

For optimum performance from this product, please read this manual and the supplied Safety Information Booklet carefully before use.  
Do not use this radio or charge the battery in an explosive environment, such as gas, dust, smoke, etc. Do not leave the radio in a dusty or wet environment. It is very important for the user to understand all instructions before using the radio.

#### Device Checking

Thank you for purchasing this portable transceiver.

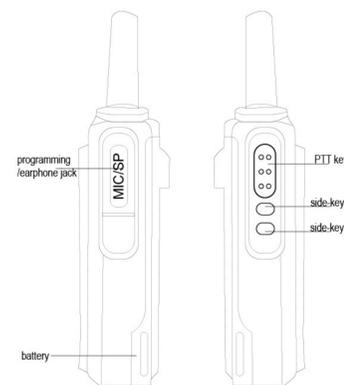
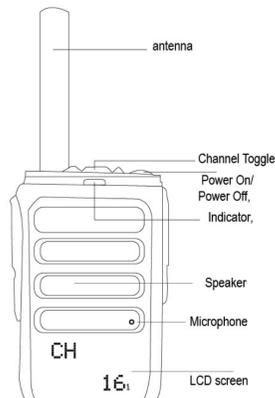
Before using:

1. Please check whether the packing box is damaged or not.
2. Please unpack packing box carefully, and confirm the following list of items are in the box. If any items are missing or have been damaged during shipment, please contact radio supplier immediately.

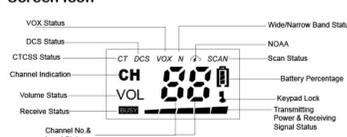
#### Supplied Accessories

| ITEM           | QTY |
|----------------|-----|
| Transmitter    | 1   |
| Antenna        | 1   |
| Li-ion Battery | 1   |
| Charger        | 1   |
| Belt Clip      | 1   |
| Strap          | 1   |
| Manual         | 1   |

#### Familiar with the Transmitter



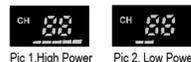
#### Screen Icon



#### Function and Operation Instruction

##### 4.1 Transmitting

Press the PTT and transmit the signal at current channel, the indicator light turns red and the signal bar lights. If the transmitting power is high, the signal bar is fully lights, refer to Pic 1. If the transmitting power is low, the signal bar does not light fully, refer to Pic 2.



##### 4.2 Receiving

When the device receives the same frequency signal and matches the same CTCSS, the indicator light turns green, the speaker has audio and the receiving status and

signal bar light at the same time, refer to Pic 3



Pic 3. Receiving Status

#### 4.3 CTCSS/DCS Setting

Enable sidekey1 or sidekey2 to have CTCSS/DCS function via software, press the relevant key to enter the CTCSS/DCS manual setting. The screen will display the matched code with current channels, please refer to CTCSS/DCS table 5.1 & 5.2 CTCSS indicator and DCS indicator light at the same time, which means no CTCSS/DCS code at current channel, refer to Pic 4;

CTCSS indicator lights, which means having CTCSS code at current channel, refer to Pic 5;

DCS indicator lights, which means having DCS code at current channel, refer to Pic 6.

Changing the current CTCSS/DCS via channel switching key, long press the key to fast changing the code, then press side-key 1 to confirm the setting, press side-key 2 to cancel and exit the setting.



Pic 4 no CTCSS/DCS Code Pic 5 CTCSS Code



Pic 6 DCS Code

##### 4.4 Monitor

Enables side-key 1 or side-key 2 to Monitor function, press the relevant key to enter the receiving status, then monitor the same signal with the current channel.

##### 4.5 Scanning

Programming side-key 1 or side-key 2 to Scan function, long press the relevant key to enter the scanning status, the Scan icon lights, and the scanning starts, refer to the scanning status of Pic 7.



Pic 7 Scanning Status

##### 4.6 VOX

Programming the side-key 1 or side-key 2 to VOX function, press the relevant key to activate the VOX icon, then the function activates, refer to Pic 8.



Pic 8 VOX Status

##### 4.7 Power Selection

Programming the side-key 1 or side-key 2 to High power selection function, long press the relevant key to change the current power. Select the transmitting power accordingly to make sure that battery is used reasonably

##### 4.8 Emergency Alarm

Programming the side-key 1 or side-key 2 to Emergency Alarm function, long press relevant key to transmit the alarm signal to the device which is with same frequency.

##### 4.9 Keypad Lock

The keypad will be locked when the device unused for a certain time, and the keypad lock icon shows on the screen at the same time. Keypad can be unlocked by long pressing the channels switching key or pressing the PTT button.



Pic 9 keypad Lock icon

##### 4.10 NOAA

Programming the device to open the NOAA function, the NOAA icon lights, refer to Pic 10. When the device is under standby status, it will receive the NOAA signals at the same time. When the device receives the 105Hz alarm signals, the NOAA status will show on the screen, receive and broadcast alarm signal, refer to Pic 11. Press the PTT button to exit the NOAA status. Programming side-key 1 or side-key 2 to NOAA function, long press relevant key to enter NOAA signals, refer to Pic 12. Switching the NOAA channels by channel selection key. When the device is standby for 15s, it will enter scanning status to scan 11 NOAA channel signals. Same operation to exit the NOAA.

After programming the side-key 1 or side-key 2, press the power button together with NOAA key to open or close NOAA. So set the NOAA if needed



Pic 10 active NOAA Pic 11 NOAA receiving status Pic 12 NOAA channel

#### CTCSS/DCS & NOAA Tables

##### 5.1 CTCSS Table

| No. | CTCSS Code |
|-----|------------|-----|------------|-----|------------|-----|------------|
| 1   | 87.8 Hz    | 11  | 87.4 Hz    | 21  | 136.5 Hz   | 31  | 192.8 Hz   |
| 2   | 71.9 Hz    | 12  | 86.0 Hz    | 22  | 141.3 Hz   | 32  | 203.5 Hz   |
| 3   | 74.4 Hz    | 13  | 103.5 Hz   | 23  | 146.2 Hz   | 33  | 219.7 Hz   |
| 4   | 77.0 Hz    | 14  | 107.2 Hz   | 24  | 151.4 Hz   | 34  | 218.1 Hz   |
| 5   | 79.7 Hz    | 15  | 110.9 Hz   | 25  | 156.7 Hz   | 35  | 225.7 Hz   |
| 6   | 82.5 Hz    | 16  | 114.8 Hz   | 26  | 162.2 Hz   | 36  | 233.6 Hz   |
| 7   | 85.4 Hz    | 17  | 118.8 Hz   | 27  | 167.9 Hz   | 37  | 241.8 Hz   |
| 8   | 88.5 Hz    | 18  | 123.0 Hz   | 28  | 173.8 Hz   | 38  | 250.3 Hz   |
| 9   | 91.5 Hz    | 19  | 127.3 Hz   | 29  | 179.9 Hz   |     |            |
| 10  | 94.8 Hz    | 20  | 131.8 Hz   | 30  | 186.2 Hz   |     |            |

##### 5.2 DCS Table

| No. | DCS Code |
|-----|----------|-----|----------|-----|----------|-----|----------|
| 1   | D000N    | 22  | D143N    | 43  | D310N    | 64  | D502N    |
| 2   | D005N    | 23  | D152N    | 44  | D311N    | 65  | D546N    |
| 3   | D009N    | 24  | D158N    | 45  | D312N    | 66  | D565N    |
| 4   | D013N    | 25  | D165N    | 46  | D313N    | 67  | D606N    |
| 5   | D017N    | 26  | D173N    | 47  | D314N    | 68  | D610N    |
| 6   | D021N    | 27  | D182N    | 48  | D315N    | 69  | D624N    |
| 7   | D025N    | 28  | D192N    | 49  | D316N    | 70  | D627N    |
| 8   | D029N    | 29  | D203N    | 50  | D317N    | 71  | D631N    |
| 9   | D033N    | 30  | D215N    | 51  | D411N    | 72  | D632N    |
| 10  | D037N    | 31  | D228N    | 52  | D412N    | 73  | D654N    |
| 11  | D041N    | 32  | D242N    | 53  | D413N    | 74  | D652N    |
| 12  | D045N    | 33  | D257N    | 54  | D414N    | 75  | D654N    |
| 13  | D049N    | 34  | D273N    | 55  | D415N    | 76  | D713N    |
| 14  | D053N    | 35  | D290N    | 56  | D416N    | 77  | D712N    |
| 15  | D111N    | 36  | D308N    | 57  | D417N    | 78  | D723N    |
| 16  | D115N    | 37  | D327N    | 58  | D418N    | 79  | D712N    |
| 17  | D119N    | 38  | D347N    | 59  | D419N    | 80  | D732N    |
| 18  | D123N    | 39  | D368N    | 60  | D420N    | 81  | D731N    |
| 19  | D127N    | 40  | D390N    | 61  | D503N    | 82  | D743N    |
| 20  | D131N    | 41  | D413N    | 62  | D504N    | 83  | D754N    |
| 21  | D135N    | 42  | D437N    | 63  | D516N    |     |          |

##### 5.3 NOAA Table

| No. | Frequency    |
|-----|--------------|
| 1   | 162.55000MHz |
| 2   | 162.40000MHz |
| 3   | 162.47500MHz |
| 4   | 162.42500MHz |
| 5   | 162.45000MHz |
| 6   | 162.50000MHz |
| 7   | 162.52500MHz |
| 8   | 161.65000MHz |
| 9   | 161.77500MHz |
| 10  | 161.75000MHz |
| 11  | 162.00000MHz |

#### Technical Specification

| General                           |   |
|-----------------------------------|---|
| Frequency Range                   | 151.82MHz, 151.88MHz, 151.94MHz, 154.57MHz, 154.69MHz |
| Channel Capacity                  | 5   |
| Working Voltage                   | 3.7V DC   |
| Working Mode                      | same frequency simplex/different frequency simplex    |
| Antenna                           | whip  |
| Frequency Stability               | ±2.5ppm   |
| Transmitter                       |   |
| Output Power                      | 2W  |
| Modulation Mode                   | F3E   |
| Minimum Frequency deviation (WIN) | ±5KHz / ±2.5KHz                                       |
| SNR (WIN)                         | 45dB / 40dB   |
| Transmitting Current              | ≤1300mA   |
| Receive                           |   |
| Sensibility (WIN)                 | 0.22μV / 0.25μV 12dB SINAD                            |
| Inter modulation (WIN)            | 65dB / 60dB   |
| Audio Distortion                  | <5%   |
| Audio Power                       | ≤1W (8 Ω)   |
| Receiving Current                 | ≤500mA  |
| Standby Current                   | ≤60mA   |

NOTE: Above parameters are subject to change without prior notice!

## FCC Warning

Any Changes expressly or modifications not 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.

SAR tests are conducted using standard operating positions accepted by the FCC with the device transmitting at its highest certified power level in all tested frequency bands, although the SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value.

Before a new model device is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the exposure limit established by the FCC. Tests for each device are performed in positions and locations (e.g. at the ear and worn on the body) as required by the FCC.

This radio complies with FCC exposure limits for uncontrolled environment at operating duty factors of up to 50%. The device was test for typical body-worn operations and head face up operations keep the device at least 25mm from the face.