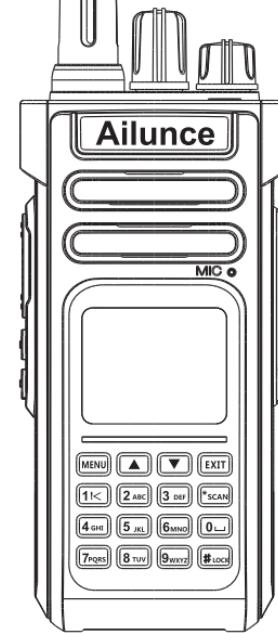


Ailunce



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MADE IN CHINA

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 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.

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:4W 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 handling are lost or damaged during the shipment, please immediately contact dealers.

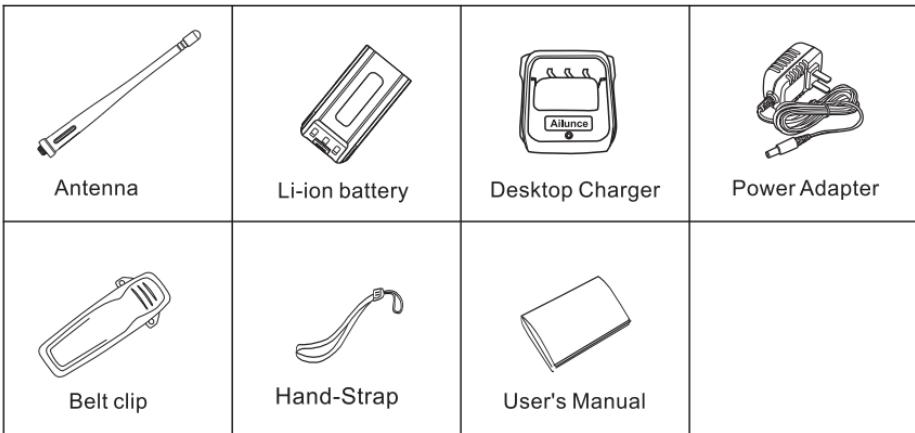
Parts list

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:



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.

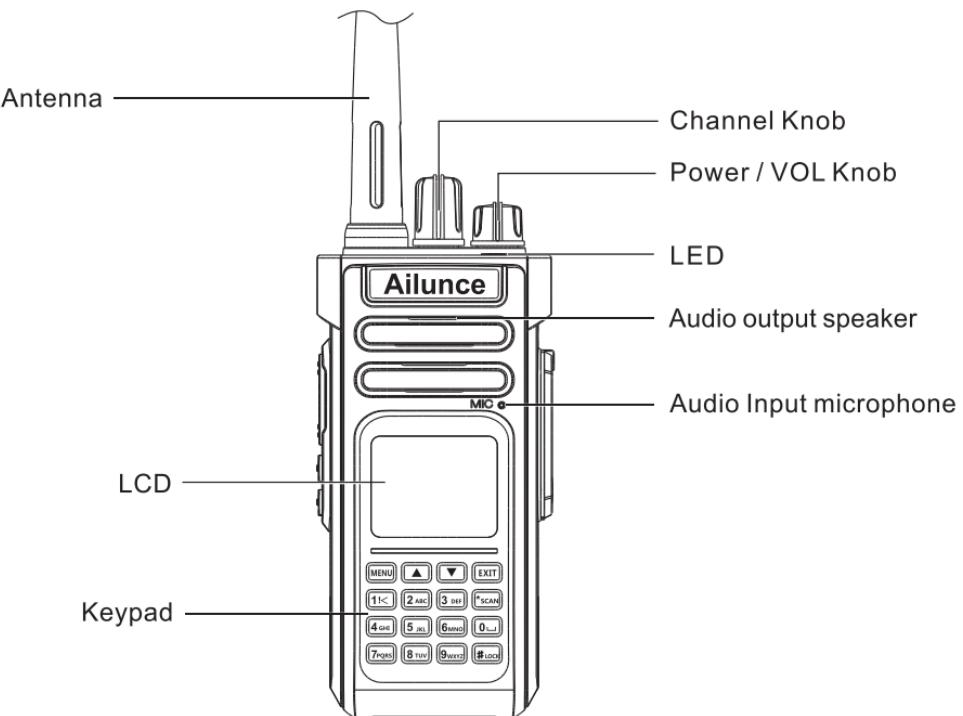
5. After finish charging, (charging time is about 7 hours), indicator turns green.

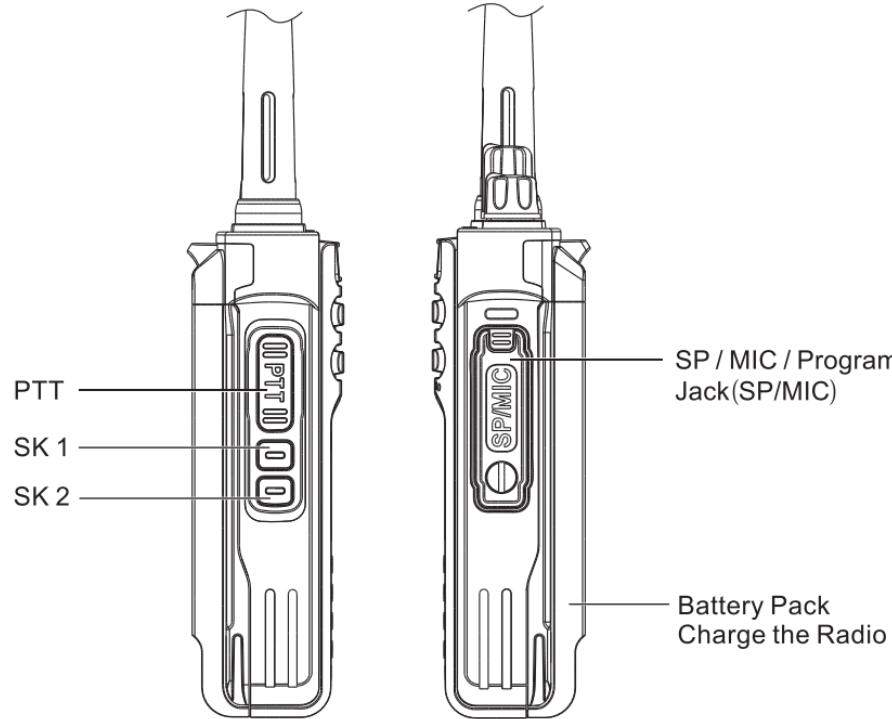
Status	Indicator
Power connect	Red light and Green light Alternate Flicker
Charge normally	Red light is on
The battery is fully charged	Green light is on
Fault (battery short circuit or over discharge state)	Red light flashes

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





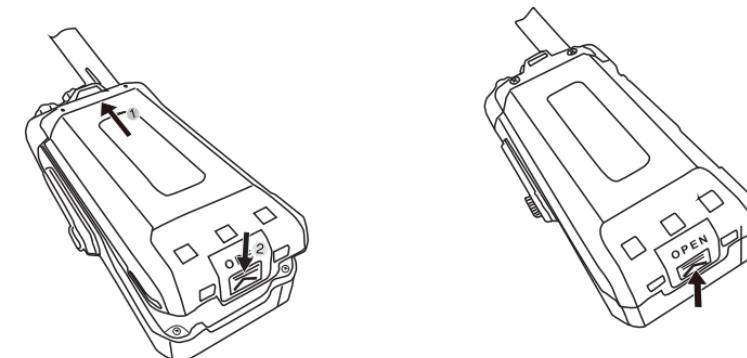
Attachment Installing

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.



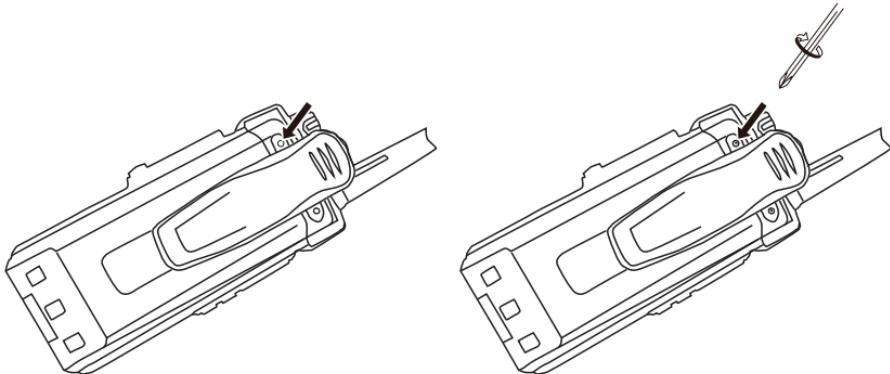
Installing / Removing the Antenna

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.



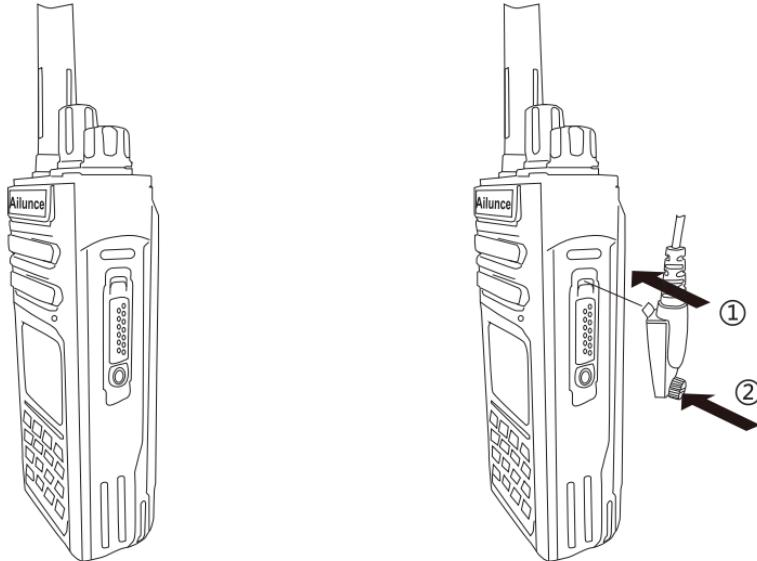
Installing / Removing the Belt Clip:

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-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 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.

- After editing the text, press [MENU] to choose to send or save message.
- When editing, user can choose by pressing the [MENU] to clear all edited message, quickly back to previous interface.
- 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.
- The screen shows message, confirm sending message.
- 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

- Press [MENU] key to enter menu.
- Press [▲ or ▼] key to Message, then press [MENU] to select.
- Press [▲ or ▼] key to the pre-programmed message, press [MENU] to select.
- Press [▲ or ▼] key to the one you need pre-programmed message, press [MENU] to select.
- 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.
- After editing the text, press [MENU] to choose to send or save.
- When editing, user can choose by pressing the [EXIT] to clear all edited message, quickly back to previous interface.
- Press the [▲ or ▼] key to write message, press [MENU] to select.
- Press [MENU] key to pre-programmed message, press [MENU] to select.
- 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.
- The screen shows message, confirm sending message.
- 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

- Press pre-programmed One-Touch key to send predefined name or ID a pre-programmed message. present message to a predefined alias or ID.
- The screen shows message, confirm sending message.
- 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.