HYDX

D200/D800
Digital DMR Two-way Radio

User's Manual

HYDX

Fujian Juston Electronic Equipment Co.,Ltd.

www.hydxradio.com
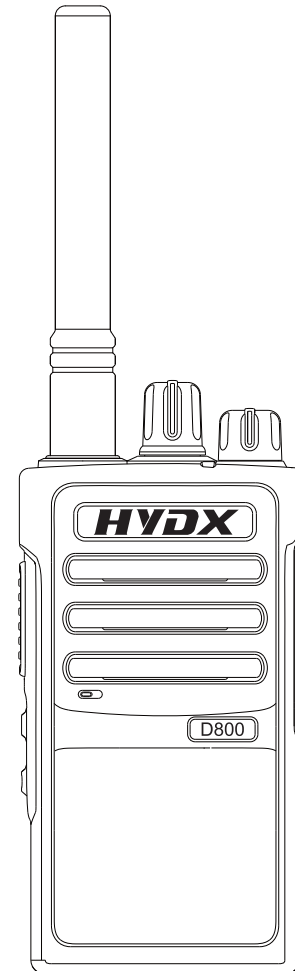
D800

DMR
DIGITAL MOBILE RADIO ASSOCIATION

HYDX-D200/D800 User Manual

Thank you for buying hand held walkie talkie. We believe this simple,stable,beautiful and widely used in all industries and area of professional wireless communications equipment will give you a great surprise. This product is for professional commercial or amateur frequencies, it is necessary to apply for permission to the wireless administrator organization of the provinces and autonomous regions in there local country.
Please read this manual carefully in order to know how to properly operate the radio before use.

Contents

Unpacking and Checking Equipment

Welcome to use hand-held radio,before using we suggest you:
·Please check the packing box of this product and see if there are signs of damage.
·Please open the packing box carefully. We recommend that you identify the items listed in the following packing list. if you find that our product and its accessories in handling are lost or damaged during the shipment. Please immediately contact dealers.
Parts List

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

Preparation

Using the Battery
The battery is not completely charged at the factory, please charge it before using.
To extend the battery life time, please power off the batteries when you don't use two way radio, and save battery in a cool (temperature less than 25℃)and dry place.

Precautions of Charging Equipment
1. Do not expose the charger to rain or snow.
2. Do not operate or disassemble the charger if it has received a sharp blow, or has been dropped or damaged in any way.
3.Never alter the AC cord or plug provider with the unit. If the plug will not fit the outlet, have the proper outlet installed by a qualified electrician. An improper condition can result in a risk of electric shock.
4. To avoid damaging the power cord or socket, pull the plug out of the socket with a hand plug. Do not pull the plug out by pulling the power cord.
5. To reduce the risk of damage to the cord or plug, pull the plug rather than the cord when disconnecting the charger from the AC receptacle.
6.Use of an attachment not recommended or sold may result in a risk of fire, electric shock, or personal injury.
7. Make sure the cord is located so it will not be stepped on, tripped over, or subjected to damage or stress.
8.. An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in a risk of fire and/or electric shock. If an extension cord must be used, make sure that:
• Extension line cord use the same pins.
• Use 18AWG wires less than 30 meters in length and use 16 AWG wires within 45 meters.
9. Do not replace charger's power cord. If the power cord damages, you must stop using charger immediately.

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

Please Charge the Radio According to Operation Steps as Follows:
1. Inset power adapter into power supply socket.
2. Inset output terminal of power adapter into DC Jack behind the charging kit,now the charging orange indicator lights about 2 seconds then goes out.
3. Inset the battery or radio equipped with battery into the charging kit.

4.Confirm the battery and charger kit terminal contact reliably, when charging indicator light turns into red and charging starts.
5.After completion of charge (charging time is about 4 hours),light turns to be green.

Indicators Display As Following

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

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

Preparation

Installing/Removing the Battery

Insert the battery pack into the corresponding slots on the back or radio and push it. Then press the upper end of the battery until you hear a "click".
To remove the battery pack, make sure the radio off, and then unlatch the buckle, the battery from emerge from the radio, and then remove the battery.
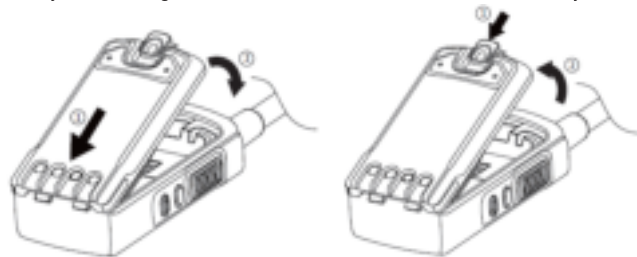
Installing/Removing the Antenna

Align the threaded of the antenna with the radio's antenna connector. Turn the antenna clockwise to fasten it. To remove the antenna, please turn the antenna counter-clockwise until you can remove it.
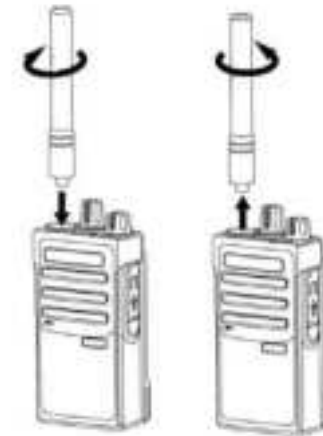
Installing/Removing the Belt Clip

If necessary , the randomly configured belt clip can be inserted into the slot on the back of the battery pack for easy carrying.
To remove the belt clip, simply press the buckle out and push it up.
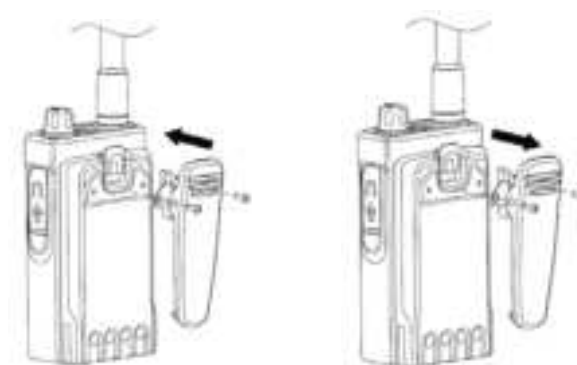
Installing Speaker/Microphone

Lift the headphone cover and insert the speaker/microphone headset directly into the speaker/microphone Jack.

Getting Familiar

- Channel Rotary
- POW/CH Switch
- Antenna
- Indicator
  - Red light at TX
  - Orange light at scanning
  - Green light at RX
  - Red flashes at low battery
- Microphone
- Speaker

- PTT
- SK1
- SK2
- Battery lock
- MIC/SP Jack
  - Connecting microphone or external USB programmable cable by PC .
- Battery Pack
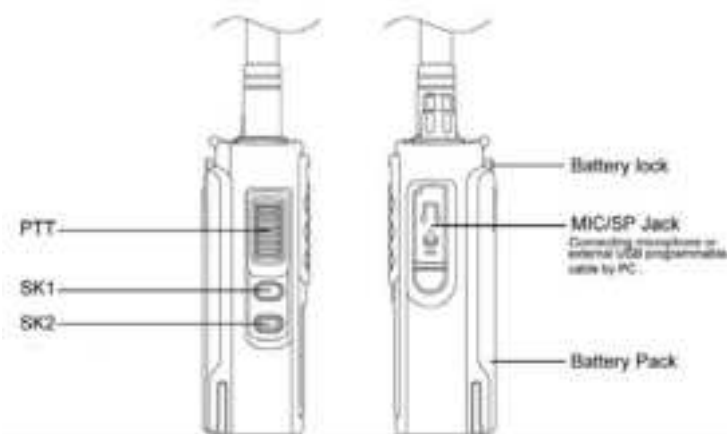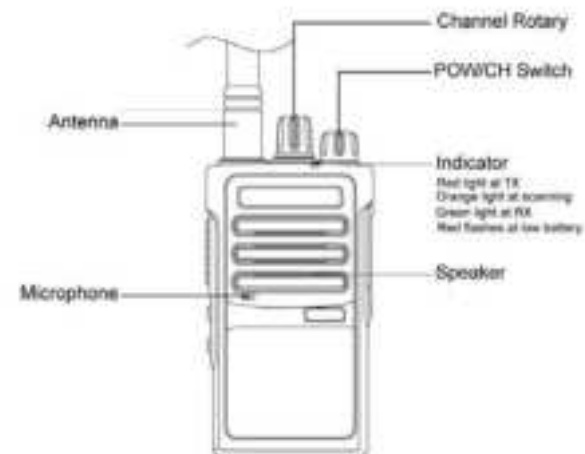
Basic Use of Keyboard:

SK1: Defined programming Key（can be set long/short press function）
SK2: Defined programming Key（can be set long/short press function）.

1	None function available
2	All beeper On/Off
3	Emgerency Active
4	Emgerency Off
5	High/Low Power Switchable
6	Monitor(Analog /Digital mode -ID code)
7	Noise Channel Temporary Delete
8	One-touch Access
9	One-touch Access
10	One-touch Access
11	One-touch Access
12	One-touch Access
13	One-touch Access
14	Repeater/Talk Around
15	Scanning On/Off
16	Encryption On/Off
17	VOX On/Off
18	Zone Switch
19	Battery Alert
20	Lone Worker
21	Recording Replay
22	Recording Switch

One-touch Access function below

1	None
2	Analog：DTMF calling ---DTMF contact
3	Digital ：Calling,kill,active,remote control –Contact

Safety

Product safety and RF Exposure for hand-held two way radio
Before using this two way radio,please read carefully the attach manual instruction in the random incidental for the safe use of the product and radio-frequency manual.

This radio is limited to professional applications that meet FCC radio-frequency energy requirement.Before using this two way radio, please read the manual which contains important operating instructions for safe usage,RF Energy/Awareness,control information and operational instructions for compliance with RF Energy Exposure limits in applicable national and international standards.Also read the operational instructions for safe use.

Overview

Switch On
Clockwise to turn on the radio volume knob, there will be a "KADA" sound, message sound and the screen will show up "Welcome", while the LED indicator lights up and becomes Green color if the battery ID full charged. Note: if the volume function is forbidden, there will not any sound when power on. Here, need to power off the radio and anticlockwise with knob until a "KADA" sound. Boot custom character content of PC can be set.

Adjust Volume
Clockwise the volume knob to higher the volume or anticlockwise to lower.

Launch Calls

Single Call
This radio supports a confirm single call, if the check is confirmed, it is necessary to detect the presence of the target radio before calling the other party.
1.When the default communication address of the digital channel is set to single call ID, press PTT key to initiate a single call for the current contact.
2.On the contact menu, select the single caller to press the PTT key to call the selected single caller.
3.When the programming key is set as a one touch to access digital single call contact, press the corresponding button and then press the PTT key can launch single call.
4.Select the single call contact in the caller/received/unconnected number, and press PTT key can launch a single call.

Group Call
1. When the default communication address of the digital channel is set as group call, can press the PTT key to launch group calling.
2. On contact's menu, select group ID then press PTT key to launch a group calling.

3.In the dialed records/received/unanswered number select group call, press PTT key can launch the group call.

4.When the programming key is set as a one touch to access digital single call contact, press the corresponding button and then press the PTT key can launch single call.

All Call

1.When the default communication address of the digital channel is set as all call ID, can press PTT key to launch all calls.

2.On the contact menu, select all call ID then press PTT key to launch all call.

3.In the dialed records/received/unanswered number select all call ID, then press PTT key can launch all call.

4. The receiver of all call can not answer all call.

Note: If the call prompt setting is enabled, press the PTT key for transmitting, the transmitter and receiver will hear a fixed hint tone.

Launch and Receive Calls

In the digital mode, received a single call and the interface display a single call, in the single call pending time , press PTT key can respond the current single call.Beyond the pending time is record as unanswered call.

Received the group call ,the interface displays group call. In the group call pending time , press PTT key can respond the current group call, beyond the pending time is record as unanswered call.

Received the all call and the interface display all call,I, the all call does not have hand up time, so can't respond the all call.

Note:1.If set the channel free instructions, when transmitter press PTT key, receiver will hear a short hint tone.

2.when the name display in the digital contact is set to closed, the calling in/out of the digital channel will not show the name, but only show the ID number, when the setting is on, digital channel calling in/out display name.

Menu Operation

Contacts
Contacts can be viewed contact list (up to 1024 digital contacts can be added)

1. Group Call Type
When the selected the directory member type as group call, group caller can view group call ID or sent message.

2. Single Call Type
When the selected contact member type as single call, to the single caller contact can view contacts, send call prompt, the detection, the remote monitoring, the activation or remote killing operation.

Call prompt: send a call prompt to assigned single call contact, requesting the other reply when communicating.The interface will display call prompt and prompting bell when the other receive the call prompt (there are 10 ring tones to choose). If the other party can not receive, it will prompt the cal prompt failure.

Radio detection: radio detection allows user to determine whether the radio is in a state of activity in the system without any instructions to the radio user. If received the respond, the successful radio interface shows that the radio detection is successful. If the respond is not received in a certain time, there is a failure prompt and the interface shows radio detection failed.

Remote monitor: send the remote monitor request, if received the remote monitor confirmation, it has successfully entered the reception interface display.

If not confirmation is received in a certain time, prompt the failure hint and the interface displays the remote monitor failed. Only when the device's signaling system "remote monitor decode" is checked,can be allowed to monitored voice activities.

Radio activated: This function can activated the dead device and make the target radio resume its normal working statue.

Radio kill: Sent radio kill command,if received the respond,the radio interface shows kill successfully and has a successful hint .If the respond is not receive in a certain time,the radio interface shows kill fail and has a failure hint.

When the signaling system receiving the radio configuration of device's kill decode is checked, can receive the radio's kill command. After being killed, the device disables all interfaces and only process the received telemetry command.

3. All Call Type
When selected contact type as all call, can view all call ID: 16777215.

Note: This radio allowed to add group call type's and single call type's contact.After input number (1~16777214),the maximum can input sixteen characters.Name input is completed,press the selected tone then press confirmation to save.After successful preservation on the interface notice:save succeed.New contact can be found in the contact list.

Function Settings

Radio Setting
This function provides some parts of radio's basic setting for user.

* Infra-acoustic Frequency(Only support analog channel): The radio analog channel supports the function to ensure the quality of the call ,when channels active ATRS function,it must be have the subsonic function(this function can be set in the programmable software). Voice output is allowed when the received subsonic is transmitting.Analog subsonic can be set ,(press P1 key to switch digital subsonic,

analog subsonic and close).Selected a subsonic value from the exiting list to encode or decode, (the specific subsonic value is referred to the CTCSS frequency table and CDCSS digital code table)

1.Decode:The radio of receiver will decode the sub-tone sent by the transmitter.The subsonic set up here matches the subsonci from the sender can open the loudspeaker and output the voice.

2.Code: Before sending the voice, the transmitter terminal sub-codes the subsonic,which is added to the voice and encode through the carrier. The receiver opens the speaker and outputs the voice when if receives the matching of the sub-tone set here.

Note: Analog channel support setting non-standard analog subsonic function (range 60Hz~259.9Hz) and non-standard digital subsonic (range 001~777), and the coding and decoding of the programmable software also can manually input non-standard subsonic values.

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 the interface of the useless calling. The higher the noise level, the more useless calls will be filleted. However, calls from remote locations will be filleted out. 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 programmable 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 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 signal 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.
Note: The power save is invalid when open the double capacities directly mode.

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.

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

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 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).

Zone
The radio can support 2 zones at most, one zone can add 16 channels at most, 2 zones can support 32 channels at most. Through the menu zone options, you can enter the selected zone in 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 zones,then can make the zone switchable).
Note : If program the SK1 as zone selection ,short press SK1 to up select the zones, long press to quit the zone selection ; short press SK2 to down select the zones ,long press to quit the zone selection .

Scan
Your radio can support 2 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, carrier scan and search 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.
There are three type scanning : non-priority , 1st priority and 2nd priority selectable .
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.
1. When programmable key function is set to scan turn on/off, it can be opened scan directly by programmable key.

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, it is not allowed to 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 allow 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 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 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.

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 ▥ three grids is sufficient of electricity, two grids is moderate, one grid shows the battery is low, if the icon turn ▢ and there is a low electric hint that the battery is in sufficient, it should be recharged as soon as possible.

Troubleshooting

Symptom	Try This
No power	Battery power may have run out,please update battery or recharge it. Battery may not be properly

	installed, please take it off and re-install.
Battery lasts a short time after charge	The battery life is over, please replace new battery.
Can not talk to other members of your group	Verify transmitting is within effective operating range. Verify chanbnel, frequency and code setting are correct.
Hearing other conversation on a channel (not group members')	Please change code settings, including all two way radio settings of your group.

Warranty Card

Contact：————————————————————————————————————
Company Name: ——————————————————————————————————
ADD: ————————————————— Post Code: ———————————
Tel: ————————————————— Mob: —————————————
Fax: ————————————————— E-mail: —————————————
Purchasing: ————————————— Model No: ————————————
Serial No : ————————————— Purchase 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 manufacture'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 warranty period is calculated from the date of invoice of this product.

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 generators 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".

Inaddition, 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 as-sure 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 complieswith IEEE and ICNIRP exposure limits for General Population/Uncontrolled Environments RF exposure emvironment at operating duty factors of up to 50% and is authorized by the FCC for General Population use only. An appropriate warning lable 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 acessories (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.