

THANK YOU!

We are grateful for your purchase of HYT product. We believe this easy-to-use radio will provide you with dependable and reliable communications. This HYT portable two-way radio is a precision device. Treat it with care, and you will enjoy years of reliable operation.

MODELS COVERED IN THIS MANUAL

TC-1600 UHF Two-way Radio

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User Safety, Training, and General Information

READ THIS IMPORTANT INFORMATION ON SAFE AND EFFICIENT OPERATION BEFORE USING YOUR HYT PORTABLE TWO-WAY RADIO.

Compliance with RF Energy Exposure Standards

Your **HYT** two-way radio is designed and tested to comply with a number of national and international standards and guidelines (listed below) regarding human exposure to radio frequency electromagnetic energy. This radio complies with the IEEE (FCC) and ICNIRP exposure limits for occupational/controlled RF exposure environment at duty cycles of up to 50% talk-50% listen and should be used for occupational use only. In terms of measuring RF energy for compliance with the FCC exposure guidelines, your radio radiates measurable RF energy only while it is transmitting (during talking), not when it is receiving (listening) or in standby mode.

Note: The approved batteries supplied with this radio are rated for a 5-5-90 duty cycle (5% talk-5% listen-90% standby), even though this radio complies with the FCC occupational RF exposure limits at duty cycles of up to 50% talk.

Your HYT two-way radio complies with the following of RF energy exposure standards and guidelines:

- United States Federal Communications Commission, Code of Federal Regulations; 47CFR part 2 sub-part J
- American National Standards Institute (ANSI)/Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1992
- Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1999 Edition
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998

Operational Instructions and Training Guidelines

To ensure optimal performance and compliance with the occupational/controlled environment RF energy exposure limits in the above standards and guidelines, users should transmit no more than 50% of the time and always adhere to the following procedures:

Transmit and Receive

To transmit (talk), push the Push-To-Talk (PTT) button; to receive, release the PTT button.

Hand-held radio operation

Hold the radio in a vertical position with the microphone one to two inches (2.5 to 5 cm) away from the lips.

Body-worn operation

- Always place the radio in an HYT approved clip, holder, holster, case, or body harness for this product. Use of non-HYT-approved accessories may exceed FCC RF exposure guidelines.

Antennas & Batteries

- Use only HYT approved, supplied antenna or HYT approved replacement antenna.
Unauthorized antennas, modifications, or attachments could damage the radio and may violate FCC regulations.
- Use only HYT approved, supplied batteries or HYT approved replacement batteries.
Use of non- HYT -approved batteries may exceed FCC RF exposure guidelines.

Approved Accessories

For a list of HYT approved accessories, see the accessories page of this user manual or visit the following website which lists approved accessories: <http://www.HYT.com.cn>

FCC Information

MODIFICATIONS OR CHANGES NOT EXPRESSLY APPROVED BY THE MANUFACTURER COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

IMPORTANT NOTE: To maintain compliance with the FCC's RF exposure guidelines, hold the transmitter and antenna at least 1 inch (2.5 centimeters) from your face and speak in a normal voice, with the antenna pointed up and away from the face. If you wear the headset on your body while using the headset accessory, use only the manufacturers supplied belt clip for this product and ensure that the antenna is at least 1 inch (2.5 centimeters) from your body when transmitting. To provide the recipients of your transmission the best sound quality, hold the unit at least 5cm (2 inches) from the mouth, and place the antenna slightly off to one side.



Your radio generates radio frequency electromagnetic energy during transmission mode. The radio is designed for and classified as “Occupational Use Only” and must be used by individuals who are properly trained and aware of these hazards and the means in which to minimize such hazards. This radio is NOT intended for use by the “General Population” or in uncontrolled environments.



To ensure that your exposure to radio frequency electromagnetic energy is within the FCC allowable limits for occupational use, always follow these guidelines:

DO NOT operate the radio without a proper antenna attached, as this may damage the radio and increase your RF exposure. A proper antenna is supplied with the radio by the manufacturer or an antenna specifically authorized by the manufacturer for use with this radio.

DO NOT transmit for more than 50% of the total radio use time (this is a maximum 50% duty cycle radio). Transmitting more than 50% can cause FCC RF exposure compliance requirements to be exceeded. Pressing the PTT switch enables the radio to transmit.

ALWAYS use ONLY authorized accessories with this radio. Use of unauthorized accessories can cause the FCC RF Exposure compliance requirements to be exceeded.

User Safety Information

READ THIS IMPORTANT INFORMATION ON SAFE AND EFFICIENT OPERATION BEFORE USING YOUR HYT PORTABLE TWO-WAY RADIO.

- ◇ Only qualified technicians are allowed to maintain this product.
- ◇ To avoid electromagnetic interference and/or compatibility conflicts, turn off your radio in any place where posted notices instruct you to do so. Hospitals or health care facilities may be using equipment that is sensitive to external RF energy. When on aircraft, turn off your radio when airline crew instruct you to do so.
- ◇ When in vehicles with an airbag, do not place a portable radio in the area over an airbag or in the airbag deployment area.
- ◇ Turn off your radio prior to entering any area with a potentially explosive atmosphere. Do not remove, install, or charge batteries in such areas.
- ◇ To avoid possible interference with blasting operations, turn off your radio when you are near electrical blasting caps.
- ◇ Do not use any portable radio that has a damaged antenna. If a damaged antenna comes into contact with your skin, a minor burn may result.
- ◇ Do not expose the radio in direct sunlight for a long time or place it close to a heating source.
- ◇ When transmitting with a portable radio, hold the radio in a vertical position with its microphone about 5 centimeters away from your mouth.
- ◇ If you wear a portable two-way radio on your body, ensure that the antenna is at least 2.5 centimeters from your body when transmitting.
- ◇ The communication range will be impacted in rainy or cloudy days or when you are in forest.

Product Inspection

Thank you for your use of HYT portable two-way radio TC-1600. Before use, you are recommended to inspect the product as follows.

First check the shipping carton for any signs of damage. If any damage has occurred, please contact your dealer immediately. Confirm the supplied product against the packing slip to assure accuracy.

Available Accessories

Item	Qty. (pcs)
Battery	1
Desktop Charger	1
Switch power	1
Belt Clip	1
Strap	1
Owner's Manual	1

Battery Information

Initial Use of the Battery

The battery is not fully charged at the factory. Please charge the new battery before initial use. In general, the battery should be charged for 12 hours before initial use, which is suitable for Ni-Cd, Ni-MH or Li-ion battery charged with slow or rapid charger. It is recommended to take this step during the first three times of use. When the battery power is low, it needs to be charged.

Applicable Battery Packs

Charge only the HYT approved battery packs. Other batteries may burst and cause personal injury.

Safety attention

1. Conductive metals including jewelry, key, etc, may result in short circuit, discharge, generation of a large quantity of heat, or leakage when coming into contact with battery contacts or electrodes. To avoid damage to articles or human injury, treat any battery with care.
2. Do not short out the battery terminals or dispose of the battery in fire. Never attempt to disassemble the battery. If discarded, the battery should be thrown into dedicated battery recycle box.

Normal operation

- ★ Please charge the battery indoor to ensure the optimal charging effect.
- ★ In general, the battery can be removed if the charger indicator turns from red to green.
- ★ Turn off the radio when charging the battery inside the radio.
- ★ Do not charge the battery if its power hasn't been used up (if the power used up, the battery meter flashes), otherwise, the battery life will be shortened.
- ★ Do not return fully charged batteries to the charger for an "extra boost". This action will significantly reduce cycle life.

To prolong battery life

- ★ Battery performance will be greatly decreased under -20℃ temperature. Please use back-up battery in cold weather. The cold battery unable to work in this situation may work under room temperature, so keep it for later use.
- ★ The dust on the battery contact may affect the life cycle of the battery. Please use clean dry cloth to wipe it before the insertion of the battery into the radio.

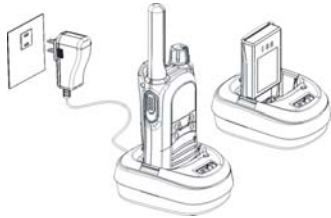
Battery storage notice

1. Due to the self-discharge, the battery which will not be used for a long time should be stored after full charge to avoid the damage to the battery because of over-discharge.

2. Take out the battery stored for about 6 months to charge it, to avoid the influence of electrolyte over-discharge on battery capacity.
3. Notice the ambient humidity and temperature for the battery storage. Please store it in cool dry area with room temperature, to decrease self-discharge.

Battery charging

You are recommended to use HYT-approved, supplied charger; Charger LED will indicate the charging status.



LED	Indication
Red	Charging
Green	Fully charged or no battery inserted

1. Plug the power cable into the adapter.
2. Plug the DC socket of adapter into the DC jack on the rear of the charger.
3. Insert the battery or the radio with battery into the charger cup.
4. Plug the AC socket of adapter into an AC outlet.
5. Make sure that the battery connectors are in contact with the charging terminals; the charger LED glows red and charging begins.
6. The charger LED glows green when the battery is fully charged in about 2 hours, please remove the battery or the radio with battery from the charger.

NOTE:

1. When a fully charged battery is inserted into the charger:
 - LED glows red, indicating charge is in absorption stage, which helps to charge the battery to its full capacity. In this stage, the charging current is very small and the stage will last about less than 5 minutes and then LED turns green.
 - LED glows green.
 - LED goes from red to orange and finally to green. And the LED glows orange for about 10 seconds.

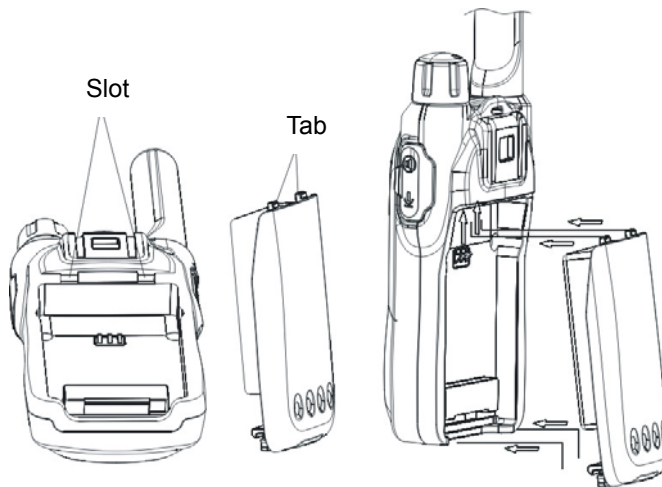
Any status is possible and normal and will not affect normal operation.

Accessory Installation

Battery

Attaching the battery:

Insert the two tabs on bottom of the battery into the slots at the bottom of the radio. Push the top of the battery towards the radio until a click is heard. (See figure 1)

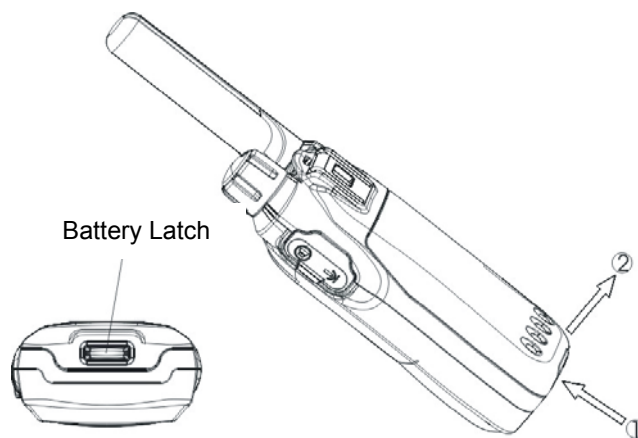


(Fig1)

Removing the battery:

Turn off the radio. Push the battery latch on the bottom of the radio upwards for 1-2mm to remove the upper side of the battery away from the radio and then remove the battery.

(See figure 2)

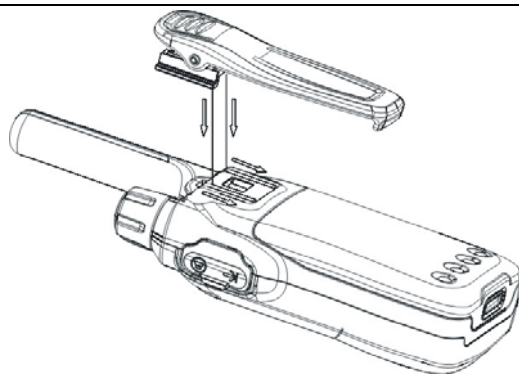


(Fig2)

Belt Clip

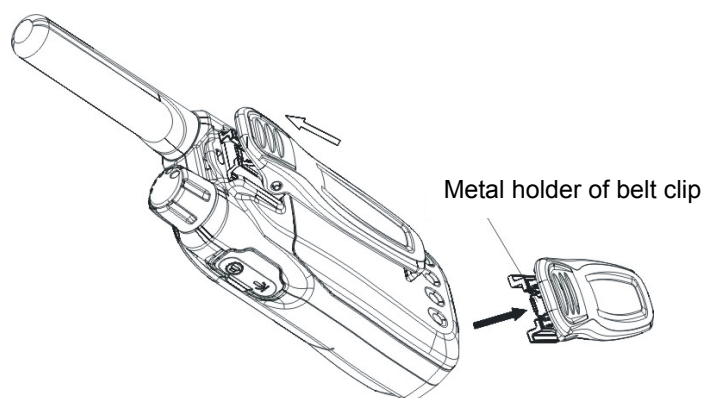
Attaching Belt Clip:

Push the grooves of the belt clip along those at the top of the radio chassis and pull the clip along the indicated direction until a click is heard. (See fig.3)



(Fig 3)

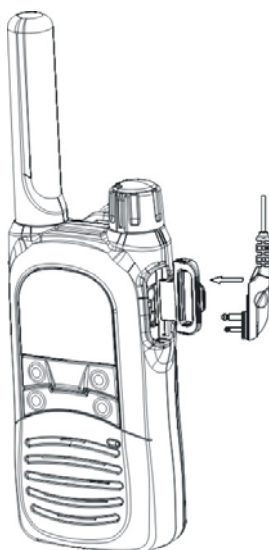
Press the tab between the battery cover and the belt clip along the indicated direction. Slide the belt clip upwards along the radio chassis to detach the clip from the radio. (See fig.4)



(Fig4)

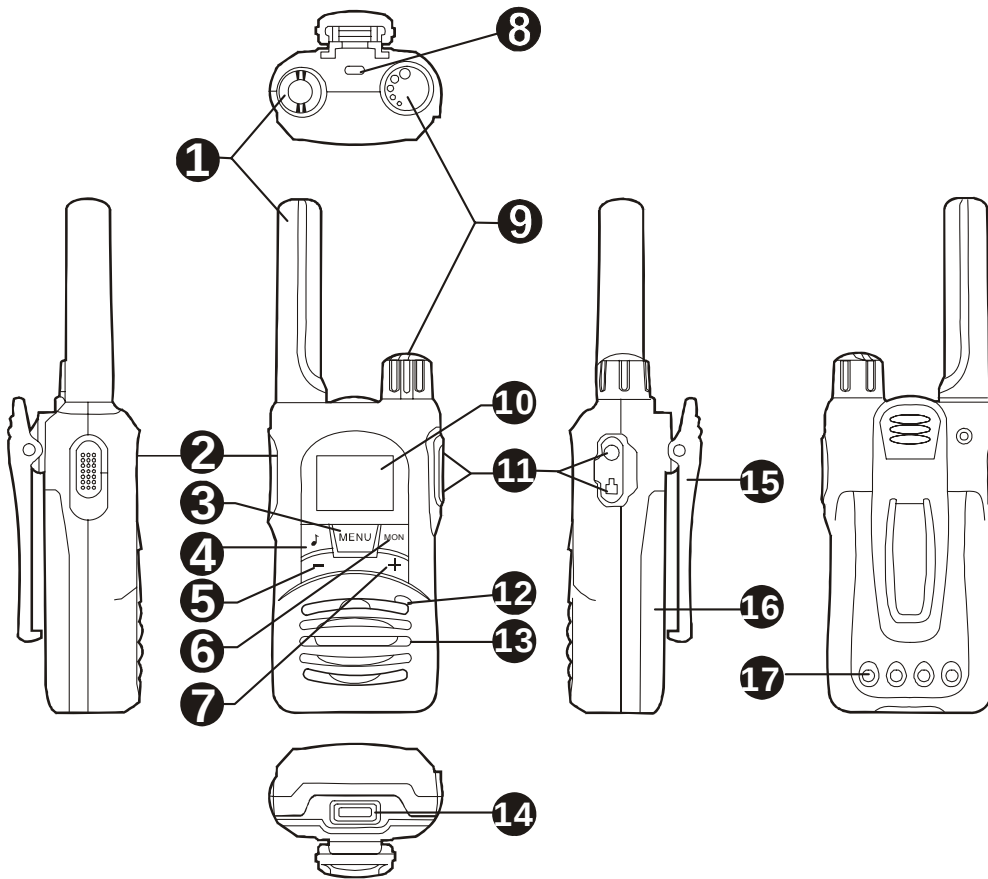
External Earphone/Microphone (Optional)

Open the earphone/microphone Jack cover (unnecessary to remove) and plug your earphone/microphone into the jack (See fig 5).



(Fig 5)

Getting Started



1. Antenna

2. PTT key

In normal work mode, press the key to transmit (no button beep) either in standby or menu mode. When the key is pressed in menu mode, the channel information will be displayed on the screen at the same time. And the display returns to its original display when the PTT key is released.

3. MENU key

Press the key in standby mode to display current channel information. Press and hold the key to enter setting mode. When setting the parameters, press the key to confirm your setting and move to another setting item,.

4. "J" key

Press the key in standby mode to transmit CALL signal (Special frequency or frequency combination code). Press and hold the key to lock/unlock the keypad. In menu mode or setting mode, press the key to confirm the setting and return to the first item. Press the key when setting the first item to exit.

5. DOWN (-) key

Down key or minus key. The key is also used as channel or interference-eliminate

code (CTCSS or CDCSS) selector. Press the key in menu mode to go to your required setting item. When channel information is displayed on the screen in standby mode, press the key to go to next channel. Press and hold the key to scroll the channels at the speed of 250ms per channel.

6. Moni key

Press the key in standby mode to enter channel-scan mode. Press and hold the key to monitor the activities on current channel.

7. Up (+) key

Up or plus key. The key is also used as channel or interference-eliminate code (CTCSS or CDCSS) selector. Press the key in menu mode to go to your required setting item. When channel information is displayed on the screen in standby mode, press the key to go to next channel. Press and hold the key to scroll the channels at the speed of 250ms per channel.

8. Strap hole

9. Power/Volume Knob

Turn the knob clockwise until a “click” is heard to turn the radio on; fully counter clockwise to turn it off. When the radio is on, turn clockwise to adjust volume up and counter clockwise to volume down.

10. Display

Used to display channel number, frequency code and interference-elimination code and other parameters.

Please refer to Display section for details.

11. Earphone Jack and programming port

12. Microphone Jack (MIC)

Used to input voice.

13. Speaker Jack (SPK)

Used to output voice.

14. Battery Latch

Press and push the latch to release the battery.

15. Belt Clip

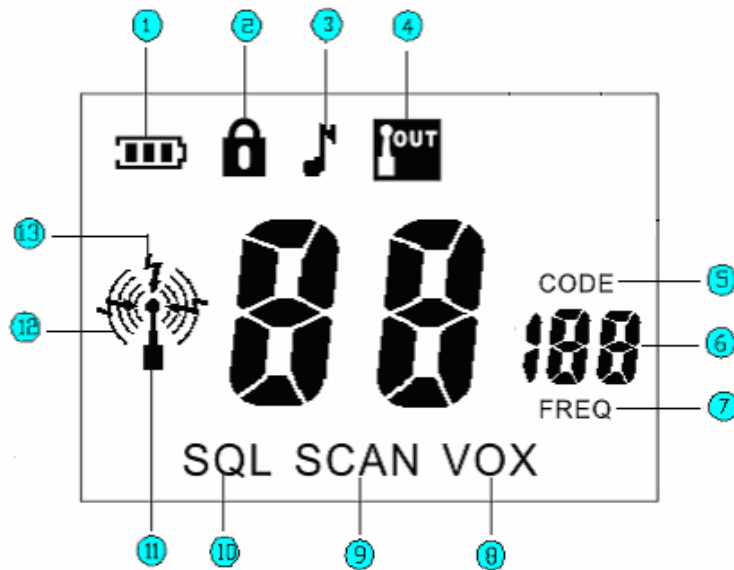
Used to wear your radio on the belt for easy carry.

16. Battery

17. Charging Connectors

Contact the connectors with the electrode piece oUsed to wear your radio on the belt for easy carry.

LCD Display



1. Battery Meter, used to indicate the battery power.
2. Appears when keypad is lock.
3. Appears when setting the call tone.
4. Communication Range Alarm, flashes when your companion is out of range; appears when setting communication range alarm or communication range alarm is enable.
5. Interference Delete Code Icon: CTCSS and CDCSS are called interference delete code. There are 38 CTCSS groups of CTCSS code numbered from 1-38 and 83 groups CDCSS code numbered from 39-121. Indicate that the number on the LCD displays interference eliminator code.
6. Two large "8" , a small "1" and two small "8" display the current channel number, frequency number, interference eliminator code, status of current setting.
7. Frequency Number Icon: Indicate that the number on the LCD displays frequency number or frequency number. The number under it indicates current frequency number.
8. VOX Icon: Appears when setting VOX or VOX feature is enabled.
9. Scan Icon: Appears when setting scan add/delete or when scanning channels.
10. Appears when setting squelch level.
11. Antenna Icon: Appears when the radio is standby, transmission and receive, indicating that both receive and transmission are available.
12. Transmission Icon: Appears when transmitting
13. Receive Icon: Appears when receiving signal from current channel.

Features and Operation

Basic Operation

Turn On/Off the radio

1. Turn on the radio, the radio emits a power-on tone and LCD fully displays simultaneously. The radio is on about 2 seconds. Due to different key pressing, the radio enters different modes:

A No key pressing and the radio enters conventional mode.

B Press MON key and PTT key together and hold for 2 seconds, the radio enters channel setting mode.

C Press CALL key and NON key together and hold for 2 seconds, the radio enters wired clone mode.

D Press “+” key and “-” key together and hold for 2 seconds, the radio enters default setting mode.

If the keys are hold less then 2 seconds and released ahead of time, the operation will be invalid and the radio enters conventional mode.

2. Fully rotate the power knob counter clockwise to power the radio off.

Conventional Mode

In conventional mode, LCD displays is shown as figure 1. Operations available are listed as following:

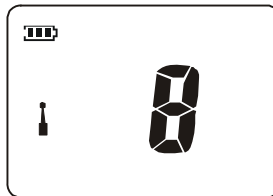


Fig 1 LCD displays channel number

Receive and Transmission

Press the PTT key and talk into the microphone. “” appears on the LCD. See figure 2.

Release the PTT key or when transmission exceeds preset time, the radio return to receive mode and “” disappears.

The receiving icon “” appears when the selected channel receives a signal (See figure2 (b)), the speaker is opened and you can hear the voice. If interference eliminator code is set on the channel, you will only hear the voice of the user with the same interference eliminator code as you.

You can talk without holding the radio by using PTT on external earphone.

Insert plug of earphone (with external PTT) into the accessory jack of the radio. Put on the earphone and press PTT. Speak into the microphone to talk.

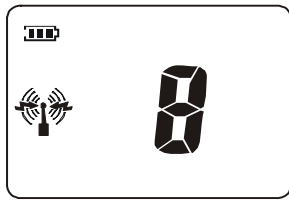


Fig 2 (a) Tx Interface

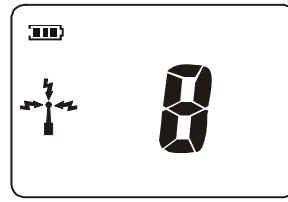


Fig 2 (b) Rx Interface

Call Tone

The call tone feature is valid only when you have set a call tone in the menu mode. You can send a call tone to your partner before begin talking with him/her. Briefly press “” key to transmit a call. The call tone will sound when you receive a call.

This feature can be enabled/disabled by the dealer.

VOX Feature

This feature is valid only when the radio is connected with external audio accessory.

Insert plug of VOX accessory into the accessory jack of the radio, set the VOX Sensitivity Level in the menu mode, and then speak into the microphone to talk. When transmitting using VOX feature, you will hear yourself talking through the accessory speaker. VOX feature allows you to talk hands-free.

Press PTT key on the radio to disable VOX feature. This feature is enabled when you turn on the power next time.

This feature can be enabled/disabled by the dealer.

TOT Function

This feature defines the time period of transmission on certain channel, which avoids possible damage to the radio caused by long-time transmission. The time period can be set as one minute, 5 minutes or off by your dealer.

批注 [w1]: 07.27 根据中文
第三次确认修改, 增加内容

Channel Select

In conventional mode, pressing “+” / “-” key can select your wanted channel. The maximum number you can select is decided by the number of available channels and the minimum number is 1. Holding down “+” / “-” key can increase/decrease the channel number continuously.

Keypad Lock

In conventional mode, holding down “” key can lock/unlock keypad. When keypad lock

is on, “” icon appears on the display and “+” / “-” and MON key are invalid. Holding down MENU key and briefly pressing “” key are both invalid. The user can transmit/receive through PTT key, briefly press MENU key to display channel information, or hold down “” key to unlock the keypad.

This feature can be enabled/disabled by the dealer.

Channel Information Display

In channel number display mode, briefly press MENU key, LCD will display channel number, frequency number and interference eliminator code of current channel.

For example, if LCD displays channel number in standby mode (See figure 3), and then: Briefly press MENU key, LCD will display frequency number of current channel at bottom right corner. “FREQ” icon glows at the same time. LCD switches to interference eliminator code display automatically after 1 second and “CODE” icon glows at the same time. LCD returns to display clock after another 1 second.

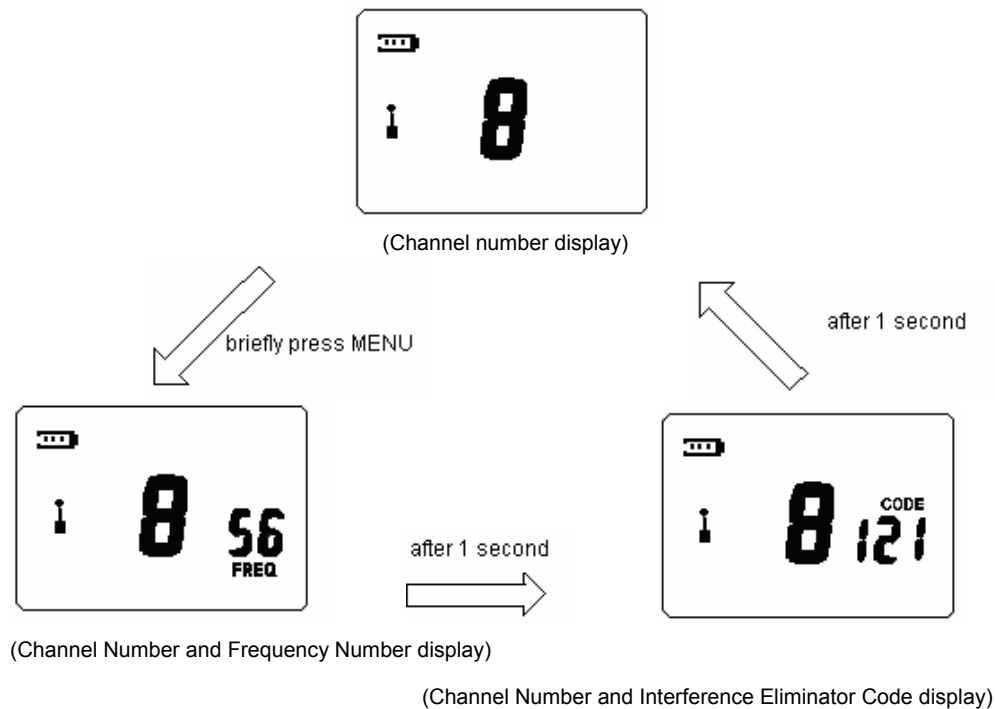


Fig 3 Channel Information Display

If the frequency indicated by the frequency number is changed through PC programming software, LCD will display channel number and frequency number with an “n” in front of the channel number indicating non-standard frequency number. (See figure 4)

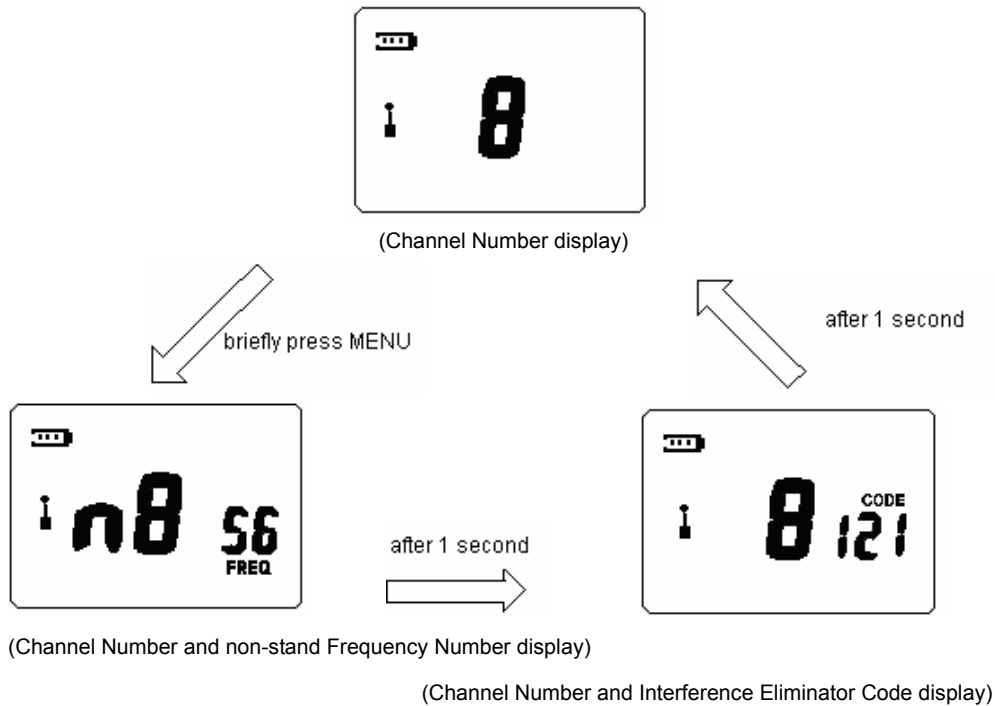


Fig 4 Channel Information Display

Channel Scan

Briefly press MON key in conventional mode to begin channel scanning. (See figure 5) LCD displays "SCAN" icon, channel number and frequency number of the channel. The radio will stay on the active channel when detecting a valid signal and then continue to scan upwards. You can press "+" / "-" to scroll through the active channel and resume scanning upwards.

Press PTT during scanning to transmit on the selected channel before scanning and LCD displays channel information; release PTT to receive on the same channel and then return to scan mode.

Briefly press MON key to stop scanning.

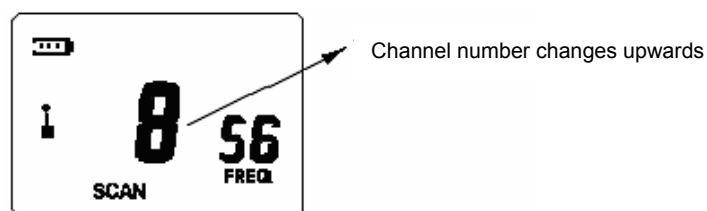


Fig 5 Channel Scan Status

Monitor

Press and hold MON key in conventional mode to begin monitoring.

This feature is used to receive weak signals, but will be interfered in by other noises and/or unwanted signals.

Press MON key again to stop monitoring.

Low Battery Detect and Battery Power Indication

The radio detects battery voltage periodically and indicates the battery power. The battery power indicator “” on the top left corner of LCD will flash when the battery power is low. You should recharge the battery or replace it with a fresh one.

Communication Range Alarm

The feature is valid only when you have enabled communication range alarm feature in the menu mode.

The communication range alarm icon “” flashes and the radio beeps when you are almost out of range during receiving. The beeps and flashing icon continue until you are within the range again or turn the communication range alarm off.

This feature can be enabled/disabled by the dealer.

Battery Save

In conventional mode, when no activity is on channel and no key is pressed for 10 seconds, the battery save feature will be turned on automatically. **In this mode, the radio works normally for 200ms then turns to sleep mode for 600ms.**

批注 [w2]: Translated

This feature can be enabled/disabled by the dealer.

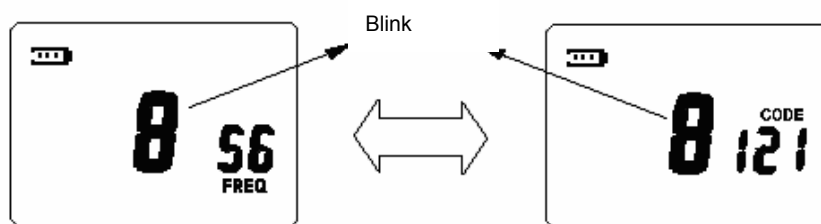
Channel Setting Mode

Turn the power on while holding down MON and PTT key simultaneously. The radio enters channel setting mode after 2 seconds. The current setting of channel setting will flash when entering this mode. You can make settings as following:

Select Channel Number

During setting, the channel number flashes (See figure 6-1). LCD displays frequency number and interference eliminator code of the current channel alternately. Press “+” / “-” key to select channel number. The maximum number you can select is decided by the number of available channels and the minimum number is 1.

Press MENU key to confirm the setting and switch to the next setting. Press “” key to save the setting and to exit channel setting mode.



(a) Channel Number & Frequency Number display

(b) Channel Number. & Interference Eliminator Code display

Fig.6 Channel Number Select

Set Frequency Number

When setting frequency number of the channel, “FREQ” icon appears on LCD and the

frequency number flashes (See figure7). Press “+” / “-” key to select frequency number from 1 to 56. Press MENU key to confirm the setting and switch to the next setting. Press “” key to save the setting and return to the first setting or to exit channel setting mode.

This feature can be enabled/disabled by the dealer.

The factory default setting for frequency number of each channel is shown as following:

Channel Number	1	2	3	4	5	6	7	8
Frequency Number	7	15	16	31	34	45	48	52

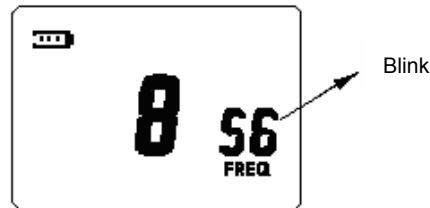


Fig 7 Set Frequency Number

Set Interference Eliminator Code

When setting interference eliminator code of the channel, “CODE” icon appears on LCD and the interference eliminator code flashes (See figure8). Press “+” / “-” key to select interference eliminator code from 0 to 121. If “0” is selected, interference eliminator code is not set in a channel.

Press MENU key to confirm the setting and switch to the next setting. Press “” key to save the setting and return to the first setting or exit the channel setting mode.

This feature can be enabled/disabled by the dealer.

In factory default setting, interference eliminator code is not set in all channels.

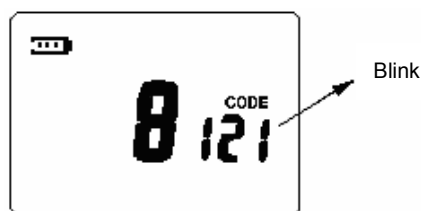


Fig 8 Set Interference Eliminator Code

Set the number of available channels

When setting the number of available channels, “CH ”icon appears on LCD and the channel number flashes (See figure9). Press “+” / “-” key to select number of available channels from 1 to 8.

Press MENU key to confirm the setting and switch to the next setting. Press “” key to save the setting and return to the first setting or exit the channel setting mode.

In factory default setting, the number of available channels is 8

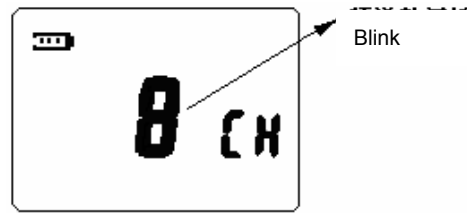


Fig 9 Set the Number of Available Channels

Set Channel Scan Add/Delete

When setting channel scan add/delete, “SCAN” icon appears on the bottom of LCD and the character “y” or “n” flashes (See figure10 (a) and 10 (b)). “y” indicates channel scan add while “n” indicates channel scan delete. Press “+” / “-” key to select between “y” and “n”. Press MENU key to confirm the setting and switch to the next setting. Press “” key to save the setting and return to the first setting or exit the channel setting mode. In factory default setting, all the channels are added to scan list.

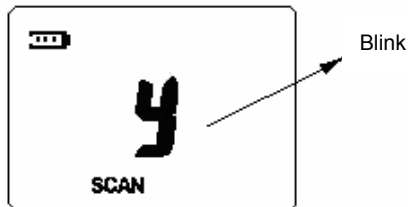


Fig 10 (a) Set Channel Scan Add

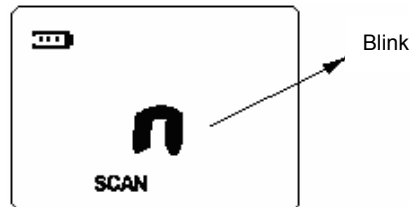


Fig 10 (b) Set Channel Scan Delete

Menu Mode

The current setting of menu mode will flash when entering this mode. You can make settings as following:

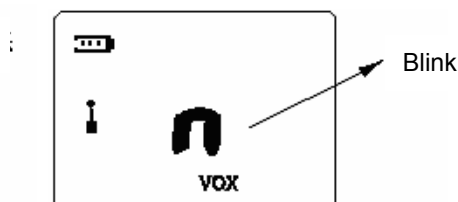
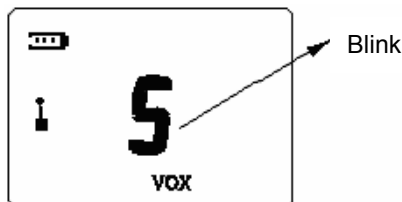
Set VOX Feature

When setting VOX feature, “VOX” icon appears on LCD and the VOX sensitivity level or character “n” flashes (See figure11 (a)).

There are five sensitivity levels (level 1 to level 5). The higher the sensitivity level is, the lower audio needed to trigger a transmission. The VOX feature is disabled when “n” is selected.

Press “+” / “-” key to select sensitivity level or disable VOX feature. Press MENU key to confirm the setting and switch to the next setting. Press “” key to save the setting and return to the first setting or exit the menu mode.

In factory default setting, the VOX feature is disabled.



a. Select VOX Sensitivity Level

b. Disable VOX Feature

Fig 11 Set VOX Feature

Select Power Level

When setting high-low level, character “P” appears on the left of LCD and Character “L” or “H” blinks at the same time. “L” indicates low power while “H” indicates high power. Press “+” / “-” to select between “L” and “H”. Press “MENU” key to confirm the setting and switch to next one. Or press “” to confirm the setting and return to the first setting or to exit menu mode (Press “CALL” to confirm and exit menu mode when setting the first item). The feature can be enabled/disabled by your dealer.

In factory default setting, high level is on and the power level set as low power.

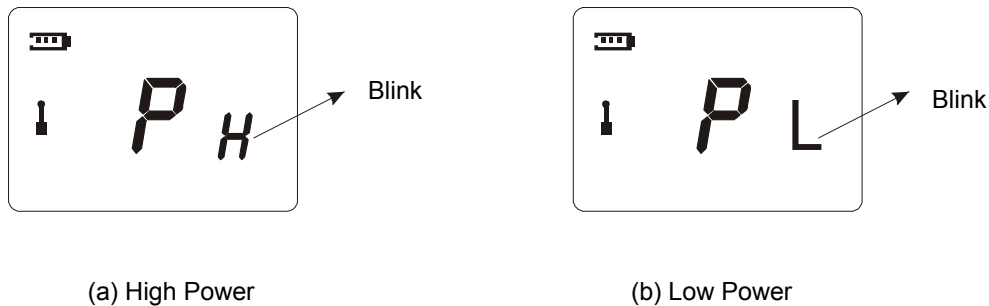


Fig 12 Select Power Level

Set Call Tone

When setting call tone, “” icon appears on LCD and the call tone number or character “n” flashes (See figure13 (a)).

There are five distinct call tones (1-5). The call tone feature is disabled when “n” is selected.

Press “+” / “-” key to choose from call tones 1-5 or disable call tone. The radio plays a sample of each call tone as you select them.

Press MENU key to confirm the setting and switch to the next setting. Press “” key to save the setting and return to the first setting or exit the menu mode.

In factory default setting, the call tone 1 is selected.

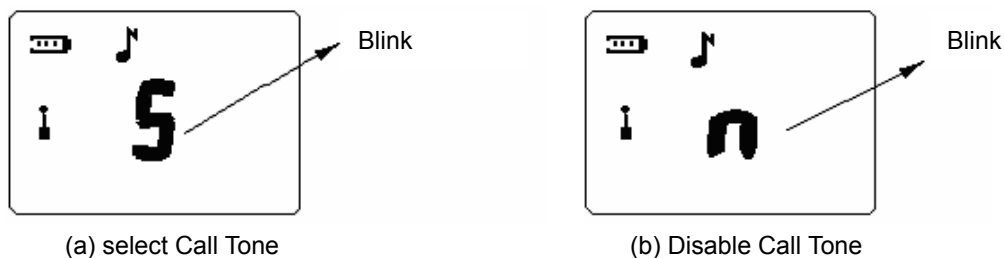


Fig13 Set Call Tone

Set Button Beep

When setting button beep, “bP” icon appears on LCD and the character “y” or “n” flashes (See figure20-1). “y” indicates enabling button beep and “n” indicates disabling.

Press “+” / “-” key to select between “y” and “n”. Press MENU key to confirm the setting and switch to the next setting. Press “” key to save the setting and return to the first setting or exit menu mode.

In factory default setting, the button beep is enabled.

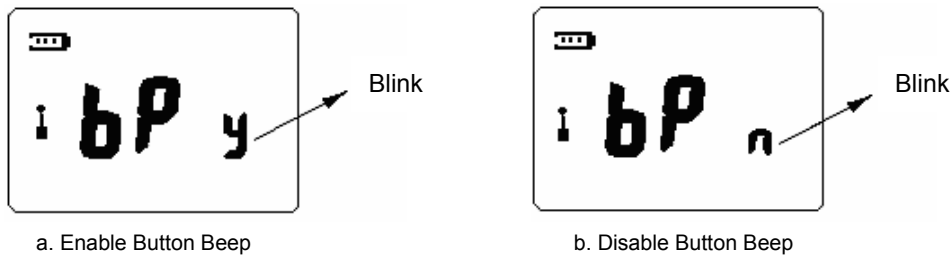


Fig 14 Set Button Beep

Set Squelch Level

When setting squelch level, “SQL” icon appears on bottom left corner of the LCD and the squelch level flashes (See figure15).

There are four squelch levels (1-4). Higher squelch level makes it harder for the radio to receive weak signals and avoid interference of noises and/or unwanted signals.

Press “+” / “-” key to select squelch level. Press MENU key to confirm the setting and switch to the next setting. Press “” key to save the setting and return to the first setting or exit the menu mode.

In factory default setting, squelch level is set as 2.

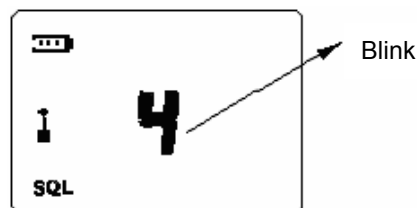


Fig15 Set Squelch Level

Set Communication Range Alarm

When setting communication range alarm feature, “” icon appears on the left of LCD and the character “y” or “n” flashes (See figure16). “y” indicates enabling communication range alarm and “n” indicates disabling.

Press “+” / “-” key to select between “y” and “n”. Press MENU key to confirm the setting and switch to the next setting. Press “” key to save the setting and return to the first setting or exit menu mode.

In factory default setting, the communication range alarm is disabled.

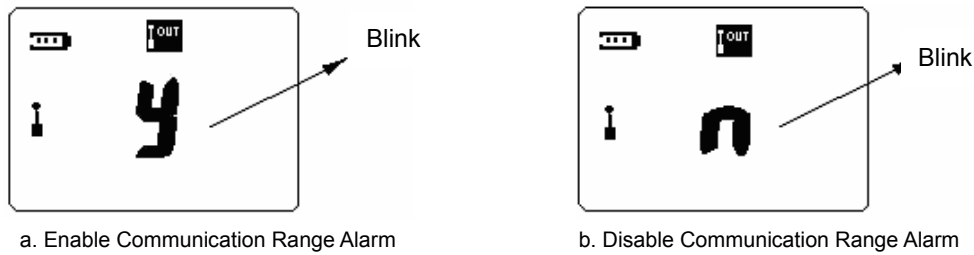


Figure16: Set Communication Range Alarm

PC Programming Mode

In standby mode, connect the radio and a PC with programming cable and then programme the radio through programming software, the radio enters PC programming mode. LCD display is shown as figure17. During programming, the black cursor in the center of LCD will scroll. When programming is complete, the character “P” will be displayed on the center of LCD. In the PC programming mode, the radio communicate with PC through UART port, all the commands are carried out via PC. After programming, the radio should be turned off and back on again to use.

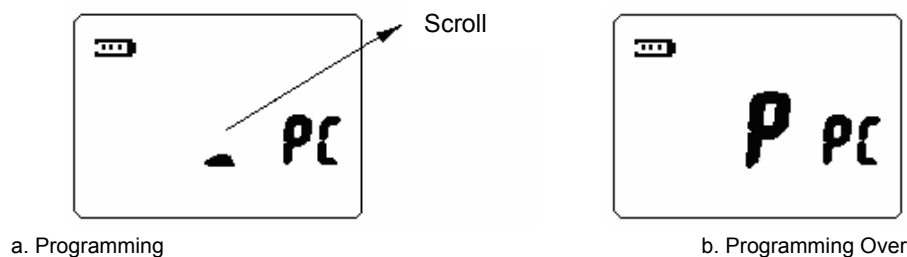


Fig17 PC Programming Mode

Wired Clone Mode

Connect the radio with cloning cable and then turn the power on while holding down CALL and MON key simultaneously. After 2 seconds, the radio enters wired clone mode (source side).

When the radio enters wired clone mode, LCD display is shown as figure18. The black cursor in the center of LCD flashes. When the target radio is ready, press MON key to begin cloning. The black cursor in the center of LCD will scroll. During cloning, if an error occurs or the target radio has no response, the cloning stops and LCD displays error prompt. “F” (FAIL) indicates that wired clone is failed. If data is cloned successfully, “P” (PASS) appears.

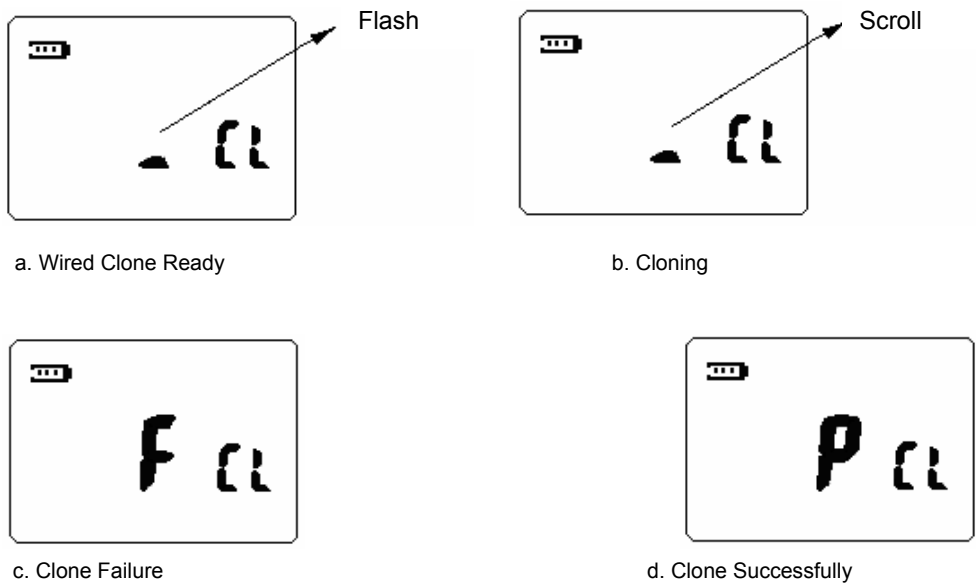


Fig18 Wired Clone

Default Setting Mode

This feature is used to enter conventional mode and restore all the radio settings to factory default setting.

This feature can be enabled/disabled by the dealer.

Annex 1. Frequency Chart (460MHz—470MHz)

Frequency No.	Frequency (MHz)	Frequency No.	Frequency (MHz)
1	464.5000	29	462.9125
2	464.5500	30	464.4875
3	467.7625	31	464.5125
4	467.8125	32	464.5375
5	467.8500	33	464.5625
6	467.8750	34	466.0375
7	467.9000	35	466.0625
8	467.9250	36	466.0875
9	461.0375	37	466.1125
10	461.0625	38	466.1375
11	461.0875	39	466.1625
12	461.1125	40	466.1875
13	461.1375	41	466.2125
14	461.1625	42	466.2375
15	461.1875	43	466.2625
16	461.2125	44	466.2875
17	461.2375	45	466.3125
18	461.2625	46	466.3375
19	461.2875	47	466.3625
20	461.3125	48	467.7875
21	461.3375	49	467.8375
22	461.3625	50	467.8625
23	462.7625	51	467.8875
24	462.7875	52	467.9125
25	462.8125	53	469.4875
26	462.8375	54	469.5125
27	462.8625	55	469.5375
28	462.8875	56	469.5625

Annex 2 CTCSS Table (38)

No.	Frequency (Hz)	No.	Frequency (Hz)
1	67.0	20	131.8
2	71.9	21	136.5
3	74.4	22	141.3
4	77.0	23	146.2
5	79.7	24	151.4
6	82.5	25	156.7
7	85.4	26	162.2
8	88.5	27	167.9
9	91.5	28	173.8
10	94.8	29	179.9
11	97.4	30	186.2
12	100.0	31	192.8
13	103.5	32	203.5
14	107.2	33	210.7
15	110.9	34	218.1
16	114.8	35	225.7
17	118.8	36	233.6
18	123.0	37	241.8
19	127.3	38	250.3

Annex 3 CDCSS Table (83)

No.	CDCSS	No.	CDCSS
39	023	82	331
40	025	83	343
41	026	84	346
42	031	85	351
43	032	86	364
44	043	87	365
45	047	88	371
46	051	89	411
47	054	90	412
48	065	91	413
49	071	92	423
50	072	93	431
51	073	94	432
52	074	95	445
53	114	96	464
54	115	97	465
55	116	98	466
56	125	99	503
57	131	100	506
58	132	101	516
59	134	102	532
60	143	103	546
61	152	104	565
62	155	105	606
63	156	106	612
64	162	107	624
65	165	108	627
66	172	109	631
67	174	110	632
68	205	111	654
69	223	112	662
70	226	113	664
71	243	114	703
72	244	115	712
73	245	116	723
74	251	117	731
75	261	118	732
76	263	119	734

77	265		120	743
78	271		121	754
79	306			
80	311			
81	315			

Troubleshooting Guide

Trouble	Solution
No power	● Battery may be used up. Please replace or recharge the battery. ● Battery may not be attached properly. Remove the battery and attach again.
Power doesn't last long even if fully charged.	● Battery life cycle is over. Please replace it with a new one.
Can't talk to or hear other users in your group.	● Make sure you are using the same frequency and CTCSS/DCS tone as other users in your group. ● Other users may be too far away. Make sure you are within the communication range.
Voice of other users (non-group user) appears on the channel.	● Please change your CTCSS/DCS tone. Be sure to change the tone on all the other radios in your group.

Care and Cleaning

- ✧ Do not carry your radio by the antenna or remote microphone;
- ✧ Wipe the battery contacts with a lint-free cloth to remove dirt, grease, or other material that may prevent good electrical connection;
- ✧ When not in use, keep the accessory jacks covered with the protective caps;
- ✧ Clean the shell, controls and keys of your radio with neutral detergent and warm water after a long period of usage. Avoid using strong chemicals.

Optional Accessories

ESM05	Two-wire Earbud
ECM02	Light Headset
ESM02	Series earbud
EHM03	Series earset with boom microphone
EHM04	Series earset without boom microphone
SM08M2	Speaker Microphone
MCL09	TC1600 series rapid MUC (for Li-ion Battery)
LCBN25	TC1600 Leather Carry Case (black)
LCBN26	TC1600 Nylon Carry Case (black)

Frequency Chart

Model:

Serial Number:

CH	Tx Frequency	Tx CTCSS/DCS	Tx ANI/DTMF	Rx Frequency	Rx CTCSS/DCS
1					
2					
3					
4					
5					
6					
7					
8					

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Revision History:**第一次: (蓝色)**

FCC 认证内容修改。修改前版本为 AWC 的 FCC 认证说明, 改为 HYT。

电池充电步骤更改, 且增加 NOTE

信道信息显示、时钟显示、VOX 设置三处, 共四张图修改。

按键说明补充。

频率表删除 9-16, TC-1600 仅含 8 个信道。

第二次: (紫色) 07.27

LCD 显示图改变, 删除图中 5、6、7 三个图标, 相应文字说明删除。

文中所有图替换。

增加 TOT 功能说明。

第三次: (紫红色, P6-7) 08.01

充电操作更改

Precaution 中关于天线部分删除

第四次: 08.08

可选配件删除 EHM07 EAM03 EAM02 LCBN13 LCBY03

频率表中删除 Tx 2-Tone/5-Tone, Rx 2-Tone/5-Tone.