



RECYCLABLE PACKAGING

## Shenzhen Retevis Technology Co.,Ltd

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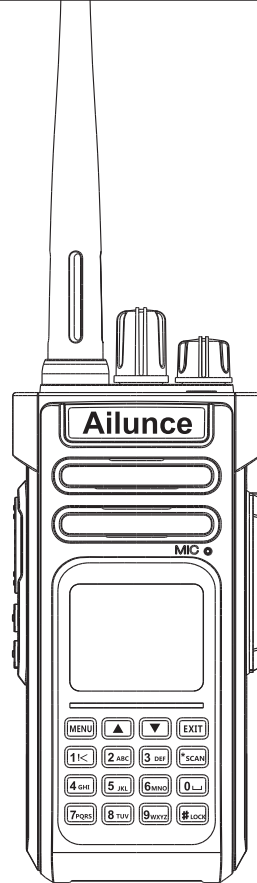
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FC CE RoHS



MADE IN CHINA



# Ailunce

# HD1

## USER'S MANUAL

EU Importer: Germany Retevis Technology GmbH  
Address: Uetzenacker 29, 38176 Wendeburg

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## Safety and Overview

We are grateful that you choose Ailunce digital radio.

We believe this easy-to-use transceiver will provide dependable and reliable communication to personal operating at peak efficiency. The transceivers incorporate the latest in advanced technology. As a result, we feel strongly that you will be pleased with the quality and features of this product!

### Product safety and RF exposure for hand held



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.

Is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.

EU Declaration of Conformity:

Refer to article 10(9), shall be provided as follows:

Hereby, Shenzhen Retevis Technology Co., Ltd declares that the radio equipment type [designation of type of radio equipment] is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address: [www.retevis.com](http://www.retevis.com).

# Specifications

## General Specifications

Frequency range	VHF:136-174MHz & UHF:400-480MHz
Channel Capacity	3000 Channels
Channel Spacing	12.5KHz
Operating Voltage	7.4V
Battery Type	Lithium battery Li-ion
Operating Temperature	-30°C~+60°C
Antenna Impedance	50Ω
Audio Out Power	≥500mW
Dimensions: (H*W*D)	150×65×39 mm ( without antenna)

## Receiver

Analog Sensitivity	0.35uV/-116dBm(20dB SINAD) 0.22uV/-120dBm(Type)
Digital Sensitivity	0.3uV/-117.4dBm(BER 5%) 0.7uV/-110dBm(BER 1%)
Co-channel rejection	≥ -12dB
Channel Selectivity	TIA603C:65dB ETSI:60dB
Response Rejection	TIA603C:75dB ETSI:70dB

Audio Out Power	≥500mW
Audio Distortion	≤3%(Type)
Audio Response	= 1dB~-3dB

## Transmitter

TX power	High:UHF: 8W VHF: 10W Middle: 3.5W Low:1W
Frequency Stability	+1.0ppm
Adjacent Power	60dBm@12.5KHz 65dBm@25KHz
FM Modulation	12.5KHz@11K0F3E 25KHz@16K0F3E
Modulation Deviation	2.5KHz@12.5KHz 5KHz@25KHz
Digital Protocol	ETSI TS 102 361-1-2-3
Vocoder Type	AMBE+2TM
Modulation BER (bit error rate)	≤5%
4FSK Digital Mode	12.5KHz(date only):7K60FXD 12.5KHz(data+voice):7K60EXE



# Unpacking and Checking Equipment

## Welcome to use DMR radio, before using we suggest you

- Please check the packing box of this product and see if there is any sign 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 hand are lost or damaged during the shipment, please immediately contact dealers.

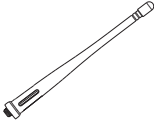
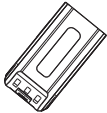




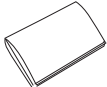
## Parts list

Item	Quantity
Radio	1
Flexible Antenna	1
Li-ion battery pack	1
Desktop Charger	1
Power Adapter	1
Belt clip	1
User's Manual	1
Hand-Strap	1

## Unpacking and checking equipments

Carefully unpack the radio. We recommend you check the items listed in the following table before discarding the package. If any item is missing or has been damaged during shipment, please contact us immediately.

## Supplied accessories:

			
Antenna	Li-ion battery	Desktop Charger	Power Adapter
			
Belt clip	Hand-Strap	User's Manual	

**Note:** The antenna frequency range please refers to the circular label at the bottom of antenna.

# Battery Using Information

## 1. 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 battery when you don't use two way radio, and save battery in a cool (temperature less than 25°C ) and dry place.

## 2. Precautions of Charging the Equipment

1. Do not expose the Charger to rain or snow.
2. Do not operate the Charger if it has received a sharp blow, or has been dropped or damaged in any way.
3. Do not disassemble the Charger if it has received a sharp blow, or has been dropped or damaged in any way.
4. Never alter the AC cord or plug provided 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.
5. To reduce the risk of damage to the cord or plug, pull the plug rather than the cord when disconnecting the Charger from AC receptacle.
6. To reduce the risk of electric shock. Unplug the charger from the outlet before attempting any maintenance or cleaning.
7. Use of an attachment not recommend or sold may result in a risk of fire, electric shock, or personal injury.
8. Make sure the cord is located so it will not be stepped on tripped over or subjected to damage or stress.

9. 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:
  - The pins on the plug of the extension cord are the same number, size and shape as those on the plug of the charger.
  - The cord size is 18AWG for lengths up to 30 meters, and 16AWG for length up to 45 meters.
10. Do not replace charger power cord, if the power cord damages, you must stop using charge immediately.

## 3. Charging the Battery

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

## 4. Please Charge the Radio According To Operation Steps As Follow

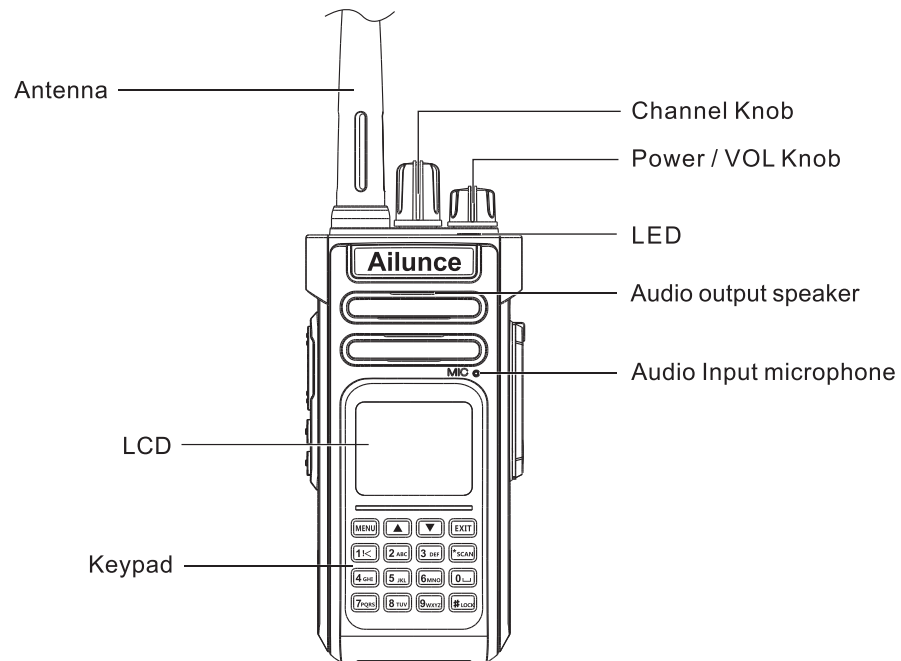
1. Insert power adapter into power supply socket.
2. Insert output terminal of power adapter into DC jack behind the charging kit.
3. Insert the battery or radio equipped with battery into the charging kit.
4. Confirm the battery and charging kit terminal contact reliable, when charging indicator light turns into red and charging starts.
5. After completion of charger (charging about 7 hours ) , light turns to be green.

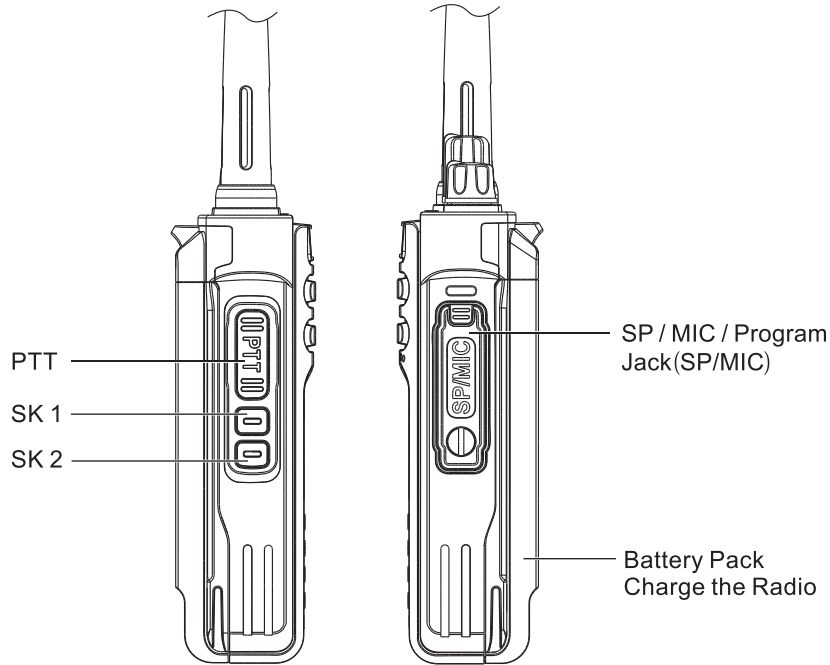
5. After finish charging, (charging time is about 7 hours ), indicator turns green.

Status	Indicator
Power connect	Red light and Green light Alternate Flicker
Charge normally	Red light is on
The battery is fully charged	Green light is on
Fault (battery short circuit or over discharge state)	Red light flashes

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

## Getting Acquainted





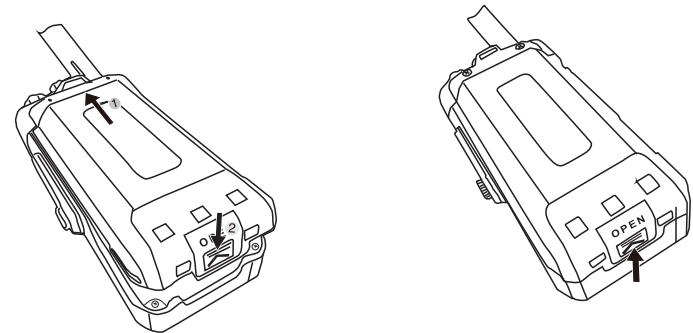
## Attachment Installing

### Installing / Removing the Li-ion Battery

Match the grooves of the battery pack with the corresponding guides on the back of the transceiver, and then push it.

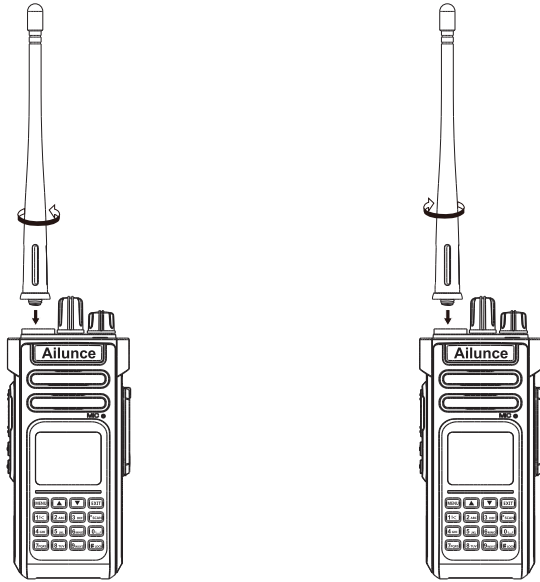
Press the battery end radio firmly together until the release latch on the top of the radio locks. After hearing a "click" sounds, the battery has been locked.

To remove the battery, make sure the radio has been turn off, then slide up the release latch and remove the pack away from the radio.



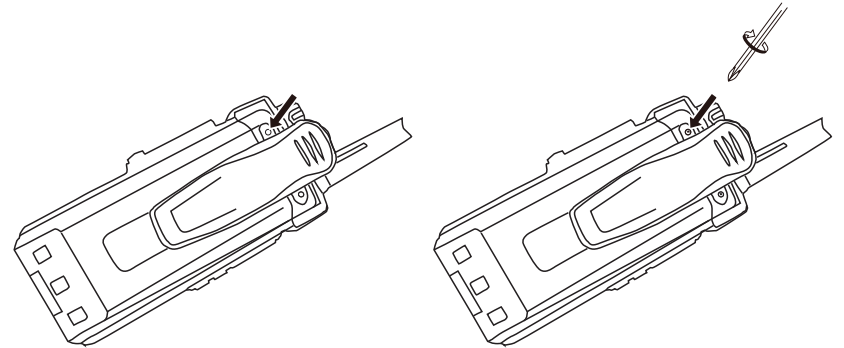
## Installing / Removing the Antenna

Screw the antenna into the connector on the top of the radio by holding the antenna base and turning it clockwise until secure. To removing the antenna, turn the antenna anticlockwise to remove it.



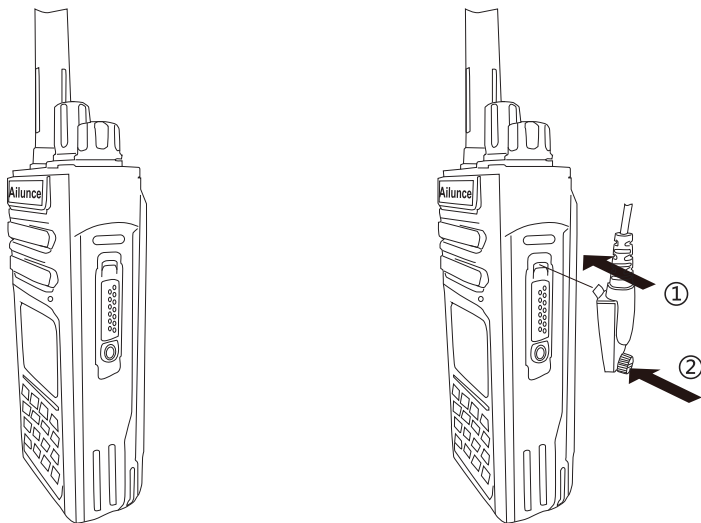
## Installing / Removing the Belt Clip:

Place the belt clip to the corresponding grooves on the back of the radio, and then screw it if need it. Anticlockwise turn screws to remove the belt clip will removing the belt clip.



## Installing Optional Speaker/ Microphone

Uncover the SPMIC cover and then insert the speaker / microphone plug into SPMIC Jack



## Optional Function Setting (programmable by software)

Either side key 1 or side key 2 all can be set by program software for the following Function

Long press and short press Function	Not set
	High /Middle/Low power switch
	Scan ON / OFF
	FM
	Awaken
	Repeater / Talk Around
	One-Key 1
	One-Key 2
	One-Key 3
	One-Key 4
	One-Key 5
	One-Key 6
	VOX ON / OFF
	Radio Kill
	Analog Monitor
	1000Hz/1450Hz/1750Hz/2100Hz
Zone Plus/Minus	
Manual Dial	
CH-Mode	

## Basic Operations

### Power On

Clockwise to turn on the radio volume knob, there will a “click” sound, message sound and the screen will show up welcome, while the LED indicator lights up and become red if the battery is full charged.

Notice: if the volume function is forbidden ,there will not any sound when power on here need to power off the radio and anticlockwise with the knob until a click sound.

### Volume Control

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

## Launch and Receive Call

### Zone Selection

Zones is a channel group, each radio can set at most 256 zones and each zone with 64 channel (Maximum).

The menu function,

- 1.Press [MENU] key to enter the menu.
- 2.Press [MENU] key to zone, after that press [MENU] key to select.
- 3.Show the zone.
- 4.Press [▲ or ▼] to chosen zone, after that press [MENU] to select.

### Select 's Channel, User ID or Group ID

Select the needed zone (if there are more than one zone ), using the channel knob to select the channel, user name or ID, group name or ID.

### Receive and Reply Group Call

The radio must be under a group, then can receive the group call.

When received the group call,

1. LED indicator is green color.
2. On the top screen will show RSSI mark, below the top screen will show, First line will show the group name, second line will show income call ID, third line will show income area information, the fourth line will show frequency (in digital mode only).

3. Hold the Walkie-talkie in a vertical position and keep 1 to 2 inches (2.5 to 5.0cm) away the mouth.
4. Press PTT key to answer the call, LED indicator light change to red color.
5. Release the PTT key to receive the call.
6. If there are not any voice activity within the stipulated time, the call end.

### **Receive and Reply the Single Call**

Single Call is one to one calling, only two types, 1. Radio self detect before calling; 2. Ready to call.

When Receive the Single Call,

1. LED indicator is green color.
2. On the top screen will show RSSI mark, below the top screen will show, First line will show the group name, second line will show income call ID, third line will show income area information, the fourth line will show frequency (in digital mode only).
3. Hold the radio in a vertical position and keep 1 to 2 inches (2.5 to 5.0cm) away the mouth.
4. Press PTT key to answer the call, LED indicator light change to red color.
5. Release the PTT key to receive the call.

### **Receive All Call**

All Call means communications with all members on the same channel and to public important information.

When receive the all call,

1. LED indicator is green color.

2. Screen top line display RSSI mark, the display area under top row will display, show All Call and frequency {in digital mode only}.
3. After All Call is terminated, radio returns to the screen before receiving the All Call.

### **Transmit A Radio Call**

You can choose a channel, user ID or group call with following methods.

- Channel Knob
- Pre-programmed key
- Contacts
- Manual dialing( through Contacts) , only for single call, and use keyboard to dialing.

### **Using Channel To Make A Call**

#### **Group Call**

A Group call is made to all members of a Talk group at once.

1. From the Channel switch.

Turn the channel switch to choose a programmed channel.

2. From the Talk Group.

In channel mode, switch the channel knob to choose a programmed digital channel, then you can start a temporary group call.



## Single Call

A private call is made a call between two individual users.

1. From the channel switch.

Turn the channel know to choose a programmed private channel.

2.Manual Dial

Press[Menu], then press up and down key go to [Contacts], then press [Menu] to choose [Manual Dial].

Dial the individual DMR ID to make a private call.

## All Call

The All Call Voice service provides a one-way voice call from any user to all users within the same system.

Turn the channel know to choose a programmed all call channel. This channel should be choose a all call contact.

## Menu Function

### Character Input

User has to press a button several times for getting some characters. The following table shows how many times needed to press a button to get the required character.

Key	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	1	!	”	#	\$	%	&	,	(	)	+	-	.	/
2	2	A	B	C	a	b	c							
3	3	D	E	F	d	e	f							
4	4	G	H	I	g	h	i							
5	5	J	K	L	j	k	l							
6	6	M	N	O	m	n	o							
7	7	P	Q	R	S	p	q	r	s					
8	8	T	U	V	t	u	v							
9	9	W	X	Y	Z	w	x	y	z					
0	0	Space												
*	*													
#	#													

### How to Use Menu

1. Press [MENU] enter menu mode, press up [▲] or down [▼] key to access menu function.
2. Press [MENU] key to selection function or enter next sub-menu.

1. Press [EXIT] key back to previous menu.
2. Press [PTT] key back to main screen.

## Contacts Setting

Contacts is a "Phone Book" for hand held two way radio. Each entry corresponds to name or ID used to calling. In addition, each item, according to the difference content setting, relate to three types of call: Group Call, Private Call, All Call.

The Contact's entries display as below,

- Contacts
- Manual Dial

## Edit Contacts

1. Press [MENU] key to enter menu.
2. Press [▲ or ▼] key enter contacts, then press [MENU] to select.
3. Press [▲ or ▼] key to select the function you want to edit, press [MENU] enter edit contact and press [MENU] to confirm.

## Transmit A Single Call By Contacts

1. Press [MENU] key to enter menu.
2. Press [▲ or ▼] key enter contacts, then press [MENU] to select, entries are in alphabetical order.
3. Press [▲ or ▼] key to select manual dial, press [MENU] to select and input a new ID by keypad.

## Calling Log Function

Your radio can record all the recent dialed, received, and not answered call. Use the calling log function view and manage the recent calls.

## View The Latest Calling Number

Menu have received call, dialed call and not answered call.

1. Press [MENU] to enter menu.
2. Press [▲ or ▼] to dialed record, then press [MENU] to select.
3. Press [▲ or ▼] to the list you want, press [MENU] to select.
4. The screen will display recent entry on the top of list.
5. Press [▲ or ▼] key to view the list.

## Missed Call's Screen

Whatever missed call, will shows have missed answer call, you can select check it right now or check it latter.

1. Screen shows missed answer call, missed answer number and check it.
2. Press [MENU] key to check missed answer call, will see not answered list from screen, press [MENU] key to delete it or press [▲ or ▼] to check it latter, press [MENU] key to select it.

## Deleting the Call of Calling List

1. Press [ **MENU** ] key to enter menu.
2. Press [ **▲** or **▼** ] to dialed record, then press [ **MENU** ] to select.
3. Press [ **▲** or **▼** ] to the list you want, press [ **MENU** ] to select.
4. Press [ **▲** or **▼** ] to the want you want or ID, press [ **MENU** ] to select.
5. Press [ **▲** or **▼** ] to the one you want to delete, press [ **MENU** ] to select delete it or not.

When you choose calling list but do not have entry, screen will shows blank list, if the keyboard sound is open, will sounded a tone.

## Call Prompt Operation

Call instruction makes you can suggest a specific radio users in the possible time to call you back. This feature applies only to the user alias or ID, and can be used through the menu by address book or manual dialing.

## Receiving and Confirming the Call Reminder

When you receive a call reminder, the screen shows a call reminder, which will alternate the display of Alias or ID.

1. User will hear a repeat tone.
2. Press [PTT]key to exit calling reminder.

## Starting a Call Reminder by Communication List

1. Press [ **MENU** ] key to enter menu.
2. Press [ **▲** or **▼** ] to contacts, then press [ **MENU** ] to select.
3. Press [ **▲** or **▼** ] to the manual dialing, press [ **MENU** ] to select will see flashing light, then input the ID you want to call, press [ **MENU** ] key.
4. Press [ **▲** or **▼** ] to the calling reminder, screen shows call reminder <Group name or ID>, press [ **MENU** ] indicate finish sending call reminder.
5. When transmit call reminder, LED indicator light shows red.
6. When receiving the call prompt confirmation, will sounds a tone and the call alert is displayed.

## Message Function

The radio can receive text messages from another DMR radio, with a maximum length of 100 characters.

## Editing and Sending Message

1. Press [ **MENU** ] key to enter menu.
2. Press [ **▲** or **▼** ] to Message, then press [ **MENU** ] to select.
3. Press [ **▲** or **▼** ] to write message, press [ **MENU** ] to select.
4. A flashing cursor appears, using the keyboard to write messages, press [ **▲** ] key to moveto the left one, press [ **▼** ] button to the right one, when editing area have content , press the [ **EXIT** ] key to delete any useless character, otherwise when editing area without content to return previous interface.

5. After editing the text, press [ **MENU** ] to choose to send or save message.
6. When editing, user can choose by pressing the [ **MENU** ] to clear all edited message, quickly back to previous interface.
7. Choose the [ **▲** or **▼** ] key to the alias name or ID, and then press [ **MENU** ] key to select. Or Press [ **▲** or **▼** ] to manual dialing, and then press [ **MENU** ] button, enter your user ID and Press [ **MENU** ] to send.
8. The screen shows message, confirm sending message.
9. If the messages sent successfully, issued a prompt sound, and the screen displays text message has been sent. Or if the message was not sent, issued a high tone hint sound, and screen displays text message sent failure. If message sent failure, radio will return resend interface.

## Sending Pre-programmed Text

The radio supports a maximum of 50 text messages preprogrammed in the CPS. You can edit every predefined text message before you send it.

## Using Menu Function

1. Press [ **MENU** ] key to enter menu.
2. Press [ **▲** or **▼** ] key to Message, then press [ **MENU** ] to select.
3. Press [ **▲** or **▼** ] key to the quicktext. press [ **MENU** ] to select.
4. Press [ **▲** or **▼** ] key to the one you need pre-programmed message, press [ **MENU** ] to select.
5. A flashing cursor appears, using the keyboard to input messages, press [ **▲** ] key to move to the left one, press [ **▼** ] button to the right one, when editing area have

content , press the [ **EXIT** ] key to delete any useless character, otherwise when editing area without content to return previous interface.

6. After editing the text, press [ **MENU** ] to choose send or save.
7. When editing, user can choose by pressing the [ **EXIT** ] to clear all edited message, quickly back to previous interface.
8. Press the [ **▲** or **▼** ] key to write message, press [ **MENU** ] to select.
9. Press [ **MENU** ] key to pre-programmed message, press [ **MENU** ] to select.
10. Select sending then press [ **▲** or **▼** ] key to required alias name or ID, and press [ **MENU** ] key to select. Or Press [ **▲** or **▼** ] to manual dialing, and then press [ **MENU** ] button, enter your user ID and Press [ **MENU** ] to send.
11. The screen shows message sending.
12. If the messages sent successfully, issued a prompt sound, and the screen displays sent OK.Or if the message was not sent, issued a high tone hint sound, and screen displays sent failure.

## One key call key sends pre-programmed messages

- 1.All the One Key Messages will save to the Quick Text List on the radio.
- 2.Choose one pre-programmed message in the Quick Text List,then confirm.
- 3.Choose the one you send from the contacts list.
- 4.If the messages are sent successfully,it will issue a prompt sound and the screen display send OK.the radio will issue a long hint sound and display sent failure.

## Write Message

1. Press [▲] or [▼] key to write then press [MENU] key to confirm.
2. A flashing cursor appears, using the keyboard to input messages, press [▲] key to move to the left one, press [▼] button to the right one, when editing area have content , press the [EXIT] key to delete any useless character, otherwise when editing area without content to return previous interface.
3. After editing the text, press [MENU] to choose send or save.
4. When editing,the user can clear all edited messages,and quickly back to the write message window.
5. Choose send message then press [▲] or [▼] key to the alias name or ID, and then press [MENU] key to select. Or Press [▲] or [▼] to manual dialing, and then press [MENU] button, enter your user ID and Press [MENU] to send.
6. The screen shows message, <user or alias name or ID>, confirm sending message.
7. If them essages are sent successfully,it will issue a prompt sound and the screen display send OK.the radio will issue a long hint sound and display sent failure.

## Managing the Sent Items

Once a message has sent to another radio, it will be saved in the "Sent Items". After message sent, sending message has always been to "Sent Items" at the top of the list. The sent items folder can store up to 50 recently send text messages. After the folder is full, the next send text messages will automatically replace the earlier messages in this folder. Note: press [EXIT] can return to the previous interface at any time.

## View Sent Items Text

1. Press [MENU] to Message Menu.
2. Press [▲] or [▼] Sent Items.Then press [MENU] to confirm.
3. Press [▲] or [▼] Sent Item List,then press [MENU] to confirm.
4. Press [▲] or [▼] to the Sent messages,choose anyone to read or write.

## Sending Sent Message

When view the Sent Items, you can choose the following,

- Resend
  - Forward
  - Delete
1. When view the message, press [MENU] again.
  2. Press [▲] or [▼] to resend, press [MENU] to select.
  3. The screen showing send to: <User / Call group name or ID>, confirm the message is ready sending to same goal radio.
  4. If the message send success, the radio will appear the voice, and screen showing message sent out. Or If the message send failure, the radio will appear the high voice, and screen showing message sent failure. The screen will return the resend one, press [MENU] to resend the message to the same User / Call group name or ID.
- Select edit, before sending edit the required message.
  - Select delete, delete required message.

## Receive Message

When your radio is receiving messages, the screen will show a message icon and the sending name or ID.

When receive message, you can choose the following,

- View
- Delete

Note: If you press the [PTT] key while the radio is displaying the prompt screen, the radio exits the Message prompt screen.

## View message

1. Press [▲] or [▼] to view, press [MENU] to confirm.
2. Read the received message in the InBox.
3. Press [MENU] to reply, forward, or delete the message. Press [EXIT] to return the InBox.

## Manage Received Message

The InBox can store 50 received messages.

Radio support the following function,

- Reply
- Forward
- Delete

According to the recently received message to store message which on the receive box.

Attention: anytime Press [EXIT] can be return the Previous screen.

## View the Message In the InBox

1. Press [MENU] to menu.
2. Press [▲] or [▼] to message, press [MENU] to confirm.
3. Press [▲] or [▼] to InBox, press [MENU] to InBox List.
4. Press [▲] or [▼] to check message.
5. Press [MENU] select the current message to edit, then press [MENU] again to reply, delete or forward message.

## Reply the InBox message

1. Press [MENU] to menu.
2. Press [▲] or [▼] to message, press [MENU] to confirm.
3. Press [▲] or [▼] to InBox, press [MENU] to InBox List.
4. Press [▲] or [▼] to required message, press [MENU] to Edit box.
5. Re-Press [MENU] to sub-menu.
6. Press [▲] or [▼] to reply, Forward, or Delete.
7. If the messages are sent successfully, it will issue a prompt sound and the screen display send OK. the radio will issue a long hint sound and display sent failure.

## Delete Message On the Receiver Box

1. Press [ **MENU** ] to menu mode.
2. Press [ **▲** or **▼** ] to message, Press [ **MENU** ] to confirm.
3. Press [ **▲** or **▼** ] to InBox, Press [ **MENU** ] to select.
4. Press [ **▲** or **▼** ] to InBox List, Press [ **MENU** ] to confirm.
5. Re-press [ **MENU** ] to sub-menu.
6. Press [ **▲** or **▼** ] to delete, Press [ **MENU** ] to confirm.
7. Screen return to InBox.

## Encryption

In two-way radios, encryption modifies a voice signal using a coding algorithm. This algorithm is controlled by an encryption key. The encryption key is used by the transmit and receive radios to enable the voice signal to be coded and decoded for both radios. Therefore, all radios communicating must have matching encryption keys to receive transmissions.

## Confidentiality

You can activate or kill any radio. For example, maybe you want to stop one robbed radio and prevent the thief from using it, you can enable it when you get it back.

Attention: when using the radio kill or activate only the one that has these functions.

## Radio Kill

1. Press [ **MENU** ] to menu mode.
2. Press [ **▲** or **▼** ] to contacts, press [ **MENU** ] to select.
3. Press [ **▲** or **▼** ] to manual dial, Press [ **MENU** ] to put ID, press [ **MENU** ] to confirm.
4. Press [ **▲** or **▼** ] to radio kill, press [ **MENU** ] to select.
5. Screen showing radio remote kill and LED indicator light is red.

## Radio Wake Up

1. Press [ **MENU** ] to menu mode.
2. Press [ **▲** or **▼** ] to contacts, press [ **MENU** ] to select.
3. Press [ **▲** or **▼** ] to manual dial, press [ **MENU** ] to put ID, press [ **MENU** ] to confirm.
4. Press [ **▲** or **▼** ] to radio wakeup, press [ **MENU** ] to confirm.
5. Screen showing radio wakeup and LED indicator light is red.

## Radio ID

Can be set up 32 ID.

1. Press [ **MENU** ] to menu mode.
2. Press [ **▲** or **▼** ] to radio ID, press [ **MENU** ] to confirm.
3. Press [ **▲** or **▼** ] to select, press [ **MENU** ] to revise ID code, press [ **MENU** ] to revise ID name.
4. Press [ **MENU** ] to confirm.
5. Edit ID code or ID name, press [ **▲** or **▼** ] to move left right character, press [ **EXIT** ] to delete character.

## FM Radio

1. Press [ **MENU** ] to menu mode.
2. Press [ **▲** or **▼** ] to radio, press [ **MENU** ] to enter.
3. Press [ **▲** or **▼** ] to select frequency or channel, or input the frequency or channel directly with keypad.
4. Press [ **\*SCAN** ] to scan, press [ **▲** ] and [ **▼** ] to change scan direction.
5. Press [ **#LOCK** ] to open radio monitor, LCD screen shows DW, press [ **#LOCK** ] twice time to close radio monitor.
6. Press [ **MENU** ] to close.

## Save FM Radio

1. Press [ **MENU** ] to menu mode.
2. Press [ **▲** or **▼** ] to FM Radio.
3. Long press [ **\*SCAN** ] about 2 second into memory channel.
4. Press [ **▲** or **▼** ] to choose required memory channel, press [ **MENU** ] to confirm.
5. Long press [ **EXIT** ] to change to channel mode.
6. Re-press [ **MENU** ] to close.

## Start and Stop Scan

There are three scan modes.

Time mode(TO): When the radio detects a signal it will stop scanning and will pause for 5 seconds before scanning again even if the signal is still present. Carrier mode(CO): When the radio detects a signal it will stop scanning and will stay on the same frequency and will resume scanning after 5 seconds when the signal ends.

Search mode(SE): When the radio detects a signal, it will stop on that frequency and will not move on, even if the signal ends.

Long press [ **\*scan** ], it will begin to scan. Up and down key to change the scan direction, Press any key to exit scan.

## Dual Standby

Short press [ **#LOCK** ] to switch between dual standby and single standby.

When in single standby, the other band will display time.

## A / B Band Switch

Short press [ **\*SCAN** ] key to switch A / B band.



## Analog/Digital Mode Switch

Long Press [EXIT] key to switch Analog/Digital mode under frequency mode.

### Version

1. Press [MENU] to menu mode.
2. Press [▲] or [▼] to version, press [MENU] to confirm.
3. Screen will display the current fixed version.

### Power on password

Setup the power on password via CPS.

### Initialization

If the radio set up power on password , it will not operate this function.

1. Press [MENU] and [EXIT], then turn on the radio, will enter the Initialization mode.
2. The indicator light will turn red in short time.
3. It will display [VFO] or [ALL] on the screen.
4. Select VFO to initialize setting items except for channel information, and select ALL to initialize all.

## First. Main Set

NO.	Screen Display	Settings	Menu Introduction
01	Squelch	0/1/...9	Squelch Level
02	Save	OFF/1:1/1:2/1:3/1:4	Receiver Power Saving Switch
03	Voice	OFF/ ON	Voice Prompt
04	Vox Delay	0.5S/1.0S/...5.0S	Vox Delay Setting
05	Hang Up	OFF/1S/2S/...10S	Hang Up Calling
06	Tx Channel	EDIT/BUSY 1S...10S	Priority Transmit Channel
07	Key Define		Key Define
08	Backlight	Cont/Auto:1S...20S	Backlight Setting
09	Beep	OFF/ON	Beep Switch
10	Key Lock	Manual/Auto	Keypad Lock Switch
11	CH-Mode	FREQ/NAME/CH	Channel Mode
12	Scan Mode	TO/CO/SE	Scan Mode
13	Save Ch	CH-0001...3000	Save Channel
14	Delete Ch	CH-0001...3000	Delete Channel
15	Roger	OFF/ON	Launch End Tone
16	Time		Time Setting
17	Voice Tail	OFF/ON	Voice Tail Elimination

## Squelch Level

The higher level, the deeper squelch.

1. Press [ **MENU** ] to Main Set.
2. Press [ **MENU** ] again to Squelch Menu.
3. Press [ **▲** or **▼** ] to squelch level, press [ **MENU** ] to confirm.
4. Press [ **▲** or **▼** ] to choose 0/1/2...9, press [ **MENU** ] to confirm.
5. The function is available in analog channel.

## Save

The greater the proportion of power saving, the more standby power.

1. Press [ **MENU** ] to menu mode.
2. Press [ **▲** or **▼** ] to Main Set,, press [ **MENU** ] to confirm.
3. Press [ **▲** or **▼** ] to battery save, press [ **MENU** ] to confirm.
4. Press [ **▲** or **▼** ] to choose battery save proportion or close, press [ **MENU** ] to confirm.

## A/B scan time in dual bands.

1. Press [ **MENU** ] to Main Set.
2. Press [ **MENU** ] again to A/B Time.
3. Press up and down key to choose the time 01S-10S.

## Voice

### Voice Announcement.

1. Press [ **MENU** ] to Main Set.
2. Press [ **MENU** ] to Voice.
3. Press [ **MENU** ] to choose ON or OFF.

## Zone Name

When turn on this function, it will display the zone name.

1. Press [ **MENU** ] to Main Set.
2. Press Up or Down to choose [Zone Name].
3. Press [ **MENU** ] again to choose ON or OFF.

## Vox Delay

1. Press [ **MENU** ] to Main Set.
2. Press [ **MENU** ] to VoxDelay.
3. Press [ **▲** or **▼** ] to choose delay time and press [ **MENU** ] to confirm.

## Mic Gain

1. Press [ **MENU** ] to Main Set.
2. Press up and down to choose Mic Gain.
3. Press [ **MENU** ], then press up and down to choose the Mic Gain level.
4. Press[ **MENU** ] to confirm.

## Hang Up

( available in Digital channel mode only)

a: Digital channel contact selection.

b: Off: When launch should be launch with set up connector.

c: 1S~10S: If in the time range receiver calling by current channel, It should be transmit by the receiver connector. Over the set up time have not transmitted or on receiving, It should be by set up connector.

1. Press [ **MENU** ] to Main Set.
2. Press [ **MENU** ] to hang up.
3. Press [ **▲** or **▼** ] to choose time or off, press [ **MENU** ] to confirm.

## Tx. Channel

a: EDIT: Transmit by current working channel.

b: BUSY 1S~10S: Transmit by receive the signal's channel, over the setting time will be transmit by working channel.

1. Press [ **MENU** ] to Main Set.
2. Press [ **▲** or **▼** ] to Tx.channel, press [ **MENU** ] to choose Edit or Busy 1S-10S.

## Key Define

Key setting by long & short press 2 side keys.

1. Press [ **MENU** ] to Main Set.
2. Press [ **MENU** ] to confirm Key Define.
3. Press [ **SCAN** ] to switch Key1 or Key2 short long or short press.
4. Press up and down key to choose the sidekey function.
5. Press [ **MENU** ] to confirm.

## BackLight

1. Press [ **MENU** ] to Main Set.
2. Press [ **MENU** ] to backlight, press up and down to choose Cont, or Auto time.
3. If option 1S/2S/3S etc then the screen will be close in the corresponding time without any operation.

## Key Beep

If you need, you can activate and close it.

1. Press [ **MENU** ] to Main Set.
2. Press [ **MENU** ] to Key Beep.
3. Press [ **▲** or **▼** ] to select off or on, press [ **MENU** ] to confirm.

## KeyLock

You can lock the keypad so that prevent the keypad input, contained manual or auto, the self-motion would be lock without any operation.

1. Press [ **MENU** ] to Main Set.
2. Press [ **MENU** ] to Keylock.
3. Press [ **▲** or **▼** ] to choose manual or auto, press [ **MENU** ] to confirm.
4. Long Press [ **#Lock** ] to choose lock keypad or unlock.

## CH-Mode

a : FREQ: Frequency+ channel number.

b : NAME: Channel name.

c : C H: Channel mode.

## Scan Mode

Time mode(TO): When the radio detects a signal it will stop scanning and will pause for 5 seconds before scanning again even if the signal is still present.

Carrier mode(CO):When the radio detects a signal it will stop scanning and will stay on the same frequency and will resume scanning after 5 seconds when the signal ends.

Search mode(SE):When the radio detects a signal, it will stop on that frequency and will not move on, even if the signal ends.

1. Press [ **MENU** ] to Scan Mode.
2. Press [ **MENU** ] to choose TO, CO, SE.

## Save Ch

a : The parameters set in the current band are stored in the channel you want to save.

b : Input the digital directly to choice the channel.

c : CH before the channel no. indicate that current channels have data.

1. Press [ **MENU** ] to Main Set.
2. Press [ **▲** or **▼** ] to save.CH.
3. Press [ **▲** or **▼** ] to choose or input required channel number by keypad, press [ **MENU** ] to confirm.

## Delete Ch

a : CH before the channel no. indicate that current channels have data.

b : Input the digital directly to choice the channel.

1. Press [ **MENU** ] to Main Set.
2. Press [ **▲** or **▼** ] to delete.CH.
3. Press [ **▲** or **▼** ] to choice required delete channel no. press [ **MENU** ] to confirm.

## Roger

Launch end tone (valid for analog channel)

1. Press [ **MENU** ] to Main Set.
2. Press [ **▲** or **▼** ] to roger.
3. Press [ **▲** or **▼** ] to choose off or on, press [ **MENU** ] to confirm.

## Time

1. Press [ **MENU** ] to Main Set.
2. Press [ **▲** or **▼** ] to time.
3. Press [ **\*SCAN** ] to move place, press [ **▲** or **▼** ] to choose and change.
4. Press [ **MENU** ] to confirm.

## Voice Tail

a : OFF means do not decode sound tail code, ON mean decode sound tail code. We suggest ON

b : Programming software [ Set ting ] has option tail code, option 54.7Hz.

c : This function is effective in analog channel mode only.

1. Press [ **MENU** ] to Main Set.
2. Press [ **▲** or **▼** ] to VoiceTail.
3. Press [ **▲** or **▼** ] to choose off or on, press [ **MENU** ] to confirm.

## Two. Channel Setting (Band A Set and Band B Set)

NO.	Screen Display	Settings	Menu Introduction
01	Zone	All Channels/Zone1...256	Zone Select
02	Step	2.5K/5K/...25K	Frequency Step Setting
03	Power	Low/Middle/High	Transmit Power
04	Vox	OFF/ON	VOX Switch
05	Vox Level	1L/2L/...9L	VOX Levels
06	W/N	Narrow/Wide	Wide/Narrow Band Select
07	TOT	OFF/15S/30S/...600S	Time-out Timer
08	C-CDC	OFF/62.5/67...754I	CTCSS/DCS
09	R-CDC	OFF/62.5/67...754I	R-CDC
10	T-CDC	OFF/62.5/67...754I	T-CDC
11	Ch.Name	-1A	Channel Name Edit
12	Busy Lock	OFF!/Code/...Impolite	Busy Lock(Transmit Permission)
13	Shift Up	OFF/Plus/Minus	Frequency Difference Direction
14	Shift Freq	0.000-99.000MHz	Frequency Difference
15	Color Code	0/1...15	Color Code
16	Encrypt Type	OFF/Enhanced/Normal	Encryption Type
17	Encrypt No	1/2/...16	Encryption Numbers

NO.	Screen Display	Settings	Menu Introduction
18	DMR Mode	Direct/Repeater/Double Slot	Working Modes
19	DMR Slot	Slot 1/Slot 2	Time Slot Select
20	Promiscuous	OFF/ON	Cancel Receiving Group Call List
21	RadiolD		Radio ID Select
22	Contacts		Contacts Select
23	Rx List		Receiving Group List

### Zone Select

1. Press [ **MENU** ] to Band A/B Set.
2. Press [ **▲** or **▼** ] key to zone selection.
3. Press [ **▲** or **▼** ] key to select, then press [ **MENU** ] to confirm.

### Frequency Step Setting

1. Press [ **MENU** ] to Band A/B Set.
2. Press [ **▲** or **▼** ] key to frequency step setting, then press [ **MENU** ] to select.
3. Press [ **▲** or **▼** ] key to select, then press [ **MENU** ] to confirm.

## Transmit Power

1. Press [ **MENU** ] to Band A/B Set.
2. Press up and down to [Power].
3. Press [ **MENU** ] again to choose Low, Middle, and High Power level.

## VOX Switch

This function allows you transmit a hands-free voice call at a pre-programmed radio. Whenever the voice is detected by the microphone which is on the VOX function part, radio will automatically transmit signals during the pre-programmed time.

1. Press [ **MENU** ] to Band A/B Set.
2. Press up and down key to VOX.
3. Press [ **MENU** ] to ON or OFF.

## VOX Level

1. Press [ **MENU** ] to Band A/B Set.
2. Press up and down key to VOX Level.
3. Press [ **MENU** ] to choose the VOX level. The level is higher the VOX is more sensitive.

## Wide / Narrow Band Select

Here wide and narrow bandwidth select only works for VFO mode.

1. Press [ **MENU** ] to Band A/B set.
2. Press up and down key to W/N.
3. Press [ **MENU** ] to choose Narrow, Wide.

## Time-out Timer (TOT)

Select 15S/30S....600S means transmitting time is 15S/30S....600S... If exceed this time, radio will stop transmitting automatically. Select OFF means set non-limit transmitting time, until PTT key are released and stop transmitting.

1. Press [ **MENU** ] to Band A/B set.
2. Press Up and down to TOT.
3. Press menu again to choose the TOT time.

## C-CDC / R-CDC /T-CDC

This is the CTCSS/DCS tone setting. it is only available for analog mode.

C-CDC: Set the same tone for receive and transmit.

R-CDC: Set the tone for receive.

T-CDC: Set the tone for transmit.

1. Press [ **MENU** ] to Band A/B set.
2. Press up and down key to C-CDC / R-CDC / T-CDC.
3. Press [ **\*SCAN** ] to switch CTCSS and DCS, then up and down key to choose the tone value.
4. Press [ **MENU** ] to confirm the tone value.

## Channel Name Edit

1. Press [MENU] to Band A/B Set.
2. Press [▲ or ▼] to Ch. Name.
3. Press number keys to input, and press [▲ or ▼] key to move position.
4. Press [MENU] to confirm.
5. This function is only available under channel mode.

## Busy Channel Lockout (BCL)

Set BCL under analog mode. OFF: not forbid to transmit. Wave: if carry wave then forbid to transmit. =Code: If CTCSS/DCS codes are match, then forbid to transmit.

Code: If CTCSS/DCS codes are not match, then forbid to transmit.

Set BCL under digital mode. Forbid: transmit is not allowed.

Impolite: transmit impolite(transmit at any time)

Polite CC: If color codes are same, then forbid to transmit.

Polite ALL: if carry wave then forbid to transmit.

1. Press [MENU] to enter the menu.
2. Press [▲ or ▼] to Band A/B Set, then press [MENU] to select.
3. Press [▲ or ▼] key to Busy Lock, then press [MENU] to select.
4. Press [▲ or ▼] key to select, then press [MENU] to confirm.

## Shift Up

1. Press [MENU] to enter the menu.
2. Press [▲ or ▼] to Band A/B Set, then press [MENU] to select.
3. Press [▲ or ▼] key to Frequency Difference Direction, then press [MENU] to select.
4. Press [▲ or ▼] key to select, then press [MENU] to confirm.
5. This function is only available under frequency mode.

## Shift Frequency

1. Press [MENU] to enter the menu.
2. Press [▲ or ▼] to Band A/B Set, then press [MENU] to select.
3. Press [▲ or ▼] key to Shift Freq, then press [MENU] to select.
4. Press [▲ or ▼] key to select, then press [MENU] to confirm.

## Color Code

a: Only digital mode can set color code, or it is not allowed to use radio.

b: Only same color code to communicate.

1. Press [MENU] to enter the menu.
2. Press [▲ or ▼] to Band A/B Set, then press [MENU] to select.
3. Press [▲ or ▼] key to Color Code, then press [MENU] to select.
4. Press [▲ or ▼] to select, then press [MENU] to confirm.

## Encryption Type

a: Only digital mode can set encryption.

b: It has normal encryption and enhanced encryption 2 types.

1. Press [ **MENU** ] to enter the menu.
2. Press [ **▲** or **▼** ] to Band A/B Set.
3. Press [ **▲** or **▼** ] key to Encryption Type, then press [ **MENU** ] to select.
4. Press [ **▲** or **▼** ] to select, then press [ **MENU** ] to confirm.

## Encryption Numbers

a: Encryption can be only set under digital channel

b: Communication is available only the encryption type and encryption numbers are same.

1. Press [ **MENU** ] to enter the menu.
2. Press [ **▲** or **▼** ] to Band A/B Set.
3. Press [ **▲** or **▼** ] key to Encryption Numbers, then press [ **MENU** ] to select.
4. Press [ **▲** or **▼** ] to select, then press [ **MENU** ] to confirm.

## DMR Modes

There are 3 modes: Direct Mode, Repeater Mode, Real Double Time Slots Mode

a: Direct Mode:

b: Repeater Mode:

c: Real Double Time Slots Mode:

1. Press [ **MENU** ] to enter the menu.
2. Press [ **▲** or **▼** ] to Band A/B Set.
3. Press [ **▲** or **▼** ] key to Encryption Numbers, then press [ **MENU** ] to select.
4. Press [ **▲** or **▼** ] to select, then press [ **MENU** ] to confirm.
5. This function can be only edited under digital channel.

## DMR Slot

If real double time slots are activated, radio must be set in a same time slot then communication can be available.

1. Press [ **MENU** ] to enter the menu.
2. Press [ **▲** or **▼** ] to Band A/B Set, then press [ **MENU** ] to select.
3. Press [ **▲** or **▼** ] key to Time Slots Selection, then press [ **MENU** ] to select.
4. Press [ **▲** or **▼** ] to select, then press [ **MENU** ] to confirm.
5. This function can be only edited under digital channel.



## Promiscuous

This function means cancel receiving group call list.

1. When turn it on, you can receive any contact call.
2. When turn off it, you can only receive the contact which set for the current DMR channel.

## Radio ID Selection

Change to select the ready radio ID

1. Press [ **MENU** ] to enter the menu.
2. Press [ **▲** or **▼** ] key to channel setting, then press [ **MENU** ] to select.
3. Press [ **▲** or **▼** ] key to radio ID selection, then press [ **MENU** ] to select.
4. Press [ **▲** or **▼** ] key to select, then press [ **MENU** ] to confirm.
5. This function can be only programmed under digital channels.

## Contacts Selection

- a: You can press upper and down keys to select contacts or input manually.
- b: If the contacts that you input is not exist, radio will automatically find adjacent valid contacts.
- c: It can be set from [ **MENU** ]

- C.1: Save: Save all the selected transmitted contacts.
- C.2: Local: Change the contacts from address list, and reset the required contacts.
- C.3: Priority: Change the priority contacts, and reset the required contacts.
- C.4: OFF: Close transmitted contacts, transmitting is not allowed.

1. Press [ **MENU** ] to enter the menu.
2. Press [ **▲** or **▼** ] key to Band A/B Set, then press [ **MENU** ] to select.
3. Press [ **▲** or **▼** ] key to contacts selection, then press [ **MENU** ] to select.
4. Press [ **▲** or **▼** ] key to select, then press [ **MENU** ] to confirm.
5. This function can be only programmed under digital channels.

## Receiving Groups List

- a: You can press up and down keys to select contacts or input manually.
- b: If the contacts that you input is not exist, radio will automatically find adjacent valid contacts.
- c: It can be set from [ **MENU** ]
- C.1: Add(Priority): Add priority contacts
- C.2: Add(Local): Add contacts on the address list.
- C.3: Delete: Delete the contacts
- C.4: Detail: View the contacts.
1. Press [ **MENU** ] to enter the menu.
  2. Press [ **▲** or **▼** ] key to Band A/B Set, then press [ **MENU** ] to select.
  3. Press [ **▲** or **▼** ] key to receiving group lists, then press [ **MENU** ] to select.
  4. Press [ **MENU** ] key , and press [ **▲** or **▼** ] key to select, then press [ **MENU** ] to confirm.
  5. This function can be only programmed under digital channels.

## Worldwide Amateur Contact Database

The HD1 supports to upload 20,0000 Amateur DMR individual IDs, Callsign, and user name incsv format sheet.  
This need to be operate in the CPS.

## DTMF Keyboard Dialing.

Number 0-9 = DTMF dial number 0-9.  
Menu button=A  
Up button=B  
Down button=C  
Exit button=D  
\*button=E  
#&Lock button=F  
Press PTT and then dial your DTMF number.

## 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>
Radio keep beeping	<ul style="list-style-type: none"><li>● Radio channel is empty. Please turn to other channels or programming channel first.</li></ul>

## CTCSS/DCS

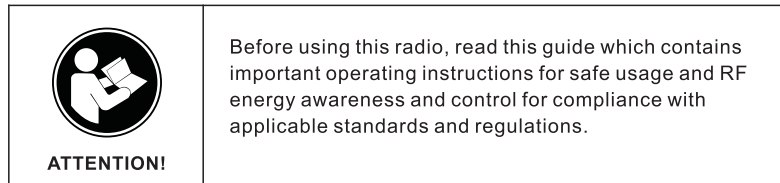
### CTCSS Standard Frequency Table

1 - 62.5	14 - 100.0	27 - 156.7	40-196.6
2 - 67.0	15 - 103.5	28 - 159.8	41-199.5
3 - 69.3	16 - 107.2	29 - 162.2	42-203.5
4 - 71.9	17 - 110.9	30 - 165.5	43-206.5
5 - 74.4	18 - 114.8	31 - 167.9	44-210.7
6 - 77.0	19 - 118.8	32 - 171.3	45-218.1
7 - 79.7	20 - 123.0	33 - 173.8	46-225.7
8 - 82.5	21 - 127.3	34 - 177.3	47-229.1
9 - 85.4	22 - 131.8	35 - 179.9	48-233.6
10 - 88.5	23 - 136.5	36 - 183.5	49-241.8
11 - 91.5	24 - 141.3	37 - 186.2	50-250.3
12 - 94.8	25 - 146.2	38 - 189.9	51-254.1
13 - 97.4	26 - 151.4	39 - 192.8	

### CTCSS Standard Frequency Table

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

## RF ENERGY EXPOSURE AND PRODUCT SAFETY GUIDE FOR PORTABLE TWO-WAY RADIOS



This two-way radio uses electromagnetic energy in the radio frequency (RF) spectrum to provide communications between two or more users over a distance. RF energy, which when used improperly, can cause biological damage.

All Retevis two-way radios are designed, manufactured, and tested to ensure they meet government-established RF exposure levels. In addition, manufacturers also recommend specific operating instructions to users of two-way radios. These instructions are important because they inform users about RF energy exposure and provide simple procedures on how to control it.

Please refer to the following websites for more information on what RF energy exposure is and how to control your exposure to assure compliance with established RF exposure limits:<http://www.who.int/en/>

### Local Government Regulations

When two-way radios are used as a consequence of employment, the Local Government Regulations requires users to be fully aware of and able to control their exposure to meet occupational requirements. Exposure awareness can be facilitated by the use of a product label directing users to specific user awareness information. Your Retevis two-way radio

has a RF Exposure Product Label. Also, your Retevis user manual, or separate safety booklet includes information and operating instructions required to control your RF exposure and to satisfy compliance requirements.

### Radio License

Governments keep the radios in classification, business two-way radios operate on radio frequencies that are regulated by the local radio management departments (FCC, ISED, OFCOM, ANFR, BFTK, Bundesnetzagentur...). To transmit on these frequencies, you are required to have a license issued by them. The detailed classification and the use of your two radios, please contact the local government radio management departments. Use of this radio outside the country where it was intended to be distributed is subject to government regulations and may be prohibited.

### Unauthorized modification and adjustment

Changes or modifications not expressly approved by the party responsible for compliance may void the user's authority granted by the local government radio management departments to operate this radio and should not be made. To comply with the corresponding requirements, transmitter adjustments should be made only by or under the supervision of a person certified as technically qualified to perform transmitter maintenance and repairs in the private land mobile and fixed services as certified by an organization representative of the user of those services.

Replacement of any transmitter component (crystal, semiconductor, etc.) not authorized by the local government radio management departments equipment authorization for this radio could violate the rules.

**FCC Requirements:**

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference. (Licensed radios are applicable);

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (Other devices are applicable)

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

**NOTE:**

- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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

the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

**CE Requirements:**

- (Simple EU declaration of conformity) Shenzhen Retevis Technology Co., Ltd. declares that the radio equipment type is in compliance with the essential requirements and other relevant provisions of RED Directive 2014/53/EU and the ROHS Directive 2011/65/EU and the WEEE Directive 2012/19/EU; the full text of the EU declaration of conformity is available at the following internet address: [www.retevis.com](http://www.retevis.com).

- Restriction Information

This product can be used in EU countries and regions, including: Belgium (BE), Bulgaria (BG), Czech Republic (CZ), Denmark (DK), Germany (DE), Estonia (EE), Ireland (IE), Greece (EL), Spain (ES), France (FR), Croatia (HR), Italy (IT), Cyprus (CY), Latvia (LV), Lithuania (LT), Luxembourg (LU), Hungary (HU), Malta (MT), Netherlands (NL), Austria (AT), Poland (PL), Portugal (PT), Romania (RO), Slovenia (SI), Slovakia (SK), Finland (FI), Sweden (SE) and United Kingdom (UK).

For the warning information of the frequency restriction, please refer to the package or manual section.

- Disposal

The crossed-out wheeled-bin symbol on your product, literature, or packaging reminds

you that in the European Union, all electrical and electronic products, batteries, and accumulators (rechargeable batteries) must be taken to designated collection locations at the end of their working life. Do not dispose of these products as unsorted municipal waste. Dispose of them according to the laws in your area.



### IC Requirements:

Licence-exempt radio apparatus

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage;
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

### RF Exposure Information

- DO NOT operate the radio without a proper antenna attached, as this may damage the radio and may also cause you to exceed RF exposure limits. A proper antenna is the antenna supplied with this radio by the manufacturer or an antenna specifically authorized by the manufacturer for use with this radio, and the antenna gain shall not exceed the specified gain by the manufacturer declared.

- DO NOT transmit for more than 50% of total radio use time, more than 50% of the time can cause RF exposure compliance requirements to be exceeded.
- During transmissions, your 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.
- Portable Device, this transmitter may operate with the antenna(s) documented in this filing in Push-to-Talk and body-worn configurations. RF exposure compliance is limited to the specific belt-clip and accessory configurations as documented in this filing and the separation distance between user and the device or its antenna shall be at least 2.5 cm.
- Mobile Device, during operation, the separation distance between user and the antenna subjects to actual regulations, this separation distance will ensure that there is sufficient distance from a properly installed externally-mounted antenna to satisfy the RF exposure requirements.
- Occupational/Controlled Radio, this radio is designed for and classified as "Occupational/Controlled 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; NOT intended for use in a General population/uncontrolled environment.
- General population/uncontrolled Radio, this radio is designed for and classified as "General population/uncontrolled Use".

### RF Exposure Compliance and Control Guidelines and Operating Instructions

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

### Guidelines:

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

### Operating Instructions:

- Transmit no more than the rated duty factor of 50% of the time. To Transmit (Talk), push the Push to Talk (PTT) button. To receive calls (listen), release the PTT button. Transmitting 50% of the time, or less, is important because the radio generates measurable RF energy exposure only when transmitting in terms of measuring for standards compliance.
- Transmit only when people outside the vehicle are at least the recommended minimum lateral distance away from a properly installed according to installation instructions, externally mounted antenna.
- When operating in front of the face, worn on the body, always place the radio in a Retevis approved clip, holder, holster, case, or body harness for this product. Using approved body-worn accessories is important because the use of Non-Retevis approved accessories may result in exposure levels, which exceed the IEEE/ICNIRP RF exposure limits.

### Hand-held Mode

- Hold the radio in a vertical position with the microphone (and other parts of the radio including the antenna) at least 2.5 cm (one inch) away from the nose or lips. The antenna should be kept away from the eyes. Keeping the radio at a proper distance is important as RF exposure decreases with increasing distance



from the antenna.

### Phone Mode

- When placing or receiving a phone call, hold your radio product as you would a wireless telephone. Speak directly into the microphone.

### Electromagnetic Interference/Compatibility

NOTE: Nearly every electronic device is susceptible to electromagnetic interference (EMI) if inadequately shielded, designed, or otherwise configured for electromagnetic compatibility.

### Avoid Choking Hazard



Small Parts. Not for children under 3 years.

### Turn off your radio power in the following conditions:

- Turn off your radio before removing (installing) a battery or accessory or when charging battery.
- Turn off your radio when you are in a potentially hazardous environments: Near electrical blasting caps, in a blasting area, in explosive atmospheres (inflammable gas, dust particles, metallic powders, grain powders, etc.).
- Turn off your radio while taking on fuel or while parked at gasoline service stations.



WARNING

To avoid electromagnetic interference and/or compatibility conflicts.

- Turn off your radio in any facility where posted notices instruct you to do

so, hospitals or health care facilities (Pacemakers, Hearing Aids and Other Medical Devices) may be using equipment that is sensitive to external RF energy.

Turn off your radio when on board an aircraft. Any use of a radio must be in accordance with applicable regulations per airline crew instructions.

### Protect your hearing:



WARNING

- Use the lowest volume necessary to do your job.
  - Turn up the volume only if you are in noisy surroundings.
  - Turn down the volume before adding headset or earpiece.
  - Limit the amount of time you use headsets or earpieces at high volume.
  - When using the radio without a headset or earpiece, do not place the radio's speaker directly against your ear
  - Use careful with the earphone maybe possible excessive sound pressure from earphones and headphones can cause hearing loss
- Note:** Exposure to loud noises from any source for extended periods of time may temporarily or permanently affect your hearing. The louder the radio's volume, the less time is required before your hearing could be affected. Hearing damage from loud noise is sometimes undetectable at first and can have a cumulative effect.



### Avoid Burns

#### Antennas

- Do not use any portable radio that has a damaged antenna. If a damaged antenna comes into contact with the skin when the radio is in use, a minor

burn can result.

#### Batteries (If appropriate)

- When the conductive material such as jewelry, keys or chains touch exposed terminals of the batteries, may complete an electrical circuit (short circuit the battery) and become hot to cause bodily injury such as burns. Exercise care in handling any battery, particularly when placing it inside a pocket, purse or other container with metal objects

#### Long transmission

- When the transceiver is used for long transmissions, the radiator and chassis will become hot.



WARNING

### Safety Operation

#### Forbid

- Do not use charger outdoors or in moist environments, use only in dry locations/conditions.
- Do not disassemble the charger, that may result in risk of electrical shock or fire.
- Do not operate the charger if it has been broken or damaged in any way.
- Do not place a portable radio in the area over an air bag or in the air bag deployment area. The radio may be propelled with great force and cause serious injury to occupants of the vehicle when the air bag inflates.

#### To reduce risk

- Pull by the plug rather than the cord when disconnecting the charger.
- Unplug the charger from the AC outlet before attempting any maintenance or cleaning.



WARNING



- Contact Retevis for assistance regarding repairs and service.
- The adapter shall be installed near the equipment and shall be easily accessible.

### Approved Accessories



WARNING

- This radio meets the RF exposure guidelines when used with the Retevis accessories supplied or designated for the product. Use of other accessories may not ensure compliance with the RF exposure guidelines and may violate regulations.
- For a list of Retevis-approved accessories for your radio model, visit the following website: <http://www.Retevis.com>

Please cut along with this line

## GUARANTEE CARD

Model Number: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Purchasing Date: \_\_\_\_\_

Dealer: \_\_\_\_\_ Telephone: \_\_\_\_\_

User's Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

Address: \_\_\_\_\_ Post Code: \_\_\_\_\_

### REMARKS:

- 1.This guarantee card to be kept by the user,no replenishment if lost.
- 2.This guarantee card to be filled & chopped by the dealer,or it is invalid.
- 3.Don't alter the guarantee card,please confirm the serial number on the guarantee card is same as that on the machine.
- 4.Two-year guarantee,charger,battery,earphone,antenna are not under guarantee.
- 5.The user can get repairing service from the following ways:
  - a.Go to the shop where you buy the machine
  - b.Our local repairing agent

Shenzhen Retevis Technology Co., Ltd