

## **To Customers**

Thank you very much for using our FM VHF/UHF Two Way Radio. This radio of modern design is reasonable structure with stable functions. It is designed to meet customer's needs for the high quality with easy operation and perfect capability.

We believe you are pleased with the finished shape and the reasonable price.

This manual is suitable for using the model of PX-UV973

## Contents

Maintenance	1
Features	1-2
Main indicators/controls	3
Main indicators/controls-description	4-5
Basic operations	6-11
The DTMF/MSK/5-Tone operation	12
ANI operation	13-14
Shortcuts operation	15
Menu Operation	16-17
Advanced Operations	18-31
CTCSS/DCS List	32
Technical specification	33

## UNPACKING AND CHECKING EQUIPMENT

Carefully unpack the radio. We recommend that you identify the items listed in the following table before discarding the packing material. If any items are missing or have been damaged during shipment, file a claim with the carrier immediately.

### Supplied Accessories

ITEMS	QUANTITY
Radio	1
Antenna	1
Battery	1
Charger	1
Belt Clip	1
Users' Manual	1

### Optional Accessories

ITEMS
Earphone
Microphone
Connecting cable
Programmable software



## Maintenance

Your Two Way Radio is an electronic product of exact design and should be treated with care. The suggestions below will help you to fulfill any warranty obligations and to enjoy this product for many years.

- Do not attempt to open the unit. Non-expert handling of the unit may damage it.
- When using regulated power supply, take notice of power voltage must be between 6V and 8V to avoid damaging the unit.
- Do not store the Radio under the sunshine or in hot areas. High temperatures can shorten the life of electronic devices, and warp or melt certain plastics.
- Do not store the Radio in dusty, dirty areas
- Keep the Radio dry. Rainwater or damp will corrode electronic circuits.
- If it appears that the Radio diffuses peculiar smell or smoke, please shut off its power immediately and take off charger or battery in the Radio, then contact with PUXING agency.
- Do not transmit without antenna.

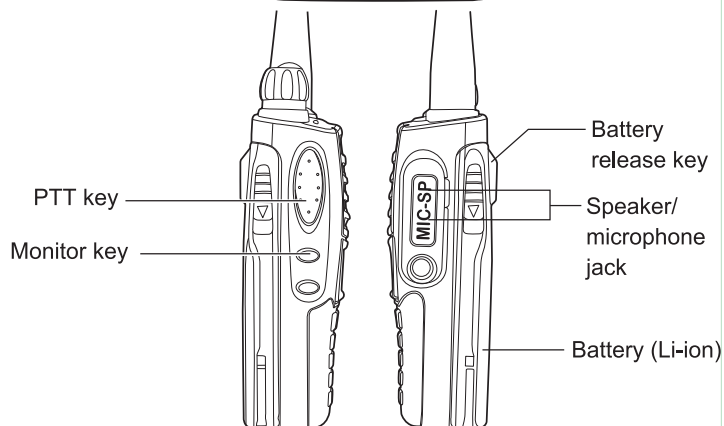
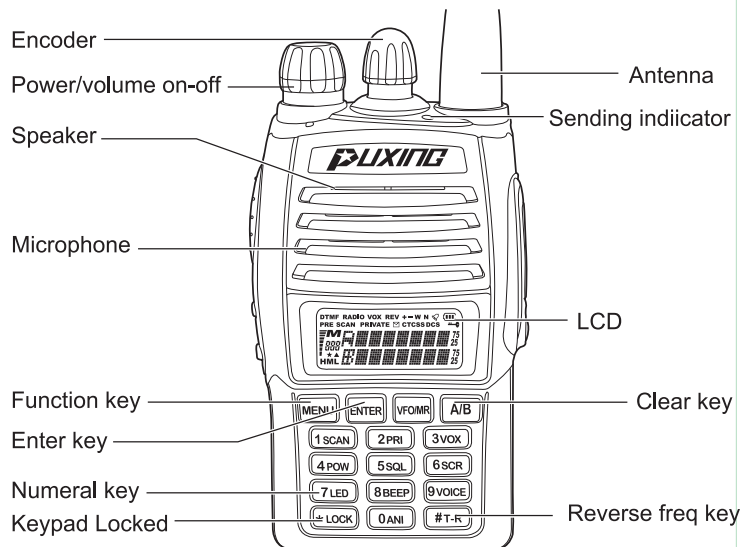
## Features

- UHF 4W/VHF 5W Output power
- 128 groups of memory channels.
- Dot matrix dual displays
- Automatic Numbering Identification (ANI) code
- Built-in Voice Operate Transmit (VOX) function.




- CTCSS / DCS / 5 Tone / MSK / DTMF tone
- All channels scan and priority channel scan
- 8 Scrambler option
- Cross-band repeater function
- Duplex function
- Self-setting CTCSS/DCS
- FM RADIO receiving
- Independent A, B operation setting

## Main indicators/controls



## Main indicators/controls-description

■ Power/volume On-off	To turn on/off the radio and adjust the volume level.
■ Sending indicator	When the PTT is pressed, it glows to indicate the transmitting status.
■ Busy indicator	When the channel is busy, the display shows 
■ PTT key	When pressed, it enables the transmission
■ VFO/MR	To exit the menu or other function

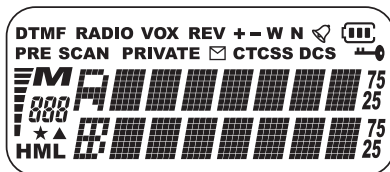
## Socket and connector

■ SMA Connector	For connecting the supplied antenna
■ Sparker/microphone jack	If you want to use a speaker or a microphone, connect them to this socket. If not, prevent water from dropping into it.



## LCD display

Many icons are shown on the display when the radio is on. The following table can help you to identify each of them.



	Battery level indicator
	Shows the TX offset direction in relation to the Rx frequency
	Power level indicator (HI=High/LO=Low)
	Keypad locked
	Display when DCS is turned on
	CTCSS turned on
	VOX turned on
	Call Function
	Display reverse frequency
	Priority scan activated
	Received signal strength and TX power
	Frequency in use
	Function menu
	When the channel is a priority scan channel
	Quickly recall one channel



## Basic operations

### Supplied antenna

Insert the base of the supplied antenna into the SMA connector and rotate it clockwise. Make sure the antenna has set down. Take out the antenna from the base by rotating it counter-clockwise rotation.

### Turn on and off the power

If you want to turn on the power, rotate the PWR/VOL knob clockwise until a beep sound is heard .All icons and frequencies appeared on the screen. You can adjust your desired volume by turning the knob.

To turn off the power, rotate the PWR/VOL knob counter-clockwise rotation. All the icons on the display will disappear and the radio is off.

### Adjusting volume

After turning on the radio, rotate the PWR/VOL knob clockwise to increase the volume and counter-clockwise to decrease.

### Transmitting/Receiving

Firstly, hold down briefly the MONI button to make sure that the frequency is not busy and then press the PTT. Speak 4/10cm far from the unit.

The TX indicator lights up.

Release the PTT key to receive.

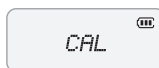
### On-Site Alarm

Hold down the defined side key 2 , the radio will sound alarm tone and send ANI to others.



## Emergency call channel

Press the [ **#T-R** ] key, in any case the radio can call up the emergency call channel, and the display shows "CAL".

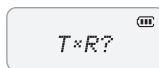


## Setting Reverse Frequency Function

This function is possible only when you are linked to a repeater:

It permits to invert the TX frequency with the RX frequency.

In Channel/Frequency mode, hold down [ **#T-R** ] for two seconds until "T\*R" appears on the display.



The display shows the word "REV". Repeat the same procedure to return to the previous frequency setting.

## Scanning

The Scan version is very useful to monitor the channels before transmitting.

### 1. Scan channels or frequency

In Channel/Frequency status, press [ **MENU** ] + [ **1SCAN** ], and press ENTER, the radio will scan from the channel in use through all the channels/frequency, whenever any activity is detected, the radio will suspend the scan for 5 seconds. It will then continue to scan unless you press PTT or ENTER key to end scanning.

### 2. Priority channel scan

Priority scan is to scan the priority channel firstly then scan other channel, if you set priority channel 1, it will scan 1-2; 1-3; 1-4; and continue. In channel Mode, press [ **MENU** ] + [ **2PRI** ], and press [ **ENTER** ] to scan, radio begin to scan priority channel, whenever any activity is



detected, the radio will suspend the scan for 5 seconds. It will then continue to scan unless you press PTT or [ **ENTER** ] key to end scanning.

### 3. Sub tone scan

In the frequency mode, press the [ **MENU** ] button and rotary encoder to menu item 21 ("021 CTC • S?") Or 22 item (the 022 DCS.S? "), Then press the [ **ENTER** ] key to enter the CTCSS (50 groups) scan or DCS (105 groups), when the radio scan to the same subtone, open the SQ and exit scan.

## Select scan type

Press [ **MENU** ] and rotate the Encoder until the display shows "013 SCANS". Press [ **ENTER** ] and turn the Encoder knob again to select the scan type (TO/CO/SE).

#### ■ TO: Time-operated scan

Even though the radio stops on a busy channel, it will continue scanning the other channels.

#### ■ CO: Carrier-operated scan

The radio stops on a busy channel until there is no activity, and then radio begins scanning the other channels

#### ■ SE: Search scan

The radio stops on a busy channel and exits the Scan mode.

## Select Mode

This radio has three modes to choose from: 1) double-standby 2) channel mode; 3) frequency mode

### 1. double-standby mode

Long press the [A/B] key to enter or exit the double-standby mode. In double-standby mode, there will be two channel A or B instructions.



When A is displayed, the channel can receive and transmit, while the other channel can only receive, can not be transmitted; when B is displayed, which means that the channel can receive and transmit, another channel can only receive, can not be transmitted. Short press the [ A/B ] key to switch A or B.

## 2. Channel mode

Press [ VFOMR ] key to switch channel mode and frequency mode .

### 1) Display the name of the current channel and channel number

M CH 1  
001 CH-001

CH 1: Indicates that the current name of the channel, the user can edit it

CH-001: Current channel is in channel one

### 2) Display the name of the current channel and frequency

M CH 1  
001 453.700

CH 1: Indicates that the current name of the channel, the user can edit it

453.700: Indicates the frequency of the current channel.

### 3) The receiver frequency and transmit frequency on the current channel

M R453.700  
001 T453.700

R 453.700: Indicates receiving frequency on the current channel

T453.700: Indicates transmitting frequency on the current channel

## 3. Frequency mode

R453.700  
T453.700

R 453.700: Indicates the receiving frequency

T 453.700: Indicated the transmitting frequency

The difference between Channel mode and frequency mode is whether

the left side LCD displays <sup>M</sup>001

## FM RADIO

This radio has FM RADIO function.

Press the [ MENU ] + side key 2 to enter into the radio state, press the number keys or turn the knobs to select the radio frequency , press the "\*" key or the "#" key to search the broadcast station. Then press the [ MENU ] + side key 2 to exit the FM RADIO mode.

## Side keys definition

Use programming software to defined the side key 2 as follows: 1) optional signaling call; 2) emergency alarm; 3) send a 1750 Hz Signaling; 4) instantaneous monitoring.

## DTMF encode and decode

This machine has a DTMF encode and decode function, in channel mode, press PTT key and enter the number on the keyboard or other function keys, the corresponding DTMF code would be send out. DTMF code corresponding function keys issued as follows:

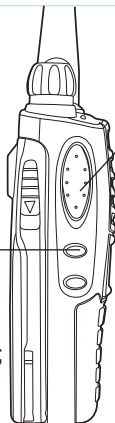




Side key operation

Side key defined as follow

- 1) Optional signaling call;
- 2) Emergency alarm;
- 3) Send a 1750 Hz Signaling;
- 4) Instantaneous monitoring.



PTT: Transmitting key, press to transmit, release to closed.



## The DTMF/MSK/5-Tone operation

Use DTMF/5-Tone to achieve selective calling, Stun and DisStun function. Use programming software to set DTMF/5-Tone ID code, TX stun, Cancel TX stun, Rx/Tx stun, Cancel Rx/Tx stun etc. Defined side key as Optional Signaling Call, and select DTMF or 5-Tone as optional signaling on the channel, press the defined side key until display shows "CALL?", enter the ID code directly or input the number stored and press PTT key to transmit

If you make a mistake or want to cancel calling, rotate encoder counter-clockwise to delete it one by one. Rotate clockwise to exit.

### ■ 5-Tone Encode / Decode

1) 5-Tone call: Use side key 2 for optional signaling 5-Tone call, or press the [MENU] key, the display shows the "5-T" then input the selective call/stun / DisStun code , press the [PTT] key to make a call.

2) 5-Tone signaling encode: 9 groups can be set by the local dealer.

### ■ DTMF call

Use DTMF to achieve selective calling, group calling and all calling function.

DTMF selective call, group call, all call function is set by the local dealer.

### ■ MSK Encode/decode

MSK codec set by the local dealer, a total of 9 groups and you can enter: 0-9, A-F, and each group can be set to four numbers.

MSK call: Use side key 2 for optional signaling MSK call or press the [ENTER] key until the display shows " MSK In", enter the ID code and press the [PTT] key to make a call.



## ANI operation

There are three methods to transmit ANI code: 1) before transmitting, 2) after transmitting 3)Both.

Three signaling to choose from: MSK, DTMF, 5-Tone, select the type of signaling formats, decoding ID must also be same.

Use programming software to set the above information, use shortcuts [ **MENU** ] + [ **0ANI** ] to turned on or off the ANI displays

## Store

### Store

To store a frequency and its settings (CTCSS, DCS, SHIFT REPEATERS etc) follow the procedure below:

1. at first, choose all the settings to store,
2. press the [ **MENU** ] button,
3. then, push [ **VFO/MR** ],
4. rotate the Encoder knob and select the memory number where you want to store the frequency and its settings.
5. confirm your selection by pressing [ **VFO/MR** ].

(note: a triangle displayed underneath the channel number indicates that it has already been stored).

### Emergency call channel storage

Select the necessary frequency for emergency call, press the [ **MENU** ] + [ **VFO/MR** ] + [ **#T-R** ] key until the screen displays the word "CAL". "CAL" character flashes if the emergency call channel have been stored, you can press [ **VFO/MR** ] key to overwrite the channel.

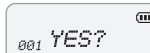
## Delete a memory

1. Delete one store channel

In channel mode turn off the power.

Hold down the [ **VFO/MR** ] key and turn on the unit. "001 DEL?" and stored channel number will be displayed.

Turn the Encoder knob or select the channel to delete. Push [ **ENTER** ] until "YES?" appears on the display; push it again to confirm

2. Reset (Delete all the settings in Frequency mode)

Hold down the [ **MENU** ] and turn on the unit until "RESET?" is displayed. Press [ **ENTER** ] until "VFO?" is shown on the display; push it again for confirmation.




3. Delete all settings (Delete the settings in both frequency and channel mode)

Hold down [ **MENU** ] and turn on the unit until display "RESET?", press [ **ENTER** ] until display "VFO?". Turn the Encoder knob to select "FULL?", then press [ **ENTER** ] to delete all the settings in Frequency and VFO mode.



## Shortcuts operation

- MENU** = **0ANI** The ANI code selection
- MENU** = **1SCAN** Scan mode
- MENU** = **2PRI** Priority channel scan mode
- MENU** = **3VOX** VOX sensitivity setting
- MENU** = **4POW** Transmitting power setting
- MENU** = **5SQL** Squelch (SQL) setting
- MENU** = **6SCR** Scrambler on/off setting
- MENU** = **7LED** Backlight color setting
- MENU** = **8BEEP** Beep tone setting
- MENU** = **9VOICE** Voice annunciation on/off
- MENU** = **#T-R** Transmitting/Receiving CTCSS/DCS setting
- MENU** = **\*LOCK** Repeater shift setting

## Menu Operation

**To operate with all the parts/settings of the menu, you have to follow these general steps:**

1. Press the [**MENU**] button
2. Turn the Encoder or input keypad number to select the desired menu
3. Press [**ENTER**] and turn the Encoder to choose the desired settings.
4. Press [**ENTER**] to confirm.

### Menu list

Items	Menu content	Description
1	SCAN (Channel Scan)	All Channel Scan
2	PRI (Priority Channel Scan)	Priority Channel Scan
3	VOX (VOX Ssensitivity)	OFF~9
4	POW (Transmit Power)	HIGH/LOW
5	SQL (Squelch setting)	Level 0~9
6	SCRM (Scrambler)	OFF/1~8 groups scrambler
7	LIGHT (Backlight color)	1/2/3
8	BEEP ( Beep tone)	ON/OFF
9	VOICE ( Annunciation)	OFF/Chinese/English
10	ANI (ANI code)	OFF/BOT/EOT/BOTH
11	KEYBO(Keypad lock)	MANUAL/AUTO
12	TOT (Time out timer)	OFF~270
13	SCANS (Scan selection)	CO/TO/SE
14	N/W (Channel spacing)	WIDE/NARROW
15	SHIFT (Repeater shift)	+/-/0
16	OFFSET (Repeater offset)	0-42.000(VHF) 0-80.000(UHF)



17	C-CDC (Receive/Transmit CTCSS/DCS)	OFF-254.1/D023-D754
18	R-CDC (Receive CTCSS/DCS)	OFF-254.1/D023-D754
19	T-CDC (Transmit CTCSS/DCS)	OFF-254.1/D023-D754
20	STEP (Frequency step)	2.5K/5K/10K/6.25K/12.5K/25K/50K/100K
21	CTC.S (CTCSS Scan)	CTCSS Scan
22	DCS.S (DCS Scan)	DCS Scan
23	LED (Backlight setting)	OFF/ON/AUTO
24	ROGER(TX end tone)	OFF/ 1~10
25	DW (hear FM radio and monitor transceiver status)	OFF/ON
26	LOCK (locking mode)	K+S/PTT/KEY/ALL
27	SAVE (Battery save)	OFF/ON
28	VOLUME (adjust volume)	0-15 levels
29	TX.SEL ( TX respond select)	FIXED/CALLIN
30	RPT (repeater mode)	OFF/ON
31	DUPLEX(Duplex mode)	OFF/ON
32	SADD (Scan add)	ADD/DEL
33	NAME (Channel name)	-----

\* 1-28 is available in frequency mode only,

\* 29-33 is available in dual frequency/dual receive mode only.

\* 32-33 is available in channel mode only



## Advanced Operations

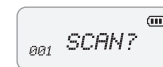
### Setting the frequency scan

Press the [  ] button


Turn the Encoder knob until the display shows “SCAN?” (menu 001)

Push the [  ] key

to exit, press [  ]



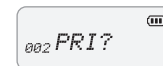
### Setting priority channel scan

In Channel mode, press [  ] button

Turn the Encoder knob until the display shows “PRI?” (menu 002)





Push the [  ] key

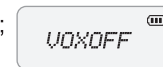
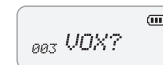
to exit, press [  ]



### Selecting the VOX sensitivity level

The VOX function is deactivated by default. To activate it follow the procedure here below:

1. press the [  ] button;
2. turn the Encoder knob until the display shows “VOX” (menu 003);
3. push the [  ] key;
4. turn again the Encoder knob and select the desired VOX level (you can choose amongst 9 different levels);
5. push the [  ] key again;
6. to exit, press [  ]



To activate and select rapidly the VOX function, you can do it also by operating on the fast menu: press the MENU key and then 3VOX and follow the procedure above described.



## Setting the transmission power

To select desired power level:

1. press the [ **MENU** ] button;
2. turn the Encoder knob until the display shows "POW" (menu 004)
3. push [ **ENTER** ] ;
4. turn again the Encoder knob and select the desired power level (you can choose between 2 levels: 'H' and 'L');
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] to exit

To activate and select rapidly the power level, you can also use the fast menu: press the [ **MENU** ] key and then 4POW and follow the procedure above described.

004 POW?

POW L

POW H

## Setting squelch

To select the squelch level:

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'SQL'(menu 005) is displayed
3. push [ **ENTER** ] ;
4. turn the Encoder knob and select the desired squelch level (9 different levels are available);
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] to exit

To activate and select rapidly the squelch level, you can also use the fast menu: press the [ **MENU** ] key and then 5SQL and follow the procedure above described.

005 SQL?

SQL 5

## Scrambler Setting

To select or turn off the scrambler, follow this procedure:

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'SCRM'(menu 006) is displayed
3. push [ **ENTER** ] ;
4. turn the Encoder knob to select 1-8 group scrambler or set it OFF.
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] to exit

To select or turn off scrambler rapidly, you can also use the fast menu: press the [ **MENU** ] key and then 6SCR and follow the procedure above described

(The scrambler will be automatically OFF if menu 31 Duplex was set ON.).

006 SCRM?

OFF

## Backlight color selection

To select the LCD backlight color, follow this procedure:

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'LIGHT?(menu 007) is displayed
3. push [ **ENTER** ] ;
4. turn the Encoder knob to select 3 different color Blue, Orange and Purple ;
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] to exit

To select rapidly the backlight color, you can also use the fast menu: press the [ **MENU** ] key and then 7LED and follow the procedure above described.

007 LIGHT?

LIGHT2

## Beep on/off

The keypad beep is activated by default. To deactivate it:

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'BEEP'(menu 008) is displayed
3. push [ **ENTER** ] ;
4. turn the Encoder knob and activate/deactivate the beep (ON=beep enabled; OFF=beep disabled);
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] to exit

To activate/deactivate rapidly the keypad beep, you can use the fast menu: press the [ **MENU** ] key and then 8BEEP and follow the procedure above described.

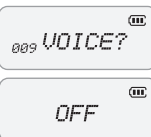


## Voice function (in English and Chinese)

With this function, you activate a voice that informs about any operation/selection you are doing. To activate or select it. Follow these steps:.

1. press the [ **MENU** ] button;
2. rotate the Encoder knob until 'VOICE'(menu 009) is displayed
3. push [ **ENTER** ] ;
4. turn the Encoder knob to activate or select from CHS, ENG (CHS=Chinese; ENG=English);
5. press [ **ENTER** ] again;
6. press the [ **VFO/MR** ] to exit.

To select rapidly the voice, you can also use the fast menu: press the [ **MENU** ] key and then 9VOICE and follow the procedure above described.



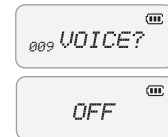
## Automatic Numbering Identification (ANI) setting

You can set an automatic number identifier visible from the radio's display of your partner each time you send a call signal.:

To activate it or select different mode:

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'ANI'(menu 10) is displayed
3. push [ **ENTER** ] ;
4. turn the Encoder knob to select OFF, BOT, EOT or BOTH
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] knob to exit

To quickly select this function, you can also use the fast menu: press the [ **MENU** ] key and then 0ANI and follow the procedure above described.

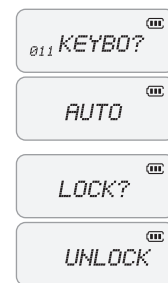


## Keypad lock setting

To lock the keypad to prevent the wrong operation:

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'KEYBO?'(menu 11) is displayed
3. push [ **ENTER** ] ;
4. turn the Encoder knob to select AUTO, MANUAL
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] knob to exit

To unlock it press and hold #T-R 2 seconds



## TOT setting

To prevent continuous emission of the radio, the unit can be set of 30-

270 seconds continuous emission limits, a warning tone will be heard in the due time.

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'TOT?' (menu 12) is displayed
3. push [ **ENTER** ] ;
4. turn the Encoder knob to select from OFF, 30, 60, 90, 120, 150, 180, 210, 240, 270.
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] knob to exit

012 TOT?

OFF

#### Scan mode selection

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'SCANS?' (menu 13) is displayed
3. push [ **ENTER** ] ;
4. turn the Encoder knob to select from TO, CO, SE.
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] knob to exit

013 SCANS?

TO

CO

SE

#### Wide and Narrow band selection

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'N/W?' (menu 14) is displayed
3. push [ **ENTER** ] ;
4. turn the Encoder knob to select from NARROW or WIDE.
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] knob to exit

014 N/W?

WIDE

#### Repeater shift (for communications through repeaters)

To activate this function, follow these steps:

1. Press the [ **MENU** ] button;
2. rotate the Encoder knob until 'SHIFT' (menu 15) is displayed
3. push [ **ENTER** ] ;
4. Turn the Encoder knob and select the repeater shift. You can choose amongst the following options +, - and 0;
5. press [ **ENTER** ] again;
6. press the [ **VFO/MR** ] to exit

015 SHIFT?

To select the repeater shift, you can also use the fast menu: press the [ **MENU** ] key and then \*LOCK and follow the procedure above described.

#### Repeater shift adjustment (for communications through repeaters)

1. Press the [ **MENU** ] button;
2. rotate the Encoder knob until 'OFFSET' (menu 16) is displayed
3. push [ **ENTER** ] ;
4. turn the Encoder knob and select the repeater shift.

016 OFFSET?

You can also enable it by enter the frequency directly on the keypad; (VHF range 0-42Mhz, UHF range 0-80Mhz)

5. press [ **ENTER** ] ;
6. press the [ **VFO/MR** ] to exit

#### Select CTCSS and DCS tones on transmitting and receiving

1. Press the [ **MENU** ] button;
2. rotate the Encoder knob until 'C-CDC' (menu 17) is displayed
3. push [ **ENTER** ] ;

017 C-CDC?

4. turn the Encoder knob and select the desired CTCSS tone, or press \*LOCK to select DCS tone, (While selecting the DCS codes, if you press #T-R, you will select the normal (N) or inverted (I) DCS codes.)
5. press [ENTER] to confirm ;  
(You can use keypad or software to input or program a non-standard CTCSS/DCS)

#### Select CTCSS and DCS tones on receiving

1. Press the [MENU] button;
2. rotate the Encoder knob until 'R-CDC'(menu 18) is displayed
3. push [ENTER] ;
4. turn the Encoder knob and select the desired CTCSS tone, or press \*LOCK to select DCS tone, (While selecting the DCS codes, if you press #T-R, you will select the normal (N) or inverted (I) DCS codes.)
5. press [ENTER] to confirm ;  
(You can use keypad or software to input or program a non-standard CTCSS/DCS)

#### Select CTCSS and DCS tones on transmitting

1. Press the [MENU] button;
2. rotate the Encoder knob until 'T-CDC'(menu 19) is displayed
3. push [ENTER] ;
4. turn the Encoder knob and select the desired CTCSS tone, or press \*LOCK to select DCS tone, (While selecting the DCS codes, if you press #T-R, you will select the normal (N) or inverted (I) DCS codes.)
5. press [ENTER] to confirm ;  
(You can use keypad or software to input or program a non-standard

#### CTCSS/DCS)

##### Select the frequency step

1. press the [MENU] button;
2. rotate the Encoder knob until 'STEP'(menu 20) is displayed
3. push [ENTER] ;
4. turn the Encoder knob and select desired frequency step. You can choose amongst: 2.5K, 5K, 10K, 6.25K, 12.5K, 25K, 50K and 100K;
5. press [ENTER] to confirm
6. press the [VFO/MR] key to exit;

##### CTCSS scan

1. press the [MENU] button;
  2. rotate the Encoder knob until 'CTC.S?'(menu 21) is displayed
  3. push [ENTER] ;
- When the radio scan match CTCSS and open the squelch and exit scanning.

##### DCS scan

1. press the [MENU] button;
  2. rotate the Encoder knob until 'DCS.S?'(menu 22) is displayed
  3. push [ENTER] ;
- When the radio scan match DCS and open the squelch and exit scanning.

##### Backlight on/off

To turn on the backlight:

1. press the [MENU] button;
2. turn the Encoder knob until 'LED'(menu 23) is

displayed

3. push [ **ENTER** ] ;
4. turn the Encoder knob and select ON, OFF, AUTO;
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] to exit

End roger alert (Set the alert tone when end of the transmitting)

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'ROGER?'(menu 24) is displayed
3. push [ **ENTER** ] ;
4. turn the Encoder knob and select OFF or 10 different tones;
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] to exit

024 **ROGER?**

**OFF**

Listen FM RADIO and monitor two way radio signal

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'DW?'(menu 25) is displayed
3. push [ **ENTER** ] ;
4. turn the Encoder knob and select OFF or ON ( OFF= deactivate monitor, ON= open monitor) ;
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] to exit

025 **DW?**

**OFF**

Key lock mode selection

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'LOCK?'(menu 26) is

026 **LOCK?**

**K+S**

displayed

3. push [ **ENTER** ] ;
4. turn the Encoder knob and select from K+S, PTT, KEY, ALL, (K+S lock the keypad and knob; PTT lock the transmitting key only; KEY lock the keypad only; ALL lock all keys and knobs)
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] to exit

**PTT**

**KEY**

**ALL**

Battery save function

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'SAVE?'(menu 27) is displayed
3. push [ **ENTER** ] ;
4. turn the Encoder knob and select OFF or ON ( OFF= deactivate battery save, ON= activate battery save) ;
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] to exit

027 **SAVE**

**OFF**

A/B channel volume adjustment (it is useful for the dual receiving)

In A or B channel mode or frequency mode.

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'VOLUME?'(menu 28) is displayed
3. push [ **ENTER** ] to open the Squelch;
4. turn the Encoder knob to adjust volume level (0-15) ;
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] to exit

028 **VOLUME**

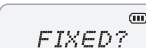




(After adjustment one channel then you can process for another channel adjustment)

### Setting transmitting channel when in the status of dual standby

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'TX.SEL?'(menu 29) is displayed
3. push [ **ENTER** ] ;
4. turn the Encoder knob to select FIXED or CALLIN ;
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] to exit

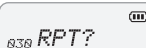




(FIXED means the radio always transmit in current channel. CALLIN: in case of there is a single from other channel, the A or B flash 3 seconds, If you press PTT, the radio will automatically reply to this channel, if no PTT pressed after 3s flash, the radio revert to current channel)

### Cross-band Repeater mode

You can use this radio as a repeater, it enable other UHF radio to communicate with VHF radio.

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'RPT?'(menu 30) is displayed
3. push [ **ENTER** ] ;
4. turn the Encoder knob and select OFF or ON ( OFF= Repeater disabled, ON= repeater enabled) ;
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] to exit





\* This function cannot use for same frequency repeater, the same frequency interfere would damage the radio, this means it works with U-V, V-U, cannot work in U-U or V-V


\* Don't use this function for a long time

\* While use this function, battery save function will be deactivated.

### Duplex mode

The radio can receive single when it was in the status of transmitting. It can receive two voices at the same time.

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'DUPLEX?'(menu 31) is displayed
3. push [ **ENTER** ] to open the Squelch;
4. turn the Encoder knob to set it ON or OFF ;
5. press [ **ENTER** ]
6. press the [ **VFO/MR** ] to exit

(If the function set to ON, the menu 06 scrambler function will be deactivated automatically)

### Scan add setting

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'SADD?'(menu 32) is displayed
7. push [ **ENTER** ] ;
8. turn the Encoder knob and select ADD or DEL ( ADD= add this channel to scan list, DEL= remove this channel in scan list) ;
9. press [ **ENTER** ]
10. press the [ **VFO/MR** ] to exit








## Channel name edit

1. press the [ **MENU** ] button;
2. turn the Encoder knob until 'NAME?'(menu 33) is displayed
11. push [ **ENTER** ] ;
12. turn the Encoder knob to select necessary character ;
13. press #T-R to edit the next character, (press \*LOCK to return last character)
14. press [ **ENTER** ]
15. press the [ **VFO/MR** ] to exit

033 NAME? 

----- 

## CTCSS/DCS List

### 50 CTCSS tone (Hz)

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

### 104+1 DCS tone (Hz)

023	065	132	205	255	331	413	465	612	723
025	071	134	212	261	332	423	466	624	731
026	072	143	223	263	343	431	503	627	732
031	073	145	225	265	346	432	506	631	734
032	074	152	226	266	351	445	516	632	743
036	114	155	243	271	356	446	523	645	754
043	115	156	244	274	364	452	526	654	
047	116	162	245	306	365	454	532	662	
051	122	165	246	311	371	455	546	664	
053	125	172	251	315	411	462	565	703	
054	131	174	252	325	412	464	606	712	



## Technical specification

### General

Frequency Range	136-174MHz, 400-80MHz, other custom
Working Temperate	-20℃ -+50℃
Operating Voltage	DC 7.4V
Operate Mode	Same frequency/different frequency full duplex
Dimension	115mmX57mmX30mm (Not included Antenna)
Weight	223g (Including battery)
Antenna impedance	50 Ω

### Transmitter

Frequency Stability	± 2.5PPM
Output Power	>4W
Max Frequency Deviation	≤ 5KHz
Audio Distortion	≤ 5%
Modulation Character	+3dB-3dB
Adjacent Channel Power	≥ 65dB
Spurious Radiation	≤ 7.5UW
Occupied Bandwidth	≤ 16KHz

### Receiver

RF Sensitivity	< 0.2UV
Audio Distortion	≤ 5%
Audio Response	+2dB-10dB
Adjacent Channel Selectivity	≥ 60dB
Intermodulation Rejection	≥ 60dB
Spurious Response	≥ 60dB
Blocking	≥ 80dB

■ Technical specification subject to change without notice

