinese

1. Press [ ⬛ ] button to enter menu mode.

2. Press [ ▲ or ▼ ] key to set, then press [ ⬛ ] button to select radio set.

3. Press [ ▲ or ▼ ] key to Language, and then press [ ⬛ ] button to select.

4. Press [ ▲ or ▼ ] key to corresponding Language,, and then press [ ⬛ ] button to select.

5. The screen switches and displays the corresponding language.Press continuously [ ⬛ ] to return to main interface.

## Radio Info

• Radio ID

• Dev. Info

Note: Pressing [ ⬛ ] button at any time can return to previous screen.

Radio Info

1. Press [ ⬛ ] button to enter menu mode.

2. Press [ ▲ or ▼ ] key to Radio Info, then press [ ⬛ ] button to select.

3. Press [ ▲ or ▼ ] key to Radio ID, and then press [ ⬛ ] button to select.

4. The screen displays radio ID and name, which can only be checked and cannot set.

## Dev. Info

including following contents:

• Model information: radio model No.

• Serial number: radio identity code

• CPS version: software version

• Hardware version: Hardware version number

• Firmware version: CPU software version
• DSP version: Digital chip baseband version number
• Programming time: the last writing time
1. Press [ ▭ ] button to enter menu mode.
2. Press [ ▲ or ▼ ] key to Radio Info, then press [ ▭ ] button to select.
3. Press [ ▲ or ▼ ] key to Dev. Info, and then press [ ▭ ] button to select.
4. Press [ ▲ or ▼ ] key to view model information, serial number, CPS version, hardware version, firmware version, DSP version, and programming time. Press continuously [ ▭ ] to return to main interface.

## Radio Cfg
Radio configuration is mainly to edit the channel content
Editable channel content includes:
• Rx Freq
• Tx Ferq
• Ch Name
• Color code
• Slot
• Dual time slot for point to point

## Rx Freq
1. Press [ ▭ ] button to enter menu mode.
2. Press [ ▲ or ▼ ] key to Radio Cfg, then press [ ▭ ] button to select.

3. Press [ ▲ or ▼ ] key to Rx Freq, and then press [ ▭ ] button to select.
4. The screen displays the current channel reception frequency, and then press [ ▭ ] button to select.
5. Press [ ▭ ] button to delete, press [ ◄ ] key to move one digit left, press [ ► ] to move one digit right, press [*] to delete all, delete all and press [ ▭ ] to return to the previous menu. Press number keys to enter the corresponding number.
6. After the change is complete, press [ ▭ ] button, the screen displays "Rx Freq success".
Note: When editing frequency, the frequency will be changed according to the frequency range preset on software. If exceed the frequency range preset on software, show "illegal modification value is invalid" and return.

## Tx freq
1. Press [ ▭ ] button to enter menu mode.
2. Press [ ▲ or ▼ ] key to Radio Cfg, then press [ ▭ ] button to select.
3. Press [ ▲ or ▼ ] key to Tx Freq, and then press [ ▭ ] button to select.
4. The screen displays the current channel transmit frequency, and then press [ ▭ ] button to select.
5. Press [ ▭ ] button to delete, press [ ◄ ] key to move one digit left, press [ ► ] to move one digit right, press [*] to delete all, delete all and press [ ▭ ] to return to the previous menu. Press number keys to enter the corresponding number.
6. After the change is complete, press [ ▭ ] button, the screen displays "Tx Freq success".
Note: When editing frequency, the frequency will be changed according to the frequency range preset on software. If exceed the frequency range preset on software, show "illegal modification value is invalid" and return.

## Ch Name

1. Press [ ⌧ ] button to enter menu mode.

2. Press [ ▲ or ▼ ] key to Radio Cfg, then press [ ⌧ ] button to select.

3. Press [ ▲ or ▼ ] key to Ch Name, and then press [ ⌧ ] button to select,screen displays the current channel name.

4. Press [ ⌧ ] button to delete, press [ ◄ ] key to move one digit left, press [ ► ] to move one digit right, press [*] to delete all, delete all and press [ ⌧ ] to return to the previous menu. Press number keys to enter the corresponding number.

5. After the change is complete, press [ ⌧ ] button, the screen displays "Ch Name success".

## Color Code

Color code can only be set in digital channels.

1. Press [ ⌧ ] button to enter menu mode.

2. Press [ ▲ or ▼ ] key to Radio Cfg, then press [ ⌧ ] button to select.

3. Press [ ▲ or ▼ ] key to Color Code, and then press [ ⌧ ] button to select.

4. Press [ ▲ or ▼ ] key to select color code value to be set, and then press [ ⌧ ] button to select. Screen display color code X (selected color code value) has been selected.

Note:Double wait and the main channel to open dual capacity direct mode, the main channel locked after the first 4.5 minutes will send synchronization code, and in the channel stay about 3S-5S to determine whether the other party received the synchronization code.

1.After no receiving any signal, after 3S-5S the launch of the synchronization code ,radio re-enter double wait switch

2.Only after 5S current channel has received a signal or actively transmit , radio re-enter the double wait switch

3.If the radio sending synchronization code and the call radio are not the same frequency band,It takes 8-10S.

## Slot

1. Press [ ⌧ ] button to enter menu mode.

2. Press [ ▲ or ▼ ] key to Radio Cfg, then press [ ⌧ ] button to select.

3. Press [ ▲ or ▼ ] key to Slot, and then press [ ⌧ ] button to select.

4. Press [ ▲ or ▼ ] key to select slot value to be set, and then press [ ⌧ ] button to select. Screen display slot X (selected slot value) has been selected.

Note: Dual Capacity Direct Mode(dual time slot for point to point) can be set on or off in digital channel of software. This mode supports parallel direct mode transmission of two groups of radio users, both in the 12.5 kHz channel bandwidth. Same group radios must use same time slot, the group using slot 1 will not interfere with the group using slot 2.

## Special function

Online update

1. Turn off radio, insert programming cable;

2. Hold down side key 1 and side key 2 at the same time to turn on radio, the indicator light green, indicating that radio has entered the upgrade mode;

3. Start upgrade software "Update.exe"; select the corresponding serial port;

4. Click "Browse" to select the file to be upgraded (provided by the manufacturer), for example: XX_V2.2.1.sgl;

5. Click "Download" until the download is successful, remember that when updating,prohibit
   power off, or radio single machine scrapped;
6. Unplug programming cable, turn off radio or reboot radio

Factory Reset Defaults
Turn off radio and press and hold side key 1 and number key [1] at the same time to turn on
radio.Radio displays "Memory Reset?" Press [▣] key to enter the initialization, radio displays
 "Memory Reset ..." After 10 seconds, initialization is successful and normal boot; press other
keys to exit  initialization interface and normal boot.When initialization,prohibit power off, or
otherwise it will cause initialization to fail.

## Specification

### General

| | |
|---|---|
| Frequency range | 136−174/400−470MHz |
| Channel | 1024 |
| Frequency stability | ± 1ppm |
| Operating temperature | −30℃ ~ + 60℃ |
| Voltage | 7.4V DC |

### Receiver

| | |
|---|---|
| Analog sensibility | 0.2 μ V @ 12dB SINAD |
| Digital sensibility | 0.25uV(BER:5%) |
| Adjacent channel selectivity | ≤−60dB@12.5KHz |
| Co-channel rejection | ≥65dB |
| Spurious response | ≥70dB |
| Audio response | +1～−3dB |
| Rated audio distortion | <5% |
| Audio power | 1W |
| Modulation noise | ≥45dB@25KHz /≥40dB @12.5KHz |

## Transmitter

| | |
|---|---|
| Power | High:5W    Low:1W |
| Transmit current | Analog≤1.6A  Digital≤0.9A |
| Standby current | 0.15A |
| FM modulation mode | 11K0F3E @ 12.5KHz  14K0F3E @ 20KHz<br>16K0F3E @ 25KHz |
| 4FSK digital mode | 12.5KHz Data only：7K60FXD<br>12.5kHz Data and voice：7K60FXW |
| Modulation distortion | <5% |
| Hum and noise | ≥45dB@25KHz /≥40dB@12.5KHz |
| Adjacent channel power | ≤−60dB@12.5KHz |
| Audio response | +1～−3dB |
| Antenna port spurious | 9KHz−1GHz:  ≤−36dBm<br>1GHz−12.75GHz:  ≤−30dBm |
| Digital protocol | ETSI−TS102 361−1,−2,−3 |