

RECYCLABLE PACKAGING

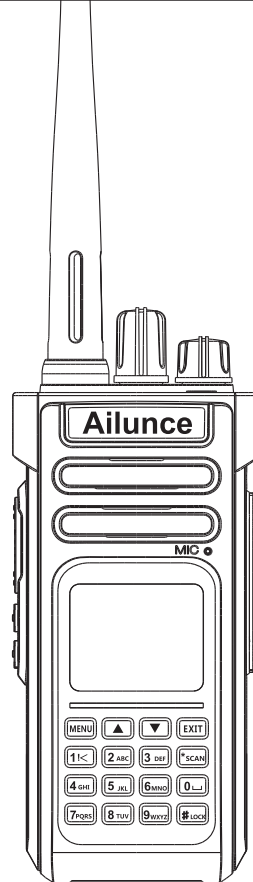
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Made in China



Ailunce®

HD1 USER'S MANUAL

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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 communicate 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.

Specifications

General Specifications

Frequency range	VHF:136-174MHz or UHF:400-480MHz
Channel Capacity	3000 Channels
Channel Spacing	12.5KHz
Operating Voltage	7.4V
Battery Type	Lithium battery Li-ion
Operating Temperature	-30℃~+60℃
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 handing are lost or damaged during the shipment, please immediately contact dealers.

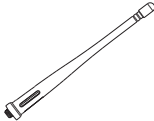
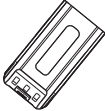




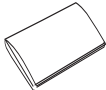
Parts list

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 charge 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

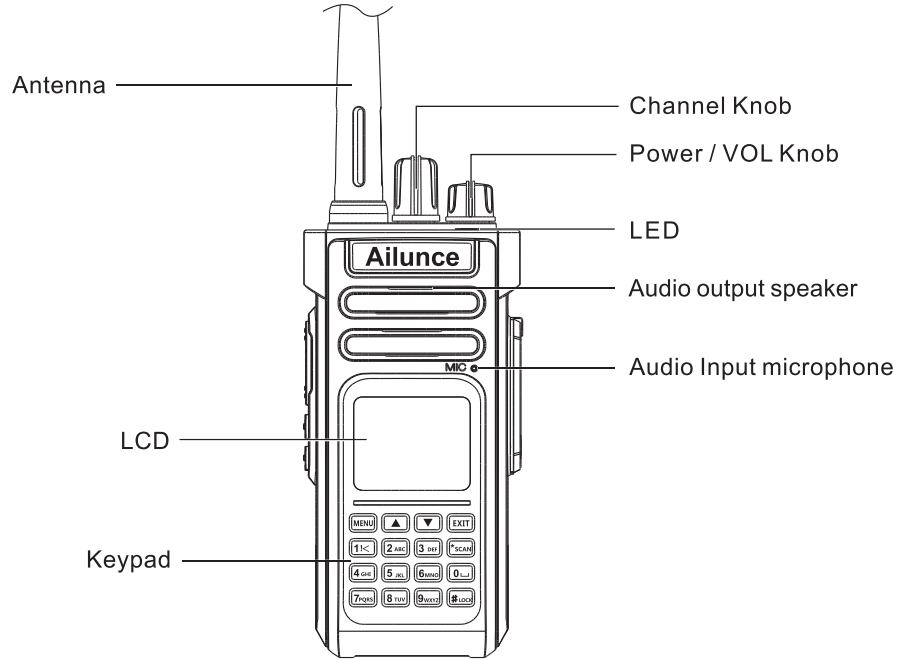
1. Insert power adapter into power supply socket.
2. Insert output terminal of power adapter into DC jack behind the charging kit.
3. Insert the battery or radio equipped with battery into the charging kit.
4. Confirm the battery and charging kit terminal contact reliable, when charging indicator light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

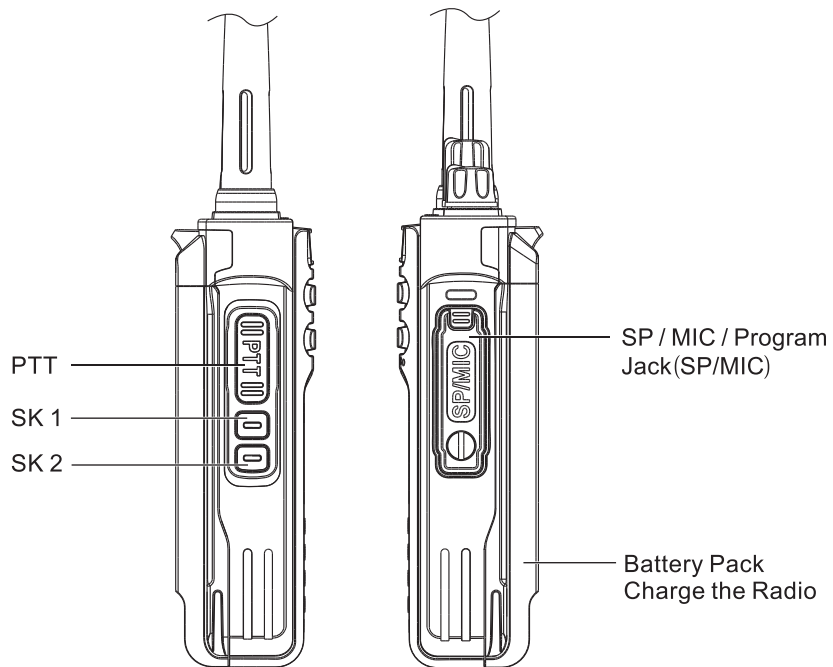
5. After finish charging, (charging time is about 7 hours), indicator turns green.

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





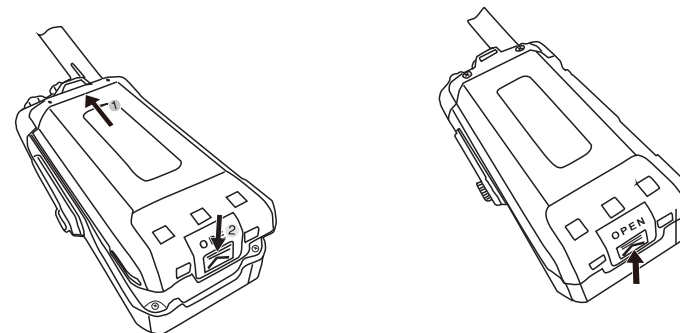
Attachment Installing

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.

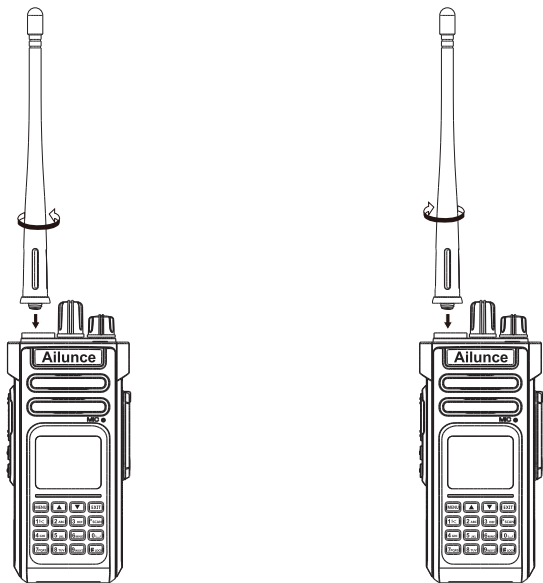
Press the battery end radio firmly together until the release latch on the top of the radio locks. After hearing a "click" sounds, the battery has been locked.

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.



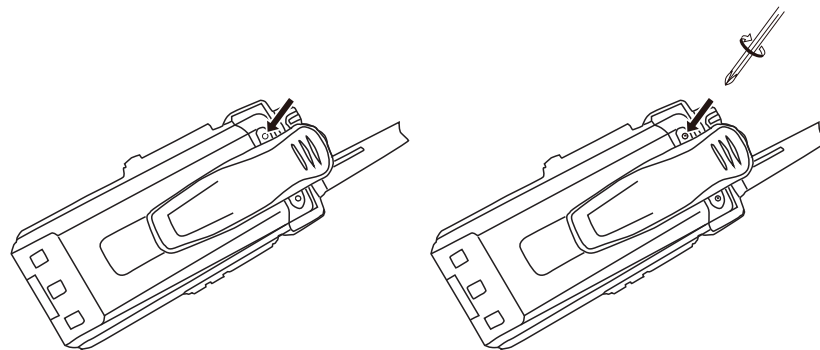
Installing / Removing the Antenna

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.



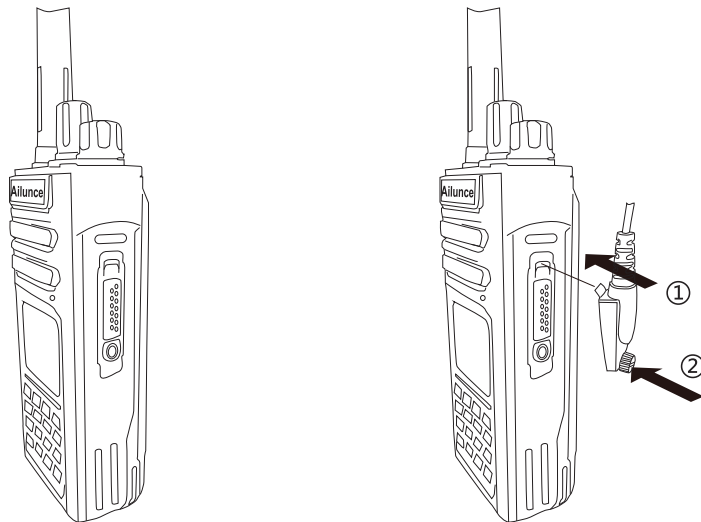
Installing / Removing the Belt Clip:

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-Touch 1
	One-Touch 2
	One-Touch 3
	One-Touch 4
	One-Touch 5
	One-Touch 6
	VOX ON / OFF
	Radio Kill
	Analog Monitor
	1000Hz
	1450Hz
	1750Hz
	2100Hz

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 [▲ or ▼] 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.
- 5.The screen show chosen zone, then back to chosen zone screen.

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

The radio should be under the group then can have the group call.

1. Rotate the channel knob, use the active call Group name or ID to select the channel.
2. Hold the radio in a vertical position and keep 1 to 2 inches (2.5 to 5.0cm) away the mouth.
3. Press * key to make a call and the LED indicator light shows red. The screen displays the call group name or ID.
4. Release * key to receive, when the receive message, LED light is green color. The screen displays the call group name or ID.
5. Radio returns the screen before receiving the call.

Single Call

- 1. Rotate the channel knob, use the active call Group name or ID to select the channel.
- 2. Hold the Walkie-talkie in a vertical position and keep 1 to 2 inches (2.5 to 5.0cm) away the mouth.
- 3. Press [PTT] key to make a call and the LED indicator light shows red. The screen displays RSSI mark, display area under top row will display, single call or Frequency (in digital mode only).
- 4. Release [PTT] key to receive, when the target walkie-talkie replies, LED light is green color.

All Call

must be programmed with this function, so that you can send information to every user who are under the channel.

- 1. Rotate the channel knob, use the active call Group name or ID to select the channel.
- 2. Hold the Walkie-talkie in a vertical position and keep 1 to 2 inches (2.5 to 5.0cm) away the mouth.
- 3. Press [PTT] key to make a call and the LED indicator light shows red. The screen displays all call and frequency {only in the digital mode}. The user of channel can not reply all call.

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 [▼] 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. Your radio support phone book.

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.

4. Hold the Walkie-talkie in a vertical position and keep 1 to 2 inches (2.5 to 5.0cm) away the mouth.
5. Press [PTT] key to make a call and the LED indicator light shows red. The 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).
6. Release [PTT] key to receive message, when your partner reply, LED light is green color and will see transmitter's ID on screen.

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 your receive a call reminder, screen shows call reminder, will alternate display of 's 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

Your radio can receive data, such as from another radio sent text messages, message of 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

Two way radio support maximum 50 programming of pre-programmed text messages by the agent. When a predefined text message, you can edit every message before you can send each message.

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 pre-programmed message, 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 to 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, confirm sending message.
12. 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.

One -Touch Calling Key Sending Pre-programmed Messages

1. Press pre-programmed One-Touch key to send predefined name or ID a pre-programmed message. present message to a predefined alias or ID.
2. The screen shows message, confirm sending message.
3. If the messages sent successfully, issued a prompt sound and the screen displays text message has been sent. Or if can not send message, screen displays text message sent failure.

Write Message

Choose write to write your message before sending it.

1. Press [▲ or ▼] key to edit, then press [MENU] key to select.
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 to send or save.
4. When editing, user can choose by pressing the [MENU] to clear all edited message, quickly back to previous interface.
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 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.

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

Using menu function,

1. Press [MENU] to menu mode.
2. Press [▲ or ▼] message, press [MENU] to selection.
3. Press [▲ or ▼] to sent items, press [MENU] to selection.
4. Press [▲ or ▼] to required message, press [MENU] to selection.

Sending Sent Message

When view the Sent Items, you can choice 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 on receiving message, the screen in left will show message icon for sending name or ID.

When receive message, you can choice 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 selection.
2. Open the required message in the receiver box.
3. Press [EXIT] to return the In Box, press [MENU] to reply, forward or delete message, Press [▲ or ▼] to view, or delete screen.
 - Select view the screen before return received message.
 - Select delete, delete received message.

Administrate Received Message

Using the inbox to administrate, the receiver box will store 50 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 In Box

1. Press [MENU] to menu mode.
2. Press [▲ or ▼] to message, press [MENU] to selection.
3. Press [▲ or ▼] to InBox, press [MENU] to selection.
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

Using menu function,

1. Press [MENU] to menu mode.
2. Press [▲ or ▼] to message, press [MENU] to selection.
3. Press [▲ or ▼] to InBox, press [MENU] to selection.
4. Press [▲ or ▼] to required message , press [MENU] to selection.
5. Re-Press [MENU] to sub-menu.
6. Press [▲ or ▼] to reply, press [MENU] to selection..
7. Screen showing message: confirm on sending message
8. If the message sending succeed, radio appear the voice, and the screen showing message been sent.
Or if the message can not send, screen showing sent failure, if message send failure, radio will return the re-send select.

Delete Message On the Receiver Box

Using menu function,

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

Encryption

If use this function, it will be good for preventing other user in the channel eaves drop which utilize software encryption but can not allow .

Some of the transmit sign and user recognition have not done encryption. Even though the receiving have not required encryption, your radio must turn on the encryption on the channel, then can sending the encryption .

Basic Encryption

Radio could allocate any of the encryption. If it need decode encryption for calling out or data transfer, you must deal the same encryption code with the one on programming and transmitting radio.

If your radio receives encrypted calls with different encryption keys or different key values and key ID, you will hear the messy sound of transmission.

Confidentiality

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

Attention: when use the radio kill or activate only for the one have these function.

Radio Kill

Using menu function,

1. Press [**MENU**] to menu mode.
2. Press [**▲** or **▼**] to contacts, press [**MENU**] to select, item according the alphabetical order to rank.
3. Press [**▲** or **▼**] to manual dial, Press [**MENU**] to put ID, press [**MENU**] to selection.
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

Using menu function,

1. Press [**MENU**] to menu mode.
2. Press [**▲** or **▼**] to contacts, press [**MENU**] to select, item according the alphabetical order to rank.
3. Press [**▲** or **▼**] to manual dial, press [**MENU**] to put ID, press [**MENU**] to selection.
4. Press [**▲** or **▼**] to radio wakeup, press [**MENU**] to selection.
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 selection.
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.

Radio

1. Press [**MENU**] to menu mode.
2. Press [**▲** or **▼**] to radio, press [**MENU**] to enter.
3. Press [**▲** or **▼**] to select radio frequency or channel, or input the frequency or channel directly with keypad.
4. Press [***SCAN**] to scan, press [or] to select up or down scan.
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 Radio

1. Press [**MENU**] to menu mode.
2. Press [**▲** or **▼**] to save radio, press [**MENU**] to input.
3. Long press [***SCAN**] about 2 second into memory channel.

4. Press [**▲** or **▼**] to choice 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

Before using scan, you need decide that any condition should be detective radio sign and how to continue scan, with the following three mode,

1. (TO: time operation mode): 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.
2. (CO:carrier operation mode): 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.
3. (SE: search operation mode): When the radio detects a signal, it will stop on that frequency and will not move on, even if the signal ends..
4. Start scan: press [***SCAN**] about 1 second Press scan state, press [**▲**] to choose up scan, press [**▼**] to choose down scan, press any key to exit scan.

Dual Standby

Short press [**#LOCK**] key to open or close dual standby, when open dual standby, the screen will shows two bands, close it will shows single band and 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

Showing Radio Version

- 1. Press [MENU] to menu mode.
- 2. Press [▲] or [▼] to radio version, press [MENU] to selection.
- 3. Screen will appear the current fixed version.

Open Password

Through program software to set up password, password for 6 significant digits.

Initialization

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











- 1. Press [MENU] and [EXIT] to open radio, press initialization selection.
- 2. Press [▲] or [▼] and [MENU] to select.

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 [] to menu mode.
2. Press [ or ] to whole set up, press [] to selection.
3. Press [ or ] to squelch level, press [] to selection.
4. Press [ or ] to choice 0/1/2...9, press [] to confirm.
5. The function is available in analog channel.











Save

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











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

Voice

Open voice, when you press the keypad will voice prompt.

1. Press [] to menu mode.
2. Press [ or ] to Main Set, press [] to selection.
3. Press [ or ] to voice, press [] to selection.
4. Press [ or ] to choose open or close, press [] to selection.

Vox Delay

1. Press [] to menu mode.
2. Press [ or ] to whole setting, press [] to selection.
3. Press [ or ] to VoxDelay, press [] to selection.
4. Press [ or ] to choose delay time and press [] 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 [] to menu mode.
2. Press [ or ] to Main Set, press [] to selection.
3. Press [ or ] to hang up calling, press [] to selection.
4. Press [ or ] to choose time or off, press [] 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 [] to menu mode.
2. Press [ or ] to Main Set, press [] to selection.
3. Press [ or ] to Tx.channel, press [] to selection.

4. Press [▲ or ▼] to required message, then press [MENU] to selection.

Key Define

a : Key setting by long & short press function

b : Short press [*SCAN] to change side key 1, side key 2 for short & long selection.

1. Press [MENU] to menu mode.
2. Press [▲ or ▼] to Main Set, press [MENU] to selection.
3. Press [▲ or ▼] to key define, press [MENU] to selection.
4. Press [▲ or ▼] to select, press [MENU] to confirm.

BackLight

1. Press [MENU] to menu mode.
2. Press [▲ or ▼] to Main Set, press [MENU] to selection.
3. Press [▲ or ▼] to backlight, press [MENU] to selection.
4. Screen shows Cont, 1S/2S/3S etc, then press [MENU] to be Cont, the background will not close. If option 1S/2S/3S etc then the screen will be close in the corresponding time without any operation.

Beep

If you need, you can activate and close it.

1. Press [MENU] to menu mode.
2. Press [▲ or ▼] to Main Set, press [MENU] to selection.
3. Press [▲ or ▼] to beep, press [MENU] to selection.
4. 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 menu mode.
2. Press [▲ or ▼] to Main Set, press [MENU] to selection.
3. Press [▲ or ▼] to Keylock, press [MENU] to selection.
4. Press [▲ or ▼] to choose manual or auto, press [MENU] to confirm.
5. Press [#LOCK] to choose lock keypad or unlock.

CH-Mode

a : FREQ: Frequency+ channel number.

b : NAME: Channel name.

c : C H: Channel mode.

Press [MENU] to menu mode.

1. Press [▲ or ▼] to Main Set, press [MENU] to selection.
2. Press [▲ or ▼] to CH-mode, press [MENU] to selection.
3. Press [▲ or ▼] to select, press [MENU] to confirm.

Scan Mode

a : TO : Time operation mode.

b : CO: Carrier operation mode.

c : SE : Search operation mode.

1. Press [MENU] to menu mode.
2. Press [▲ or ▼] to Main Set, press [MENU] to selection.

3. Press [▲] or [▼] to channel scan mode, Press [MENU] to selection.
4. Press [▲] or [▼] to choice, Press [MENU] to confirm.

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 menu mode.
2. Press [▲] or [▼] to Main Set, press [MENU] to selection.
3. Press [▲] or [▼] to save.CH, press [MENU] to selection.
4. 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 menu mode.
2. Press [▲] or [▼] to Main Set, press [MENU] to selection
3. Press [▲] or [▼] to delete.CH, press [MENU] to selection.
4. Press [▲] or [▼] to choice required delete channel no. press [MENU] to confirm.

Roger

Start this function will be appeared voice prompts after finishing transmit.

The function is effective in analog channel mode.

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

Time

1. Press [MENU] to menu mode.
2. Press [▲] or [▼] to Main Set, press [MENU] to selection.
3. Press [▲] or [▼] to time, press [MENU] to selection.
4. Press [*SCAN] to move place, press [▲] or [▼] to choose and change.
5. 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 menu mode.
2. Press [▲] or [▼] to Main Set, press [MENU] to selection.
3. Press [▲] or [▼] to VoiceTail, press [MENU] to selection.
4. 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 enter the menu.
2. Press [**▲** or **▼**] key to channel setting, then press [**MENU**] to select.
3. Press [**▲** or **▼**] key to zone selection, then press [**MENU**] to select.
4. Press [**▲** or **▼**] key to select, then press [**MENU**] to confirm.

Frequency Step Setting

1. Press [**MENU**] to enter the menu.
2. Press [**▲** or **▼**] key to channel setting, then press [**MENU**] to select.
3. Press [**▲** or **▼**] key to frequency step setting, then press [**MENU**] to select.
4. Press [**▲** or **▼**] key to select, then press [**MENU**] to confirm.

Transmit Power

You can set radio transmit power at HIGH, MIDDLE OR LOW.

According to pre-programmed HIGH, MIDDLE or LOW power select key, change HIGH, MIDDLE or LOW power, using menu function,

1. Press [**MENU**] to enter the menu.
2. Press [**▲** or **▼**] key to channel setting, then press [**MENU**] to select.
3. Press [**▲** or **▼**] key to frequency step setting, then press [**MENU**] to select.
4. Press [**▲** or **▼**] key to select, then press [**MENU**] to confirm.

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 enter the menu.
2. Press [**▲** or **▼**] key to channel setting, then press [**MENU**] to select.
3. Press [**▲** or **▼**] key to VOX Switch, then press [**MENU**] to select.
4. Press [**▲** or **▼**] key to select, then press [**MENU**] to confirm.

VOX Level

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 enter the menu.
2. Press [**▲** or **▼**] to channel setting, then press [**MENU**] to select.
3. Press [**▲** or **▼**] key to VOX Level, then press [**MENU**] to select.
4. Press [**▲** or **▼**] key to select, then press [**MENU**] to confirm.

Wide / Narrow Band Select

1. Press [**MENU**] to enter the menu.
2. Press [**▲** or **▼**] to channel setting, then press [**MENU**] to select.
3. Press [**▲** or **▼**] key to Wide / Narrow Band Select, then press [**MENU**] to select.
4. Press [**▲** or **▼**] key to select, then press [**MENU**] to confirm.
5. This function can be only available under analog mode.

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 enter the menu.
2. Press [**▲** or **▼**] to channel setting, then press [**MENU**] to select.
3. Press [**▲** or **▼**] key to Time-out Timer setting, then press [**MENU**] to select.
4. Press [**▲** or **▼**] key to select, then press [**MENU**] to confirm.

CTCSS/DCS

A: Only analog mode can set CTCSS/DCS.

B: It is both available that set receiving and transmitting at the same time.

C: Press [***SCAN**] key to change CTCSS, DCS positive direction, DCS negative direction, close CTCSS/DCS.

1. Press [**MENU**] to enter the menu.
2. Press [**▲** or **▼**] to channel setting, then press [**MENU**] to select.
3. Press [**▲** or **▼**] key to CTCSS / DCS , then press [**MENU**] to select.

4. Press [*SCAN] to change CTCSS / DCS frequency, then press [▲ or ▼] to select CTCSS/DCS frequency
5. Press [MENU] to confirm.

R-CDC

a: Only analog mode can set CTCSS/DCS.

b: Only set receiving is available.

c: Press [*SCAN] key to change CTCSS, DCS positive direction, DCS negative direction, close CTCSS/DCS.

1. Press [MENU] to enter the menu.
2. Press [▲ or ▼] to channel setting, then press [MENU] to select.
3. Press [▲ or ▼] key to R-CDC, then press [MENU] to select.
4. Press [*SCAN] to change CTCSS / DCS frequency, then press [▲ or ▼] to select CTCSS/DCS frequency.
5. Press [MENU] to confirm.

T-CDC

a: Only analog mode can set CTCSS/DCS.

b: Only set transmitting is available.

c: Press [*SCAN] key to change CTCSS, DCS positive direction, DCS negative direction, close CTCSS/DCS.

1. Press [MENU] to enter the menu.
2. Press [▲ or ▼] to channel setting, then press [MENU] to select.
3. Press [▲ or ▼] key to T-CDC, then press [MENU] to select.
4. Press [*SCAN] to change CTCSS/DCS frequency, then press [▲ or ▼] to select CTCSS/DCS frequency.
5. Press [MENU] to confirm.

Channel Name Edit

1. Press [MENU] to enter the menu.
2. Press [▲ or ▼] to channel setting, then press [MENU] to select.
3. Press [▲ or ▼] key to Channel Name Edit, then press [MENU] to select.
4. Press number keys to input, and press [▲ or ▼] key to move position.
5. Press [MENU] to confirm.
6. 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 channel setting, 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.

Frequency Difference Direction

1. Press [MENU] to enter the menu.
2. Press [▲ or ▼] to channel setting, 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.

Frequency Difference

1. Press [MENU] to enter the menu.
2. Press [▲ or ▼] to channel setting, then press [MENU] to select.
3. Press [▲ or ▼] key to Frequency Difference, 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 channel setting, 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 channel setting, then press [MENU] to select.
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 channel setting, then press [MENU] to select.
3. Press [▲ or ▼] key to Encryption Numbers, then press [MENU] to select.
4. Press [▲ or ▼] to select, then press [MENU] to confirm.

Working 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 channel setting, then press [MENU] to select.
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.

Time Slots Selection

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 channel setting, 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.

Cancel Receiving Group Call List

- a: when it is on, it means communication is available when receiving any contact.
b: When it is OFF, it means communication is available only when the contacts that received must be in receiving group list first.
1. Press [MENU] to enter the menu.
 2. Press [▲ or ▼] to channel setting, then press [MENU] to select.
 3. Press [▲ or ▼] key to Cancel Receiving Group Call List, 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.

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 channel setting, 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 channel setting, 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.

Leading-in and Writing the contacts from the address list

1. Open programming software
2. Leading-in contacts file (format: *.CVS).
3. Writing contacts

Reading and Leading-out the contacts from the address list

1. Open programming software
2. Reading contacts
3. Leading-out contacts

Troubleshooting

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

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	606	723
025	073	155	245	346	445	612	731
026	074	156	251	351	464	624	732
031	114	162	261	364	465	627	734
032	115	165	263	365	466	631	743
043	116	172	265	371	503	632	754
047	125	174	271	411	506	654	
051	131	205	306	412	516	662	
054	132	223	311	413	532	664	
065	134	226	315	423	546	703	
071	143	243	331	431	565	712	

Safety Warning



This device is designed to comply with the following national and international standards and guidelines regarding exposure of human beings to radio frequency electromagnetic energy:

- United States Federal Communications Commission, Code of Federal Regulations: 47 CFR part 2.1093
- IEEE Std. 1528:2013 and KDB447498, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.
- American National Standards Institute (ANSI)/Institute of Electrical & Electronic Engineers (IEEE) C95. 1-2005
- Institute of Electrical and Electronic Engineers (IEEE) C95.3-2002
- International Electrotechnical Commission IEC62209-2:2010

Test position and configuration Head SAR was performed with the device configured in the positions according to IEEE1528, and face up SAR was performed with the device 25mm from the phantom, Body SAR was performed with the belt clip on the device 0 mm from the phantom. Body SAR was also performed with the headset attached and without.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference, and
- (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, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.



CAUTION

Compliance with RF Exposure Standards

Your Ailunce radio is designed to comply with the following national and international standards and guidelines regarding exposure of human beings to radio frequency electromagnetic energy:

- American National Standards Institute (ANSI)/Institute of Electrical & Electronic Engineers (IEEE) C95. 1.
- IEEE Std. 1528:2013 and KDB447498, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.
- Ministry of Health (Canada) Safety Code 6 & Industry Canada RSS-102.
- International Commission on Non-Ionizing Radiation Protection (ICNIRP).e.
- International Electrotechnical Commission IEC62209-2:2010

Test position and configuration Head SAR was performed with the device configured in the positions according to IEEE1528, and face up SAR was performed with the device 25mm from the phantom, Body SAR was performed with the belt clip on the device 0 mm from the phantom. Body SAR was also performed with the headset attached and without.

Please refer to the following websites and Guidance documents for more information on what RF energy exposure is and how to control your exposure to assure compliance with established RF exposure limits: RSS-102, Safety Code 6 and www.who.int/en/.



CAUTION

This product is compliance to FCC RF Exposure requirements and refers to FCC website <https://apps.fcc.gov/oetcf/eas/reports/GenericSearch.cfm> search for FCC ID: 2AAR8AILUNCEHD1 to gain further information include SAR Values.

IC Radiation Exposure Statement

This EUT is compliance with SAR for controlled exposure limits in IC RSS-102 and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528 and IEC 62209, this equipment should be installed and operated with minimum distance 1 cm between the radiator and your body. This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet appareil est conforme aux limites d'exposition DAS contrôlées pour de la norme CNR-102 d'industrie Canada et a été testée en conformité avec les méthodes de mesure et procédures spécifiées dans IEEE 1528 et IEC 62209.

Cet appareil doit être installé et utilisé avec une distance minimale de 1 cm entre l'émetteur et votre corps. Cet appareil et sa ou ses antennes ne doivent pas être co-localisés ou fonctionner en conjonction avec tout autre antenne ou transmetteur.



WARNING

SAFETY INFORMATION

Your wireless hand-held portable transceiver contains a low power transmitter. This product sends out radio frequency (RF) signals when the Push-to-Talk (PTT) button is pressed. The device is authorized to operate at a duty factor not to exceed 50%. In August 1996, the Federal Communications Commissions (FCC) adopted RF exposure guidelines with safety levels for hand-held wireless devices.

To control your exposure and ensure compliance with the general population or uncontrolled environment exposure limits, transmit no more than 50% of the time. The radio generates measurable RF energy exposure only when transmitting.



WARNING

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment and should not be made. To comply with FCC 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 FCC equipment authorization for this radio could violate FCC rules.

Note: Use of this radio outside the country where it was intended to be distributed is subject to government regulations and may be prohibited.



WARNING

Body-Worn Operation

To maintain compliance with FCC's RF exposure guidelines, for body-worn operation, this radio has been tested and meets the FCC RF exposure guidelines when used with Ailunce Radio Corp. accessories supplied or designated for this product. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

If you wear the radio on your body when transmitting always use Ailunce supplied or approved belt clip, holster, case, or body harness for this product.

If you do not use any accessories supplied or approved by Ailunce, ensure the radio and its antenna are at least 1 inch (2.5cm) from your body when transmitting.

Use the Analog Transceiver in the environment with the temperature between -10°C and 40°C, otherwise, it may damage your Analog Transceiver. It can be operating under 2000m.



WARNING

Antennas

- 1) The antenna in the packing is unique, please do not optional change.
- 2) For safe operation, the antenna for the product shall be least 25mm away from your face, when speaking.

- 1) DO NOT use any portable radio that has a damaged antenna. If a damaged antenna comes into contact with your skin, a minor burn can result.



WARNING

Batteries

All batteries can cause property damage and/or bodily injury such as burns if a conductive material touches exposed terminals. The conductive material may complete an electrical circuit (short circuit) and become hot.

- Exercise care when removing the rechargeable batteries. Do not use sharp or conductive tools to remove these batteries.
- Exercise care in handling any charged battery, particularly when placing it inside a pocket, purse or other container with metal objects.
- Do not discard your battery in a fire.
- Do not replace the battery in any area labeled “Hazardous Atmosphere”. Any sparks created in a potentially explosive atmosphere can cause explosion or fire.
- Do not disassemble, crush, puncture, shred or otherwise attempt to change the form of your battery.
- Do not dry a wet battery or damp battery with an appliance or heat source, such as a hair dryer or microwave oven.
- If the radio battery contact area has been submerged in water, dry and clean the battery contacts before attaching the battery to the radio.



CAUTION

Battery Charger Safety Instructions:

This document contains important safety and operating instructions. Read these instructions carefully and save them for future reference.

Before using the battery charger, read all the instructions and cautionary markings on

- The charger
- The battery, and
- The radio using the battery

To reduce risk of injury, charge only the rechargeable Ailunce-authorized batteries. Other batteries may explode, causing personal injury and damage.

Use of accessories not recommended by Ailunce may result in risk of fire, electric shock, or injury.

To reduce risk of damage to the electric plug and cord, pull by the plug rather than the cord when disconnecting the charger.

An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in risk of fire and electric shock. If an extension cord must be used, make sure that the cord size is 18AWG for lengths up to 6.5 feet(2.0m), and 16AWG for lengths up to 9.8 feet(3.0m).

To reduce risk of fire, electric shock, or injury, do not operate the charger if it has been broken or damaged in any way.

Take it to a qualified Ailunce service representative.

Do not disassemble the charger: it is not repairable and replacement parts are not available. Disassembly of the charger may result in risk of electrical shock or fire. To reduce risk of electric shock, unplug the charger from the AC outlet before attempting any maintenance or cleaning.

Operational safety guidelines

1. Turn the radio off when charging the battery.
2. Do not expose the charger to outside environment. Chargers should only be used indoors.
3. Do not operate or disassemble the charger. Do not use a charger that 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 the 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 recommended or sold by Ailunce Solutions 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 a 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 extension cord is properly wired and in good condition.

10. The supply cord of the AC adaptor cannot be replaced. If the cord is damaged, call customer service.

11. Maximum ambient temperature around the power supply equipment must not exceed 40°C (104°F).



DANGER

12. When the conductive metals such as jewellery, key or decorative chains touch the battery terminals, all the batteries are likely to cause damage to the items or personal injury. These conductive metals may form a short circuit and generate much heat. Do deal with any battery carefully, especially when put it into pocket, wallet or other metallic containers.



WARNING

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

Electromagnetic Interference/Compatibility

Note: Nearly every electronic device is susceptible to electromagnetic interference (EMI) if

inadequately shielded, designed or otherwise configured for electromagnetic compatibility.

During transmissions, Ailunce, INC. radio generates RF energy that can possibly cause interference with other devices or systems.

Facilities

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 may be using equipment that is sensitive to external RF energy.

Aircraft

When instructed to do so, turn off your radio when onboard an aircraft. Any use of a radio must be in accordance with applicable regulations per airline crew instructions.

Medical Devices – Pacemakers, Defibrillators or other Implanted Medical Devices

Persons with pacemakers, Implantable cardioverter defibrillators (ICDs) or other active implantable medical devices (AIMD) should:

- Consult with their physicians regarding the potential risk of interference from radio frequency transmitters, such as portable radios (poorly shielded medical devices may be more susceptible to interference).
- Turn the radio OFF immediately if there is any reason to suspect that interference is taking place.
- Do not carry the radio in a chest pocket or near the implantation site, and carry or use the

radio on the opposite side of their body from the implantable device to minimize the potential for interference.

Hearing Aids

Some digital wireless radios may interfere with some hearing aids. In the event of such interference, you may want to consult your hearing aid manufacturer to discuss alternatives.

Other Medical Devices

If you use any other personal medical device, consult the manufacturer of your device to determine if it is adequately shielded from RF energy. Your physician may be able to assist you in obtaining this information.

Use of Communication Devices While Driving

Always check the laws and regulations on the use of radios in the areas where you drive.

- Give full attention to driving and to the road.
- Use hands-free operation, if available.
- Pull off the road and park before making or answering a call, if driving conditions or regulations so require.

For Vehicle with Air Bags

Refer to the vehicle manufacturer's manual prior to installation of electronic equipment to avoid interference with air bag wiring. Do not place a portable radio in the area over an air bag or in the air bag deployment area. Air bags inflate with great force. If a portable radio is placed in the air bag deployment area and the air bag inflates, the radio may be propelled with great force and cause serious injury to occupants of the vehicle.

Potentially Explosive Atmosphere

Turn off your radio prior to entering any area with a potentially explosive atmosphere. Only radio types that are especially qualified should be used in such areas as “Intrinsically Safe”. Do not remove, install or charge batteries in such areas. Sparks in a potentially explosive atmosphere can cause an explosion or fire resulting in bodily injury or even death.

Note: The areas with potentially explosive atmosphere referred to above include fueling areas such as below decks on boats, fuel or chemical transfer or storage facilities, areas where the air contains chemicals or particles (such as grain, dust or metal powders) and any other area where you would normally be advised to turn off your vehicle engine. Areas with potentially explosive atmospheres are often – but not always posted.

Blasting Caps and Areas

To avoid possible interference with blasting operations, turn off your radio when you are near electrical blasting caps, in a blasting area, or in areas posted “Turn off two-way radios”. Obey all signs and instructions.



WARNING

Use only Ailunce's approved supplied or replacement belt clip, batteries, charger, antennas and accessories. Use of non-manufacturer-name approved batteries, and accessories may exceed the RF exposure guidelines.



WARNING

Please read the following brief instructions, non-compliance with these rules may cause danger or violate the law.

Obey the local government regulation before using this radio, improper use may violate the law and the punished.

Do not charge the transceiver and battery pack when they are wet.

Ensure that there are no metallic items located between the transceiver and the battery pack.

Don not use the options not specified by Ailunce

If the die-cast chassis or other transceiver part is damaged, do not touch the damaged parts.

If the headset or headphone is connected to the transceiver, reduce the transceiver volume. Pay attention to the volume level when turning the squelch off.

Do not place the microphone cable around your neck while near machinery that may catch the cable.

Do not please the transceiver on unstable surfaces.

Ensure that the end of the antenna does not touch your eyes.

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

Don not touch these locations when replacing the battery pack.

Do not immerse the transceiver in water.

Always switch the transceiver power off before installing optional accessories.

The charger is the Device that disconnects the units from the AC mains line, the AC plug should be readily accessible.

Do not transmit too long, for the radio may heat and hurt the user



WARNING

TURN THE TRANSCEIVER POWER OFF IN THE FOLLOWING LOCATIONS:

In explosive atmospheres (flammable gas, dust particles, metallic powders, grain powders, etc.)

While taking on fuel or while parked at gasoline service stations.

Near explosives or blasting sites.

In aircraft. (Any use of the transceiver must follow the instructions and regulations provided by the airline crew.)

Where restrictions or warnings are posted regarding the use of the radio devices, including but not limited to medical facilities.

Near persons using pacemakers.

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