

## Function Settings

CTCSS (Hz)					
67.0	69.3	71.9	74.4	77.0	79.7
82.5	85.4	88.5	91.5	94.8	97.4
100.0	103.5	107.2	110.9	114.8	118.8
123.0	127.5	131.8	136.5	141.3	146.2
151.4	156.7	159.8	162.2	165.5	167.9
171.3	173.8	177.3	179.9	183.5	186.2
189.9	192.8	196.6	199.5	203.5	206.5
210.7	218.1	225.7	229.1	233.6	241.8
250.3	254.1				

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

- **Squelch:** Filtering out the intensity is not enough to generate clear incoming signals to eliminate unwanted noise. The lower the noise level, the easier to receive the signals. And at the same time, it will be affect the interface of the useless calling. The higher the noise

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level, the more useless calls will be filleted. However, calls from remote locations will be filleted out. The level of 0-9 can be selected, and the default setting is users can set the suitable squelch level according their needs.

- **Transmitting Power:** Allow users adjust the radio's transmitting power high/low by menu. High power display: H, low power display: L.
- **Talk Around:** When the radio works in the repeater mode, but the transfer service is not available, the radio can open the talk around function to enter communicate. When open the talk around function, the screen will display **[+]** and enter the talk around mode, the radio use TX frequency to transmitted, so the two radios can achieve communicate directly.

**Note: 1.If want to enable this function, the RX frequency and the TX frequency must be different, and the channel must check the talk around function by programmable software.**

**2.If the side key set as repeater/talk around function, also can open the talk around function.**


- **Wide/Narrow Band(only support analog channel):** Allow users set up the radio's wide/narrow band by menu. Select wide band the main interface is not displayed, and the N is displayed when selected narrow band.
- **Busy Channel Lockout:** Allow users select a state of lockout by menu, select turn off, busy channel lockout can't work. Select carrier, this channel is not allow transmit when with carrier. Select subsonic/code, this channel is prohibit launching when the subsonic or code is matched.

**Note: If the transmission prohibits fast key over overwrite check of programmable software overall setting, when the channel**

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is busy, press the launch key twice within one second can launch again.

● **Time Out Timer:** Time out timer function can prevent the current channel occupied too long by single user. For the much busier channel, can set much shorter TOT. If the continuous launching time exceed the set value, the radio has the “beep” warning sound, and automatically terminate the launch. TOT can set by programmable software, 15-495 seconds, default 60 seconds, step 15 seconds.

● **VOX:** Sounds control let you don't press PTT key when launch, when the function is opened, the launch operation can be launch directly through the voice. When the voice stops, the launch is automatically ended. It allows users open the VOX control by menu, and the screen shows . The overall setting in programmable software can be set of 1~10 levels, or set turn on/off in the channel.

● **Digital Encryption (Only supports digital channel):** Voice encryption function can ensure the language communication safety. Allows users select turn on/off or through radio's menu or by software select basic encryption function and set encryption key by radio menu. Open the radio's encryption function, the voice encryption function is same and the encryption key is same can communicate. If your radio receive different encryption key's call, then you will hear confusion.

**Note:** The voice encryption function only valid in digital mode.

● **Power Save:** Enable this function can make the free radio automatically enter the power save mode, power save mode can extend the battery's life, but will causes the respond time delay. The waking time is 1:4, after the radio enter the power save mode. The main interface shows 1:4 after opened the power save.

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**Note:** The power save is invalid when open the double capacities directly mode.

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● **Prompt Tone:** Allows users turn on/off prompt tone by menu. Including all tones, call licenses and keyboard setting, all tones control all hints, including the voice number, if turn off all hints, the alarm sounds also can still played normal.

● **Backlight:** Allows users to change backlight setting by menu, backlight can both control the screen and keyboard light at the same time. That is often open, often off, 5 seconds, 10 seconds, can optional. If the choice is 10 seconds, the radio will not carry out any key operation and the backlight will extinguished within 10 seconds. It choose to open often, the backlight will be bright.

● **Keypad Lockout:** Allows users select automatic lock time and manual lock or long press “return” key to lock the keypad by menu. Keypad lock in addition PTT key, side key can't carry out other key operation. Long press return key to unlock.

● **Indicator Lights:** Allows users turn on/off the LED indicator lights of the radio by menu, if necessary, set turn off the LED indicator light, it will prohibit the launch and reception of scan and the LED lights are not bright. Users should be careful turn off the LED indicator light, this setting will not effect the screen and keypad backlight.

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● **Mode Selection:** Allows users select serial number, name, frequency channel display mode by menu, the main interface will displayed according to the selected mode.

● **Power on Interface:** Users can selected pictures or preset characters in different power on style according to preference, and can modified the picture by programmable software and preset characters.

● **Language Selection:** it can support three languages of Chinese/Korean/English.

**Note: Korean/English and Chinese/English do not support text message.**

### ■ Radio Information

● **My Number:** Allows users to query this radio's ID number by menu, which can only be accessed not set (Only can modified the settings by programmable software).

● **Facility information:** Allows users to query radio's facility information by menu, which including type information, serial number, CPS version, hardware version, firmware version, DSP version and the programmable time (also can read through by programmable software).

### ■ Radio Configuration

● **RX Frequency:** check the current channel RX frequency (it can be modified by programmable software).

● **TX Frequency:** check the current TX frequency (it can be modified by programmable software).

● **Channel Name:** check the current channel name (it also can be modified by programmable software).

● **Color Code (Only support digital channel):** Users can modify

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the color code according their needs, there are 0-15 optional (it also can modified by programmable software).

● **Time Slot (Only support digital channel):** Users can modify the time slot according their needs, there have time slot 1, time slot 2 options (it also can modified by programmable software).

### ■ Keypad Programmable

Users can set up SK1 key, SK2 key, P1 key, P2 short press and long press function in the radio programmable menu by there needs.

There are several function as follows:

- |   |                                |                     |
|---|--------------------------------|---------------------|
| 1.None function   | 2.Beeper on/off                | 3.Emergency mode on |
| 4.Emergency mode off  | 5.High/low frequency selection |                     |
| 6.Monitor (support analog, digital can monitor different ID number) |                                |                     |
| 7.Noise channel temporary deletion                                  |                                |                     |
| 8.one touch to access 1   | 9.one touch to access 2        |                     |
| 10.one touch to access 3  | 11.one touch to access 4       |                     |
| 12.one touch to access 5  | 13.one touch to access 6       |                     |
| 14.Repeater/talk around   | 15.Scan on/off                 |                     |
| 16.Encryption on/off  | 17.VOX launch on/off           |                     |
| 18.Zones switchable   | 19.Battery power indicator     |                     |
| 20.Lone worker on/off   | 21.Exit phone                  |                     |

**Note: When select “emergency on” or “emergency mode off”, the same button short or long press will be related each other.**

### Zone




The radio can support 250 zones at most, one zone can add 16 channels at most, 250 zones can support 4000 channels at most. Through the menu zone options, you can enter the selected zone in

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the zone list, or set as zone switchable function in the programmable keypad, and then the enter the zone switchable (it should be set two or more zones can make the zone switchable).

### Scan

- Your radio can support 16 scanning list at most and with a maximum of 32 members for per scan list, each scan list supports a mixture of analog and digital channel, you can add/delete channel or set priority for the channel by editing scanning list. The scanning modes support time scan and carrier scan.

- The current channel scan list add the scan group contains at least 2 channels to open the scan channel function. When scanning, listen to the channels in the scan list and check whether there have the voice activities in each channel. If set the priority level, open the scan, the screen displays the distinction of scan logo, no priority displays , priority 1 displays , priority 2 displays , the LED indicator light flash orange. When scanning is active to a certain channel will stop to receive. If receive the unnecessary call, press programmable key noise channel to temporary delete and it can temporarily removed from the current channel in the scanning list. If want to close scan, can long press keypad programmable key quickly enter scan off or enter scan menu to select scan off, switch the channel or press programmable key scan on/off to exit the current scan.

**Note:1. If channel checks the automatically scanning function, when switched to this channel, the device automatically enter scan.**

**2.When programmable key function is set to scan turn on/off, it can be opened scan directly by programmable key.**

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### ■ Digital Emergency Alarm

Emergency mode is used to express emergency situation. You can launch emergency alarm at any time in any screen to enter emergency mode. This radio supports three alarm types, three kinds of emergency alarm.

#### Emergency Types:

**Routine:** When the radio launch the emergency alarm, the screen displays emergency mode and the alarm tone are continuously played.

**Silence:** When launch an emergency alarm, there is no prompt on the screen and no alarm bell is played, and no voice calls that match the reception are played.

**Silence with Voice:** When the radio launch the emergency alarm, there is no prompt on the screen and no alarm bell is played, but any voices calls that match the reception are played.

#### Emergency Modes:

**Emergency Alarm:** The radio launch the emergency alarm, when receive the confirmation or trail times then will exit the “emergency” mode.

**Emergency Alarm and Calls:** Once press “emergency alarm” key, it will sent emergency alarm, then can through press PTT key to launch emergency call.

**Emergency Alarm and Voice:** Once press “emergency alarm” key, it will sent emergency alarm, then the voice can be sent automatically.

#### ● Sent Emergency Alarm

The current channel adds an emergency system and reply channel set as the channel. Then can sent emergency information at the

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current channel. Press the set emergency mode to turn on function key, LED indicator light flash red, the upper screen displays “emergency alarm” and alarm group calls contact and group calls.

### ● Exit Emergency Alarm

In normal+emergency alarm mode, when the number of attempts to send an alarm arrives or press the set emergency mode turn on function key, exit the alarm. Or press PTT key will automatically alarm mode. In the unconventional alarm mode, press the set emergency mode turn on function key to exit alarm mode.

### ● Receive Emergency Alarm

If activated, your radio will automatically confirm emergency alarm. When radio receive the emergency alarm, the interface will display emergency alarm, the ID or name of the alarm initiator, and continuously played the prompt. Otherwise there is no hint. Exit emergency alarm, press emergency alarm turn on function key.

## DTMF

Analog Channel, DTMF function allow radio system with interference to operate radio in the radio system.

**1.Initiating:** Under analog mode, press the programming key to start the DTMF call (programmable key should preset one touch key to connect DTMF calling ID number then can be used). After confirm the hint played, then press PTT to talk.

**2.Receiving:** Programmable software set the receive signal of current channel is DTMF, when the decode number is DTMF personal ID number, decode succeed and played bells, and can communicate with the other in the reset time. When the reset time comes, it needs to decode again. The decode number as kill code or waken code

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and the machine will be killed or awakened.

## PTT ID

**Initiating:** Under analog mode, it can set the line code and down line code of DTMF by programmable software, analog channel enable line and down line code, each time press PTT send line code, release PTT sent down line code.

## Encryption

You can use digital or analog way to initiate or remote kill in the radio system. For example, you may want to stop using a stolen radio to prevent thieves from using it and enable it when recovering.

**Note: The execution or activation of the radio is limited to open (set up on programmable software) the function of radio.**

## Lone worker

Work alone can suitable to the individual working in an unexpected situation during work, and can't make keystrokes or voice launch in the preset time, and the radio can automatically enter alarm to get help. By checking the “work alone” option from programmable software digital mode channel, the overall settings set up a work alone response time and reminder time. The response can be selected as keystroke operation and voice launch.

**Note: 1.Only support digital mode channel.**

**2.When an emergency system is not selected, this function is disabled.**




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### Battery Level

Press the pr-programmable key can view the remaining battery voltage, so that users can understand battery usage and charge the battery timely. The main interface battery displays.

### Defaults for Factory Reduction

- In the showdown mode, press top key and number key 1 at the same time then turn on, the radio displays “Memory Reset?” press  key to enter initialization, the radio displays “Memory Reset...” 5 seconds or so to initialize succeed and power on normal.
- Power failure is not allowed during initialization, otherwise initialization fails.

## Troubleshooting

Symptom	Try This
No power	<ul style="list-style-type: none"><li>● Battery power may have run out, please update battery or recharge it.</li><li>● Battery may not be properly installed, please take it off and re-install.</li></ul>
Battery lasts a short time after charge	<ul style="list-style-type: none"><li>● The battery life is over, please replace new battery.</li></ul>
Can not talk to other members of your group	<ul style="list-style-type: none"><li>● Verify transmitting is within effective operating range.</li><li>● Verify channel, frequency and code settings are correct.</li></ul>
Hearing other conversation on a channel (not group members')	<ul style="list-style-type: none"><li>● Please change code settings, including all two way radio settings of your group.</li></ul>

## The FCC warning

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.

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.
- (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 FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. Verification of harmful interference by this equipment to radio or television reception can be determined by turning it off and then 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.

## FCC Radiation Exposure Statement:

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

This radio is NOT intended for use by the "General Population" in an uncontrolled environment. This radio has been tested and complies with the FCC RF exposure limits for "Occupational Use Only".

In addition, our radio complies with the following Standards and Guidelines with regard to RF energy and electromagnetic energy levels and evaluation of such levels for exposure to humans:

---IEEE Std. 1528:2013 and KDB447498, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.

---American National Standards Institute (C95.1-1992), IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

---American National Standards Institute (C95.3-1992), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields-RF and Microwave.

The information listed above provides the user with the information needed to make him or her aware of RF exposure, and what to do to assure that this radio operates with the FCC RF exposure limits of this radio.

### **Electromagnetic Interference/Compatibility**

During transmissions, The radio generates RF energy that can possibly cause interference with other devices or systems. To avoid such interference, turn off the radio in areas where signs are posted to do so.

DO NOT operate the transmitter in areas that are sensitive to electromagnetic radiation such as hospitals, aircraft, and blasting sites.

### **Occupational/Controlled Use**

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

This radio complies with IEEE and ICNIRP exposure limits for General Population/Uncontrolled Environments RF exposure environment at operating duty factors of up to 50% and is authorized by the FCC for General Population use only. An appropriate warning label is affixed to all units. In order to comply with RF exposure requirements, a minimum distance of 2.5 cm must be maintained when held-to-face, and body-worn operations are restricted to the approved original accessories (belt clip), a minimum distance of 0 cm. Do not use this device when antenna shows obvious damages.

**WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.**



## Warranty Card

Contact: \_\_\_\_\_

Company Name: \_\_\_\_\_

ADD: \_\_\_\_\_ Post Code: \_\_\_\_\_

Tel: \_\_\_\_\_ Mob: \_\_\_\_\_

Fax: \_\_\_\_\_ Email: \_\_\_\_\_

Purchasing: \_\_\_\_\_ Model No.: \_\_\_\_\_

Serial No.: \_\_\_\_\_ Purchasing Date: \_\_\_\_\_

S/N: \_\_\_\_\_ (EAN) \_\_\_\_\_

Warranty Card No.: \_\_\_\_\_

Trouble Description:

\_\_\_\_\_  
\_\_\_\_\_

### Terms and Conditions

1) This warranty is provided only for product purchased from authorized dealer of hereinafter called.

2) Warrants this product to be free from manufacturer's defects for a specified period.

3) Within the specified warranty period, will repair or replace non consumable parts (excluding casing, accessories, batteries, cable and consumable) that are damaged under normal use (by judge of ) at no additional charge.

4) The warranty will not be covered under the following conditions.

A, Out-of-warranty products.

B, The product is modified without approval.

C, Obvious attack of appearance whatever it is.

D, The product is subjected to unusual physical or electrical stress, including physical damage ,burnt components and broken connectors, and watered radio.

E, The serial number label is removed or altered.

5) This warranty card must be presented together with dealer's invoice when the defective product is returned for repair. Otherwise, reserve the right of not providing free warranty during the warranty period.

6) The customer is responsible for returning the defective product at his own expense.

7) Your warrant period is calculated from the date of invoice of this product.