

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

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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.

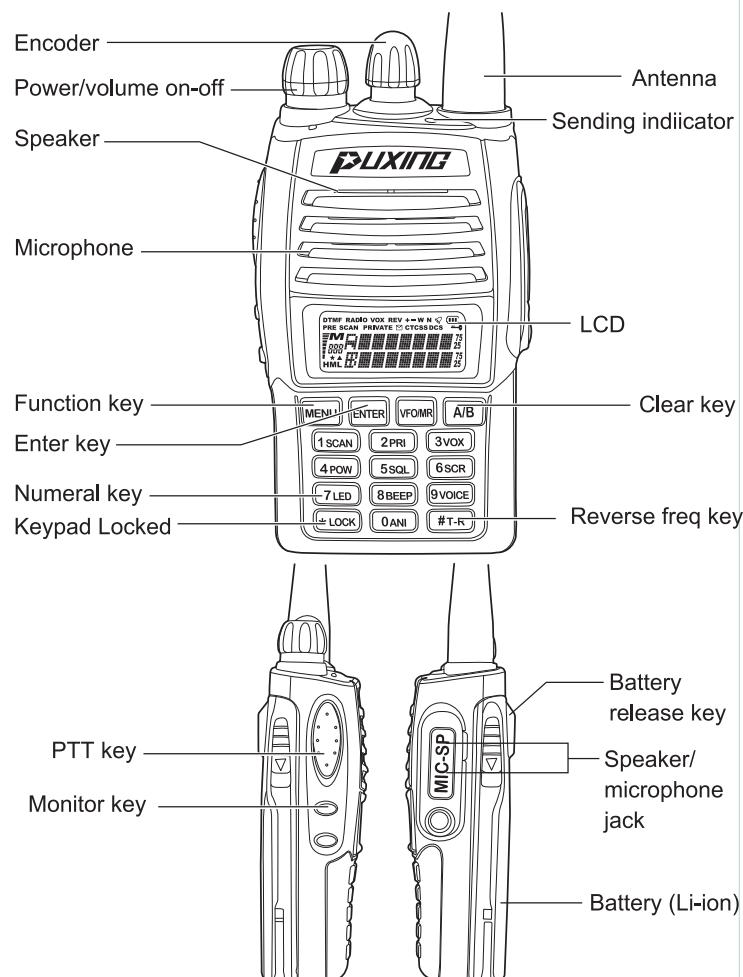
- Do not attempt to open the unit. Non-expert handling of the unit may damage it.
- When using regulated power supply, take notice of power voltage must be between 6V and 8V to avoid damaging the unit.
- Do not store the Radio under the sunshine or in hot areas. High temperatures can shorten the life 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

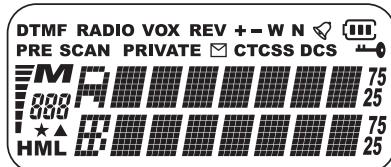
| | |
|-----------------------|--|
| ■ Power/volume On-off | To turn on/off the radio and adjust the volume level. |
| ■ Sending indicator | When the PTT is pressed, it glows to indicate the transmitting status. |
| ■ Busying indicator | When the channel is busy, the display shows |
| ■ PTT key | When 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 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 [**#TR**] 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 [**#TR**] 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

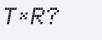
The Scan version is very useful to monitor the channels before transmitting.

1. Scan channels or frequency

In Channel/Frequency status, press [**MENU**]+[**1 SCAN**], 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**] + [**2 PRI**], 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

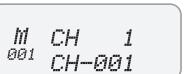
Long press the [A/B] key to enter or exit the double-standby mode. In double-standby mode, there will be two channel A or B instructions.

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



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



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

453.700: Indicates the frequency of the current channel.

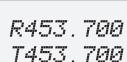
3) The receiver frequency and transmit frequency on the current channel



R 453.700: Indicates receiving frequency on the current channel

T453.700: Indicates transmitting frequency on the current channel

3. Frequency mode



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 M 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:

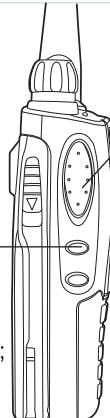




Side key operation

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 [**VFOMR**],
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 [**VFOMR**].

(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**] + [**VFOMR**] + [**#T-R**] key until the screen displays the word "CAL". "CAL" character flashes if the emergency call channel have been stored, you can press [**VFOMR**] key to overwrite the channel.

Delete a memory

1. Delete one store channel

In channel mode turn off the power.

Hold down the [**VFOMR**] 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.

001 **DEL?**

001 **YES?**

RESET?

VFO?

FULL?

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 | TXSEL (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 [**MENU**] button

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

Push the [**ENTER**] key
to exit, press [**VFO/MR**]



Setting priority channel scan

In Channel mode, press [**MENU**] button

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

Push the [**ENTER**] key
to exit, press [**VFO/MR**]



Selecting the VOX sensitivity level

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

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



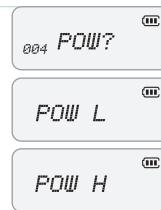

To activate and select rapidly the VOX function, you can do it also by operating on the fast menu: press the MENU key and then 3VOX and follow the procedure above described.

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.



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.



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

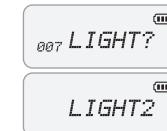
(The scrambler will be automatically OFF if menu 31 Duplex was set ON.).



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.

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



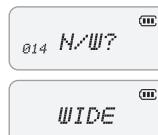
Scan mode selection

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



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



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



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.



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**] ;



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)

018 R-CDC?

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

019 T-CDC?

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 [**F0M0R**] key to exit;

020 STEP?

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.

021 CTC.S?

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.

022 DCS.S?

Backlight on/off

To turn on the backlight:

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

023 LED?

ON



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



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



Key lock mode selection

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



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



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



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



(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)

029 TX. SEL?

030 FIXED?

031 CALLIN

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

030 RPT?

031 OFF

* 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

031 DUPLEX

031 DH

(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

032 SADD?

032 ADD

032 DEL

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



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- 470MHz, other custom |
| Working Temperate | -20°C -+50°C |
| 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 | <5W |
| Max Frequency Deviation | ≤ 2.5KHz |
| Audio Distortion | ≤ 5% |
| Modulation Character | +3dB-3dB |
| Adjacent Channel Power | ≥ 65dB |
| Spurious Radiation | ≤ 7.5UW |
| Occupied Bandwidth | ≤ 11 KHz |

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

FCC Caution

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

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.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

RF Exposure Compliance and Control Guidelines and Operating Instructions

This equipment complies with FCC radiation exposure limits set forth for a controlled environment .

To control your exposure and ensure compliance with the occupational/controlled environment exposure limits always adhere to the following procedures.

Guidelines:

- Do not remove the RF Exposure Label from the device.
- User awareness instructions should accompany device when transferred to other users.
- Do not use this device if the operational requirements described herein are not met.

Operating Instructions:

- Transmit no more than the rated duty factor of 50% of the time. To transmit (talk), push the Push-To-Talk (PTT) button. To receive calls, release the PTT button. Transmitting 50% of the time, or less, is important because this radio generates measurable RF energy exposure only when transmitting (in terms of measuring for standards compliance).
- Hold the radio in a vertical position in front of face with the microphone (and the other a parts of the radio, including the antenna) at least one inch (2.5 cm) away from the nose. Keeping the radio at the proper distance is important because RF exposures decrease with distance from the antenna. Antenna should be kept away from eyes.
- When worn on the body, always place the radio in a Xiamen Puxing Electronics Science& Technology Co., Ltd approved clip, holder, holster, case, or body harness for this product. Using approved body-worn accessories is important because the use of Xiamen Puxing Electronics Science& Technology Co., Ltd or other manufacturer' s non-approved accessories may result in exposure levels, which exceed the FCC's occupational/controlled environment RF exposure limits.
- If you are not using a body-worn accessory and are not using the radio in the position in front of the face, then ensure the antenna and the radio are kept at least 2.5 cm (one inch) from the body when transmitting. Keeping the radio at the proper distance is important because RF exposures decrease with increasing distance from the antenna.
- Use only Xiamen Puxing Electronics Science&Technology Co., Ltd approved supplied or replacement antennas, batteries, and accessories. Use of non- Xiamen Puxing Electronics Science&Technology Co., Ltd approved antennas, batteries, and accessories may exceed the FCC RF exposure guidelines.