

TO CUSTOMER

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 customer's need for high quality with easy operation and perfect capability. We believe you are pleased with its nice shape and excellent performance.

Main Function:

Frequency Band:

VHF:136-174MHZ 350-390MHZ (Optional)

UHF:400-480MHZ (Can be extended to 520MHZ)

PC Programmable

Low battery alarm

Battery indicator

Special signal

Monitor

High/Low Power selection

Non-standard CTCSS/CDCSS Code

CTCSS/DCS

English/Chinese voice prompt

TOT

Squelch tail elimination

Volume control

Channel locking

Group call

Busy channel lockout

Battery save

Wide/Narrow bandwitch selection

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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 cause heat injury.

Do not attempt to open the radio; the maintenance work should be done by technical expert only.

To avoid troubles caused by electromagnetic interference or electromagnetic compatibility, please turn off the radio in places where have the banner "Do not use wireless 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 contact with your local dealer.

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

Unpacking and checking equipment

Welcome to use the Two Way Radio. Carefully unpack the radio. We recommend you check the items listed in the following table before discarding the package. If an item is missing, please contact local dealer immediately.

Supplied Accessories

- Antenna × 1
- AC Adapter × 1
- Charger Dock × 1
- Li-ion Battery × 1
- Belt Clip × 1
- Hand Strap × 1
- User Manual × 1



Antenna



Li-ion Battery



Belt Clip



Charger Dock



AC Adapter



Hand Strap



User Manual

Battery information:

Please use battery, other batteries can cause explosion and hurt people.

Notice:

1. Please do not short-circuit the battery terminals or expose of in fire.
Do not dissemble the battery by yourself.
2. Charge the battery between temperature 0°C-40°C. The battery can not be fully charged beyond this temperature range.
3. Please turn off the power when you charge the radio with battery.
Transmit with the radio in charge will affect its correct charge.
4. Do not unplug the power or battery when it is charged.
5. The operating time becomes short even the battery is fully charged the batter is exhausted, please replace battery.
6. 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:

Charging the battery as follows:

- Power off
- Insert the DC adaptor plug in the DC jack on the back of charger
- Insert the AC adaptor plug in the AC power output socket.
- Insert the battery or radio with battery vertically in a charger, to check whether the battery and charger terminal is in normal contact.
- Make sure the battery and charger terminal is in good contact,
- when the charging indicator light turns red, it stars charging.

CHARGING STATUS

LED Indicator Color	Status
Blue light ON	In Charging
Blue light OFF	Full Charged

Note:

1. Before inserting the battery, it is abnormal if the charging indicator blinks
2. To change the battery for charging, please wait until the indicator is stable.
3. When the battery is well inserted, the indicator turns red and the charging is on the process, if the indicator blinks, then the battery is damaged or the temperature is too high or too low.

Self-testing

When the charger powers up, if the orange indicator lights for one second and then goes out, entering the standby mode. the charger passes the self-testing and can charge the battery. If the orange indicator blinks constantly, the charger fails to pass self-testing, and can not charge the battery.

Normal charging indicator

When charging the battery, if the indicator light turns red, the battery is on the normal charge: if the red indicator light blinks constantly, the battery capacity is too low, and is on the trickling charge, and after the battery capacity reaches a certain level, it will switch to the normal charge.

Note: Tricking charge does not exceed 30 minutes, if the red indicator light blinks after 30 minutes, it means the charger can not charge battery, please check whether the battery or the charger has been damaged.

Charging precautions:

1. The battery is not fully charged in factory, please charge before using it.
2. 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.
3. The battery lasts shortly even if it is fully charged, the battery is exhausted, please contact your local dealer to buy a new authentic battery.

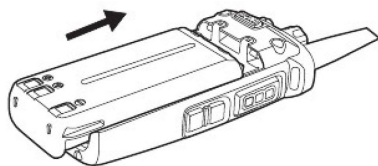
Use and care

- Do not hold antenna or external speaker directly.
- Clear the dust & dirt to avoid bad connection.
- Cover the SP/MI jacks if not use it.
- Clean the keypad/knob/radio shell with neutral detergent after long-term use.

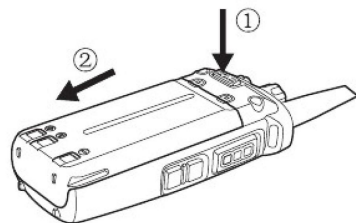
Installing accessories

Installation of battery pack

1. Fit the supplied battery pack into the batter pack trough, then slide it toward the head to insert it completely-in direction of arrowhead.
2. Push the battery pack lock to release the battery pack and slide it toward the bottom to remove it out-in direction of arrowhead.



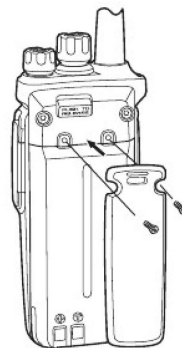
(INSTALLING)



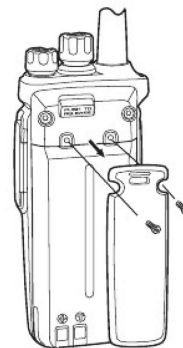
(REMOVING)

Installation of belt clip

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



(INSTALLING)



(REMOVING)

Installation of antenna

The supplied antenna provides good results over VHF and UHF range of the transceiver you need.

To install the supplied antenna, hold the bottom end of antenna, then screw it onto the connector on the transceiver until it is snug. Do not over-tighten by use of extreme force.

To uninstall the antenna, hold the bottom end of it and turn it counterclockwise to remove it.

Notes: Never transmit without having an antenna connected. When installing the supplied antenna, never hold the upper part of the antenna while screwing it onto the connector on the transceiver, or you may snap the antenna.



(INSTALLING)

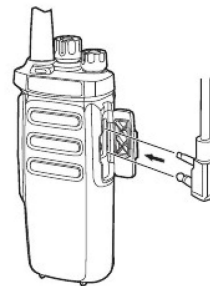


(REMOVING)

Installing External Micro/Speaker

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

- Note:** 1. Using the external headset or Mic/speaker will affect the water-tightness performance of radio.
2. If the external headset is not workable, please use the headset case.



Getting Familiar

Channel-selecting knob: Select the working channel, channel announcement when voice prompt is ON.

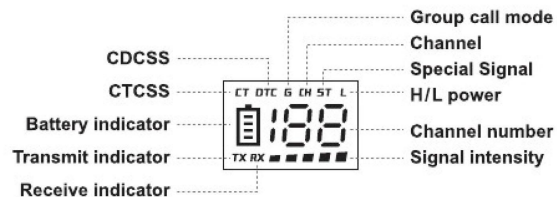
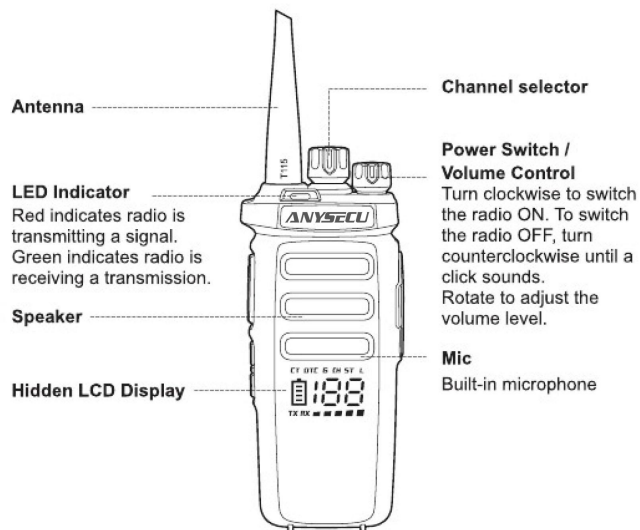
Antenna: with threaded head, for transmitting and receiving

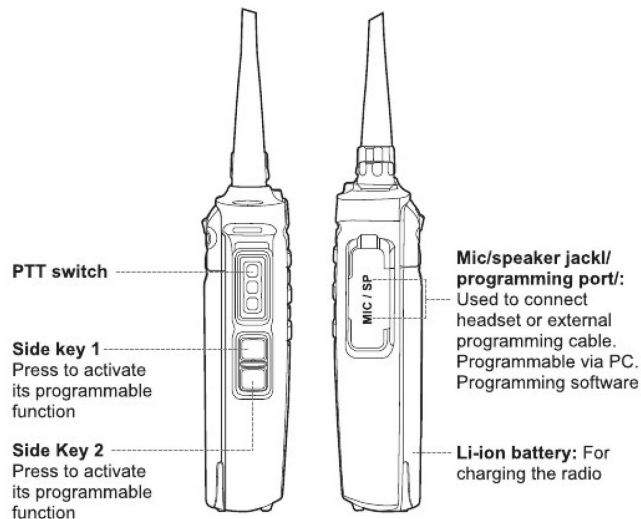
Speaker: sound output

Power/volume knob: To power on/off and adjust the volume. Rotate clockwise, a "click" sound is heard and a "DU" tone prompts the radio power on. continue to rotate it to adjust the volume. Rotate it counter-clockwise until a "click" sound is heard, it powers off.

LED indicator Light: The indicator light turns red when transmit, turns green when receive. It blinks red when the battery capacity is low.

ORIENTATION





Basic operation:

LED Indicator

It lights when transmitting and lights green when receiving.

Power on /off

Rotate the power/volume knob clockwise, a "click" sound is heard "Welcome" and channel prompt tone sounds, it powers on.

Rotate the power/volume knob counter-clockwise, without any tone it powers off.

Adjusting the volume

Rotate the power/volume knob clockwise, when it powers on, continue to rotate the knob to adjust the volume.

Note: You can monitor the background sound and adjust the volume.

Select the channels

Rotate the channel-selecting knob directly to select your desired channel from 1 to 16.

Please refer to channel numbers or symbols at the bottom of the knob to select the channel, or operate based on the voice annunciation.

Transmitting And Receive

1. To transmit, please press the(PTT) switch and speak to the microphone in a normal voice. keep the mouth about 5CM away from microphone.

Notice: Press PTT switch, the indicator lights red, it transmits. If the red indicator blinks, it indicates low power, and the radio may not be able to transmit.

2. Release the PTT switch to receive.

Side Key function assignment.

User can define the functions of this key via programming software.

The following keys/functions can still be used when it is defined:

Side key 1:

- A. Monitor
- B. Monitor Momentary
- C. Squelch Off
- D. Squelch Off Momentary
- E. Battery indicator

Side Key 2:

- F. Emergency alarm
- G. High/Low Power Selection

If side 1 and side 2 key are programmed, you can activate/deactivate below functions according when press the side keys.

Monitor/Squelch Off

Long Press side key 1:

- ✧ Monitor: Press the key to turn off QT/DQT Signal, Press the key again to return to normal operation.
- ✧ Monitor Momentary: Press the key to turn off/QT/DQT Signal, Release the key to return to normal operation.
- ✧ Squelch Off: Press the key to hear background noise, again to return to normal operation.
- ✧ Squelch Off: Press and hold hear background noise, release to return to normal operation.

Short Press side key 1:

Battery indicator: When the side key 1 are programmed with this function, you can press the key and you will hear "Power middle" or "Power High"

Side Key 2:

High/Low Power Selection: Long press side key you can hear (High Power) or (Low Power)

Emergency Alarm: Short press side key the radio's gonna start beeping.

Quick Operation:

Annunciation language:

Rotate the channel selector to CHANNEL 15, PRESS and HOLD **【PTT】 + 【SIDE+KEY 1】**, At the same time turn on the radio to switch the language between Chinese and English.

Basic operation:

Receive frequency and Transmit frequency
Define receive/transmit frequency

Monitor

You can use the side key Monitor to listen to weak signals that you cannot hear during normal operation, and to adjust the volume when no signals are present on your selected channel.

QT/DQT decode and encode

You dealer may have programmed QT/DQT signaling on your radio channels. A QT Tone/DQT code is a sub-audible tone/code which allows you to ignore(not hear)calls from other parties who are using the same channel.

When a channel is set up with a QT tone or DQT code, squelch will only open when a call containing a matching tone or code is received. Likewise, signals that you transmit will only be heard by parties whose QT/DQT signaling matches your radios.

If a call containing a different tone or code is made on the same channel you are using, squelch will not open and you will not hear the call. This allows you to ignore(not hear)these calls. Although it may seem like you have your own private channel while using QT/DQT, other parties can still hear your calls if they set up their radio with the same tone or code.

Transmit Power

When the side key 2 are programmed with this function, you can press the key to switch the transmit power between high and low power.

Wide/Narrow Band

Wide band: Max deviation is 5KHz

Narrow band: Max deviation is 2.5KHz

Busy Channel Lockout(BCL)

When activated, BCL prevents you from interfering with other parties who may be using the same channel that you selected. Pressing the PTT switch while the channel is in use will cause your radio to emit an alert tone and transmission will be inhibited(you cannot transmit). Release the PTT switch to stop the tone and return to receive mode. You can turn on/off the BCL function of every channel via program software

- NOTE:** a. If the current channel does not have QT or DQT, when receiving SQ, Transmission is prohibited.
- b. If the current channel has been set QT or DQT, when receiving SQ but no QT or DQT, transmission is not prohibited. when receiving both SQ and QT or DQT, transmission is prohibited.

Squelch level

The squelch level will determine the signal strength to open the speaker of the radio. If the squelch level is lower, the background noise of opening the radio's speaker will be higher, and the corresponding communication range will be further, but the anti-interference capacity will be weaker. The default setting of squelch level is 5, you can adjust it through the menu "Squelch level" of the "Optional features" in the software, level 0 to 9 can be selected. 0 is the lowest level.

TOT(Time out Timer)

The purpose of the Time-out Timer is to prevent any caller from using a channel for an extended period of time.

If you continuously transmit for a period of time that exceeds the programmed time set by your dealer(default is 1 minute), the radio will stop transmitting and an alert tone will sound. To stop the tone, release the PTT switch.

Batery save

If activated by your dealer, the Battery Save function will decrease the amount of power used when a signal is not being received and no operation are being performed(no keys are being pressed, and no switches are being turned).

While the channel is not busy and no operation is performed for 5 seconds, Battery Save turns ON. When a signal is received or an operation is performed, Battery Save turns Off.

Low battery warning

Low Battery Warning alerts you when the battery needs to be recharged or replaced.


While operating the radio, if the battery power becomes low, an alert tone will sound every 30 seconds and the LED indicator will blink red. Replace or recharge the battery pack.

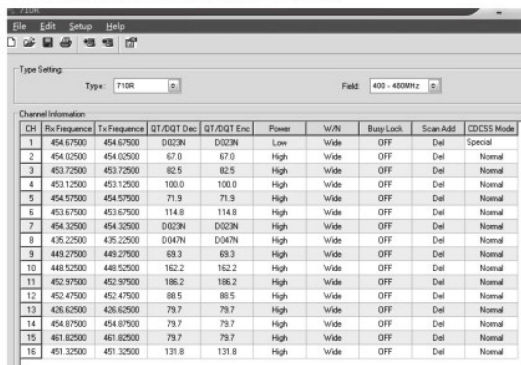
CDCSS Special signal

Function Feature:

- Setting this function is not talk with other two way radio and can not talk with normal signaling.
- Setting this function the comprehensive test instrument and other frequency measuring instrument unable to detect specific CDCSS Values.

Operation

1. open 710R Program software click  to read the radio message.
2. QT/DQT Dec and QT/DQT Enc select initial [D] DCS value and CDCSS Mode select [Special] as follow:



CH	Rx Frequency	Tx Frequency	QT/DQT Dec	QT/DQT Enc	Power	W/N	Busy Lock	Scan Add	CDCSS Mode
1	454.67500	454.67500	D023N	D023N	Low	W/ide	OFF	Del	Special
2	454.02500	454.02500	67.0	67.0	High	W/ide	OFF	Del	Normal
3	453.12500	453.12500	92.5	92.5	High	W/ide	OFF	Del	Normal
4	453.12500	453.12500	100.0	100.0	High	W/ide	OFF	Del	Normal
5	454.57500	454.57500	71.9	71.9	High	W/ide	OFF	Del	Normal
6	453.67500	453.67500	114.8	114.8	High	W/ide	OFF	Del	Normal
7	454.32500	454.32500	D023N	D023N	High	W/ide	OFF	Del	Normal
8	435.22500	435.22500	D047N	D047N	High	W/ide	OFF	Del	Normal
9	449.27500	449.27500	69.3	69.3	High	W/ide	OFF	Del	Normal
10	448.52500	448.52500	162.2	162.2	High	W/ide	OFF	Del	Normal
11	452.37500	452.37500	186.2	186.2	High	W/ide	OFF	Del	Normal
12	452.47500	452.47500	88.5	88.5	High	W/ide	OFF	Del	Normal
13	426.62500	426.62500	79.7	79.7	High	W/ide	OFF	Del	Normal
14	454.87500	454.87500	79.7	79.7	High	W/ide	OFF	Del	Normal
15	461.82500	461.82500	79.7	79.7	High	W/ide	OFF	Del	Normal
16	451.32500	451.32500	131.8	131.8	High	W/ide	OFF	Del	Normal


3. click  after your finished it.

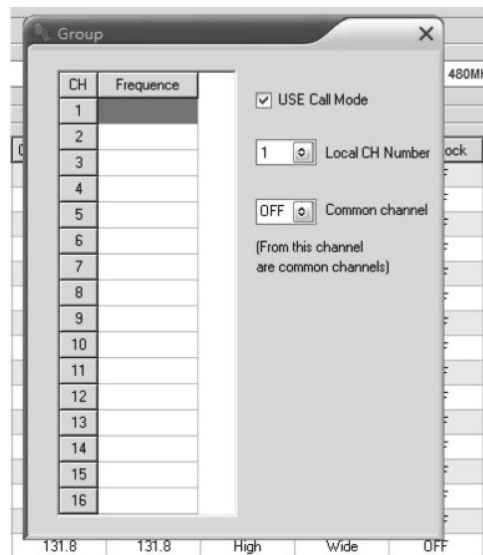
Group call

Function Feature :

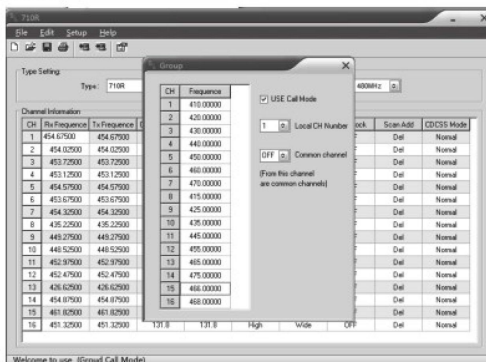
Setting this function, the radio according to the serial number with in the group call. No matter the radio in any channel, it can be received and Press PTT to transmit or respond.


Operation

1. open Program software click  to read the radio message.
2. Click the Edit select group mode: click [use code mode] and edit 16 difference channel frequency.



- A. In Local CH Number select the radio number, Write the corresponding radio in turn. You can edit 16 radio number. Please see picture:



- B. click  after your finished it.

Channel Annunciation

When you changing the channel using the channel selector, An audio voice will announce the selected channel number, after you stop changing the channel.

Voice selection

Open the program software to selection it.

- OFF: When you choose OFF in program software that you switch the channel can't hear any voice .
- English: When you switch the channel. An audio voice will announce the selected channel number in English.
- Chinese: When you switch the channel. An audio voice will announce the selected channel number in Chinese.

QT/DQT

Can set 50 group QT and 105 Group DQT via the software

QT:

67.0	69.3	71.9	74.4	77.0	79.7	82.5	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

DQT:

D023N	D025N	D026N	D031N	D032N	D036N	D043N	D047N	D051N	D053N
D054N	D065N	D071N	D072N	D073N	D074N	D114N	D115N	D116N	D122N
D125N	D131N	D132N	D134N	D143N	D145N	D152N	D155N	D156N	D162N
D165N	D172N	D174N	D205N	D212N	D223N	D225N	D226N	D243N	D244N
D245N	D246N	D251N	D252N	D255N	D261N	D263N	D263N	D266N	D271N
D274N	D306N	D311N	D315N	D325N	D331N	D332N	D343N	D346N	D351N
D356N	D364N	D365N	D371N	D411N	D412N	D413N	D423N	D431N	D432N
D445N	D446N	D452N	D454N	D455N	D462N	D464N	D465N	D466N	D503N
D506N	D516N	D523N	D526N	D532N	D546N	D565N	D606N	D612N	D624N
D627N	D645N	D631N	D632N	D654N	D662N	D664N	D703N	D712N	D723N
D731N	D732N	D734N	D743N	D754N					

D023I	D025I	D026I	D031I	D032I	D036I	D043I	D047I	D051I	D053I	D054I
D065I	D071I	D072I	D073I	D074I	D114I	D115I	D116I	D122I	D125I	D131I
D132I	D134I	D143I	D145I	D152I	D155I	D156I	D162I	D165I	D172I	D174I
D205I	D212I	D223I	D225I	D226I	D243I	D244I	D245I	D246I	D251I	D252I
D255I	D261I	D263I	D265I	D266I	D271I	D274I	D306I	D311I	D315I	D325I
D331I	D332I	D343I	D346I	D351I	D336I	D364I	D365I	D371I	D411I	D412I
D413I	D423I	D431I	D432I	D445I	D446I	D464I	D452I	D454I	D455I	D462I
D465I	D466I	D503I	D506I	D516I	D523I	D526I	D532I	D546I	D565I	D606I
D612I	D624I	D627I	D645I	D631I	D632I	D654I	D662I	D664I	D703I	D712I
D723I	D731I	D732I	D734I	D743I	D754I					

Trouble shooting guide

Troubles	Solution
No Electrical Source	<ul style="list-style-type: none"> • The battery has been exhausted. Replace or recharge the battery. • The battery is installed incorrectly. Remove it and install again.
The operating time becomes short, even the battery is fully charged.	<ul style="list-style-type: none"> • Replace the battery.
Not able to communicate with the transceivers of the same group.	<ul style="list-style-type: none"> • Confirm the QT/DQT is the same. • The distance is outside of range.
The voice of another group can be heard.	<ul style="list-style-type: none"> • Change all QT/DQT of the group.
Other radios can not receive the TX signals or receive signals in a low volume.	<ul style="list-style-type: none"> • Switch the volume knob to the highest level • The microphone may be damaged, send it to the local dealer for check.
Noise is always heard.	<ul style="list-style-type: none"> • The distance is outside of range. Turn on the radio in nearer range and try again.

SPECIFICATION:

General	
Frequency Range	V: 136-174MHz U: 400-480MHz (Can be extended 520MHz)
Channel Capacity	16CH
Operating Temperature	-20°C~+50°C
Operating Voltage	DC7.4V
Frequency Stability	±2.5PPM
Working Mode	Simple or semi-duplex
Antenna Impedance	50Ω
Dimensions (with battery without antenna) (L*W*H)	130*35*53mm
Weight (With antenna and battery)	500G
Antenna Gain (Loaded antenna)	V: 1.8dBi U: 2.5dBi

Transmitter	
RF Power Output	L ≤1Watt/H≤7Watt
Modulation	16K ∅ F3E / 11K ∅ F3E
Max deviation	≤5KHz / ≤2.5KHz
Spurious radiation	≤7.5uW
Adjacent channel power	≤-65dB≤-60dB
Pre-emphasis characteristics	6dB
Current	≤1.4A(5W)
CTCSS/DCS deviation	0.5KHz±0.1KHz, 0.4KHz±0.1KHz
Intermediation sensitivity	8-20mV
Modulation Distortion	<5%
Receiver	
RF Sensitivity	-122dBm(12Db SINAD)
Audio Power	1W
Audio distortion	<5%
Intermediation	≥60dB≥55dB
Selectivity	≥65dB≥60dB
Spurious rejection	≥65dB
Block	≥85dB

NOTE: All Specifications are subject to change without notice due to continuous development.

Warranty Card

Customer's name: _____

Gender: _____

Add and postal code: _____

Customer's Tel: _____

Model: _____

Serial number: _____

Purchasing date: _____

Invoice No: _____

Dealer: _____

Stamp: _____

Add and postal code of the dealer: _____

Contact Tel: _____

Note:

1. This warranty card is only applicable to two-way radio of the above-listed model and serial number.
2. The warranty card is an important document for the end-user to enjoy warranty service, please keep it well.
3. The warranty card shall be filled and chopped by the dealer, or it is invalid.
4. This warranty card to be kept by the user no replenishment if lost.



Please focus on the following information:

The products warranty period begins from the purchasing date. If product failure under normal use within warranty period occurs, according to the contents of this warranty. (the radio is guaranteed for 12 months. Accessories 6 months). Please carry the warranty card originals and purchase invoice to designated authorized warranty repair station for warranty service.

Maintenance record

Carry-in date			
Completion date			
Fault description			
Maintenance staff numbers			
Maintenance personnel NO.			
Signature			

The following situations occur during warranty period will be implemented in paid service:

- (1) Failure to produce the warranty card
- (2) The card has altered traces or inconsistent with the product
- (3) Defect or damage caused by misuse, accident, water or negligence
- (4) Defect or damage caused by abnormal or non-normal use
- (5) Defect or damage caused by improper testing operation maintenance installation disassembly or adjustment
- (6) Defect or damage caused by unauthorized repair or disassembly.
- (7) Defect or damage caused by force majeure
- (8) Wear and tear under normal use.

When you are in need of repair, please send the radio, warranty card and purchase invoice together by post or take directly to designated authorized service stations, shipping costs should be borne by the user.

Thank you for buying two way radio Again. We will do our best to provide you with a stable, clear and efficient wireless communication services. In order for you to enjoy a better quality warranty service.