

16.2x11cm

Fujian Information Bureau(Radio Management Office)Remind:

The unit or individual who uses and the radio device must go to the related radio authority to apply for the formalities, after getting radio license can be allowed to use the radio. Set the radio station unauthorizedly、interfere radio service、work does not based on approved project and violate radio management rules, the radio regulatory agency will make an administrative punishment. The serious radio violations maybe violate the item 288 of Criminal Law or item 28 of Security Administration Punishment Act, who will be sentenced to imprisonment of not more than 3 years、joint or single fine、detained or controlled by Public Security Organs.

Warning 

- » Please turn off the transceiver in explosive environment (e.g. Coal gas、Dust、Steam etc.)
- » Please turn off the transceiver while refueling or parking at the gas station.

Precautions

Wouxun radios are high-quality with excellent design and advanced technology. The following suggestions will help user fulfil the obligation of warranty, and realize the security of using the transceiver.

1. Please put the transceiver and all accessories away from the children.
2. Please do not disassemble the transceiver as non-professional user maybe damage the transceiver.
3. Please use the company attached batterypack and charger to avoid damaging the radio.
4. Please use the company attached antenna to avoid shortening communication distance.
5. Please do not put the transceiver near to the heating appliance or expose it in the sun for a long time.
6. Please do not put the transceiver in extremely dusty, moist, watery or unstable place.
7. Please do not wash the radio with strong chemicals or strong lotion.
8. Please do not transmit before installing the antenna.
9. Turn off the power supply immediately if the transceiver emits an unusual smell or smokes, then take out the battery or batterypack and notify wouxun dealer.

NOTE

- » All the above suggestions are used for wouxun radios and accessories. Please contact with **Wouxun** dealer once the radios and accessories cannot be used.
- » Once the accessories are not produced by **Wouxun** company, the radio security and operation will not be warranted.

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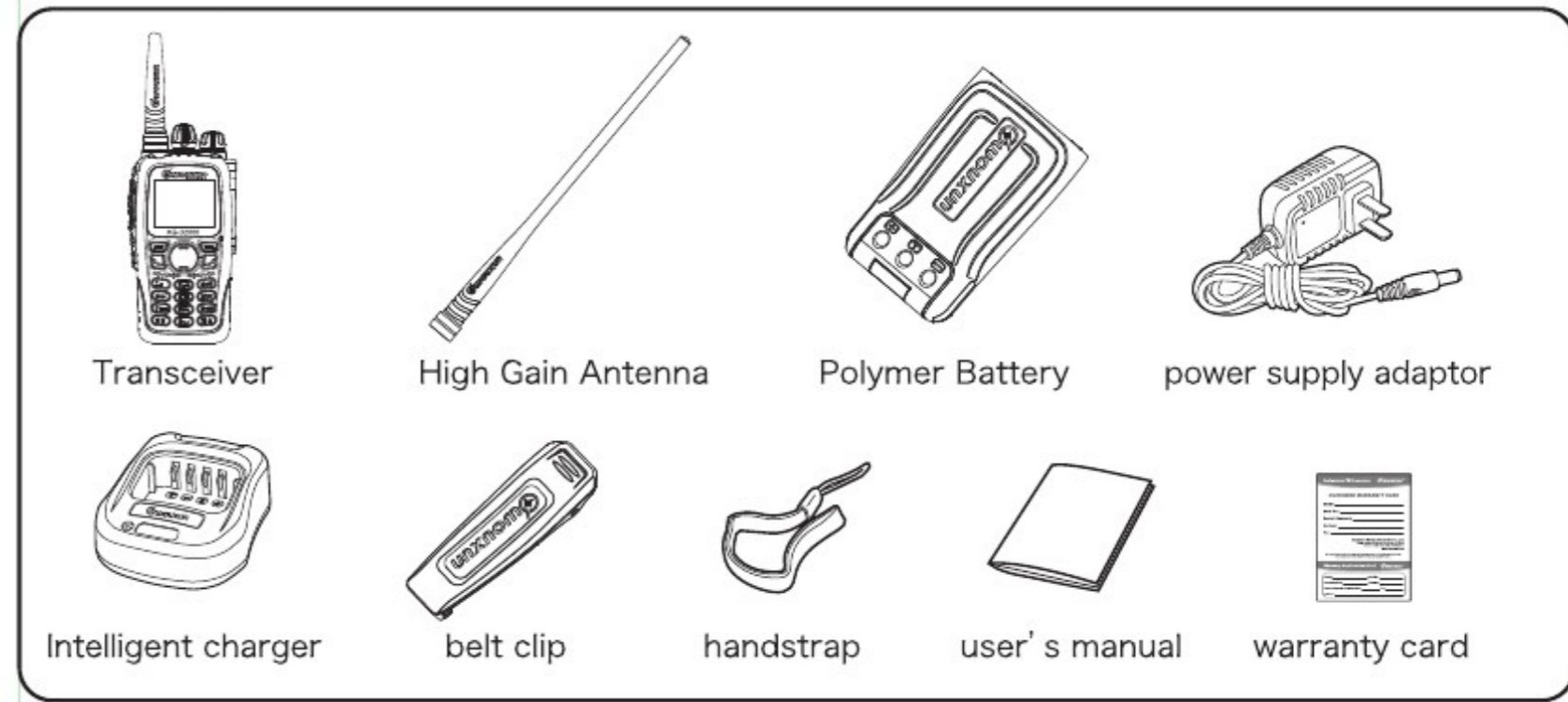
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Unpacking and Equipment Inspection

Please take out the transceiver carefully, you'd better confirm if there are following accessories before you discard the packing material. If any item is lost or has been damaged during shipment, please notify  dealer immediately.

Accessory List



Preparation

■ Charging

The batterypack may be out of voltage during the long transportation, please re-charge the batterypack with compatible charger before using it as following steps:

1. Insert power supply adaptor plug into jack of charger back.
2. Insert power supply adaptor plug into power socket.
3. Put batterypack into charger.
4. According to the following charger LED light to know the current charging status.

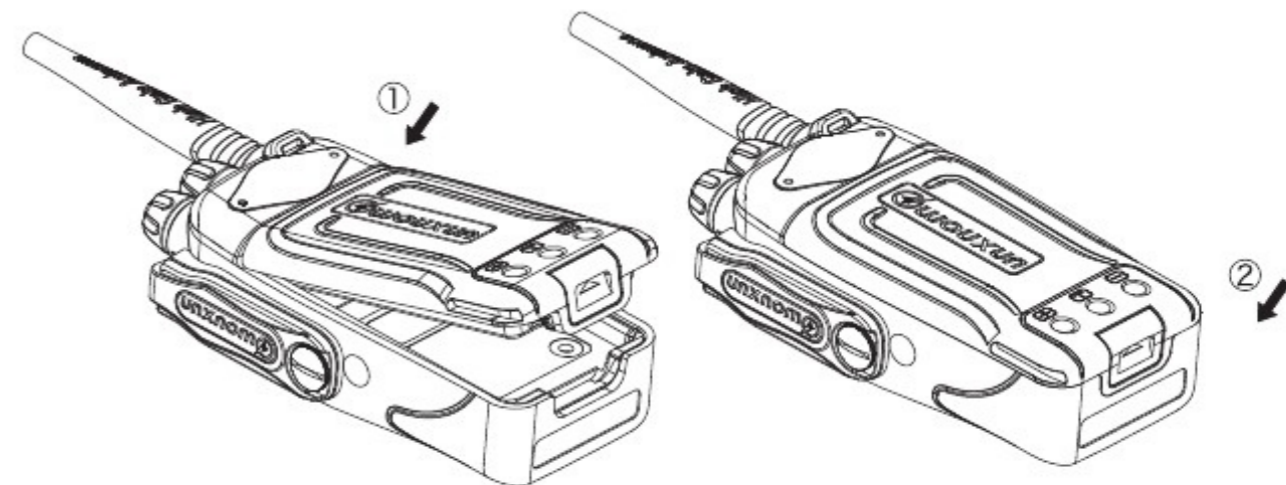
LED Indicator Light	Current Charging Status
LED(red) flash slow	Trickle charging(this status lasts 10~20minutes after put exhausted batterypack)
LED(red) always on	Charge
LED(green) always on	Full charge
LED(red) flash quick	Abnormal charging

NOTE

- » Please do not short connect the batterypack port or put it into fire.
- » Please do not take off the case of batterypack.

Preparation

■ Install Batterypack



1. Aim the two card slot of batterypack top at the card slot of the transceiver back, then press down the batterypack until a clock tone, the bottom two release latch of the transceiver are locked.
2. Please turn off the transceiver before taking off the batterypack, then lift the two release latch of transceiver back until batterypack loose, take off the batterypack.

Preparation

■ Install Antenna

Take the bottom of the antenna, aim at antenna port of transceiver top, rotate antenna clockwise until it's tight.



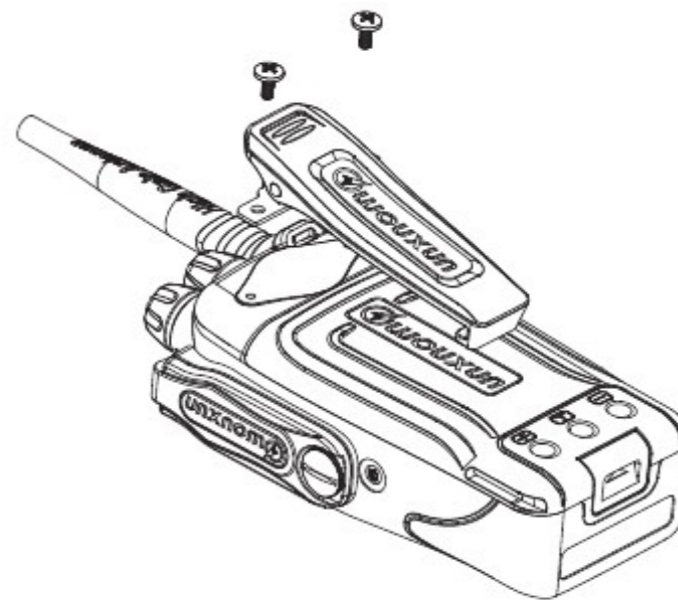
NOTE

- » Please do not hold the antenna top to swing it, or else which would reduce the antenna work performance and life.
- » Please do not rotate the antenna fiercely when install the antenna.

Preparation

■ Install Beltclip

Aim the screw holes of beltclip at radio's screw holes and lock the beltclip with two screws.



Preparation

■ Install Audio Accessory



NOTE

» Please lock the accessory port when take off the accessory to avoid influence the terminal waterproof feature.

Device Information

1) Description of Features

1. Frequency band: 136-174MHz
400-470MHz 350-400MHz 450-520MHz
2. 1000 channels
3. 1000 contacts
4. 250 receiving groups
5. 250 zones
6. 250 scan list
7. Radio ID
8. Radio TX contacts
9. Radio receive groups
10. Radio color code
11. Frequency range
12. Program key
13. Digital voice encryption
14. Emergency alarm
15. VOX function
16. Priority channel
17. Scan TX designated channel
18. Low battery power off
19. Selective backlight
20. One touch access/Talkaround
21. power-on password
22. Radio program password
23. Menu encryption
24. Menu hide
25. Power save mode
26. Group scan
27. Tail elimination
28. High(UHF: 4W VHF: 5W)/LOW Power(1W)
29. Text message
30. Radio Disable
31. Lone Work

Device Information

- 32. Radio Enable
- 33. Radio check
- 34. Call Alert
- 35. Flashlight
- 36. Clock
- 37. CTCSS encoding/decoding (support non-standard)
- 38. Recording (continuous record 8 hours)
- 39. Play recording file
- 40. Customized Interface
- 41. DTMF encoding/decoding
- 42. Transmit time-out
- 43. TOT Rekey Delay
- 44. FM Radio
- 45. Firmware upgradable

Device Information

2) Specifications

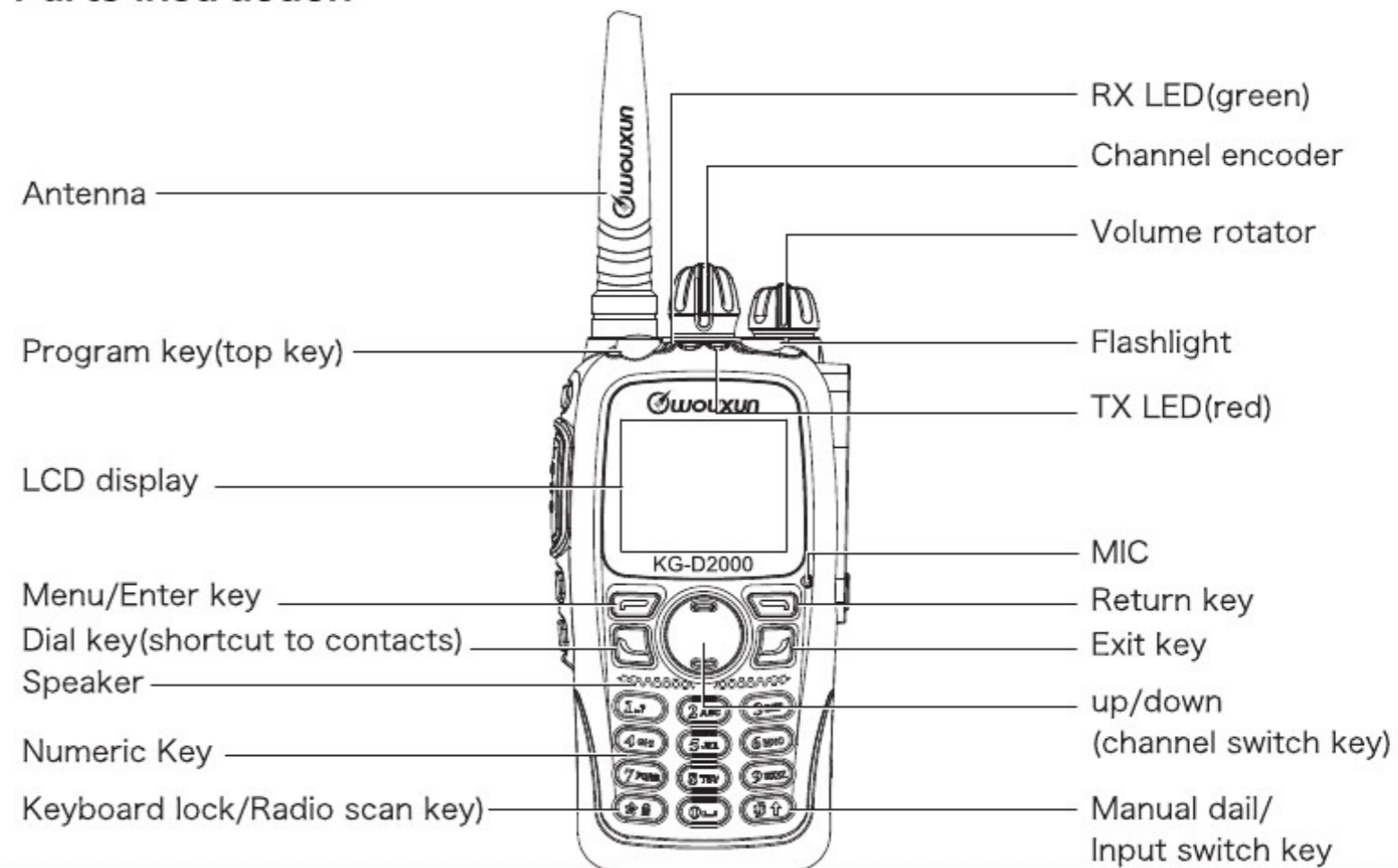
Intergration	
Frequency Band	136-174MHz 400-470MHz 350-400MHz 450-520MHz
Channel Number	1000
Operating Temperature	-20°C-40°C
Antenna Resistance	50Ω
Voltage	7.4V DC
Weight	285g
Size	130×64×35.5mm
Transmitter	
Output Power	UHF: H: 4W L: 1W VHF: H: 5W L:1W
FM Modulation	12.5KHz: 11K0F3E 25KHz: 16K0F3E
4FSK Digit Modulation	12.5KHz(data only): 7k60FXD 12.5KHz(data): 7K60EXE
Adjacent Channel Power	≤-60dB
Frequency Stability	± 1ppm
Audio Distortion	≤5%
Audio Response	+1~ -3dB

Device Information

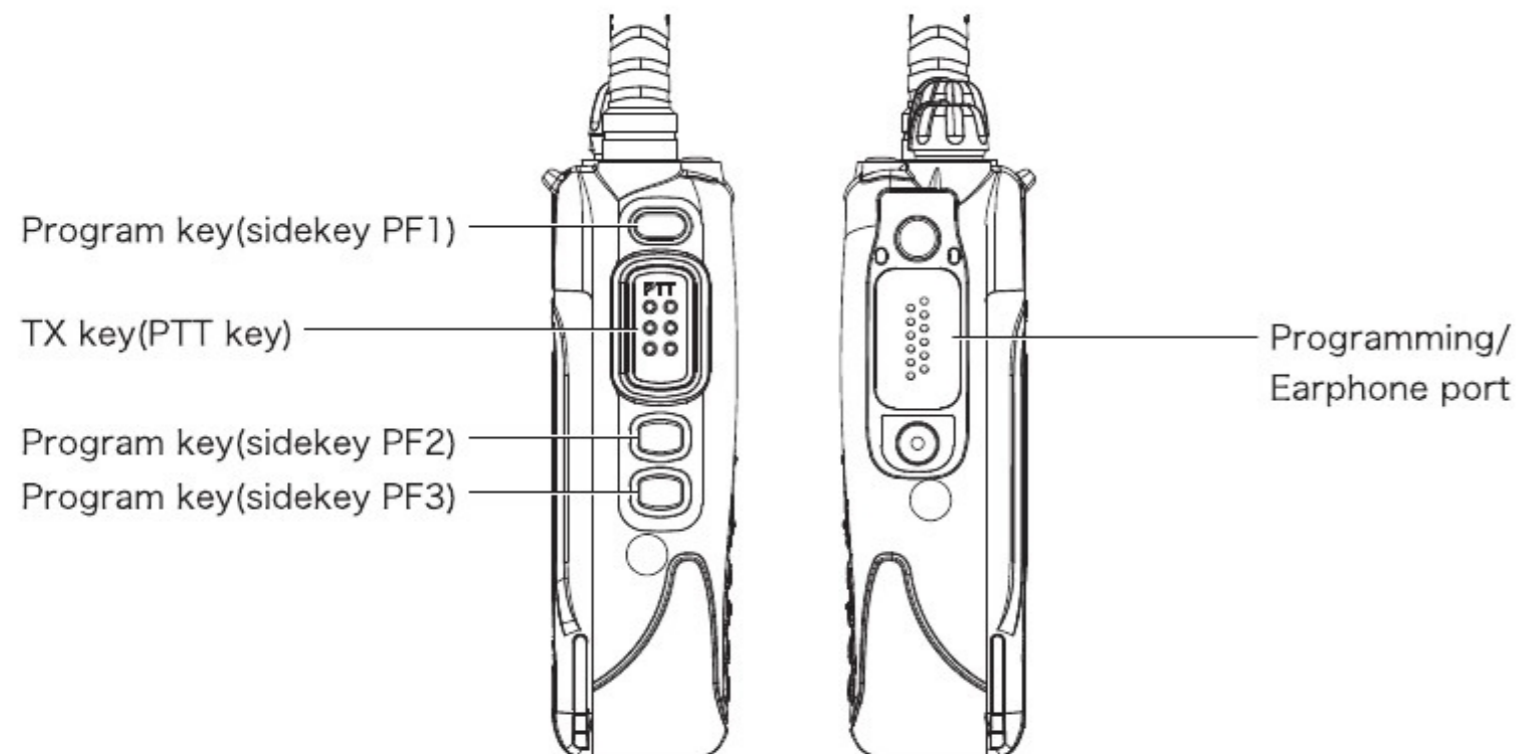
Transmitter	
Vocoder Type	AMBE+2TM
Digital Protocol	ETSI-TS102 361-1,-2,-3
Bit Error Ratio	≤5%
Modulation Limit	±2.5KHZ:@12.5KHZ
Receiving	
Analog Receive Sensitivity	0.25uV@12dB SINAD
Digital Receive Sensitivity	0.25uV(BER:5%)
Adjacent Channel Selectivity	≤60dB@12.5KHZ
Audio Response	+1~ -3dB
Audio Distortion	≤5%
Audio Power	1W
Intermodulation	≥65dB

Device Information

3) Parts Instruction



Device Information



Note: Following function with program key:

All alert on/off, Emergency mode on/off, High/Low power, Monitor, PTT 1-6, Delay/Talkaround, Scan on/off, Squelch strict/normal, VOX on/off, Select area, Battery voltage indicator, Lone worker on/off, Flashlight on/off, Record on/off, Record playback, Record delete, FM radio on/off.

Basic Operation

Power on/off


Rotate the volume potentiometer clockwise until a clock tone, the radio power on.






Rotate the volume potentiometer counter-clockwise until a clock tone, the radio power off.

Volume Adjustment

Rotate the volume potentiometer clockwise to turn up volume, rotate the volume potentiometer counter-clockwise to turn down volume.

Check Battery Voltage

When program key customized the battery voltage indicator, press the program key to check the current battery voltage through alert tone. When the battery voltage icon is , it shows low battery, please charge or replace the battery.

Battery Voltage Icon	Battery Voltage
	Full Battery
	Battery enough
	Battery reduce
	Battery lack
	Low Battery

Basic Operation

Keyboard Unlock and Lock

When don't use keypad, user could lock it to avoid wrong operation.

1. Turn on the auto keyboard lock, if there is no any operation, voice and data to the radio, it will lock the keyboard automatically.
2. Manual keyboard lock: when turn off the keyboard lock, user can long press ***#** to lock keyboard.
3. User could unlock the keyboard through [menu/enter key + ***#**]

Note: When keyboard is locked, PTT key and program key still can be used.

Keyboard Input

User can input contacts name and number, edit message, manual dial through digit keyboard of radio.

1. Switch input: **#↑**
2. Input punctuation: **1..?**
3. Input blank: **0←**

Switch Mode

User can switch the radio display mode manually. Enter set→radio set→mode→channel mode/frequency mode.

Select Area

Area is a channel group, user can classify the channel with same property into a area to make a efficient management.

Basic Operation

The radio support 250 areas, each area can set at most 16 channel. User can select area as following methods:

1. Enter "area" menu, press **[up/down]** key to select demand area, then press **[menu/enter]** key to confirm.
2. Quickly enter "area" menu through program key, press **[up/down]** key to select demand area, then press **[menu/enter]** key to confirm.

Select Channel

Channel is a passage for signal transmission. User can select channel as following two methods.
















1. Rotate channel encoder to switch channel.
2. Through **[up/down]** key to switch channel.

Set Backlight

The radio can set backlight time and backlight level. Enter Set→Radio set→Back light→Backlight time/Backlight level.















Status Indication

LCD Icon









Icon	Product Status
Basic Status Icon	
	Digit Mode
	Analog Mode
	The current TX power is high power
	The current TX power is low power
	Pass-mode
	Battery voltage indicate, more strip, more electricity
	Basic encryption
	Strengthen encryption
	No signal
	More strip , stronger signal
	Scan status
	Alert tone mute
	Speaker open
	Receive text message
	

Status Indication

Menu Icon

	Priority scan 1
	Priority scan 2
	Priority scan none
	Selected
	Not select
	Area
	Scan
	Text message
	Phone book
	Call records
	Setting
	Annex
Text Message Status Icon	
	Unread message
	Read message

Status Indication

	Text message send success
	Text message send fail
Communication Status Icon	
	Private call
	Group call
	All call
	Call out
	Call in
	Hang on

Status Indication

LED Indicator

Indicator Status	Product Status
LED(green) always on	Receiving
LED(red) always on	Transmitting
LED(red) flash slow	Confirming private call
LED(red) flash quick	Trying connect repeater in relay mode
LED(red) flash intermittent	Emergency alarm
LED(red+green)flash simultaneous	Scan status
LED(red+green)on simultaneous	Receiving digit voice encryption signal

Phone Book

Check Contacts

Enter “phone book” menu, select the contacts, user can check contacts name and number.

Edit Contacts

Enter “phone book” menu, select contact to edit, then select “edit name” or “edit number” to edit.

Shortcut Set

Pre-set the shortcut key for contacts, then in digit mode, long press corresponding digit key to show contact, next press PTT key to transmit.

Enter “phone book” menu, select contact to edit, then select “shortcut set” to set.

New Contacts

Enter “phone book” menu, select “new contacts” menu to enter, select the new contacts type, “group call” or “private call”, then input the number and name of new contact and confirm it.

Manual Dial

Enter “phone book” menu, select “manual dial” menu to enter, input contact number to call (private number), then press PTT to call.


Call Contacts

Enter “phone book” menu, select contacts (group call, private call, all call), then press PTT key to make temporary call.

Call


Group Call

Group call is a call of one to many.

Digit channel pre-set the group call contacts through programming software, then press PTT, the radio will make a group call in corresponding channel. When group call, LCD screen displays  .


Private Call

Private call is a call of one to one.



Digit channel pre-set the private call contacts through programming software, then press PTT key, the radio will make a private call in corresponding channel. When private call, LCD screen displays  .

All Call

All call is a call to all contacts of current digit channel.

Digit channel pre-set the all call contacts through programming software, then press PTT key, the radio will make a all call in corresponding channel. When all call, LCD screen displays  .

Reply

When receiving the group call or private call or the call finished, during the group call hang time or private call hang time, LCD screen will display  or  , then the radio can reply the call directly through pressing PTT key.

Note : The group call and private call hang time can be programmed.

Answer Call

Answer Group Call

The call of receiving group call need to set “group call list” , add the corresponding contacts of group call type to “group call list” of digit channel. “Group call list” can be programmed. Each “group call list” allowed to add at most 32 contacts of group call type.

After receiving group call, LCD screen display  .

Answer Private Call

After receiving private call, LCD screen display  .

Answer All Call

After receiving all call, LCD screen display  .

Call Records

The radio can record all recently answered calls、 missed calls and dialed calls of private call type. User can check and manage them through call records function.

Missed Call LCD Display

When exist missed call, the radio LCD screen will display a missed call message, user can check it or later.

Call Records Storage

User can check recently answered calls、 missed calls and dialed calls of private call type through “call records” menu, then storage these contacts, the steps are the same as the operation of “news contacts” .

Call Records Delete

User can check recently answered calls、 missed calls and dialed calls of private call type through “call records” menu, then delete these call records.

Message

Text message includes text message and preset text.

1. Text message: the text information that can be checked、 edited、 sent、 stored and deleted.
2. Preset text: the common text message that preset by dealer.

Edit/Send Message

User can edit and send text message to contacts as following steps. After editing the text message, if you don't need to send it, storage it to draft box.

1. Select "write message" in "message" menu to edit text message.
2. Press **【menu/enter】** key to select "send", then select contact or input contact number through manual dial.
3. Press **【menu/enter】** key to send text message.

Edit/Send Preset Message

Preset message: the common text message preset by dealer, the radio can be preset at most 50 message.

1. Preset text message can be programmed.
2. Send preset message: enter "preset message" menu, select a preset message, if you don't need to add or re-edit it, press **【menu/enter】** key to send, select contact or input contact number manually, press **【menu/enter】** key to send.

Check Message

1. Instant Check
Press **【menu/enter】** key to check the details when receive the message.
2. Check Message Through Menu.

Select inbox, outbox, draft box or pre-set message in "message" menu, press **【menu/enter】** key to check details.

Inbox

The inbox store the received message, which can store at most 50 messages.

1. Check Inbox message
Select "Inbox" menu in "message" menu, press **【menu/enter】** key to check details.
2. Reply Inbox Message
Select "Inbox" menu in "message" menu, press **【menu/enter】** key to enter, then press **【menu/enter】** key to reply, press **【menu/enter】** key to reply pre-set message or re-edit message.
3. Forward Inbox Message
Select "Inbox" menu in "Message" menu, press **【menu/enter】** key to enter, then press **【menu/enter】** key to forward, press **【menu/enter】** key to select contact or input contact number manually, press **【menu/enter】** key to send message.
4. Delete Inbox Message
Select "Inbox" menu in "Message" menu, press **【menu/enter】** key to enter, then press **【menu/enter】** key to delete.

Outbox

The outbox store sent message, which can store at most 50 sent message.

1. Check Outbox Message

Select "Outbox" menu in "Message" menu, press 【menu/enter】 key to check details.

2. Resend Outbox Message

Select "Outbox" menu in "Message" menu, press 【menu/enter】 key to enter, then press 【menu/enter】 key to resend.

3. Forward Outbox Message

Select "Outbox" menu in "Message" menu, press 【menu/enter】 key to enter, then press 【menu/enter】 key to forward, press 【menu/enter】 key to select contact, then press 【menu/enter】 key to send message.

4. Edit Outbox Message

Select "Outbox" menu in "Message" menu, press 【menu/enter】 key to enter, then press 【menu/enter】 key to edit.

5. Delete Outbox Message

Select "Outbox" menu in "Message" menu, press 【menu/enter】 key to enter, then press 【menu/enter】 key to delete.

Draft Box

The draft box store unsent message, which can store at most 20 unsent message.

1. Check Draft Box Message

Select "Draft Box" menu in "Message" menu, press 【menu/enter】 key to check details.

2. Send Draft Box Message

Select "Draft Box" menu in "Message" menu, press 【menu/enter】 key to enter, then press 【menu/enter】 key select "send" , press 【menu/enter】 key to select contact or input contact number manually, press 【menu/enter】 key to send message.

3. Edit Draft Box Message

Select "Draft Box" menu in "Message" menu, press 【menu/enter】 key to enter, then press 【menu/enter】 key select "edit" .

4. Delete Draft Box Message

Select "Draft Box" menu in "Message" menu, press 【menu/enter】 key to enter, then press 【menu/enter】 key select "delete" .

Scan

The radio support group scan, please set scan list and assign it to single channel before using scan function, the radio support at most 250 scan lists, each scan list can be allowed 16 single channel. Scan list support analog、digit or digital analog.

Check Scan List

The radio can check scan list of current channel. Check list in "scan" menu, then press 【menu/enter】 key to check it.

Edit Scan List

User can add/delete channel of scan list, set priority channel of scan list, set priority channel sample time and set designated transmit channel.

Priority Channel

After setting the priority channel, scan each channel, the radio will re-scan the priority channel automatically.

Priority Sample Time

The waiting time of scanning priority channel after suspending to receive the current channel when it's not priority channel 1 during scan.

Scan Designated TX Channel

Designate TX channel during scan. When scan, press PTT key, the radio will transmit with designated channel, which can be programmed.

1. Selected : transmit in current channel.
2. Transmit in any channel added from scan list.
3. Last active channel: transmit in voice active channel of last scan, if there is no signal to be scanned, transmit in current channel.

Start / Stop Scan

When start scan, the radio will monitor the channel that added from pre-programmed scan list

repeatedly, the LED(red+green) will flash Simultaneously, LCD screen will display  .

1. Manual Scan

Program key defined as “scan on/off” , user can turn on or turn off scan through corresponding program key.

2. Automatic Scan

When user select a activated automatic scan channel, the radio will start scan from activated automatic scan channel. When user switch to the inactivated automatic channel channel, scan function will turn off.

Setting

User can enter “radio setting” through the menu “setting→radio setting” to make some common operation as following instructions:

Option	Description	Operation Method
Talkaround	When repeater station goes wrong, or out of its coverage, the radio can switch to pass mode to communicate.	Select “Talkaround” mode on/off Note: To the transfer channel, turn on the Talkaround function need to edit through programming software. Also can through program key to switch current channel: talkaround/repeater function

Alert Tone	A tone of prompt when radio in a status or some designated operation such as power on or call.	Select "tone/alert" , enter the option, select turn on/off according to demand. Note: through program key to turn on/off all alert tone.
TX Power	The current transmit power level, user can set high/low power.	Select "TX Power" , then select high power or low power. Note: through program key to switch current channel power.
Backlight	A light from the back of LCD screen and keyboard.	Select "backlight" , then select "backlight time" , user can select "always" or a fixed time.
Backlight Level	The display brightness of LCD screen	Select "backlight" , then select "backlight level" , press [up/down] key to set brightness.
Squelch	A threshold of the radio filters poor signal or background noise is higher than valid signal, if we choose "strict" squelch, the remote call signal will be filtered.	Select "Squelch" , then choose "normal" or "strict" . Note: through program key to switch current channel squelch function: normal/strict.

Intro Screen	The picture or character on LCD screen of radio when power on.	Select "intro screen" , then choose "picture" or "char string" . Note: edit custom character through programming software
Keyboard Lock	A function of locking digit keyboard to avoid wrong operation.	Select " keyboard lock" , then set a time to lock keyboard: manual or Automatic timing. Note: when set "keyboard lock" is manual, long press *# key to lock it.
Select Language	The language displayed on LCD screen.	Select " select language" , then select "Chinese" or "English" .
LED Indicator	An indicator light when radio in a state or a designated action such as emergency alarm.	Select "LED indicator" , then select "on/off" .
VOX	When the voice volume of MIC reach to transmit condition, the radio can transmit and don' t need to press PTT key.	Select "VOX" , then choose proper level. Note: user need to turn on the current channel VOX through programming software. Note: through program key to turn on/off current channel VOX function.

Power on Password	When radio power-on, a right password to make radio enter normal working mode.	Select "Power on Password" and input current password (input 00000000 if there is not set password currently) to enter, then select turn on or change current password. Note: the password must be eight numbers.
Record	A function to record the received or transmitted voice signal of the radio.	Select "Record" , then choose turn on/off. Note: user can turn on/off record function, delete all record file, play record file. The record function only can be used in current digit channel.
Clock	The radio displayed local time and date, this menu is used for setting time and date.	Select "clock" , then press 【menu/enter】 key to change time and date.
Display Mode	The radio channel working mode.	Select "mode" , then select "channel mode" or "frequency mode" .
Flashlight	Flashlight function	Select "flashlight" , then select turn on/off flashlight. Note: through program key to turn on/off flashlight function.

Power Save	The radio turn off receiving circuit and restart after a long time to check current channel signal to save power, which maybe lost the first part signal.	Select "power save" , then choose turn on/off.
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Radio Information

User can enter the radio menu "set→radio information" to check radio name、radio ID and firmware、CPS Software Version.

Radio Configuration

User can enter the radio menu "set→radio configuration" , radio configuration offer some professional parameter setting function, if you don't understand the usage of these functions, please do not operate it.

If you don't need "radio configuration" , please turn off it through the menu to "radio configuration" of programming software, or turn on configuration password and set a password in "general setting" to avoid wrong operation.

"Radio Configuration" description and operations as following.

Item	Description	Operations
RX Frequency	Settings for the current RX frequency.	Select the RX frequency, press MENU to confirm, press UP button to select the current frequency, and input the correct frequency, finally, press MENU to save into the channel.
TX Frequency	Settings for the current TX frequency.	Select the TX frequency, press MENU to confirm, press UP button to select the current frequency, and input the correct frequency, finally, press MENU to save into the channel.
Channel Name	Settings for the current channel name.	Select the channel name, press MENU to confirm, press UP button to select the current channel name, and edit the new one by the keypad, finally, press MENU to save the new channel name. Note: Press # key to switch the input methods.

TOT	TOT means the maximum TX time for each PTT operation.	Select the TOT, press MENU to confirm, press UP /DOWN buttons to select the required time limit, finally, press MENU to save it. Note: TOT Rekey Delay is programmed by software, and how long it needs to wait till next PTT transmission after the overtime.
CTCSS/ DCS Dec/ Enc	Settings to avoid the interference to the current analogue channel.	Select the CTCSS/DCS, press MENU to confirm, press UP/DOWN buttons to select the required CTCSS/DCS decode or encode, then press MENU to confirm. Press UP/DOWN buttons to select the desired tone, finally, press MENU to save it.
Color Code	Color code is helping identification for the digital system. There are different color codes for different systems for the current digital channel.	Select the Color Code, press MENU to confirm, press UP/DOWN buttons to select the required color code, finally, press MENU to save into the channel.

Repeater Slot	Repeater time slot is dividing the 12.5kHz channel into two for exchange by digital TDMA. Both of them are loading each calling in the repeater mode after successfully programmed into the current digital channel.	Select the RPT time slot, press MENU to confirm, press UP/DOWN buttons to select the required time slot, finally, press MENU to save into the channel.
Contact Name	Contact list for the transmission for the digital channels.	Select the Contact Name, press MENU to confirm, press UP/DOWN buttons to select the required contact, finally, press MENU to save it.
Group List	Add the IDs onto the list of "RX Group" , and save the settings to the current channel.	Select the Group List, press MENU to confirm, press UP /DOWN buttons to select the required group, finally, press MENU to save it.
Privacy	It means the encryption protect for the communication on each digital channel.	Select the Privacy, press MENU to confirm, press UP/DOWN buttons to select the different levels(None/Basic/Enhanced), finally, press MENU to save it. Note: Encryption function requires to work with the software programming, and the encryption on this equipment is selectable by three options like None, Basic, and Enhanced. And the encryption level is programmable by software "the Privacy No." setting.

Radio ID	The radio ID is independent, and it is used for calls by other radios.	Select the Radio ID, press MENU to confirm, press UP/DOWN buttons to select the ID number while press EXIT to delete the current numbers instead, finally, press MENU to save it.
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Emergency Alarm

It send out the emergency signal whenever operations on the current channel or standby mode, and there are three alarm modes on this equipment.

i.e., Current channel is 1, Emergency channel is 3.

1. Emergency Alarm: Alarm ON, and press PTT to transmit on the current channel, channel 1.
2. Emergency Alarm/Call: Alarm ON, and press PTT to transmit on the emergency channel, channel 3.
3. Emergency Alarm/Voice to Follow: Alarm ON, and press PTT to transmit on the current emergency channel. After alarm, microphone of this emergency channel is ON and ready for the automatic transmit. The transmitting time is controlled by the activated microphone.

Moreover, there are four alarm types for this function.

1. Disabled: Emergency call is forbidden on this equipment, but it is still available for RX emergency call from other radios.
2. Regular: Radio sends out the emergency alarm, as well as the beep prompt and indicator.
3. Silent: Radio sends out the emergency alarm, but without the beep prompt and indicator, neither any RX calls from any other radios.

4. Silent w/Voice: Radio sends out the emergency alarm, but without the beep prompt and indicator. However, regular RX calls from any other radios is available.

It is programmable to select one of above options as the emergency button.

Send Emergency Alarm

Emergency alarm is not the audio signal, which activates the prompt on another equipment, the TX contact of emergency channel is group call instead. After activation on the pre-programmed emergency button, the equipment sends prompt and alternately shows "Emergency Call" and Emergency Group Name on the LCD.

The equipment exits from the emergency mode after receiving the alarm confirmation. Otherwise, it exits after the times for emergency alarm are used up.

Note: If the alarm confirmation on the receiving equipment is ON, it sends this confirmation reply after receiving the emergency call. Then the equipment stop the emergency calls after receiving the alarm confirmation.

Receive Emergency Alarm

1. The receiving equipment alternately shows "Emergency Call" and Emergency Group Name on the LCD after receiving the emergency calls.
2. It prompts for receiving Emergency Calls.
3. It sends this confirmation reply after receiving the emergency call if the alarm confirmation is ON.

When equipment receives this confirmation, there is indicator on the LCD and send back the confirmation, then exits from the emergency mode finally. After that, there will not be any prompts or calls received.

Note: Press the pre-programmed emergency button, the equipment clears out all the receiving emergency prompts and exits from the emergency mode.

Revert Emergency Alarm

The receiving equipment stops prompts from the Emergency Call by pressing any keys except PTT. Press PTT to start the revert call, disable the Emergency button to exit from the emergency mode.

Remote Control

The equipment achieves the call alert, radio check, radio monitor, radio disable and radio enable functions after receiving the command by remote control. There are two methods as following.

1. Go to menu list, select the "Private Call" and press MENU to confirm. UP/DOWN Key to select any of the "call alert, radio check, radio monitor, radio disable and radio enable" functions, and finally press MENU to confirm.
2. Go to menu list, select the "Manual Dial" , input the radio ID and press MENU to confirm. UP/DOWN Key to select any of the "call alert, radio check, radio monitor, radio disable and radio enable" functions, and finally press MENU to confirm.

Note: Remote Control is only workable to the contacts which belongs to private call.

Call Alert

After the transmitter radio sends out “Call Alert” , LCD screen will display “Call Alert and Contacts Name or ID” , the receiving radio ring when receive “ Call Alarm” . LCD screen will display “Contact Name or ID and Private Call Alert” , then Receiving radio can press PTT key to answer the call, press any other key to ignore the alert. If the call alert fail, then the LCD will display “Failed Call Alert” .

Radio Check

The equip radio check command, there is radio check and contact name or ID display on the LCD, and the RX equipment will reply to the TX equipment if it is power on and available for communication. There is “Target Radio Answered” on the LCD, while “Target Radio Not Answered” instead if failed checking.

Remote Monitor

The equipment sends out the radio monitor command, there is radio monitor and contact name or ID display on the LCD. It display “radio monitor success” and start the radio monitoring if the target radio is monitored successfully. There is no any prompt for the monitored radio. It exits from the monitor screen after monitoring stops.

Note:

1. Target radio needs to activate the “Radio Monitor Decode” function under the Emergency System.

2. The monitoring time is programmable at “the remote monitor duration” option under the Emergency System.

Radio Disable

The equipment sends out the radio disable command, there is radio disable and contact name or ID display on the LCD. It display “radio disable success” if the target radio is killed successfully. And there is disable information on the screen of the killed radio.

1. Target radio needs to activate the “Radio Disable Decode” function under the Emergency System.

Radio Enable

The equipment sends out the radio enable command, there is radio enable and contact name or ID display on the LCD. It display “radio enable success” if the target radio is activated successfully. And there is resumed and ready for working mode after activation.

VOX

VOX is workable for the hand-free voice call on the programmed channels.

Note:

1. Program the VOX function ON to the specified channels ahead.
2. VOX Sensitivity: Manually select the VOX levels on menu list or software-general setting-VOX sensitivity.
3. VOX: Switch VOX to ON or OFF by software-channel information.
Radio supports to program VOX to ON or OFF by each channel.

Privacy

Privacy function is about the digital encryption for channel voice, in order to protect the privacy and safety. There are 16 groups for basic privacy and 8 groups for enhanced privacy.

Note:

1. Privacy function needs to be pre-programmed into the digital channel by software.
2. Keys for privacy is editable by 0-9 alpha numbers and A-F letters.
3. If privacy is ON, there is display the icon on the LCD.
4. Select "None" of the Privacy list by software to disable this function.

Record

Record function is about the recording for TX and RX voice on this radio, and supports maximum 8 hours for the recording memory. If over 8 hours, the new recording will automatically covers the oldest recording.

Note:

The recording supports to both TX and RX voice on the digital and analogue channels.

Record On/Off

There are two ways to turn ON or OFF the record function as following.

1. Software programming: Buttons Definitions-Radio Buttons-Short press/Long press-Record On/Off(Firmware).

2. Manually setting: Menu-Utilities-Radio Settings-Record-Turn On/Turn Off.

Record Playback

There are two ways to re-play the record function as following.

1. Software programming: Buttons Definitions- Radio Buttons-Short press/Long press-Record Playback(Firmware).
2. Manually setting: Menu-Attachment-Record to view the memory list for all records on this radio.

Note:

1. Menu-Attachment-Record, you can view all the information like: Destination ID, Source ID, Date, Time, TX/RX, Record Time.
2. It supports view and play only on the current digital channels.
3. If recording for the voice with privacy function, only the digital channel programmed by enhanced privacy can play.

Record Delete

Software programming: Buttons Definitions-Radio Buttons-Short press/Long press-Delete All Record (Firmware), then all the recording on this radio will be deleted.

Note:

It deletes all the recording on the current digital channels only.

FM Radio

This equipment supports FM radio function, frequency is 76.0-108.0MHz RX. There are two ways to re-play the FM Radio function as following.

1. Software programming: Buttons Definitions-Radio Buttons-Short press/Long press-FM On/Off.
2. Manually setting: Menu-Attachment-Radio to program the FM Radio function.

Station Search: Press ***#** to start the station searching for the FM.

Input FM Freq.: Press **#↑** to switch the input FM frequency, and directly input by keypad.

Store and other settings: Menu-Attachment-Radio, there are all options for FM Radio function settings, like FM On, FM Off, FM Scan, FM List, Add Freq, Input Freq.

Note:

1. It exits from the FM mode if TX or RX, and return back to FM 5 seconds after TX or RX.
2. If emergency calls, FM mode exits.

Contacts

Create new TX/RX contacts follows as.

1. Software- Contact-Add-Contact Name/Contact Type/Call ID
Manual: Menu-Contact-New Contact-Group Call/Private Call-Enter number
2. TX: Software-Channel Information-Contact Name/Group List, select the TX contact on the digital channels.

One Touch Access TX: Software- Button Definition-One Touch Access-Mode/Digital-Call/Contact No. -Call Type/Call

3. RX: Add the available contacts to the RX Group list.

This is pre-programmed by the One Touch Access or PTT for TX contact. However, if the channel is added to many groups and one of them are working, then press the One Touch Access or PTT will transmit on the missed call last time instead of the new call on current channel.

If you select None option on One Touch Access, then it stops to call on this channel.

RX Group List

Add all the available contacts onto the group list(if the contact channel is selected the All CALL as call type, it will not be available list adding to the group list). Any operations on the contacts of the group list will be monitored by users, and the missed call will be call back if needed. This is also called group scanning.

If you select None option, then it stops user to receive any group calls except private calls.

Save Mode Receive

It helps save the battery voltage when the radio is free standby. User presses any keys to return the working mode some time later, checking if there are any missed calls. If no calls, radio goes back to save mode. This helps the battery life, but it might delay the radio response.

Set the RX Low Battery Internals on the General Setting of software if the Save Mode Receive is ON.

Save Preamble

Preamble is adding some characters before sending out the data (like text message, location information, registration, radio checking, private calls etc.). It extends the length of the messaging in order for the RX equipment to miss the former part. Also when the scanning members are added more and more, the preamble function can avoid the former parts of scanning missed. However, the preamble value is larger, the occupying time on the channels are longer. The time for preamble before TX is longer, so it helps the other radios not to miss the RX data during scanning but it makes the TX data less.

Set the TX Preamble Duration on the General Setting of software if the Save Preamble is ON.

CH Free Indication Tone

When the voice communication is ended, there is indication tone. If the voice communication is stopped suddenly, there is also indication tone.

Note:

Only the digital channels support this function.

Talk Permit Tone

This tone is prompt whenever you use One Touch Access or PTT to start the TX, helping to remind the users that communication starts.

There are four options, None/Digital/Analog/Analog& Digital.

Talk Permissible Conditions

Check and ensure that the programmed channel is permitting TX or sending message ahead, in order to avoid the radio is using the transmitting channel at the same time.

Always: Press One Touch Access or PTT to directly transmit, it is called the impolite channel visit.

Channel Free: Radio checks if the channel is free for calling before transmitting, it is called the polite channel visit.

Compatible CTCSS/DCS: Radio checks if the CTCSS/DCS is compatible before transmitting. (Only used in Analog channels)

Compatible Color Code: Radio checks if the Color Code is compatible before transmitting. (Only used in Digital channels), it is called the polite digital system of channel visit.

Allow Interrupt

It allows the TX interrupt from other radios during transmitting.

TX Permissible Conditions

There are three conditions as following during communication.

TX always.

TX if complying with the requirements for TX Permissible.

TX the interrupted signals before regular TX.

If interrupt successes, then it starts the voice communication. If interrupt failed, then it prompt failed.

Color Code

It is programmable one color code to the specified channel, totally 15 codes. Some channels are using the same or different color codes. The repeater is using one color code only. Single color code is identifying one system, different color codes are identifying different systems, which helps the radios to use different systems. The radio scans all the channels with different color codes, and avoid the channel operations without the compatible color codes. The repeater which is using the same frequency is supportable to use different color codes. The administrator for the frequency spectrum hopes to use the different color codes to different users with the license, to share the channels as the part of agreement.

TOT

TOT is the transmitting time stay for radios, in order to avoid that some channel is occupied for some communication for too long time. User will make the shorter TOT on some busy channels.

TOT Rekey Delay

This function is the next transmitting time after the stop by TOT.

RX only

The channels are programmed only RX available, could not TX.

Talkaround

The equipment will switch to direct mode for communication if the repeater is out of working or out

of the range.

Group Call/Private Call Hang Time

User can set the hang time for receiving ID of the former group call or private call, and directly press PTT to call back.

Private Call Confirmed

It confirms the private calls for the TX contacts on the digital channel. It starts transmitting if the private call is confirmed OK, while it prompts failed transmitting if not.

Emergency Alarm Ack

It confirms the emergency alarm on the current digital channel. It stops sending the emergency alarm if confirmed OK, while it continues sending out if not till the single emergency call/impolite times are used up.

Data Call Confirmed

It confirms the data call on the current digital channel, i.e. if it needs to confirm back after the radios sends out the text message by private call. If confirmation needed and this function is ON, then the radio will send the confirmation three times every 5 seconds, and then prompts failed sending if no response after three times. If confirmation not needed and this functions is off, then the radio will send the confirmation once and wait for 90 seconds, and then prompts failed sending if no response.

DCDM Switch

It supports the data transmission for two channels on same frequency, and both of them are using the 12.5KHz bandwidth. The radios in the same group should be using the same time slot, so the time slot 1 will not interrupt the time slot 2. The radio needs to divide and track the structure of time slot to work normally. The radio as the regulator for the time slot is unique, and other radios should adjust the clock to make synchronization with the regulator.

Leader/MS

Leader is actively sending the regulator signal for the time slots at the regular time in the straight-through double time slot mode. If no leader, MS will produce the deviation of time slots and needs one radio to send the regulator signal for the time slots at the regular time. It helps the timing alignment among different radios.

Repeater Time Slot

It uses the TDMA technology to divide one 12.5kHz channel into two, and both of them separately carries one call when working in the repeater mode.

TX Sync Wakeup TOT

It is the time settings waiting for the ACK to response to the sending information which is synchronization with the digital channel.

TX Wakeup Message Limit

It is the times settings for continuing transmitting the synchronization information on the digital channels.

CTCSS/DCS Decode and Encode

It supports CTCSS/DCS decode and encode for analog channels to prevent interrupt, 50 groups of CTCSS and 105 groups of DCS selectable.

DTMF System

It supports to use the DTMF for modulation, and user should program the settings to analog channels ahead by software. This equipment supports 4 DTMF systems max, and here are the settings as following each.

DTMF Side Tone: It sends the side tone of DTMF if sending the DTMF codes.

PTT ID: The ways of sending out the DTMF if press PTT or release PTT, four options: None, Pre Only, Post Only and Pre& Post.

Key Up Encode: Press PTT then send out the DTMF codes.

Key Down Encode: Release PTT then send out the DTMF codes.

Next Sequence: The interval time for the next decode for DTMF.

Auto Reset Time: If there is no communication within the time after the DTMF decoding, the DTMF decoder will reset and clear all the decoded DTMF codes in the LCD.

First Digit: The delay time for sending the first digit of DTMF codes after PTT.

First Digit Time: The keep time for sending the first digit of DTMF codes after PTT.

Digit Duration: The length for the DTMF codes which is sent out.

Digit Interval: The interval time for sending two different DTMF codes.

*# Digit Time: The time for sending the DTMF codes which are included the *# Digits.

D Key Assignment: The time for sending the DTMF codes which are included the "D" Digit.

Encode

The equipment supports 32 groups, each group is max supporting 30 codes. This is used for sending the DTMF codes of analog channels by One Touch Access.

Decode

The equipment supports 8 groups of decodes, each decode is setting as follow.

1. Response Type

Kill: Make the radio disable.

Activate: Make the killed radio enable.

2. DTMF ID

There is supporting to set ID for the DTMF codes, and it works with the response type if the receiving ID is same.

Note:

1. DTMF only works in analog channels.

2. It asks matching for the IDs from decode 1 to decode 8 in order to work with the response type.







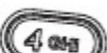








3. If receiving radio decodes the DTMF codes successfully and shows in the LCD, user also needs to set PTT ID accordingly.

Manual Send Code

Manual Send Code

It supports to send the DTMF codes manually. If it is in the analog channel, press PTT to transmit, and input the codes through the keypad as follow. Or press # key to directly input the DTMF codes and then press PTT to transmit out.

Note: Please refer to the layout for the DTMF codes editing.

			→	C	A	D
				1	B	
				4	2	3
				7	5	6
				*	8	9
				0	#	

Troubleshooting

Trouble	Reason	Solution
Radio could not be powered on.	Battery is not well installed.	Install the battery well again.
	Battery voltage is used up.	Re-charge the battery or change a new battery.
	Battery is dirty or broken then failed contact.	Clear the battery contact.
Call is failed.	Signal is poor.	Make sure the radio is working in the range.
Audio is not clear.	Signal is poor.	Make sure the contacts are working in the range.
Keys are not workable.	Keypad is locked.	Unlock the keypad.
	Keypad is stuck.	Resume the radio.
LCD is not working.	Display is stuck.	Resume the radio.
Rx audio is small, interrupted or mute.	Volume is low.	Make the higher volume.
	Antenna is loose or install incorrectly.	Power off and install the antenna correctly.
	Microphone is stuck or broken.	Clear up the microphone or change a new one.

Troubleshooting

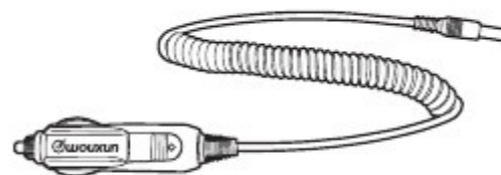
Radio could not contact with other members in the group.	Frequencies or settings are not compatible.	Make the settings compatible.
	Settings on the digital channels are wrong.	Make the settings compatible especially the digital channels.
	The communication range is too far.	Make sure that the all group are working in the range.
	Signal is poor.	Make sure that the all group are working in the range.
Big noise.	Interrupts from other users in the same frequency.	Change to other channels or adjust the squelch level.
	Signaling is not programmed well.	Program the compatible signaling for all the members in the same group.
	Signal is poor.	Make sure that the all group are working in the range.
	Location is poor for communication, like high building, basement.	Change to the wide surroundings.

Troubleshooting

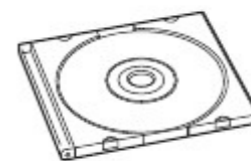
	Interrupts by other electronics equipment.	Avoid the electronics equipment.
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Please contact the local dealer or factory to get more warranty supports if above steps still not solved the problems.

Optional Accessories



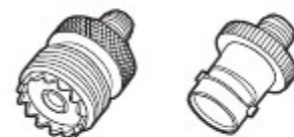
Car Charger



Software CD





Headset



Antenna Adaptor

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