# Content

## Brief Introduction

Thank you for buying scanning receiver. The goal is to provide cost-effective communication equipment for a variety of business sites and the amateur and supply all fast-paced walks of life with perfect communication solutions.

This product uses amateur frequency ,you need to apply for use to radio management institution of the provinces, cities or autonomous regions .

please read this manual carefully in order to know how to properly operate the radio before use.

## Unpacking and Checking Equipment

**Welcome to use radios, before using we suggest you:**

· Please check the packing box of this product and see if there are signs of damage.

· Please open the packing box carefully. We recommend that you identify the items listed in the following packing list. if you find that our product and its accessories in handling are lost or damaged during the shipment. Please immediately contact dealers.

## Parts List

| Item | Quantity |
|---|---|
| Rubber Antenna | 1 |
| Li-ion Battery Pack | 1 |
| Desktop Charger | 1 |
| Power Adapter | 1 |
| Belt Clip | 1 |
| User's Manual | 1 |
| Warranty Card | 1 |
| Hand Strap | 1 |

# Preparation

## Charging the Battery

### 1. Using the battery

The battery is not completely charged at the factory, please charge it before using.

To extend the battery life time, please power off the battery when you don't use two way radio, and save battery in a cool (temperature less than 25℃ )and dry place.

### 2　Precautions of Charging Equipment

1. Do not expose the charger to rain or snow.

2. Do not operate the charger if it has received a sharp blow, or has been dropped or damaged in any way.

3. Do not disassemble the charger if it has received a sharp blow, or has been dropped or damaged in any way.

4. Never alter the AC cord or plug provided with the unit. If the plug will not fit the outlet, have the proper outlet installed by a qualified electrician. An improper condition can result in a risk of electric shock.

5. To reduce the risk of damage to the cord or plug, pull the plug rather than the cord when disconnecting the charger from the AC receptacle.

6. To reduce the risk of electric shock, unplug the charger from the outlet before attempting any maintenance or cleaning.

7. Use of an attachment not recommended or sold by **JUSTON** may result in a risk of fire, electric shock, or personal injury.

8. Make sure the cord is located so it will not be stepped on, tripped over, or subjected to damage or stress.

9. An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in a risk of fire and/or electric shock. If an extension cord must be used, make sure that:

   •The pins on the plug of the extension cord are the same number, size, and shape as those on the plug of the charger.

   •The extension cord is properly wired and in good electrical condition.

   •The cord size is 18 AWG for lengths up to 100 feet, and 16 AWG for lengths up to 150feet.

10. Do not replace charger's power cord. If the power cord damages, you must stop using charger immediately.

### 3. Charging the Battery

Please use the battery charger designated by to charge battery. After purchase or extended storage (more than two months), the first time to charge battery cannot make battery reach its normal operating capacity. After repeating charge /discharge it two or three times, the operating capacity will increase to its normal capacity.

**4. Please Charge the Radio According to Operation Steps as Follows:**

1. Insert power adapter into power supply socket.

2. Insert output terminal of power adapter into DC jack behind the charging kit, now the charging orange indicator lights about 2 seconds then goes out.

3. Insert the battery or radio equipped with battery into the charging kit.

4. Confirm the battery and charging kit terminal contact reliably, when charging indicator light turns into red and charging starts.

5. After completion of charge (charging time about 5 hours), light turns to be green.

**5. Indicators Display As Following:**

| Status | Indicator |
|---|---|
| Power Connected | Orange light is on about 2 seconds then goes out |
| No battery(temperature end judges) | All go out |
| Charge normally | Red light is on |
| The battery is fully charged | Green light is on |
| Fault (over temperature, battery short circuit or over discharge state) | Red light flashes |

**Note: Before charging, please turn off radio power equipped with battery. When charging, using radio will interfere with normal charge of battery and receiver effect.**

# Basic operations

- **Power On/Off**

  Turn the power switch knob clockwise to turn on radio power; to turn it off ,turn the power switch knob counter-clockwise.

- **Volume Control**

  Turn the volume switch knob clockwise to increase volume; to decrease the volume, rotate the volume switch knob counter-clockwise.
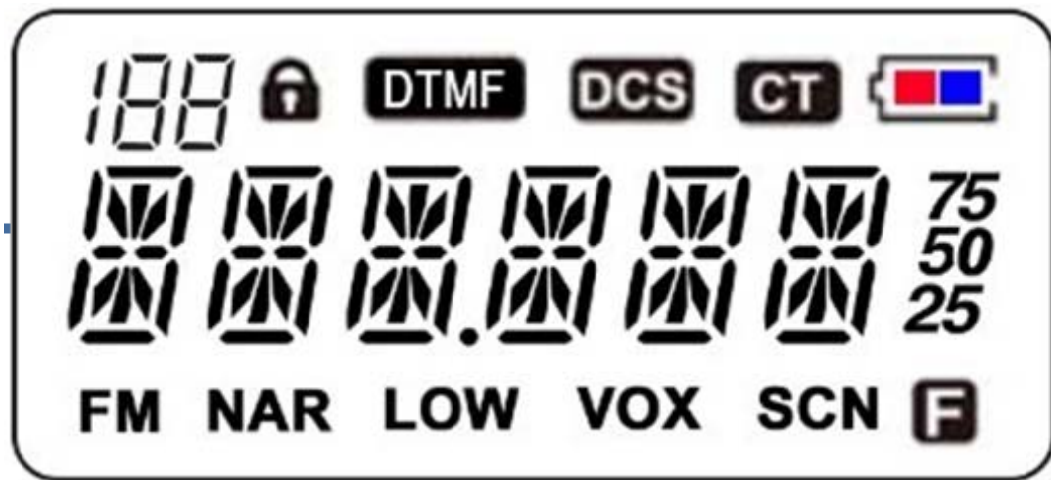
- **RX**

When radio receiving information ,green LED lights .

1) Only same signaling and CTCSS setting can receive information .

2) May not receive any calling if radio is at lower signal and set high level SQL.

3) Local dealer maybe program your radio with CTCSS/DCS . Users can receive the same signaling information if chosen channel with CTCSS/DCS . Or it can not get any calling .

Radio with CTCSS/DCS will help you to ignore ineffective calling. Although there seems special channel for CTCSS/DCS ,radio also can communicate with other radio which programmed the same CTCSS /DCS .

# LCD Icons Instruction



| | Icons | Instructions |
|---|---|---|
| 1 | *188* | Channel/Menu |
| 2 | 🔒 | Key Lock |
| 3 | DTMF | DTMF |
| 4 | DCS | DCS |
| 5 | CT | CTCSS |
| 6 | 🔋 | Battery |
| 7 | FM | FM Radio |
| 8 | NAR | Narrow Band |
| 9 | VOX | VOX |
| 10 | SCN | Scan |
| 11 | F | Function |
| 12 | 75 50 25 | Last Digits at Frequency |

# Program Settings

## Radio Basic Information

### 1) Frequency

Please type in desired frequency value.

### 2) Back to factory default settings

You can initialize factory default settings by program software.

### 3) Delete Channel Group

You can delete the chosen channel by program software .

### 4) Turn On SP

Turn on speaker, you can hear sound from radio when it receives correct signaling.

# ■ Optional Items

### 1)Alarm before TOT

You can set an alert tone sounds from the speaker before TOT is cut.

### 2)Voice Report

Your radio can choose different languages voice report : English ,Chinese ,Off .

### 1) Beeper of Radio Power On

Choose desired beeper to sound when turn on the radio .

### 2) SQL

The purpose of the squelch is to mute the speaker when no signals are present. With the squelch level ( 0-9) correctly set , you will hear sound only while actually receiving signal. The higher the selected squelch level, the stronger the signals must be when receive.  The appropriate squelch level depends on ambient RF noise conditions.

### 3) Key Lock

       1.Long press this key with lock icon .

       2.Auto-lock: Set time to active auto-lock .It will be invalid when turn on radio again .

       3.Auto-lock + memory : Set time to active auto-lock .It will be valid when turn on radio again.

**4) Working Mode**

Frequency:    LCD display frequency value.

Channel:        LCD display channel No.

Frequency +Channel: LCD display both modes .

**5)Frequency Step**

There are 2.5K ,6.25K .........100K for selectable.

**7)Back Light**

Choose to turn on/off backlight and set lighting duration.

**9)Channel Name Display**

Only available at channel mode .

Tick √: Display

Not tick √: No Display

**10)Beeper**

Turn beeper on/off . If turn off beeper ,key tone and power on tone will not be available .

**11)Decode Tail Elimination by Frequency Without CTCSS/DCS Decode**

Tail tone elimination by frequency at channel without CTCSS/DCS decode .

**12)Encode Tail Elimination by Frequency Without CTCSS/DCS Encode**

Tail tone elimination by frequency at channel without CTCSS/DCS encode .

**13)Key Lock**

Enable the key lock function.

**14)UP/DOWN Lock**

Enable UP/DOWN lock function.

**15)Support Non-standard CTCSS and DCS**

Your radio can set any desired non-standard CTCSS and DCS

# Scan

■    **Scan Mode**

According to chosen scan mode ,radio stops or continues to scan.

1）Time Mode: Your radio stops scanning when detecting a signal for some while(approximately 5 seconds).and then continues to scan even if the signal is still present.

2）Carrier Mode: Your radio stops scanning when detecting a signal and remains on the same channel until the signal drops out.

3）Search Mode : Radio stops at the scanned frequency or channel when detecting a signal.

- **Delay Time Between RX and Scanning**

  You can set the time of radio automatically back to scanning after RX .

- **Scanning Beeper On/Off**

  Your radio can turn on/off scanning beeper.

- **Scan Indicator**

  Turn on green light flashes when scanning.

## Battery

- **Battery Save**

The battery saver function decreases the amount of   power used when a signal is not being received and no operations are being performed ( no keys are being and no switches are being turned ). But when your radio receives information first time ,the delay time will be longer .

- **Low Battery Beeper Type**

You can choose the desired beeper for low battery alert.

- **Low Battery Alert Interval**

Set the interval by every low battery alert .

- **APO**

Radio will automatically turn off power if there is no operation within 5 minutes and alarm at interval time before APO .Under APO mode, user can active radio by operating it again.

Off : Turn off APO function

APO Time : Turn on this function and set the time to auto power off as requested .

- **Low Battery Voice Report**

Radio will report low battery state if active this function

- **APO at High Voltage**

Radio automatically power off if the voltage higher than pre-set voltage value.

- **APO at Low Voltage**

Radio automatically power off if the voltage lower than pre-set voltage value.

## Emergency Call

**1) Emergency Call Type**

Local Emergency : Alert from radio .

Local Emergency + Remote Emergency: Alert from radio ,same as other radios with the same frequency and same signaling .

**2) Local Emergency Time**

Continuous : Keep alerting

Limited time setting :Choose the desired time

**3) Remote Emergency RX Time**

Continuous : Keep alerting

Limited time setting :Choose the desired time

**4) Emergency Call Circle Time**

Choose desired circle time to make emergency call.

**5) Channel Select**

**Assigned Channel** : Suppose assigned at Channel 3 ,no matter what the present channel is ,alarm always goes from Channel 3.

**Present Channel**: Suppose present channel is No.5 ,alarm from Channel 5.

Present channel is No.6 ,alarm goes from Channel 6.

**6) Emergency Channel No.**

Choose desired channel number from Group A and Group B as emergency channel.

## First/Quick Channel

◆First Channel

Choose desired channel as first channel

◆Quick Channel

Choose desired channel as quick channel

## Power On Settings

**1) Display Information**

Off: Display all functions' icon.

Voltage :only display voltage value

Display Information :edited by user

**2) Power On Message**

Please edit the desired information by program for Group A and Group B.

**3) Password to Power on**

Radio default is to be no password .Users can freely set.

**4) Password to Reset All Settings**

Enable this function ,radio will back to pre-set state .

## FM Radio

**1) Monitor at FM Radio**

Tick: RX available during FM radio working

No tick: No RX available during FM radio working

Note: Radio can monitor group A and group B at same time while listening to FM radio .

**2) Working Mode**

Full Frequency :makes FM radio work in Full frequency .

Channel: makes FM radio work in memorial channel .

**3)FM SQL**

Choose desired SQ level :1-32

**4)FM VOL**

Adjust desired FM Volume

**5) FM Present Channel**

Set the default channel when turn on FM radio

## Input Information

This function allow radio input and store at most 16 letters or numbers , Chinese words. It also can be used to store SN-code, identification for Program ID ,ID and so on .

## DTMF Settings

**Encode DTMF**

■ **Pre-carrier Frequency Duration :** Set sending pre-carrier frequency duration before sending DTMF ,so that you can get more accurate and stable information .Choose desired duration from 0-5100 ms.

■ **DTMF Code Interval :** Set interval between ending sent DTMF and next DTMF , Choose desired interval from 80-2450 ms.

■ **Side Tone**

This tone is for checking if the DTMF code sent by using radio.

■ **DTMF Key Lock**

You can lock the desired DTMF key

**Decode DTMF**

■ **ID Code**

The ID code is consisted of 1-10 digits .Radio decodes right DTMF when receiving matched radio with programmed DTMF signaling .

■ **Auto Reset Timer**

If there is no communication after decoding DTMF code, DTMF code will be reset and make the speaker quiet .Timer starts counting from stopping receiving carrier signal.

■ **ID Group Calling**

Define a universal group code by DTMF character A,B,C,D, *、#.

Radio can decode if receiving right ID code and one or all code will replaced by this universal code .

For example :

Group C

|  | **Station 1** | **Station 2** | **Station 3** | **Station 4** |
|---|---|---|---|---|
| **Code** | 123 | 223 | 235 | 355 |
| Calling C23 | Station 1 and 2 called ||||
| Calling CC5 | Station 3 and 4 called ||||
| Calling CCC | All Station Called ||||

■ **Calling Alert**

Indicator alert when receiving matched signaling.

■ **Calling Alert Beeper**

Beeper alter when receiving matched signaling.

■ **ANI**

Active this function to display the sender's ID .

You can choose desired function :turn on/turn off.

■ **Contact List**

Edit and name sender's ID on the log by programming software.

You can choose desired function :turn on/turn off.

# Stun/Kill

**1) Kill Code**

Kill radio when it receives assigned code .Decode unless receive kill decode Stun+#.

**2) Kill Group Code**

Similar as ID Group Code .

For example :

Group C

|  | Station 1 | Station 2 | Station 3 | Station 4 |
|---|---|---|---|---|
| **Code** | 123 | 223 | 235 | 355 |
| Base sending Kill Code C23 | Station 1 and 2 killed. | | | |
| Base sending Kill Code CC5 | Station 3 and 4 killed | | | |
| Base sending Kill Code CCC | All Station killed | | | |

**Note: Whatever radio power on again or not ,radio still memory the stun/kill function.**

**Automatically Dial List**
Set DTMF code for every auto dial list .

**Phone Book**
Before dialing ,user input DTMF code which matched with desired person ,then quick to find out desired person's number.

# Two Tone

■ **Two Tone List**
Set value for every two tone group.

■ **Pre-carrier Frequency Duration**
Set sending pre-carrier frequency duration before two tone code sending ,so that users can get more accurate and
 stable information .

■ **Adjusting Volume for Two Tone ,End Tone and DTMF**
You can choose desired volume level for two tone ,end tone and DTMF.

■ **Auto Reset Timer**
If there is no communication after decoding two tone code, The two tone code will be reset and make the speaker quiet .Timer starts counting from stopping receiving carrier signal.
.
■ **Side Tone**
Enable radio reports when sending two tone.

# Key Settings

■ **Key Instructions**



## ●Working Modes

### 1）Frequency Mode (VFO)

Change to VFO mode with pressing  and then turn radio power on. Under this

mode ,you can press  to choose full frequency or channel display and change the

frequency or channel number by pressing ，or directly input desired frequency

value /channel number .

### 2）Channel Mode

Change to CH mode with pressing  and then turn radio power on .Under this

mode ,you can press  to choose desired channel number or directly input channel
number. But before this operation ,you should memory the channel.

### 3）FM Mode

Change to FM Radio mode with pressing  and .Under this mode, you can

press  to change the FM radio frequency. Press  or  +  to

scanning the FM frequency /channels. Long press  to scan the FM frequency and

memory .

### 4）Menu Mode

Press  and numeric key 9 to enter the menu ,then press  to choose

desired item and set。More details please refer to "Menu Operations".

## ●Numeric Key Inputting

1. In CH or CH/VFO mode, you can input three numbers to change present channel. If channel numbers have stored frequency in radio channel, then it turns to desired channel ; If not ,back to the original channel .

For example : CH1 (input 001) , CH 98 (input 098)

CH123 ( input 123)

2. In VFO mode, you can input numbers to change frequency. After inputting 6 digits frequency value, radio will work at desired frequency. If not, back to the original working frequency .

## ●Channel Storing

1. The channel storing should operate under the frequency mode .

2. Press **F** , then press **\*←o** to start storing operation. You will see the [ SAVE ] icon on the left top of LCD and flashes .

3. Press **▲ ▼** to store the channel or directly input numbers as channel number .

4. Press **F** to confirm the storing . Press **\*←o** to cancel it and back to previous menu or

press **# V/M** to cancel it and back to main menu ,.Press **CLR** to cancel the setting .

## ●Channel Deleting

1. Channel deleting should be operated under channel mode .

2. Press **\*←o** to turn radio power on and get channel deleting state .You will see the channel number on the left top of LCD and display the flash [ DEL ] icon.

3. Press **▲ ▼** to choose desired deleted channel number or directly input channel number and delete ,then press **F** to confirm .

4. Radio will automatically turn to next channel after deleting .If there is no channel with frequency value ,radio will quit channel deleting and back to full frequency mode .

## ●SQL

1. Press **F** and numeric key 1 ,LCD will display [ SQL  5 ] and start to set the SQL level (Level 0-9)

2. Press **▲ ▼** to choose desired SQL level.

3. Press **F** to confirm the setting. Press **\*←o** to cancel it and back to previous menu

or press **# V/M** to cancel it and back to main menu ,.Press **CLR** to cancel the setting.

## ●Frequency Step

1. Press **F** and numeric 4 , LCD will display 6.25K and start to set the frequency step ：2.5K、5K、6.25K、10K、12.5K、15K、20K、25K、30K、50K、100K.

2. Press ▲ ▼ to choose desired step.

3. Press **F** to confirm the setting. Press **\*←O** to cancel it and back to previous menu or press **# V/M** to cancel it and back to main menu ,.Press **CLR** to cancel the setting. （Available in frequency mode ）

## ●Frequency Reverse On/Off

Press **F** and numeric 3 to exchange the frequency reverse function .You cannot operate reverse frequency if there is no frequency on the channel .

## ●Offset Setting

Press **F** and numeric key 5 to get the offset direction setting .(Available for frequency mode)

## ●Scanning

1 Press **F** and numeric key 6 to start scanning .

2 Press ▲ ▼ to change scanning direction during scanning .

3 Under VFO mode ,radio will scan all the band at present frequency step

4 Under Channel mode ,radio will scan all 199 channels which program with frequency value .

5 Under FM mode , radio will scan all the frequency /channel.

Scanning will not be active if radio has less than 2 channels with frequency value and no more adding channels.

## ●RX CTCSS/DCS

1 Press **F** and numeric key 7 ,LCD will display 67.0 and start to CTCSS/DCS setting .

2 Press **\*←O** to exchange CTCSS and DCS. See followings:

OFF → CTCSS → DCS N → OFF

3 Press **# V/M** to exchange DCS direction. See followings:

DCS N → DCS I

4 Press ▲ ▼ to choose desired CTCSS/DCS.

5  Directly input numeric key 0-9 to get desired CTCSS/DCS. See followings :
   Input 102.5Hz for CTCSS.

   a) Press ![key] to exchange CTCSS and DCS.

   b) Input numbers : 1，0，2，5。
   c) Same operation for DCS input.

6  Press ![F] to confirm the setting. Press ![key] to cancel it and back to previous menu or

   press ![# V/M] to cancel it and back to main menu ,.Press ![CLR] to cancel the setting.

   （Note :You cannot set the RX signaling when radio in channel mode .）

# Side-Keys Programming Function

**See following side-key functions:**

| English | Details |
|---------|---------|
| OFF | No function available |
| SCAN | Scanning frequency/memorial channel ,press any key except [▲] / [▼] to quit scanning . |
| VOX | Turn on/off VOX |
| MONITOR | Stop/Start monitor the CTCSS or DCS ,meanwhile radio automatically turn on SQL when receives carrier signal. |
| FM RADIO | Turn on/off FM radio |
| FIR CH | exchange to the first channel |
| SEC CH | exchange to quick channel |
| SQL OFF | Turn on SQL and while receive carrier signal ,radio speaker actives. |
| SQL MOM | Active this SQ , and keep at SQ state when radio receives carrier wave （Short press is invalid for this function) |

# Operation Instructions

**BEEPER ON/OFF**

Press ![F] and ![9 SET] ,choose BEEPER by ![▲] ![▼] and LCD display BEEP ,then

press ![F] and ![▲] ![▼] to choose ①ON ;②OFF. After that ,press ![F] to confirm  and

back to selected item . Press ![CLR] to cancel setting and back to previous item or press ![key] to

cancel setting and back to main menu.

## BACK LIGHT

Press **F** and **9 SET** and choose LIGHT by **▲** **▼** and LCD displays | LIGHT |

Then press **F** and **▲** **▼** to choose ①ON; ②OFF. ③Choose desired timing to keep lighting. After that ,press **F** to confirm and back to selected item . Press **CLR** to cancel setting and back to previous item or press **\*→O** to cancel setting and back to main menu.

## KEY LOCK

Press **F** and **9 SET** ,choose LOC.KEY by **▲** **▼** and LCD display | LOC.KEY | .

Then press **F** and **▲** **▼** to choose ①MANU: Lock the key by manual ;②AT 5/.../30: Lock the key within defined timing and radio do not memory the auto key lock status if turn on again.; ③AS 5/…/30：Lock the key within defined timing and radio memory the auto key lock status if turn on again. After that ,press **F** to confirm and back to selected item . Press **CLR** to cancel setting and back to previous item or press **\*→O** to cancel setting and back to main menu.

## BATTERY SAVE

Press **F** and **9 SET** ,choose SAVE by **▲** **▼** and LCD displays | SAVE | .Then press **F** and **▲** **▼** to choose ①OFF; ②1-1/1-2/.../1-10: Ratio for battery saving (1-1 highest battery consumption, 1-10 lowest battery consumption )After that ,press **F** to confirm and back to selected item . Press **CLR** to cancel setting and back to previous item or press **\*→O** to cancel setting and back to main menu.

## VOX SWITCH

Press **F** and **9 SET** ,choose VOX SWI by **▲** **▼** and LCD displays | VOX.SWI |

Then press **F** and **▲** **▼** to choose ①OFF; ②ON. After that ,press **F** to confirm and back to selected item . Press **CLR** to cancel setting and back to previous item or press **\*→O** to cancel setting and back to main menu.

## VOX

Press ▮F▮ and ▮9 SET▮ ,choose VOX LEV by ▲ ▼ and LCD displays | VOX.LEV |

Then press ▮F▮ and ▲ ▼ to choose desired VOX level . After that ,press ▮F▮ to confirm and back to selected item . Press ▮CLR▮ to cancel setting and back to previous item or press ▮*←○▮ to cancel setting and back to main menu.

## POWER ON MESSAGE

Press ▮F▮ and ▮9 SET▮ ,choose PON MSG by ▲ ▼ and LCD displays | PON.MSG |

.Then press ▮F▮ and ▲ ▼ to choose ①OFF: Display all icons .②DC: Display only voltage ;③MSG：Display only message .After that ,press ▮F▮ to confirm and back to selected item . Press ▮CLR▮ to cancel setting and back to previous item or press ▮*←○▮ to cancel setting and back to main menu.

## APO

Press ▮F▮ and ▮9 SET▮ ,choose APO by ▲ ▼ and LCD displays | APO | .Then press ▮F▮ and ▲ ▼ to choose ①OFF; ②1H…24H: Timing for automatically power off . After that ,press ▮F▮ to confirm and back to selected item . Press ▮CLR▮ to cancel setting and back to previous item or press ▮*←○▮ to cancel setting and back to main menu.

## ROGER

Press ▮F▮ and ▮9 SET▮ ,choose ROGER by ▲ ▼ and LCD displays | ROGER | .

Then press ▮F▮ and ▲ ▼ to choose ①OFF; ②ON. After that ,press ▮F▮ to confirm and back to selected item . Press ▮CLR▮ to cancel setting and back to previous item or press ▮*←○▮ to cancel setting and back to main menu.

## OFFSET

Press ▮F▮ and ▮9 SET▮ ,choose OFF SET by ▲ ▼ an| OFF.SET |isplays

.Then press **F** and **▲** **▼** to choose desired frequency difference receiving . After that ,press **F** to confirm  and back to selected item . Press **CLR** to cancel setting and back to previous item or press **✱─○** to cancel setting and back to main menu.

## WIDE/NARROW BAND

Press **F** and **9 SET** ,choose W/N by **▲** **▼** and LCD display| W/N |.Then press **F** and **▲** **▼** to choose ①WIDE ②NARR. After that ,press **F** to confirm and back to selected item . Press **CLR** to cancel setting and back to previous item or press **✱─○** to cancel setting and back to main menu.

## SCANNING

Press **F** and **9 SET** ,choose SC MOD by **▲** **▼** | SC.MOD | displays .Then press **F** and **▲** **▼** to choose  ①SE: Searching ②CO: Carrier wave ;③TO：Tim.  After that ,press **F** to confirm  and back to selected item . Press **CLR** to cancel setting and back to previous item or press **✱─○** to cancel setting and back to main menu.

## SCANNING ADD/DEL

Press **F** and **9 SET**, choose SC ADD by **▲** **▼** and LCD display| SC.ADD | .Then press **F** and **▲** **▼** to choose ①ADD:;②DEL: delete. After that ,press **F** to confirm  and back to selected item . Press **CLR** to cancel setting and back to previous item or press **✱─○** to cancel setting and back to main menu.

## VOICE

Press **F** and **9 SET**, choose VOICE by **▲** **▼** and LCD displays | VOICE | .  Then press **F** and **▲** **▼** to choose  ①CHS: Chinese; ②ENG: English ;③OFF. After

that ,press **F** to confirm and back to selected item . Press **CLR** to cancel setting and back to previous item or press **\*←O** to cancel setting and back to main menu.

## ANI

Press **F** and **9 SET** ,choose ANI by **▲ ▼** and LCD display ANI . Then press **F** and **▲ ▼** to choose ①ON ;②OFF. After that ,press **F** to confirm and back to selected item . Press **CLR** to cancel setting and back to previous item or press **\*←O** to cancel setting and back to main menu.

## TOP KEY

Press **F** and **9 SET**, choose Top Key by **▲ ▼** and LCD displays TOP.KEY Then press **F** and **▲ ▼** to choose desired program function, more details can refer to the above keys programming definition. After that ,press **F** to confirm and back to selected item . Press **CLR** to cancel setting and back to previous item or press **\*←O** to cancel setting and back to main menu.

## RESET

Press **F** and **9 SET** ,choose reset by **▲** RESET D displays ,then press **F** and **▲ ▼** to choose ①VFO: reset all settings except memorial channels ②FULL：All settings. After that ,press **F** to confirm and back to selected item . Press **CLR** to cancel setting and back to previous item or press **\*←O** to cancel setting and back to main menu.

# Troubleshooting

| Symptom | Try This |
|---|---|
| No power | ● Battery power may have run out, please update battery or recharge it.<br>● Battery may not be properly installed, please take it off and re-install. |
| Battery lasts a short time after charge | ● The battery life is over, please replace new battery. |
| Can not talk to other members of your group. | ● Verify channel, frequency and code settings are correct. |
| Hearing other conversation on a channel (not group members') | ● Please change code settings, including all two way radio settings of your group. |

# Specifications and Parameters

| General Specification | |
|---|---|
| Device Number(D/N) | A31 |
| Frequency Range | 200-260 MHz |
| Channel | 199 channels |
| Channel Spacing | Narrowband:12.5KHz |
| CTCSS/DCS | 50 CTCSS / 105 DCS |
| Antenna Impedance | 50 Ohm |
| Working Temperature | −20℃ to ＋50℃ |
| Working Voltage | DC7.4v |
| Battery Type | Li-ion battery |
| Dimension(antenna excluding) | 110.5( H )×58.5( W ) ×35.6（D）mm |
| Weight (include antenna, battery) | About 230 grams |

## Appendix I    CTCSS (Hz)

| | | | |
|---|---|---|---|
| 1-67.0 | 14-103.5 | 27-159.8 | 40-199.5 |
| 2-69.3 | 15-107.5 | 28-162.2 | 41-203.5 |
| 3-71.9 | 16-110.9 | 29-165.5 | 42-206.5 |
| 4-74.4 | 17-114.8 | 30-167.9 | 43-210.7 |
| 5-77.0 | 18-118.8 | 31-171.3 | 44-218.1 |
| 6-79.7 | 19-123.0 | 32-173.8 | 45-225.7 |
| 7-82.5 | 20-127.3 | 33-177.3 | 46-229.1 |
| 8-85.4 | 21-131.8 | 34-179.9 | 47-233.6 |
| 9-88.5 | 22-136.5 | 35-183.5 | 48-241.8 |
| 10-91.5 | 23-141.3 | 36-186.2 | 49-250.3 |
| 11-94.8 | 24-146.2 | 37-189.9 | 50-254.1 |
| 12-97.4 | 25-151.4 | 38-192.8 | |
| 13-100.0 | 26-156.7 | 39-196.6 | |

## Appendix II    DCS

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 023 | 071 | 143 | 225 | 266 | 356 | 452 | 532 | 664 |
| 025 | 072 | 145 | 226 | 271 | 364 | 454 | 546 | 703 |
| 026 | 073 | 152 | 243 | 274 | 365 | 455 | 565 | 712 |
| 031 | 074 | 155 | 244 | 306 | 371 | 462 | 606 | 723 |
| 032 | 114 | 156 | 246 | 311 | 411 | 464 | 612 | 731 |
| 036 | 115 | 162 | 245 | 315 | 412 | 465 | 624 | 732 |
| 043 | 116 | 165 | 251 | 325 | 413 | 466 | 627 | 734 |
| 047 | 122 | 172 | 252 | 331 | 423 | 503 | 631 | 743 |
| 051 | 125 | 174 | 255 | 332 | 431 | 506 | 632 | 754 |
| 053 | 131 | 205 | 261 | 343 | 432 | 516 | 645 | |
| 054 | 132 | 212 | 263 | 346 | 445 | 523 | 654 | |
| 065 | 134 | 223 | 265 | 351 | 443 | 526 | 662 | |

## FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The scanner receiver equipment meets the requirements of the FCC Rules, 15.121 (a)
The scanner receiver in this equipment is incapable of tuning, or readily being altered, by the User to operate within the frequency bands allocated to the Domestic Public Cellular Telecommunications Service in Part 22. Blocking of the cellular frequencies is implemented in the firmware of the unit's main control central processing unit (CPU). Coverage of 824 - 849 MHz and 869 - 894 MHz is completely blocked, since it is done in the microprocessor, and cannot be re-enabled by any user-accessible procedure, including diode, resistor, or jumper changes, nor by connection of any external device such as a personal computer, nor by installation of any "special" enabling semiconductor device. The scanning receiver is designed so that the tuning, control and filtering circuitry is inaccessible.