CIGNUS

UVR-10 WALKIE TALKIE

Ultra High Power=10W

- Dual Band Dual Wait Dual Standby
- One Key Frequency Copy
- Noise Cancellation
- 200 Channels
- 2 Tone / 5 Tone
- Torching Function
- Multi Charger way:desk charger / Type C

IP68 WATERPROOF

USER'S MANUAL

CE KC FC RoHs

NOTE: 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.

Changes or modifications not expressly approved by the party responsible for compliance could void the use's authority to operate the equipment. 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.

Use Two Way Radio in the environment with the temperature between -10℃ and 40℃, otherwise, it may damage your two way radio. It can be operating under 2000m. Hereby, TYT Electronics Co., Ltd. declares that the radio equipment type is compliance with Directive 2014/53/EU.

$C\epsilon$

For this decide, head SAR and Body SAR were performed with the device configured in the positions according to EN62209-2:2010 and face-up SAR was performed with the device 25mm from the phantom, and Body SAR was performed with the device 0mm from the Phantom, Body SAR was also performed with the headset and belt clip attached and without.

Changes or modifications not expressly approved by the party responsible for compliance may void the user's authority granted by the local government radio management departments to operate this radio and should not be made. To comply with the corresponding requirements, transmitter adjustments should be made only by or under the supervision of a person certified as technically qualified to perform transmitter mainte-nance and repairs in the private land mobile and fixed services as certified by an organiza-tion representative of the user of those services.
Replacement of any transmitter component (crystal, semiconductor, etc.) not authorized by the local government radio management departments equipment authorization for this radio could violate the rules.

TO CUSTOMERS

Thank you very much for using our two way radio. This radio of modern design is reasonable structure with stable functions. It is designed to meet different customers'need for high quality with easy operation and perfect capability. We believe you are pleased with its nice shape and excellent performance.

Welcome to use two-way radio

Professional FM Transceiver

Main Functions

- DOT-MATRIX LCD DISPLAY
- Power-on mode select able
- DTMF calling channels quick assignment
- Wide / Mid / narrow bandwidth selectable
- 200 channels
- Dual band, dual wait, dual standby,
- Busy channel lock
- Scan: frequency and CTCSS scan
- FM radio for 24 channels storage
- Multiple types for keys lock setting
- TOT
- Remote stun/ kill/ activate

- ANI
- PTT ID
- VOX
- Battery saving
- Scrambler
- Multi-Display mode
- DTMF
- Backlight brightness setting
- COMP
- 1750Hz tone
- 2Tone/5 Tone
- CTCSS/DCS

CONTENTS

User's Manual

USING TIPS

UNPACKING AND CHECKING EQUIPMENT

Professional FM Transceiver

USING TIPS

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 be punished.
- Turn off the radio before entering flammable or explosive areas.
- Do not charge or change the battery in flammable or explosive areas.
- Turn off the radio before getting close to the blasting zone or detonator areas.
- Do not use radio whose antenna is damaged, touching of damaged antenna will causeheat injury.
- Do not attempt to open the radio; the maintenance work should be done by technicalexpert only.
- To avoid troubles caused by electromagnetic interference or electromagneticcompatibility, please turn off the radio in places where have the banner "Do not usewireless equipment", such as hospital and other healthcare places.
- In the car with an airbag, do not put the radio within the scope of the airbag deployment.
- Do not store the radio under the direct sunshine or in hot areas.
- When you transmit with the radio, do keep away from its antenna for 5cm at least.
- If the radio appears smelly or smoke, please shut off its power immediately and contactwith your local dealer.
- Do not transmit too long, for the radio may heat and hurt the user.
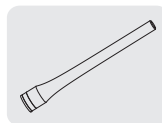
UNPACKING AND CHECKING EQUIPMENT

Please check if any damage to the package when you receive it. Carefully unpack the transceiver. We recommend that you check the items listed in the following table. If any items are missing or damaged during shipment, please contact with your local dealer immediately.
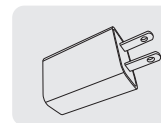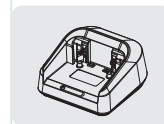
Supplied Items:

| Body | Antenna | Li-ion battery(2800mAh) | Adaptor | USB Charger |

| Charger | Belt Clip | User's Manual |

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

CHARGING BATTERY PACK

INSTALLATION OF ACCESSORIES

Professional FM Transceiver

CHARGING BATTERY PACK

Charging Precaution

The supplied battery pack of this radio is a high –performance Li-ion with 7.4V standard voltage 2800mAh high capacity in a very compact package. Under normal use, the battery pack may be used for approximately 300 charge cycles and more, after which operating time maybe expected to decrease. If you have an old battery pack which is displaying capacity which has become diminished, you should replace the pack with a new one.

Notice: ◼ Please do not short-circuit the battery terminals or expose of in fire. Do not disassemble the battery unauthorized.

◼ Charge the battery between temperature 0℃ and 45℃. The battery can not be normally charged beyond this temperature range.

◼ Please turn off the transceiver when you charge it. Transmitting with the transceiver in charge will affect its normal charge.

◼ Do not unplug the Power Adapter or battery when it is charged.

◼ If the battery pack lasts shortly even it is full of power, it shows that the battery is depleted, please change the battery pack.

◼ Please do not charge when the battery or the radio is wet. Please dry it with a cloth before charging to avoid any danger.

Warning: When the conductive metals such as jewelery, 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 generates much heat. Do deal with any battery carefully, especially when put it into pocket, wallet or other metallic containers.

Charging Operation

After installing the battery pack, if the battery icon shows ⊂⊐, it means that the battery pack is out of power, Please charge it.

Indicator light of charger will show charging condition

| Indicator Display	Status
Red	Charging
Green	Completed

Battery Tips:

- The battery is not fully charged in factory, please charge before using it.
- charge and discharge the battery for two or three times, the battery capacity will reach the best condition. When the battery capacity is low, please charge or change the battery.
- The battery lasts shortly even if it is fully charged, the battery is depleted, please contact your local dealer to buy a new authentic battery.
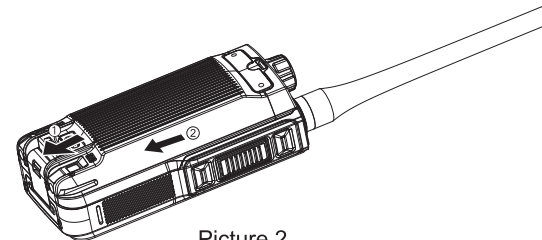
INSTALLATION OF ACCESSORIES

Installation of Battery Pack

To install the battery into the battery positioning hole of radio bettom, the press the battery, make the button completely to lock battery. Toremove the battery,please turn off the radio, and then push up the battery button of radio top, finally take off the battery.
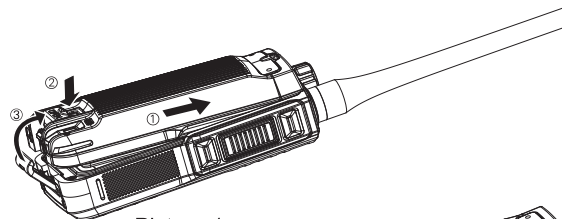
Picture 1

Picture 2

Installing and removing the antenna

1)Align the threaded end of antenna and the threaded hole at the top of radio, rotate the antenna clockwise until it is tight.(picture 3)

2)To remove the antenna, rotate it counter-clockwise until the antenna spirals out.(picture 4)
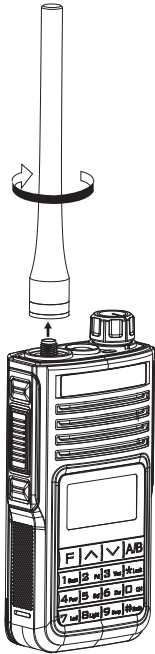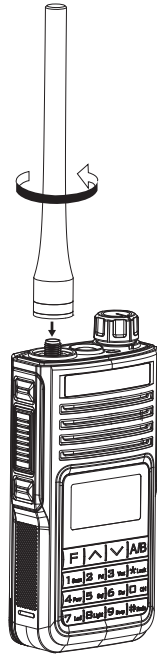
Picture 3   Picture 4

Installing Belt Clip

Align the two holds of belt clip and the two holes of the radios, fix them with the supplied M2.5x5 screws. loosen the screw set to remove belt clip.

Picture 5
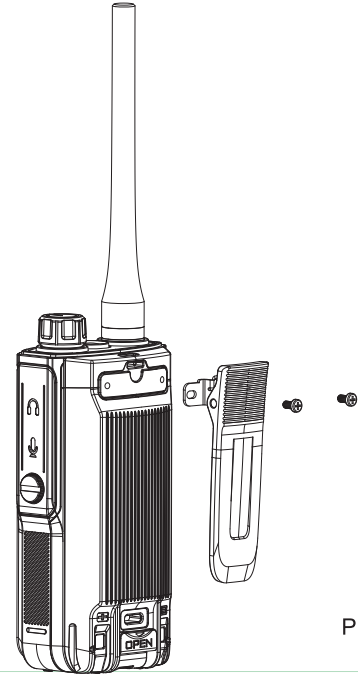
Picture 5

Installing External Micro/Speaker

Open the cover of the Mic/speaker jack and insert the microphone/speaker plugs into the jack. Picture 7

Note: ◢ Using the external headset or Mic/speaker will affect the water-tightness performance of radio.

◢ If the external headset is not workable, please use the headset case.
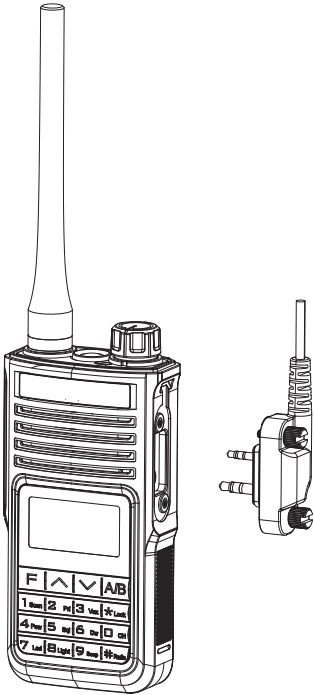
Picture 7

GETTING FAMILIAR

Professional FM Transceiver

RADIO ILLUSTRATION

Antenna

Indicator

Speaker

Function/Enter key

Numberal key

Power/
Volume button

Microphone

LCD display

A/B switch key/Exit

1.Flashlight
2.Activates 1750HZ for repeater access and transmit DTMF and 2/5 tone signaling

PTT
Press it to transmit and release it to receive after your transmission is completed.

MONI
1.Short press this key disables the noise squelching action,allow you to hear very weak signals near the back-ground noise level.
2.Long press to scan, When the radio is on FM radio mode.

MIC/SP
The jack provides connection points for microphone audio,earphone audio, speaker and program cable.
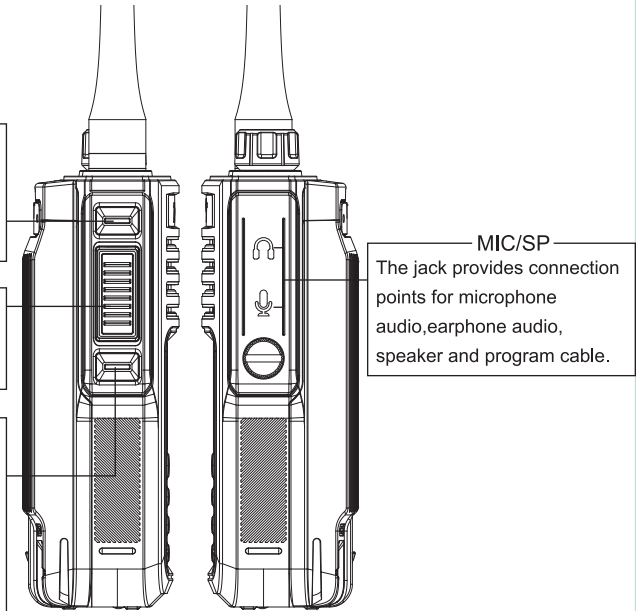
LCD DISPLAY

You will see various icons shown on the screen when power on. The following table can help you identify icons' meaning which display on LCD

```
Yill H DW S 4 W +   DT
➡ 430.00000  125
   147.00000  101
```
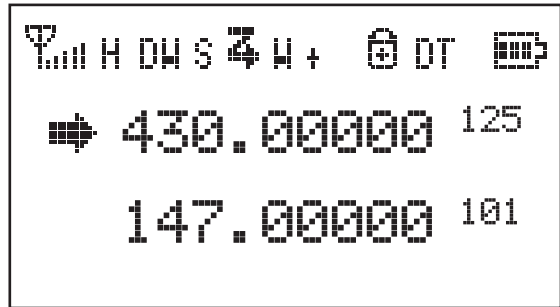
Icons	Description of functions
Yill	Operating band signal & power meter
H	High TX power active
DW	Dual watch/standby active
S	RX power save active
4	Scanning active
W	Narrow/wide band mode active
+	Repeater shift direction
🔒	Keypad lock
DT	DTMF signal active
2T	2 Tone signaling active
5T	5 Tone signaling active
🔋	Battery power indicator
125	Channel number/Menu items number indicator

KEYPAD FUNCTIONS

	[F]	[A/B]	[∧]	[∨]
Press key	Enter menu mode/confirm the setting	(1)Switch the A or B frequency to be the "Operating" Band (2)EXIT function	Upper menu item, channel or frequency	Lower menu item, channel or frequency

	[1 SCAN]	[2 PRI]	[3 VOX]	[4 POW]	[5 SQL]
Press key	Frequency/Channel No. entry "1"	Frequency/Channel No. entry "2"	Frequency/Channel No. entry "3"	Frequency/Channel No. entry "4"	Frequency/Channel No. entry "5"
Press [F] +	Enter scan item	Enter priority TX mode item	Enter VOX level item	Enter high/low power item	Enter squelch level item

	[6 DW]	[7 LED]	[8 LIGHT]	[9 BEEP]	[0 CH]
Press key	Frequency/Channel No. entry "6"	Frequency/Channel No. entry "7"	Frequency/Channel No. entry "8"	Frequency/Channel No. entry "9"	Frequency/Channel No. entry "10"
Press [F] +	Enter dual wait/standby item	Enter LED item	Enter color item	Enter beep item	Enter DTMF 2T & 5T

	[* LOCK]	[# RADIO]	
Press key	Press and hold key to start keypad lock	Switch CH mode and VFO mode Long press [#] to enter FM radio	
	Enter TX/RX Tone coder	Press [F] +[#] to start emergency alert	

WORKING MODE

SET MENU MODE

SHORTCUT MENU OPERATION

Professional FM Transceiver

WORKING MODE

1) Frequency Mode (VFO)

Under this mode, you can use [⋀] / [⋁] key to change the frequency or input the frequency by keypad directly and store channels.

When the radio is under VFO mode,long press A/B to seek the frequency with CTCSS/DCS near. It will copy the frequency and CTCSS/DCS if the other radio press PTT.

The radio (want to be copied) must keep on pressing PTT till the frequency and the CTCSS/DCS copied, or it maybe seek the end tone of the copied radio

2) Frequency –Channel Mode(MR)

When you have stored a memory channel at least and under VFO mode, press [#RADIO] key to enter MR mode.

The frequency will be indicated on the display and the channel No. will be indicated at the right side. If the transceiver display name option is ON and channel name edited, it will show the name of the channel.

Please see Shortcut Menu Operation item 22nd&33rd.Page 37.

3) Channel Mode(CH)

When you have stored a memory channel at least, power on the radio, press [F]+33 to enter DIS MD and choosing CH mode. Channel No. will be indicated on the display and if the transceiver display mode option is on, it will show the name and the channel.

Please see Shortcut Menu Operation item 22nd&33rd. Page 37.

4) FM Radio Mode

The transceiver provides frequency 64.00-108.00MHz FM radio.Under this mode, you can choose FM frequency you need directly. Scan frequency range and store your favorite channels. Long press [#RADIO] to enter and exit FM radio mode.

5) MENU Mode

Press [F] KEY to enter MENU mode, there are 37 items in total. Please see SET MENU MODE. 22.Page.

6) RESET Mode

Press [F] +[3] [5] key to enter Reset mode, then press [F] key to enter.

[⋀] or [⋁] key to select ALL/VFO/FULL

1.ALL:initialize all setting.

2.VFO:initialize all setting under frequency mode.

3.FULL:initialize all setting under frequency and channel mode.

SET MENU MODE

No.	LCD Display	Available Values	Description of Function
1	SCAN	/	Frequency/Channel Scan
2	TX-SEL	EDIT/BUSY	Priority Transmit
3	VOX LEV	1-7	VOX Level Setting
4	POWER	HIG/LOW/MID	High/Low/Middle TX Power
5	SQL	0-9	SQL level setting
6	D.WAIT	ON/OFF	Dual Wait/Standby
7	LED	ON/5S/10S/15S/20S/25S/30S/OFF	LED Display mode
8	LIGHT	1-7	Backgroud Light Color
9	BEEP	ON/OFF	Keypad Beeper Setting
10	DT/2T/5T CH	1-16	Preset Channel Selection
11	TOT	OFF/30/60/…/270	Transmitter Timer-out Timer
12	BCLO	OFF/WAVE/CALL	Busy Channel Lock-Out
13	VOX.SW	ON/OFF	VOX Switch ON/OFF
14	ROGER	ON/OFF	Transmit Over Beeper
16	RX.SAV	1:1/1:2/1:4/OFF	Receive Saver

No.	LCD Display	Available Values	Description of Function
17	SCAN.S	TO/CO/SE	Scan Mode
18	AUTOLK	ON/OFF	Auto Keypad Lock
19	VOICE	ON/OFF	Voice Prompt
20	OPENSET	OFF/DC/MEG	Power-on Display
21	DC VOLT	/	Battery Power Voltage
22A	OFFSET	0.000-99.995MHz	Repeater Shift(Under VFO mode)
22B	DIS.NM	ON/OFF	Display Channel Name(Under CH mode)
23	C-CDC	OFF/67.0/D023N	TX/RX Tone coder
24	R-CDC	OFF/67.0/D023N	RX Tone coder
25	T-CDC	OFF/67.0/D023N	TX tone coder
26	S-D	+/-/OFF	Shift Direction
27	STEP	5K/6.25K/…/100K	VFO Step
28	N/W	WIDE/NARR/MIDD	Wide/Narrow/Middle Band
29	SEEK 67.0	/	CTCSS Scanning
30	SEEK D023N	/	DCS Scanning
31	Scrambler	ON/OFF	Voice Scrambler
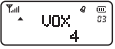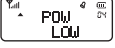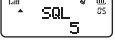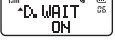
No.	LCD Display	Available Values	Description of Function
32	LOCK MD	ALL/PTT/KEY/KEY+S	
33	DIS MD	FRE/CH/MR	Working mode setting
34	DW	ON/OFF	Dual Watch/monitor
35	Reset	ALL/VFO/FULL	Reset function
36	Radio Ver	MCU B1.07	Radio Version
37	NM SET	-1A.@	Channel Name Editing
38	RX ENC	ON/OFF	RX Noise cancellation
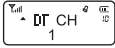
Menu Operation

1) Under standby mode, press [F] to enter menu setting, LCD displays "**MENU**".

2) Press [⌃] or [⌄] to select the desired menu item, LCD display current setting of selected item.

3) Press [F] to enter and then press [⌃] or [⌄] to select the desired setting.

4) Press [F] to confirm.

5) Press [A/B] twice to exit and then return the standby mode.

SHORTCUT MENU OPERATION

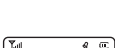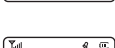| Item No.	Item Name	Enter item	Screen Display	Select parameter	Parameter Explanation	Confirm	Return Standby
1)	Frequency /Channel scan	F + 1 SCAN	SCAN	Press [▲] or [▼] to change scan direction	Press [F] key to start scanning	F	A/B
2)	Priority Transmit	F + 2 PRI	TX SEL EDIT	Press [▲] or [▼] to select available values	EDIT / BUSY	F	A/B
3)	VOX level setting	F + 3 VOX	VOX 4	Press [▲] or [▼] to select available values	VOX level: 1~8	F	A/B
4)	TX power setting	F + 4 PWR	POW LOW	Press [▲] or [▼] to select available values	High / Low	F	A/B
5)	SQL level setting	F + 5 SQL	SQL 5	Press [▲] or [▼] to select available values	SQL level: 0~9	F	A/B
6)	Dual wait/ standby	F + 6 DW	D.WAIT ON	Press [▲] or [▼] to select available values	ON / OFF	F	A/B
7)	LED display mode	F + 7 LED	LED AUTO	Press [▲] or [▼] to select available values	ON/5S/10S/15S/20S 25S/30S/OFF	F	A/B
8)	Background light color	F + 8 COLOR	LIGHT COLOR1	Press [▲] or [▼] to select available values	COLOR1 / COLOR2 / COLOR3	F	A/B
9)	Keypad beeper	F + 9 BEEP	BEEP ON	Press [▲] or [▼] to select available values	ON / OFF	F	A/B
10)	Automatic Number Identity	F + 0 AM	DT CH 1	Press [▲] or [▼] select available value	1-16	F	A/B
11)	Transmitter time-out timer	F + 1 SCAN 1 SCAN	TOT OFF	Press [▲] or [▼] to select available values	OFF / 30... / 270s	F	A/B
12)	Busy channel lock-out	F + 1 SCAN 2 PRI	BCLO OFF	Press [▲] or [▼] to select available values	OFF / WAVE / CALL	F	A/B
13)	VOX switch	F + 1 SCAN 3 VOX	VOX SW OFF	Press [▲] or [▼] to select available values	ON / OFF	F	A/B
14)	Transmit over beeper	F + 1 SCAN 4 PWR	ROGER OFF	Press [▲] or [▼] to select available values	ON / OFF	F	A/B
16)	Receive saver	F + 1 SCAN 6 DW	RX.SAV ON	Press [▲] or [▼] to select available values	OFF / 1:1 / 1:2 / 1:4	F	A/B
17)	Scan mode	F + 1 SCAN 7 LED	SCANS CO	Press [▲] or [▼] to select available values	TO / CO / SE	F	A/B
18)	Auto keypad lock	F + 1 SCAN 8 COLOR	AUTOLK OFF	Press [▲] or [▼] to select available values	ON / OFF	F	A/B

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Item No.	Item Name	Enter item	Screen Display	Select parameter	Parameter Explanation	Confirm	Return Standby
19)	Voice prompt	F + 1 SCAN / 9 BEEP	VOICE ON	Press [▲] or [▼] to select available values	ON / OFF	F	A/B
20)	Power-on display	F + 2 PRI / 0 ANI	OPN.SET OFF	Press [▲] or [▼] to select available values	OFF / DC / MEG	F	A/B
21)	Battery power voltage	F + 2 PRI / 1 SCAN	VLT 7.6V	Press [▲] or [▼] to select available values	Show current voltage	F	A/B
22)	A. Repeater shift	F + 2 PRI / 2 PRI	OFFSET 2.000	Press [▲] or [▼] to select available values	0.000-99.995MHz	F	A/B
	B. Display channel name	F + 2 PRI / 2 PRI	DIS.NM ON	Press [▲] or [▼] to select available values	ON / OFF	F	A/B
23)	TX/RX tone coder	F + 2 PRI / 3 VOX	C-CDC 254.1	Press [▲] or [▼] to select available values	OFF / QT / DCS	F	A/B
24)	RX tone coder	F + 2 PRI / 4 PWR	R-CDC 254.1 L	Press [▲] or [▼] to select available values	OFF / QT / DCS	F	A/B
25)	TX tone coder	F + 2 PRI / 5 SQL	T-CDC B&54.1	Press [▲] or [▼] to select available values	OFF / QT / DCS	F	A/B
26)	Shift direction	F + 2 PRI / 6 DW	S-D OFF	Press [▲] or [▼] to select available values	OFF / + / -	F	A/B

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Item No.	Item Name	Enter item	Screen Display	Select parameter	Parameter Explanation	Confirm	Return Standby
27)	VFO step	F + 2 PRI / 7 LED	STEP 25K	Press [▲] or [▼] to select available values	5K / 6.25K / 10K...100K	F	A/B
28)	Wide/ Narrow band	F + 2 PRI / 8 COLOR	N/W WIDE	Press [▲] or [▼] to select available values	WIDE/NARR/MIDD	F	A/B
29)	CTCSS scan	F + 2 PRI / 9 BEEP	SEEK 67.0	Press [▲] or [▼] to change scan direction	Press [F] key to start scan	F	A/B
30)	DCS scan	F + 3 VOX / 0 ANI	SEEK D023N	Press [▲] or [▼] to change scan direction	Press [F] key to start scan	F	A/B
31)	Voice scrambler	F + 3 VOX / 1 SCAN	SCRAMBLER 7	Press [▲] or [▼] to select available values	ON/OFF	F	A/B
32)	Lock MD	F + 3 VOX / 2 PRI	Lock MD KEY	Press [▲] or [▼] to select available values	ALL/PTT/KEY/KEY+S	F	A/B
33)	DIS Mode	F + 3 VOX / 3 VOX	DIS Mode CH	Press [▲] or [▼] to select available values	CH/FRE/MR	F	A/B
34)	Dual watch/ monitor	F + 3 VOX / 4 PWR	DW OFF	Press [▲] or [▼] to select available values	ON/OFF	F	A/B
35)	Reset	F + 3 VOX / 5 VOX	Reset All	Press [▲] or [▼] to select available values	ALL/VFO/FULL	F	A/B
36)	Radio Version	F + 3 VOX / 6 PWR	RADIO VER MCU B1.07	Press [▲] or [▼] to select available values	MCU B1.07/Time	F	A/B

27

37) NM SET ☞ **F** + **3** VOX **7** PWR ➡️ 📶 📞 37 NM SET ➡️ **F** ➡️ Input channel name ➡️ **F** ➡️ **A/B**

38) RX ENC ☞ **F** + **2** PRI **2** PRI ➡️ 📶 📞 38 RX ENC ➡️ **F** ➡️ Press [⌃] or [⌄] to select | ON/OFF ➡️ **F** ➡️ **A/B**

DETAILED FUNCTION DESCRIPTIONS

ADVANCED FUNCTIONS

Professional FM Transceiver

DETAILED FUNCTION DESCRIPTIONS

1) Scan & Scan Mode setting (SCAN&SCANS---MENU 1&17)

Functions: under VFO/MR/CH mode, the transceiver allows you to scan the entire current operating band and memory channels.

Enter Menu 1st and press [F] key to start scanning.

When you have started scanning, press **[∧] / [∨]** key to change direction.And it will halt on a signal it encounters, press **[F]** key to stop scaning

Scanning operation is basically the same in each of the above modes. Before you begin, take a moment to select the way in which you would like the scanner to halt on a signal.

Enter Menu 17th to set scan mode. Default: TO.

Three options for the scan mode are available under VFO mode:

TO: In this mode, the scanner will halt on a signal it encounters, and will hold there for some time. If you do not take action to disable the scanner within the time period, the scanner will resume even if the stations are still active.

CO: In this mode, the scanner will halt on a signal it encounters, and will hold there if the stations are still active. And after the carrier has dropped, the scanner will resume.

SE: In this mode, the scanner will halt on a signal it encounter, it will not restart automatically; you must manually re-initiate scanning if you wish to resume.

2) Priority Transmit (TX.SEL---MENU 2)

Functions: This transceiver allows you to transmit on the sub band even if you are working on the operating band.

Enter Menu 2nd to select priority transmit band. Default: EDIT.

EDIT: It will transmit on the operating band.

BUSY: It will transmit on the band last talking used.

3) VOX Level & VOX Switch (VOX&VOX.SW---MENU 3&13)

Functions: the VOX function provides automatic transmit/receive switching based on voice input to the microphone. With the VOX switch ON, you do not need to press **PTT** switch in order to transmit, and it is not necessary to use a VOX headset in order to utilize VOX operation.

Enter Menu 13th to set VOX switch. Default: OFF.

Enter Menu 3rd to set VOX level, it has 7 grades.

The higher level is, the more sensitive will be.

This transceiver provides for adjustment of " Hang- Time" of the VOX (the transmit-receive delay after the cessation of speech) via program software.

Default: 2s.

4) TX Power setting (POW---MENU 4)

Functions: you can select high/low TX power according to your talking environment and need. When you store memories, you can store High and Low power settings separately in each memory.

Enter Menu 4th to set TX power.

High: 10W   Middle:5W

Low: 2W, when you select Low power, the "L' icon will appear on the display.

5) Squelch Adjustment (SQL---MENU 5)

Functions: Squelch system allows you to mute the background noise when no signal is being received. Not only does the Squelch system "standby" operation more pleasant, it also significantly reduce battery current consumption.

Enter Menu 5th to set SQL level. Default: 5.

6) Dual Wait/Standby (D.WAIT---MENU 6)

Functions: This transceiver allows you to receive the sub band signal even if you are working on the operating band. It could monitor the signal under both master and sub band at the same time.

Enter Menu 6th to set Dual Wait. Default: ON.

7) LED Display Mode (LED---MENU 7)

Function: select the LED/Keypad Lamp mode.

Enter Menu 7th to select LED display mode. Default: AUTO.

ON: LED display lights all the time.

AUTO: Illuminates the LED when any key is pressed and after 3s the light is off.

OFF: Disable the LED lamp.

8) Background Light Color (LIGHT---MENU 8)

Functions: choose LED background light color.

Enter Menu 8th to select background light color. Default: 7.

9) Keypad Beeper setting (BEEP---MENU 9)

Functions: enable/disable the keypad beeper.

Enter Menu 9th to set keypad beeper. Default: ON.

10) Preset Channel Selection(DT/2T/5T CH-MENU 10)

Functions: Preset the signal type(OFF/DTMF/2T/5T) at software,by choosing 1-16 channel to achieve remote kill/stun/activate/revive function.

Enter Menu 10th to choose 1-16 channel.

11) Transmitter Time-Out Timer (TOT---MENU 11)

Functions: the TOT feature provides a safety switch which limits transmission to a
pre-programmed value. This will promote battery conservation by not
allowing you to make excessively-long transmissions, and in the event of
a stuck PTT switch it can prevent interference to other users as well as
battery depletion.

Enter Menu 11ᵗʰ to set TOT. Default: OFF.

12) Busy Channel Lock-Out (BCLO---MENU 12)

Functions: the BCLO feature prevents the radio's transmitter from being activated if a
signal strong enough to break through the "noise" squelch is present. On a
frequency where stations using different CTCSS or DCS codes may be
active, BCLO prevents you from disrupting their communications
accidentally (because your radio may be muted by its own tone decoder).

Enter Menu 12ᵗʰ to set BCLO. Default: OFF.

OFF: Disable BCLO feature.

WAVE: the radio's PTT will be prevented only if the frequency is busy used.

CALL: the radio's PTT will be prevented only the frequency and tone coder is the same.

13) Transmit Over Beeper (ROGER---MENU 14)

Functions: sending a beeper to inform the receiver TX is over.

Enter Menu 14ᵗʰ to set ROGER. Default: OFF.

14) Receive Saver (RX.SAV---MENU 16)

Functions: this feature significantly reduces quiescent battery drain, and you may not
receive the full data burst.

Enter Menu 16ᵗʰ to set RX.SAV. Default: OFF.

15) Auto Keypad Lock(AUTOLK & LOCK MD—MENU 18 &MENU 32)

Functions: in order to prevent accidental frequency change or inadvertent transmission.
Various aspects of the radio's keys and switches may be locked out.

Enter Menu 32ᵗʰ to set LOCK MD, you can choose to lock All/K+S/KEY/PTT.

When you switch AUTOLK ON, the keypad will be locked automatically if there is no key
operation for 5 second.

If the radio is locked, press [🔒] key to unlock it. Also you can lock it using [🔒] key
by manual.

16) Voice Prompt (VOICE---MENU 19)

Functions: enable/disable voice prompt.

Enter Menu 19ᵗʰ to set VOICE. Default: ON.

17) Power-on Display setting (OPN.SET&VLT---MENU 20&21)

Functions: choose power-on display mode and edit power-on message

Enter Menu 20th to set OPN.SET. Default: OFF.

OFF: display model version

DC: battery power voltage

MEG: power-on message

Enter Menu 21st to check battery voltage.

18) Repeater Shift setting (OFFSET&S-D---MENU 22&26)

Functions: repeater stations, usually located on mountaintops or other high locations,
provide a dramatic extension of the communication range for low-powered
hand-held or mobile transceivers.

Under VFO mode, you can set the magnitude and direction of the repeater shift.

Enter Menu 22rd to set magnitude of the repeater shift.

Available values: 0.00 ~ 99.95 MHz

Enter Menu 26th to set the repeater shift direction. Default: OFF.

19) Display Channel Name(DIS.NAME &NM SET—MENU 22 &37)

Function: switch channel name display ON/OFF and edit channel name under
MR/CH mode
Enter Menu 22nd to switch display channel name ON/OFF.
Enter Menu 37th to edit channel name, also you can edit it directly by
programming software.
Using[   ] / [   ] to select character, [   ] to switch cursor position.

20) Tone coder & Tone Search Scanning & Tone calling (C-CDC & R-CDC
&T-CDC&SEEK 67.0 & D023N—MENU 23&24&25&29&30).

Function 1: CTCSS/DCS Operation

Many repeater systems require that a very-low-frequency audio tone be superimposed

on your FM carrier in order to activate the repeater. This helps prevent false activation

of the repeater by radar or spurious signals from other transmitters.

Enter Menu 23th/24th/25th to set TX&RX Tone coder/ RX Tone coder/ TX Tone coder.

1) Press [   ] key to select CTCSS/ DCS/ OFF. After you choose CTCSS/ DCS,

   press [   ] / [   ] key to choose the right group you need.

2) Press [   ] key to select DCS direction.

This transceiver has 50 groups CTCSS,104 groups normal/inverted DCS.

CTCSS TONE FREQUENCY (Hz)					
67.0	69.3	71.9	74.4	77.0	79.7
8.25	85.4	88.5	91.5	94.8	97.4
100.0	103.5	107.2	110.9	114.8	118.8
123.0	127.3	131.8	136.5	141.3	146.2
151.4	156.7	159.8	162.2	165.5	167.9
171.3	173.8	177.3	179.9	183.5	186.2
189.9	192.8	196.6	199.5	203.5	206.5
210.7	218.1	225.7	229.1	233.6	241.8
250.3	254.1	-	-	-	-

DCS CODE						
023	074	172	265	371	503	662
025	114	174	266	411	506	664
026	115	205	271	412	516	703
031	116	212	274	413	523	712
032	122	223	306	423	526	723
036	125	225	311	431	532	731
043	131	226	315	432	546	732
047	132	243	325	445	565	734
050	134	244	331	446	606	743
051	143	245	332	452	612	754
053	145	246	343	454	624	-
054	152	251	346	455	627	-
065	155	252	351	462	631	-
071	156	255	356	464	632	-
072	162	261	364	465	645	-
073	165	263	365	466	654	-

Function 2: TONE Search Scanning

In operating situations where you don't know the CTCSS/DCS tone being used by another station or stations, you can command the radio to listen to the incoming signal and scan in search of the tone being used.

Enter Menu 29st/30nd to start CTCSS/DCS searching.

If the Tone scan feature does not detect a tone or code, it will continue to scan indefinitely. When this happens, it may be that the other station is not sending any tone. You can press **PTT** key to halt the scan at any time.

You also can press **MONI** key during Tone scanning to listen to the (muted) signal from the other station. When you release the **MONI** key, Tone scanning will resume.

Tone Scanning works either in the VFO or MR modes.

Function 3: TONE Calling (1750Hz)

If the repeaters in your country require a 1750Hz burst tone for access (typically in Europe), you can press and hold Side Key 1 for 2S and transmitter will automatically be activated, and a 1750Hz audio tone will be superimposed on the carrier. Once access to the repeater has been gained, you may release Side Key 1 and use PTT key for activating. The transmitter.

21) VFO Step setting (STEP---MENU 27)

Functions: setting of the synthesizer steps

Enter Menu 27th to set VFO step.

Available Values: 2.5/6.25/10/12.5/25/50/100kHz.

22) Wide/Narrow band selecting (N/W---MENU 28)

Functions: setting of wide/narrow bandwidth

Enter Menu 28th to set bandwidth.

Available Values: Wide---25kHz/Narrow---12.5kHz
Noted： Wide Band is not available for USA and Canada version.

23) Scrambler(SCR—MENU 31)

Functions: only 2/5 tone version has this function.

This transceiver has 1 group of scrambler. It is accomplished by the addition of components to the original signal in order to make a extraction of the original signal difficult. And its voice compand technology will make the voice more clearly in the noise environment.

Enter Menu 31td to set scrambler group.

24)Dual Watch/Monitor(DW-MENU 34)

Function:Dual Watch feature makes transceiver can monitor the calling signal when FM radio is on and you won't miss any calling.

Enter Menu 34th to set DW. Defult:OFF.

ADVANCED FUNCTIONS

1)EMERGENCY ALERT [F] + [#RADIO]

Under standby mode, press [F] to enter menu setting. LCD display "MENU", then press [#RADIO] to turn on emergency alert function, radio will transmit emergency ring for 20S and then receive for 10s, until you press PTT, it will exit.

2)KEYPAD LOCK SETTING

Under standby mode, press [*Lock] for 2 S to lock to unlock the keypad. " 🔒 "will be displayed at the top of LCD when keypad is locked.

And you can Enter Menu 32th [LOCK MD] to set Keypad lock method:

ALL/PTT/KEY/KEY+S lock.

3)TONE CALLING (1750 TONE)

To access a repeater, press and hold in [Side key 1] for the amount of time specified by the repeater. The transmitter will automatically be activated, and a 1750Hz audio tone will be superimposed on the carrier. Once access to the repeater has been gained, you may release [Side key 1] and use PTT for activating the transmission.

4)CHANNEL STORAGE AND DELETE

Channel Storage

Under VFO mode, input desired frequency by keypad directly or select one by pressing [⌃] or [⌄] and then long press [F] , the digits blinks at the right top of LCD, press number to input desired channel directly, or press [⌃] or [⌄] to choose desired one, then press [#RADIO] for storage.

Note: after you input desired channel number, if it blinks, it means that this channel is already occupied, you can choose another one.

e.g.: to store the frequency: 450.325MHz with CTCSS: 151.4 to the channel 05, the step are as follows:

1) Under VFO mode, input 4-5-0-3-2-5

2) Press [F]+[2 Pri][3 Vox] or press [F] +[*Lock],then press [F] to enter.

3) Press [*Lock] to choose CTCSS mode, LCD displays C-CDC 67.0

4) Press [⌃] or [⌄] to choose 151.4, then press [F] to confirm

5)Press [A/B] to exit

6)Long press [F], the digit blinks at the right top of LCD

7)Press [⌃] or [⌄] to choose 05 directly

8)Press[#RADIO] for storage. LCD displays MR mode and currently stored channel
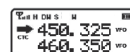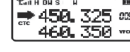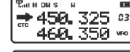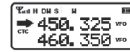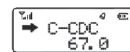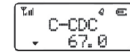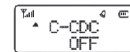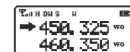
Note：If the screen says D023N instead of 67.0, to go back to CTCSS setting press
successively the [🔒Lock] key until the display show OFF．Then you can
Press the [⌃] or [⌄] key, now the LCD screen shows the 67.0 or the frequency of
the last selected tone．

Channel delete

1) Under VFO mode, long press [F], the digit blinks at the right
 top of LCD

2) Press [⌃] or [⌄] or input channel number you want to
   delete, then press [🔒Lock] to confirm

3) After delete, it will skip into next channel, if you want to delete it,
   repeat above operation．

5) FM RADIO FUNCTION

1) On/off radio receiver

   Under standby mode, press [#Radio] to open FM radio function, LCD
   display "**70.00M**", then press [#Radio] again, radios receiver is off．

   Note: under FM radio mode, if receiving the signal, the radio will be out
         of FM mode, after 5S, it will be back to FM mode when the signals
         disappear．

2) Mode selection:
   Under FM radio mode, press [#Radio] to switch between FM memory
   mode and FM frequency mode (this function is unavailable when
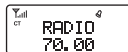
there is not FM memory channel)

3) Frequency selecting
   Under FM frequency mode, input the digits directly by keypad or
   press [⌃] or [⌄] to choose the desired frequency．Under FM
   memory mode, press [⌃] or [⌄] to choose the desired channel．

4) FM radio storage
   Under FM frequency mode, long press [F], the channel number
   for storage blinks at the right of the screen.Press [⌃] or [⌄] to
   select the desired channel number, press [#Radio] to confirm and then
   back to the receiving mode．

5) FM radio channel delete:
   Under FM frequency mode, long press [F], the channel number
   blinks, press [⌃] or [⌄] to choose the channel number you
   want to delete, Press [🔒Lock] to confirm．Repeat this operation, you
   can delete all memory channel 24 in maximum．

6) VFO offset setting
   Under VFO mode, enter Menu 22 to set magnitude of the repeater shift, enter menu
   26 to set the shift direction, synthesizer Steps can be changed through menu item 27．
   For example, if your frequency now is 445.0500MHz, would like to set a frequency
   444.4500MHz as transmit frequency, steps as below:
   1.Under VFO mode, enter Menu 22 to set the offset at 0.6MHz,press F to confirm．
   2.Enter menu 26 to set shift direction at "-",press F to confirm．
   3.Press PTT button will show transmit frequency at 444.4500MHz

7) RX ENC (Environment Noise Cancellation) function
   Audio sound active control is a signal-processing methodoloty that reduces the
   effective sound amplitude to improve signal-to-noise ratio (SNR) so that unwanted
   noise is less perceptible. the ENC methodology is also called audio noise reduction
   (ANR). ENC or ANR is based on coherent acoustices that accurately replicate the
   original sound field in all its forms. this radio equipped with the ENC (Environment
   Noise Cancellation) function, can help you hear clear in the noisy environment.
   RX ENC ON/OFF can be set from Menu 38.

8) One-Key Frequency Copy
   When the radio is under VFO mode, long press A/B key, the radio will broadcast "Di"
   prompt sound and green light Flashing slowly. Transmit (Press PTT) the radio (the
   one we want to copy), Radio will finished copy current frequency and CTCSS when
   Radio Broadcast "Di" prompt sound with green light always on when save success-
   fully. Same operate method for others channels Copy save, Switch off and on radio
   again once all done.
      :Support different brand walkie talkie copy.
   The radio (want to be copied) must keep on pressing PTT till the frequency and the
   CTCSS/DCS copied, or it maybe seek the end tone of the copied radio

SIGNALINGS

Professional FM Transceiver

Selected channel call:
Press PTT and Side key 1(Flashlight button) to achieve remote kill/stun/active.

DTMF

When the signal of the channel selects the DTMF, press PTT and at the same time press side key 1, the current channel will automatically check if the DTMF signaling is received and decoding it. And achieve a corresponding function according to the received code. The function including: ANI display, remote stun/waken/kill..

ANI Display:

1.DTMF Encode type choose ANI:

2.Input the called ID, eg, your radio ID is 001, the called radio ID is 003

3.Select channel NO.

4.Choose DTMF signal

No.	Rx Fre	Tx Fre	Decode	Encode	Scramble	Power	B_Lock	Step	Wide	Signal
1	445.02500	445.02500	OFF	OFF	OFF	Hig	OFF	12.5K	Wide	DTMF

5.Press PTT and side key 1 at the same time to achieve the ANI display function.

Remote stun, remote kill function

Stun code: when the radio receives the corresponding DTMF code, the radio will be remote stunned and disabled transmit.

Kill code: when the radio receives the corresponding DTMF code, the radio will be remote killed and disabled receive and transmit.

Waken code: release the state of stun/kill.

Select Ch: the default channel when the DTMF is calling.

1.DTMF Encode type choose OFF, user can input the desired DTMF code directly.

2.In transmitting ,input the remote kill/stun code for the radio which you want to remote kill/stun.

3.DTMF Encode:

Remote receive code :"remote stun code + #" to waken radio which at stun state

Remote receive code:"remote kill code + #" to waken radio which at kill state

4.Select channel

Like above setting,
Channel 1: ANI display,
Channel 2:remote stun code
Channel 3:remote waken from stun state
Channel 4:remote kill code
Channel 5: remote waken from kill state

5.Signal choose DTMF

No.	Rx Fre	Tx Fre	Decode	Encode	Scramble	Power	B_Lock	Step	Wide	Signal
1	445.02500	445.02500	OFF	OFF	OFF	Hig	OFF	12.5K	Wide	DTMF

6.Remote kill/waken/stun operation.
After setting like above, if you would like to achieve Radio A kill Radio B, there are two way to achieve:
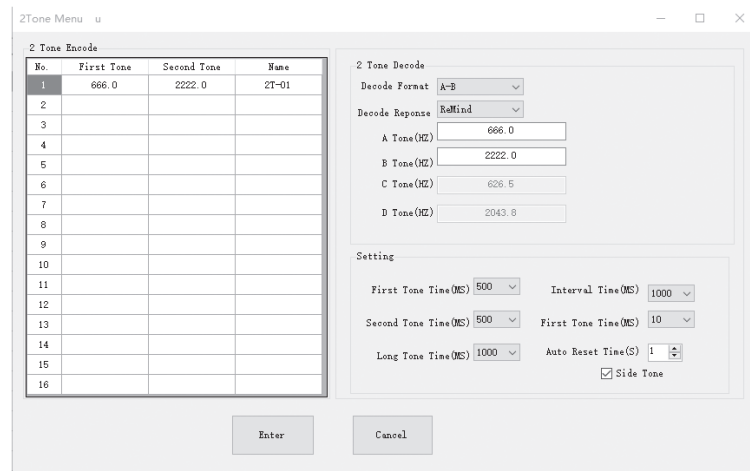One: At programming software DTMF setting choose Ch 4.
Then press the PTT and side key 1 to achieve remote radio B.
Two: At radio, choose Menu 10th—DT CH—Channel number choose 4.
Then press the PTT and side key 1 to achieve remote radio B.
 Similar operation for remote stun/waken.

2 TONE Operation

2 Tone encode
Input: the frequency of first tone and second tone
Note: the frequency between of the first tone and second tone should not too similar to avoid the decoding is wrong.

2 Tone decode
Decode Format: the combination of decode, for example: A-B, you should make sure the frequency of first tone is A, and second tone is B. Other combination is similar.

5 Tone Operation

5 Tone encode
The write way is same with the DTMF.

5 Tone decode
Function: The function will be achieved when the radio receives the corresponding code.
Select: Turn on squelch
Stun/kill: same with DTMF
Wake: release the state of stun/kill

TECHNICAL PARAMETERS

GUARANTEE

Professional FM Transceiver

TECHNICAL PARAMETERS

General

Channel	200
Operating Voltage	7.4VDC
Operating Temperature	−10° C ~ +50° C
weight	295g（battery and antenna included）
Dimension	126x62x43mm

Transmitter

Frequency	144−148/420−450MHz USA version
	144−146/430−440MHz EU version
	136−174/400−480MHz
power	10W
Modulation Type	FM
Spurious Power	≤−15dB
Modulation Noise	<−40dB
Modulation Distortion	<5%
Frequency Stability	5ppm
Max Fr. Deviation	≤ ±5KHz
Current	≤1600mA
Audio response（300−3400Hz）	+6.5~−14dB
Adjacent Ch Power	≥65dB

Receiver

Frequency	144−148/420−450MHz USA version
	144−146/430−440MHz EU version
	136−174/400−480MHz
Sensitivity	≤0.2μV
Occupied Bandwidth	≤16KHz
Selectivity	≥65dB
Intermediation	≥55dB
Audio powe	＞500m W
Audio distortion	≤10%
Frequency Stability	5ppm
Current	standby: 60mA working:250mA
Audio response（300−3400Hz）	+7~−12.5dB

Guarantee

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 coufirm the serial number on the guarantee card is same as that on the machine.

4 One-year guarantee, charger, battery, ear-phone, antenna and cable are not under guarantee.

5 The user can get repairing service from the followingways:

- Go to the shop where you buy the machine.
- Our local repairing agents.
- Send back to our company.