DMR

USER'S MANUAL

Digital wireless interphone

AT	BE	CY	CZ	DK	EE	FI
FR	DE	EL	HU	IE	IT	LV
LT	LU	MT	NL	PL	PT	SK
SI	ES	SE	UK	BG	RO	HR

IMPORTANT ITEMS

Please read the instructions carefully before using.
Please keep this manual.
The direct mode, transfer mode, a cluster mode of operation, please consult your dealer.

⚠ Precautions for battery use:

- Please do not disassemble or refill batteries.
  There is a protective circuit inside the battery, disassembly or modification of the battery will lead to damage to the protection circuit, the battery may produce smoke, rupture or fire.
- Please do not short circuit battery.
  Do not use any metal to connect the battery "+" pole and "-" pole, do not use metal object container to store and store battery. If the battery is short circuited, it will produce too large current, the battery will heat, smoke, break or fire.
- Please do not place the battery near the fire, stove or other heater. Please don't burn or heat the battery. Batteries can produce heat, fireworks, breaks, or fires.
- Do not expose the battery to rain, snow, sea water or any other liquid.
  Do not charge or use wet batteries. If the battery get wet, it must be dried before use.

⚠ Precautions for charger:

- Please do not plug the wet of the charger, otherwise it may cause internal parts damage and cause electric shock or fire.
- Please don't let the charger close to the radiator or heat source; please don't put the paper under the charger.
- Please do not put the charger in a closed container and on the bed, sofa or carpet.
- Please do not use the charger in the bathtub, the pool, the swimming pool or the wet basement.
- Please do not place the metal sheet in a holder, otherwise the conductive material may damage the machine.
- Please don't press the power supply to bend or twist the pine.
- Please do not allow the charger to have stains, dust, water traces or food.
- Please do not put the charger in high temperature or exposure to the sun.

⚠ Notice of using device :

- Walkie talkie and battery do not charge when wet.
- Please do not place the interphone on the unstable surface.
- Before installing options, be sure to turn off the walkie talkie power supply.
- Please don't press the PTT key when you don't want to talk.
- In the launch, the walkie talkie is not too close to or contact with the exposed parts of the body (especially the face and eyes), please keep the antenna more than 2.5 centimeters away from the body.
- The walkie talkie is a wireless communication device, the interphone is 8 to 10 centimeters, which makes the sound clearer and reduces the electromagnetic radiation.
- Headset headset connected to intercom, please reduce the volume of interphone.
- Please do not use the option which is not made by our company.
- Please do not damage the walkie talkie and the label on the back of the battery, otherwise it will reduce the waterproof performance of the walkie talkie.
- Do not disassemble the walkie talkie without permission, which may cause walkie talkie failure, and will reduce the waterproof performance of walkie talkie.
- Do not place the radio at places where the ambient temperature is below -30 or above +60 centigrade or in direct sunlight.

⚠ Please do not use this device on the following occasions:

- Near explosive sites.
- On the plane.
- Near the gas station.

3 equipment assembly

Technical indicators

General specification	
frequency range (MHz)	400-470MHz
Working Voltage	6.2V-8.4V
working voltage	DC 7.4V
Channel interval	12.5kHz
working temperature	-30℃~+65 ℃
Max Antenna Gain	2.15dBi

Receive	
frequency range (MHz)	400-470MHz
Frequency stability	± 1.5ppm
Sensitivity	-125dBm(12 dB SINAD)
Digital sensitivity	-135dBm(5% BER)
Intermodulation	TIA603C、GB6 、ETSI、300
Adjacent channel selectivity	TIA603C、≥45dB@12.5KHz ETSI、≥60dB@12.5KHz
Receive stray radiation	≤Fr≤1GHz、-57dBm ≥1GHz、-47dBm
block	≥84dB
Rated audio power	≥ 1W
Audio response	+1dB ~ - 3dB
Rated audio distortion	< 3%

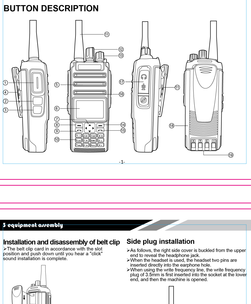
launch	
frequency range (MHz)	400-470MHz
Frequency stability	± 1.5ppm
Emission power	Low: 0.5W、High: 5 W
Emission current	Low: ≤ 1.0A, High: ≤ 1.5A
Channel interval	12.5kHz
Emission and stray radiation	≤-36dBm@1GHz、≤-30dBm@1-12GHz
Adjacent channel power	≤60dB@12.5KHz
FM modulation mode	12.5KHz 11K0F3E
4FSK digital modulation mode	12.5KHz(data only) 7K60 FXD 12.5KHz(data + voice) 7K60 FXE
Modulation limitation	±2.5kHz@12.5KHz
Idle time slot power	≤-53dB
Audio response	+1dB ~ - 3dB
Rated audio distortion	≤3%
Digital protocol	ETSI TS 102 361-1、-2、-3
Digital speech codec	AMBE +2™

CONTENTS

1Panel introduction **1-3**
Button description **1**
Shortcut key **2**
Display function **3**
Icon description **3**
2 Basic operation **4-11**
Powering on **4**
Channel selection **4**
Volume adjusting **4**
Receive and launch **4**
Menu description **5**
Introduction of work pattern **5**
The main functions of the conventional pattern **6-11**
3 Equipment assembly **12-15**
Battery installation and disassembly **12**
Antenna installation and disassembly **12**
The installation and disassembly of the belt clip **13**
Side plug installation **13**
Equipment accessories **14**
Clean **14**
Technical indicators **15**

Introduction of the 1 panel

BUTTON DESCRIPTION



3 equipment assembly

Equipment accessories

SERIAL NUMBER	PROJECT	NUMBER
1	Host	1
2	Battery	1
3	Antenna	1
4	Charger	1
5	Belt clamp	1
6	Instructions	1

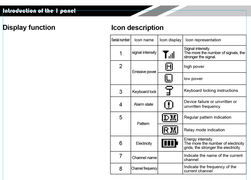
Clean

- Please regularly use clean dry lint free or brush to wipe the dust on the surface of the product and the charging pole.
- The key, control knob and cabinet of this product are very dirty. Clean with neutral detergent and non-woven cloth. Do not use any other solvent such as benzene, alcohol, spray or petroleum preparation to avoid damage to the surface and shell. After cleaning, make sure that the product is completely dry, otherwise don't use it.

3 equipment assembly

Installation and disassembly of belt clip

➢The belt clip used in accordance with the slot position and pitch shown until you hear a "click" sound installation is complete.



➢The elastic clips of the belt clip are lifted outwards and upwards in the direction of the belt clip can be dismounted.

Side plug installation

➢As follows, the right side cover is buckled from the upper end to reveal the headphone jack.
➢When the headset is used, the headset two pins are inserted directly into the earphone hole.
➢When using the PTT two frequency line, the wire frequency line is first inserted into the earphone hole, rotated at the lower end, and then the machine is opened.

Introduction of the 1 panel

Serial number	Part name	Serial number	Part name	Serial number	Part name	Serial number	Part name
1	PTT key	8	Display	11	antenna	16	Microphone
2	3A1 upper side key	7	Direction key	12	Channel knob	17	Earphone interface (headset interface)
3	3A2 underside key	8	Confirmation key	13	Turn on/volume knob	18	Battery
4	Belt clip	9	Call key	14	Return key	19	Battery clamp
5	Speaker	10	Numeric key	15	escape key	20	Transceiver

Shortcut key:

For the convenience of use, the machine has a quick key:

Serial number	Serial number pattern	Key function
1	Call key	Enter the manual input channel number
2	*	Keyboard unlock

Introduction of the 1 panel

Display function

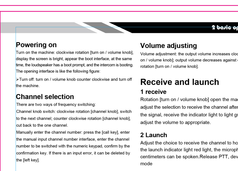
Icon description

Serial number	Icon name	Icon display	Icon representation
1	signal intensity		Signal intensity: The more the number of signals, the stronger the signal
2	Emission power		high power
			low power
3	Keyboard lock		Keyboard locking instructions
4	Alarm state		Device failure or unwritten or unwritten frequency
5	Pattern		Regular pattern indication
			Relay mode indication
6	Electricity		Energy intensity: The more the number of electricity, the more sufficient the power
7	Channel name		Indicate the name of the current channel
8	Panel frequency		Indicate the frequency of the current channel

3 equipment assembly

Battery installation and disassembly

➢The battery icon will be inserted according to the.
➢Along the battery in accordance with this direction into, until I heard a clatter.



➢The battery buckle is launched in the direction of the arrow.
➢Then push the battery in the direction of the arrow.

Antenna installation and disassembly

➢Clockwise will tighten to the size of antenna antenna.
➢The counter clockwise screw out the antenna.

5 basic operation

Powering on

Turn on the machine: clockwise rotation [turn on / volume knob], display the screen is bright, appear the boot interface, at the same time, the loudspeaker has a boot prompt, and the intercom is booting. The opening interface is like the following figure:

➢Turn off: turn on / volume knob counter clockwise and turn off the machine

Channel selection

There are two ways of frequency switching:
Channel knob switch: clockwise rotation [channel knob], switch to the next channel; counter clockwise rotation [channel knob], cut back to the one channel.
Manually enter the channel number: press the [call key], enter the manual input channel number interface, enter the channel number to be switched with the numeric keypad, confirm by the confirmation key. If there is an input error, it can be deleted by the [left key].

Volume adjusting

Volume adjustment: the output volume increases clockwise [turn on / volume knob], output volume decreases against clockwise rotation [turn on / volume knob]

Receive and launch

1 receive

Rotation [turn on / volume knob] open the machine and adjust the selection to receive the channel after receiving the signal, receive the indicator light to light green light, adjust the volume to appropriate.

2 Launch

Adjust the choice to receive the channel to hold PTT, the launch indicator light red light, the microphone 5-10 centimeters can be spoken.Release PTT, device return mode

5 basic operation

Figure 12 contact setting table

➢ Receive group list:

The "receiving group" list is known as the list of the receivers set for the "group call", and the call and all calls are not in the list. Multiple or one group can be integrated into a receiving group. For example, figure 13.

Figure 13 receiving group list settings

➢ The scan list:

Figure 14 scan list setting

The "scan list" is set up in the scan mode for the channel to be scanned. The group members are the channels that have been added into the scan, and the scanning order is adjusted "up" and "down".

Working mode

The handheld platform supports regular patterns and cluster patterns. The work mode needs to be configured through the upper computer.
Conventional mode: In this mode, the mode of work is digital conventional mode, the digital conventional mode platform needs to support the functions of a call, a group call, a short message, and so on. Analog communication: the regular function of the analog interphone, and can communicate with other analog interphones.
Cluster mode: In this mode, the interphone is registered into the system. The functions of the group call, the call, the cross area call, the dispatch call and so on are realized.

5 basic operation

Menu description

The main menu is divided into 5 submenus, the correspondence, the call record, the contact, the message and the system respectively.
➢Communication: including the contact list and manual dialing.
➢The contact list: users can be used in the contacts, contacts can be a person can also as a group, need to add a contact by radio programming software. When used, select a contact and press the call key to make a call.
➢A new contact: you can add new contact information.
➢The manual dialing: users can be the number of the person again after the completion of the input input, press the "PTT" button to call the user.
➢The message module: new short message, state short message, shortcut text, inbox, and fast box.
➢The new Short Message: the user can manually enter the Short Message content, and then select the user to send.
➢The state-news users can be pre-stored in the state Short Message, and can be sent to other users.
➢Read text the user can send Short Message stored walkie talkie to users.
➢The inbox: Short Message received
➢The Outbox: Short message sent
➢Fast Short Message: Users can set different channel configuration, and the channels in the region are stored in the device through the user configuration software.
➢ Interphone setup: It is divided into arbitrary call, language setting, power selection, backlight setting, hint tone setting, keyboard lock.
➢In any call, intercom any call set "allow" or "no".
➢The power of choice walkie talkie transmit power selection "high power" and "low power".
➢The language setting: the user can choose the "simplified Chinese" or "English" as the interface to display text.
➢The backlight settings:LCD backlight and keypad backlight, select the "closed" and "open" and "off delay "backlight.
➢The system: the "Basic Setting", "Advanced Setting", "key Tone" and "SMS tone" "call tone", select "open" or "off" this function.
➢The keyboard lock: enable keyboard lock switch.
➢ this machine information:
It shows "device type", "radio number", "attribution group number", "software version number", "hardware version number", "Bluetooth version", "data programming time", "hardware version number", "device serial number".

5 basic operation

➢ The hybrid channel:

The hybrid channel parameter configuration interface is shown in Figure 10.A.

Figure 10 parameter setting of mixed channel

➢ Digital services:

There are two sets of "basic parameters" and "contacts" under the digital service project.
Basic parameters: Basic parameters refers to some parameter settings of the machine.The native ID is the unique identification code of the customer in the communication group. It must be guaranteed that the ID of the same group of customers in the communication group is different, otherwise the communication of the same ID number cannot be interpretable. For example, figure 11.

Figure 11 basic parameter configuration

The "contact" configuration is like Figure 12. You can set the "call alias", "call type", "call ID" and other items. A call and a group call can exist at the same time. The "full call" can only be set one, and the ID number is 16777215.

5 basic operation

By clicking on the corresponding digital channel, the right window can enter the parameter setting for the channel. For example, figure 8.
Among the "call", "emission color code for receiving and transmitting is set", "launch contact (refers to people call ID), "receiving list" refers to this as the transmitter receiver ID number, you can set up a number.

Figure 8 digital channel parameter setting

➢ Analog channel:

Click the "analog channel" tab to enter. Click the right key in the blank area of the left window to add a new analog channel. By clicking on the corresponding analog channel can enter the parameter setting of the analog channel, as in Figure 9.

Figure 9 analog channel parameter setting

5 basic operation

The main functions of the conventional pattern

➢ launch:
➢ Select the desired channel and ID:
Open the dialing, enter the "call" and emission (ear), into the microphone. Unlock the "PTT button" emission and receiving fields.
➢ If the channel is in use, press the "PTT" button will send channel intercom busy, please wait for the idle channel after launch.
➢ To be on the receiving side the best sound quality, keep the 5-10 cm distance between mouth and microphone.

➢ Group call (number):
Open the directory, select the pre set number, press the PTT button to launch the group call.
➢ Call the number:
Open the address book, select the pre - set number of single call, press the PTT button to launch a single call. When a single call is launched, the caller number is displayed on the main interface of the interphone.
➢ Send short messages (numbers):
Open the address book, select the short message menu, select the new short message, the user can edit the content of the short message. When the edition is finished, select the contact and send it out. Receive the short message of the interphone:
When the interphone receives short messages, a portion of the message is received on the standby menu, and you can read the short message in the inbox.

Parameter configuration

The parameters of the interphone need to be configured by the "write frequency software" of the host computer. Before entering the "write frequency software", the "Kenwood" interface line is connected to the computer, and the other end is inserted into the "Kenwood" port of the interphone.

➢ Write frequency interface:

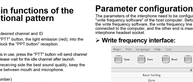


Figure 1 write frequency software interface

➢ Select the communication port:

As in Figure 2, when the write frequency software is opened, the "communication port" option is first clicked, and the corresponding COM port is selected.

5 basic operation

➢ Set up:

Figure 3 setting

➢ Key:

The function key SK2 of the interphone can be configured by "key 3" and "key 4". For example, figure 4.

Figure 4 key configuration confidence

➢ Hint tone:

Under the "hint" item, some hints of the interphone can be set, such as the lesson indicator light, the low electric alarm and so on, for example, figure 5.

5 basic operation

Figure 5 hints

➢ Region:

A new region can be configured with multiple "areas", with up to 16 channels in each area. For example, Figure 6.

Figure 6 area

5 basic operation

The channel in the "available channel" list is the channel configured in the "digital channel" and the "analog channel" selection. The "channel member" is the channel that the user chooses to use, and the number on the right of the "value" corresponds to the channel number in the "available channel".
The digital and analog channels in the "available channel" list are configured in the "digital channel" and "analog channel" options.

➢ Digital channel:

Click the "digital channel" tab to enter. Click the right key in the blank area, and there is a "add" option, and a new digital channel can be added by clicking.
As shown in figure 7.

Figure 7 add a digital channel

FCC STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

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

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

NOTE 1: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF Exposure Compliance and Control Guidelines and Operating Instructions

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

Guidelines:

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

Operating Instructions:

- Transmit no more than the rated duty factor of 50% of the time. To transmit (talk), push the Push-To-Talk (PTT) button. To receive calls, release the PTT button. Transmitting 50 % of the time, or less, is important because this radio generates measurable RF energy exposure only when transmitting (in terms of measuring for standards compliance).
- Hold the radio in a vertical position in front of face with the microphone (and the other parts of the radio, including the antenna) at least one inch (2.5 cm) away from the nose. Keeping the radio at the proper distance is important because RF exposures decrease with distance from the antenna. Antenna should be kept away from eyes.
- When worn on the body, always place the radio in a REDELL's approved clip, holder, holster, case, or body harness for this product. Using approved body-worn accessories is important because the use of REDELL's or other manufacturer's non-approved accessories may result in exposure levels, which exceed the FCC's occupational/controlled environment RF exposure limits.
- Use only manufacturer's name approved supplied or replacement antennas, batteries, and accessories. Use of non-manufacturer-name approved antennas, batteries, and accessories may exceed the FCC RF exposure guidelines.
- For a list of REDELL's approved accessories (see the user manual), or(The manufacturer should include the appropriate bracketed item(s) in the manual.)
- For a list of RDELL's approved accessories (see the user manual)