

AnyTone



ISO 9001
ISO 14001



AT-288

TWO WAY RADIO

INSTRUCTION MANUAL

THANK YOU!

Thank you very much for choosing of Anytone transceiver. Anytone transceiver will provide you with reliable, clear and efficient communication service.

The transceiver introduces innovative DSP baseband processing system to achieve high-fidelity voice processing and encryption. It is including best stability and great reliability as well as exterior smooth lines, novel, fashionable, nice timbre and long distance communication design, AT-288 is a cost-effective, multi-function handheld transceiver which meets every walk of life needs. It is convinced that you will be satisfied with this transceiver's quality and functions . For your full comprehension of various excellent functions and using maintenance, please read the user manual before using.

MODELS APPLY TO THIS MANUAL

AT-288:VHF/UHF FM Transceiver

Programming Software:QPS288

PROGRAM CAUTIONS

When programming the transceiver, read the factory initial data first, then rewrite the frequency and signaling etc., otherwise errors may occur because of different frequency band etc.

CAUTIONS

Anytone transceiver is excellent designed with advanced technology. The following tips will be helpful for you in performing your obligation under warranty and understanding the safety of transceiver usage.

- 1.Keep the transceiver and accessories away from children.
- 2.Please do not try to open or modify the transceiver without permission, non-professionals operation may also cause damage.
- 3.Please use assorted battery and charger to avoid damage.
- 4.Please use assorted antenna to ensure the communication distance.
- 5.Please avoid exposing the radio under the sunshine for a long time or storing it in too hot places. High temperature will shorten the life of electronic devices.
- 6.Please avoid storing the radio in the dusty, dirty and damp areas.
- 7.Please keep the radio dry. Do not wash radio with ardent chemicals and detergents.
- 8.Do not transmit without antenna.
- 9.When using this transceiver, we recommend transmitting for 1 minute then receiving for 4 minutes. continuously transmitting for long time or working in high power will heat the back of the transceiver. Do not place the transceiver's hot back close to any plastics.
- 10.If any abnormal smell or smoke coming from the transceiver, please turn off the power instantly and take off the battery and its case. Then contact local Anytone dealers.

NOTE:

All the above tips apply for your Anytone transceivers' accessories. If any device can not operate normally, please contact with local Anytone dealers.

If you use any accessories made by other companies, Anytone company does not guarantee the operability and safety of the transceiver.

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• UNPACKING

Please carefully unpack the transceiver. We recommend that you identify the items listed in the following table before discarding the packing material.

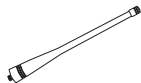
If any items are missing or have been damaged during shipment, please contact with dealers immediately.

《《Supplied Accessories Chart

Item	Number	Quantity
Antenna	QA01V (136–174MHz)	1
	QA01U(400–470MHz)etc	
Li-ion Battery (7.4V/1500 m A)	QB-26L	1
Battery Charger	QBC-26L	1
AC Adaptor	QPS-01	1
Belt Clip	BC01	1
Instruction Manual		1

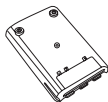
• STANDARD ACCESSORIES/ADDITIONAL ACCESSORIES

Standard Accessories



Antenna*1

QA01V(136-174MHz)or
QA01U(400-470MHz)etc.



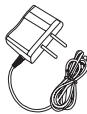
Battery

QB-26L



Charger

QBC-26L



AC Adaptor

(12V/500MA)
QPS-01



Belt Clip

(including screws)
BC01



Instruction

Manual

***1.Note:** For frequency band of antenna, please refer to label indicated in the bottom of the antenna.

***2.Note:** Car Charger should be workable with QBC-26L charger.

Additional Accessories



USB Programming
Cable PC03



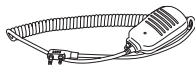
Programming
Software
QPS288



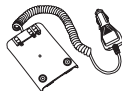
Earphone
HS03



Hand Strap
GS01



Handheld
Microphone
QHM22



Battery Pack
for Car Charger
CPS01



Car
Charger*2
CPL01

OPERATION MODE (AMATEUR TRANSCEIVER OR PROFESSIONAL TRANSCEIVER)




According to practical application, you can set the radio operates as Amateur Transceiver or Professional Transceiver. There are also 3 levels operation menu to set functions as per you need. It is easy and convenient.

1. Operation Mode:

A. **By programming software:** In PC software's "General Setting" menu, choose "Display Mode" to select Amateur Transceiver mode or Professional Transceiver mode.

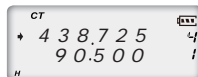
B. **By manual setup:** Please refer to "Display Mode" in Page 43.

2. **Amateur Transceiver Mode:** Except setting as CH mode, others considered as Amateur transceiver mode. Under this mode, press  key to switch between Channel mode and VFO.

A. **Frequency + Channel mode:** At this mode, When set display as "FREQ", it enters into Frequency+Channel mode, new setting of channel operation and shortcut operation can be temporarily used by user. Once the radio is turned off or switched to another channel, the temporary setting will be erased and back to initial settings. (As pic 1)

B. **Channel+Name Tag Mode:** When set display as "NAME", it enters into Channel +Name Tag Mode. At this mode, it will display corresponding channel name when the current channel is edited with name. Otherwise, it will display frequency + channel. Its operations are the same as frequency + channel mode. (As pic 2)

C. **VFO Mode (Frequency mode):** This mode shows only frequency on the



(Pic 1)



(Pic 2)



(Pic 3)



(Pic 4)



(Pic 5)

• WORKING MODE (AMATEUR TRANSCEIVER OR PROFESSIONAL TRANSCEIVER)

















































display. Shortcut operation and Channel setting will be changed & stored as the latest value permanently. Once the radio is turned off or changed to new VFO frequency, the value is remained until next change.(As pic 3)

3. Professional Transceiver Mode: When set display mode as "CH", it enters into Professional Transceiver mode. At this mode, except scan, talk around/frequency reverse, DTMF encode or editing, BEEP on/off and keypad lock, other functions should be set by PC software (As pic 4). If there is corresponding name for current channel, the LCD will display current channel and his name. (As pic 5)

























































Note: If transceiver programmed transceiver as professional mode and locked, you can't return to amateur transceiver mode by manual operation from Background operations setting.

4. Under every mode, background operations can be changed and saved.

• FIRST LEVEL MENU:SHORTCUT OPERATIONS

Function	Setup Entry	Display	Parameter Instruction	Page
FM Radio On/Off	 → 		FM Radio	28
Beep Setup	 → 		Beep ON/OFF	29
CTCSS/DCS Scan	 → 		CTCSS Scan	29
CTCSS/DCS Scan	 → 		DCS Scan	29
Offset Frequency Direction Setup	 → 		(+):Transmitting frequency higher than receiving frequency	29
Offset Frequency Direction Setup	 → 		(-):Transmitting frequency lower than receiving frequency	29
Scan	 → 		Channel or Frequency Scan	30
Channel Scan Skip	 → 		S: Scan without current channel	31
Priority Scan	 → 		PRI: Check priority channel one time when scan each 10 channels	32
TX Power Selection	 → 		H: High Power 4 W	32
TX Power Selection	 → 		None: Middle Power	32
TX Power Selection	 → 		L: Low Power 1 W	32
Frequency Reverse / Talk Around	 → 		R: Frequency Reverse	35
Frequency Reverse / Talk Around	 → 		T: Talk Around	35
DTMF Code Enquiry	 → 		Displaying “-” when no data Displaying data when being with data	32
Keypad Lock	 → 		All keys locked, except PTT/PF1/ PF2	36




























• SECOND LEVEL MENU: CHANNEL OPERATIONS

Function	Setup Entry	Function Option	Display
Sub tone (CTCSS / DCS) Decode Setup	 → 		
Sub tone (CTCSS / DCS) Encode Setup	 → 		
Sub tone (CTCSS / DCS) Encode/Decode Synchronous Setup	 → 		
Offset Frequency	 → 		
Wide/ Narrow Band Selection	 → 		
Frequency Reverse/Talk Around	 → 		
Scramble Setup(Encryption)	 → 		
Voice Compander Function	 → 		
Busy Channel Lockout	 → 		
Add Optional Signaling	 → 		
Signaling Relations	 → 		
PTT ID Setup	 → 		
TX Off Function	 → 		
Whisper	 → 		

• SECOND LEVEL MENU: CHANNEL OPERATIONS

















































Parameter Adjustment	Parameter Instruction	Confirm to back	Page
Press Key to move cursor to the value of menu, Press Key to choose CTCSS/DCS/OFF, Press / Key to choose the value you want, Press Key to choose correct DCS inverted and positive code.	CTCSS(50 Groups in total): 67Hz–254.1Hz DCS(232Groups in total): 017N–765I	/	37
Press Key to move cursor to the value of menu, Press Key to choose CTCSS/DCS/OFF, Press / Key to choose the value you want, Press Key to choose correct DCS inverted and positive code.	CTCSS(50 Groups in total): 67Hz–254.1Hz DCS(232Groups in total): 017N–765I	/	38
Press Key to move cursor to the value of menu, Press Key to choose CTCSS/DCS/OFF, Press / Key to choose the value you want, Press Key to choose correct DCS inverted and positive code.	CTCSS(50 Groups in total): 67Hz–254.1Hz DCS(232Groups in total): 017N–765I	/	39
Press Key to move cursor to the value of menu, Press / Key to choose the value you want.	0–70Mhz optional	/	39
Press Key to move cursor to the value of menu, Press / Key to choose the value you want.	Wide band: 25K Middle band: 20K Narrow band: 12.5K	/	40
Press Key to move cursor to the value of menu, Press / Key to choose the value you want.	REV: Frequency Reverse TA: Talk Around	/	40
Press Key to move cursor to the value of menu, Press / Key to choose the value you want.	OFF: Disable scramble ON: Enable scramble	/	41

• SECOND LEVEL MENU: CHANNEL OPERATIONS







Press  Key to move cursor to the value of menu, Press  /  Key to choose the value you want.	ON: Enable compander OFF: Disable compander	 / 	42
Press  Key to move cursor to the value of menu, Press  /  Key to choose the value you want.	OFF: Off BCL: Prohibit transmitting when receiving the matched carrier wave BTL: Prohibit transmitting when receiving matched carrier wave but with unmatched signaling.	 / 	42
Press  Key to move cursor to the value of menu, Press  /  Key to choose the value you want.	CTCSS(50 Groups in total):67Hz–254.1Hz DCS(232Groups in total):017N–765I		43
Press  Key to move cursor to the value of menu, Press  /  Key to choose the value you want.	AND: The other party calling can be heard as long as the matched CTCSS / DCS signal and optional signal should be meanwhile received. OR: The other party calling can be heard as long as the matched CTCSS / DCS signal or optional signal is received.		44
Press  Key to move cursor to the value of menu, Press  /  Key to choose the value you want.	OFF: Off BOT: Press PTT key to transmit DTMF code EOT: Release PTT key to transmit DTMF code BOTH: Press and Release PTT key can both transmit DTMF code		45
Press  Key to move cursor to the value of menu, Press  /  Key to choose the value you want.	ON: Enable TX Off function OFF: Disable TX Off function	 / 	45
Press  Key to move cursor to the value of menu, Press  /  Key to choose the value you want.	ON: Enable whisper function, as long as you speak with lower voice, the other party can hear what you say with higher voice. OFF: Disable whisper function		46














































• THIRD LEVEL MENU:BACKGROUND OPERATIONS

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Function	Menu Entry	Function Option	Display
Voice Prompting Selection	Press PF2 and hold this key for 3 seconds	 / 	
Time-Out Timer (TOT)	Press PF2 and hold this key for 3 seconds	 / 	
Voice Operated Transmission (VOX) Setup	Press PF2 and hold this key for 3 seconds	 / 	
Voice Operated Transmission (VOX) Delay	Press PF2 and hold this key for 3 seconds	 / 	
Voice Operated Transmission (VOX) Beep	Press PF2 and hold this key for 3 seconds	 / 	
Frequency Step Setup	Press PF2 and hold this key for 3 seconds	 / 	
Squelch level Setup	Press PF2 and hold this key for 3 seconds	 / 	
Battery Save Setup	Press PF2 and hold this key for 3 seconds	 / 	
LCD Backlight Setup	Press PF2 and hold this key for 3 seconds	 / 	
LCD Backlight Color	Press PF2 and hold this key for 3 seconds	 / 	
Scan Dwell Time Setup	Press PF2 and hold this key for 3 seconds	 / 	
Display Mode Setup	Press PF2 and hold this key for 3 seconds	 / 	
Tone Pulse Frequency Setup	Press PF2 and hold this key for 3 seconds	 / 	
DTMF Transmitting Time Setup	Press PF2 and hold this key for 3 seconds	 / 	
Beep Volume Control	Press PF2 and hold this key for 3 seconds	 / 	
Priority Channel Setup	Press PF2 and hold this key for 3 seconds	 / 	

• THIRD LEVEL MENU:BACKGROUND OPERATIONS

Current Battery Voltage Enquiry	Press PF2 and hold this key for 3 seconds	 / 	
Resume Factory Default	Press PF2 and hold this key for 3 seconds	 / 	

Parameter Adjustment	Parameter Instruction	Confirm to back	Page
Press  Key to move cursor to the value of menu, Press  /  key to choose the value you want	CHN: Chinese annunciation ENG: English annunciation OFF: OFF	 / 	47
Press  Key to move cursor to the value of menu, Press  /  key to choose the value you want	15S-240S to be optional OFF: TOT Off	 / 	48
Press  Key to move cursor to the value of menu, Press  /  key to choose the value you want	1-3 Level, 3 levels of VOX in total OFF: VOX OFF	 / 	49
Press  Key to move cursor to the value of menu, Press  /  key to choose the value you want	0.5S-5S, 10 levels of delay time to choose	 / 	49
Press  Key to move cursor to the value of menu, Press  /  key to choose the value you want	ON: Enable VOX Frequency OFF: Disable VOX Frequency	 / 	50
Press  Key to move cursor to the value of menu, Press  /  key to choose the value you want	Channel Step: 5K/ 6.25K/ 10K/ 12.5K/ 15K/ 20K/ 25K/ 30K/ 50K	 / 	50
Press  Key to move cursor to the value of menu, Press  /  key to choose the value you want	0-9: 9 levels of squelch in total	 / 	51
Press  Key to move cursor to the value of menu, Press  /  key to choose the value you want	1:1: working state and saving battery mode are in the ratio 1:1, by inference; OFF: Disable save battery function	 / 	52
Press  Key to move cursor to the value of menu, Press  /  key to choose the value you want	OFF: Permanent OFF ON: Permanent ON AUTO: Backlight remains for a while then quenches	 / 	53

• THIRD LEVEL MENU:BACKGROUND OPERATIONS


Press Key to move cursor to the value of menu, Press / key to choose the value you want	BLUE: Blue backlight ORG: Orange backlight PUR: Purple backlight	/	53
Press Key to move cursor to the value of menu, Press / key to choose the value you want	It can be optional that start scanning after dwelling 5S/10S/15S	/	54
Press Key to move cursor to the value of menu, Press / key to choose the value you want	FR: For Amateur Mobile Transceiver CH: For Professional Mobile Transceiver NM: For Amateur Mobile Transceiver	/	55
Press Key to move cursor to the value of menu, Press / key to choose the value you want	1750Hz Pilot Frequency 2100Hz Pilot Frequency 1000Hz Pilot Frequency 1450Hz Pilot Frequency	/	56
Press Key to move cursor to the value of menu, Press / key to choose the value you want	It can be setup as: 50MS, 100MS, 150MS, 200MS, 250MS, 300MS, 350MS, 400MS, 450MS, 500MS	/	56
Press Key to move cursor to the value of menu, Press / key to choose the value you want	1-5, 5 levels of volume can be setup	/	57
Press Key to move cursor to the value of menu, Press / key to choose the value you want	OFF: Disable Priority Channel 1-128, 128 channels can be optional	/	57
Press Key to move cursor to the value of menu, Press / key to choose the value you want	Display current battery voltage	/	58
Press Key to move cursor to the value of menu, Press / key to choose the value you want	FACT? : Resume Factory Default INIT? : Resume General Setting OFF: No Operation	/	58

• BATTERY INFORMATION

(((• Charging Operation

The battery is not charged at the factory, please charge it before use. Charge the battery for the first time after purchase or extended storage (more than 2 months) may not bring the battery to its normal operating capacity. After repeating fully charge/ discharge cycle for two or three times, the operating capacity will reach the best performance. The battery life is over when its operating time decreases even though it is fully and correctly charged. Replace the battery.

(((• Battery Charger Type

Please use our company's designated charger, other models may cause explosion and injure people. After installing the battery, if the radio displays  low battery, please charge the battery.

(((• Notice for Charging Battery

- ▲ Do not shortcircuit our company designated charger. Never attempt to remove the casing from the battery, we show no responsibility on the faulty caused by modifying freely without permission of our factory.
- ▲ The ambient temperature should be between 5°C and 40°C in charging. Charging outside this range may not fully charge the battery.
- ▲ Always switch off the transceiver equipped with a battery before charging. Otherwise, it will interfere with correct charging.
- ▲ To avoid interfering the charging procedure, please do not cut off the power or take out the battery during charging.

• BATTERY INFORMATION

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We only do best radio!

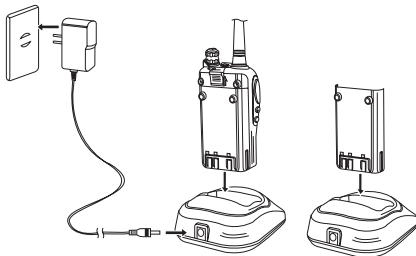
- ▲ Do not recharge the battery if it is already fully charged. This may shorten the life of the battery or damage the battery.
- ▲ Do not charge the battery or transceiver if it is damp. Dry it before charging to avoid danger.

WARNING:

When keys or ornamental chains and other electric metals contact with the battery terminals, the battery may cause damage or hurt bodies. If the battery terminal short circuit, it will generate a lot of heat, please be careful when you bring or use the battery, please put battery or radio into insulated container. Do not put it into metal container.

《How to Charge

1. Plug the AC adaptor into the AC outlet, then plug the cable of AC adaptor into the DC jack, the indicator lights orange for 1s and goes out---waits to charge.
2. Slide the battery or transceiver with battery into the charger; make sure the battery terminals are in contact with the charging terminals well. LED turns into twinkling RED ---pre-charging begins.
3. Pre-charging for about 5 minutes, LED twinkles stop then charging begins.
4. It takes about 4 hours to fully charge the battery, when LED turns into GREEN— full charged







• BATTERY INFORMATION

NOTE: When charging a power-on transceiver equipped with battery, the LED will not turn into green to show the full charge status. Only when turn off the transceiver, the LED can indicate normally.

Because when the transceiver is power on, it would consumes energy, the charger cannot detect when battery has been fully charged, the charger will charge battery in voltage consumption and fail to indicate correctly that the battery has been charged fully.

5. Charging Process:

Status	LED
Standby (self-examine orange lights 1 second when power on) -----	 None
Pre-charging (pre-charging stage) -----	 Red light twinkles for about 5 minutes
Charging (charge in constant currency) -----	 RED light lightens for about 4 hours
Full charged (charge in constant voltage) -----	 Green light

6. LED Indicator:

STATUS	self-examine when power on	(No battery)	Pre-charging	Charge normally	Full Charged	Trouble
LED	Orange (for 1 second)	None	Red light twinkles for 5 minutes	Red	Green	Red twinkles for a long time

NOTE: Trouble means battery heating, battery short-circuit or charger short-circuit.

(((Charging Prompt

1. Self-examination: When charging, ORANGE light twinkles for 1 second and goes out. That means the charger has passed its self-examination and it can charge the battery normally. If the light remains orange or the red light twinkles, which means the charger can not pass its self-examination or charge the battery.
2. Trickle pre-charging: when the battery has been inserted into the charger and red light twinkles, which means the remnant voltage is low, the charger trickle charge the battery (pre-charging status), until the battery reaches a certain electric quantity, the charger automatically turns into normal charging. And if the red light stop twinkling, which means the remnant voltage meets a certain electric quantity, the charger will charge the battery normally.

Note: The time for Trickle pre-charging is not exceed 30m. After 30m, the red indicator is still twinkling, it means it is unable to charge battery. Please kindly check battery and charger.

(((How to Store the Battery

1. If the battery needs to be stored, the battery should be kept in the status of 50% discharge.
2. It should be kept in low temperature, dry environment.
3. To keep away from hot places and direct sunlight.

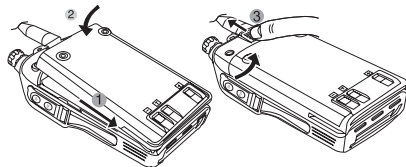
WARNING

- ▲ Do not short circuit battery terminals.
- ▲ Never attempt to remove the casing from the battery pack.
- ▲ Never assemble the battery in dangerous surroundings, spark may cause explosion.
- ▲ Do not put the battery in hot environment or throw it into fire, it may also cause explosion.

• INSTALLATION & CONNECTION

(((Installing / Removing the Li-ion Battery

1. Match the three grooves of the battery pack with the corresponding guides on the back of the transceiver, then push it.
2. Press the battery and transceiver firmly together until the release latch on the top of the transceiver locks. After hearing a “click” sounds, the battery has been locked.
3. To remove the battery, slide up the release latch and remove the pack away from the transceiver.



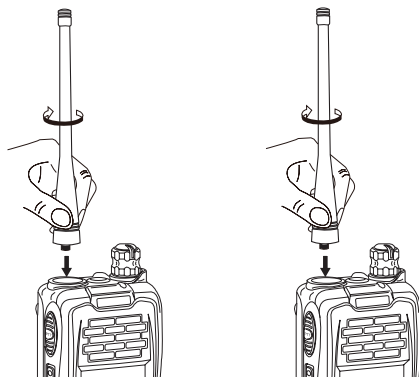
(((Installing / Removing the Antenna

Installing the Antenna:

Screw the antenna into the connector on the top of the transceiver by holding the antenna base and turning it clockwise until secure.

Removing the Antenna:

Turn the antenna anticlockwise to remove it.



• INSTALLATION & CONNECTION

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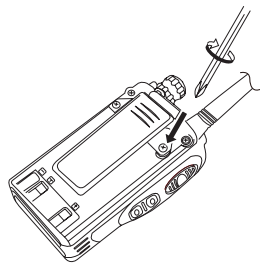
《《Installing / Removing the Belt Clip

Installing the Belt Clip:

Place the belt clip to the corresponding grooves on the back of the transceiver, and then Clockwise screw it.

Removing the Belt Clip:

Anticlockwise turn screws to remove the belt clip



《《Installing Optional Speaker / Microphone

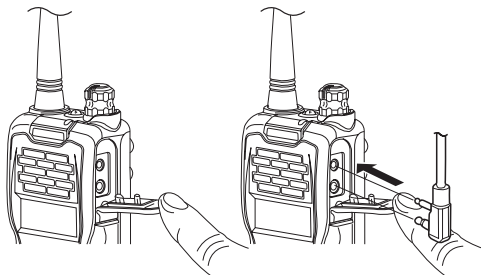
Uncover the jack cover and then insert the microphone plug into microphone jack.

If the microphone is not used anymore, please cover the Speaker/ Microphone jack.

NOTE:

1.To keep the transceiver water resistant, you must cover the Speaker/Microphone jacks with the supplied cover.

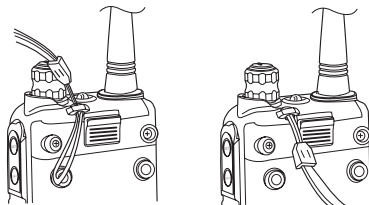
2.The transceiver is not completely water resistant while using the Speaker/Microphone.



• INSTALLATION & CONNECTION

(((• Installing the Hand Strap (Optional)

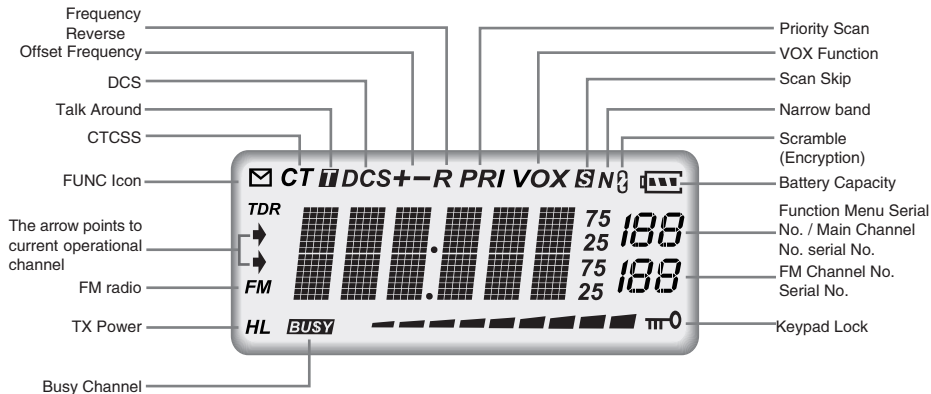
Slide the loop of the hand strap through the eyelet on the upper rear of the transceiver, pull the entire hand strap through the loop to secure the hand strap in place.



• GETTING ACQUAINTED

《LCD Display

On LCD display screen, you will see various icons which stand for the selected functions and sometimes you may forget the meaning of them. Here you will find the following table extremely useful.



NOTE:

☐ Battery capacity indicator(full)

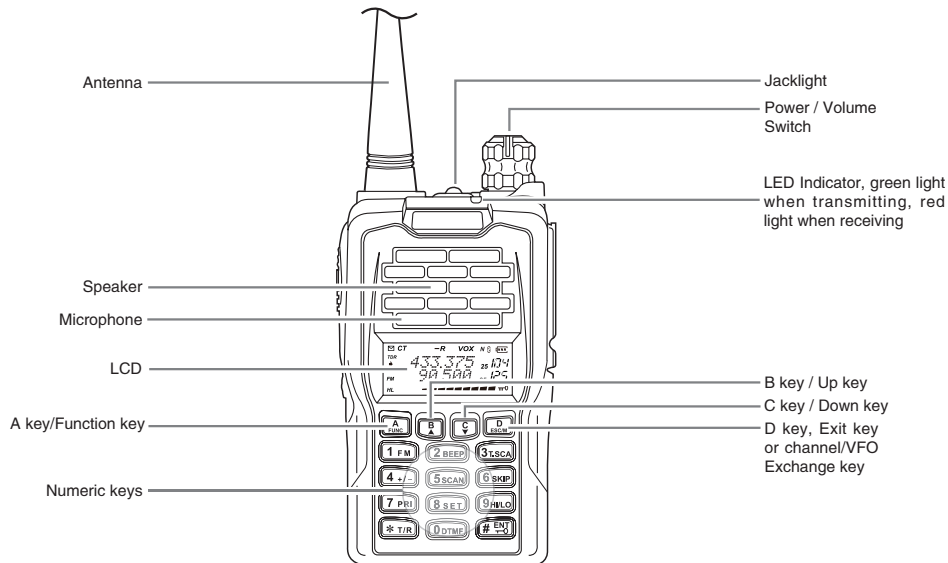
☐ Battery capacity remnant

☐ No power,replace battery pack or charge battery

Real time display receiving signal strength/Power Indicator

• GETTING ACQUAINTED

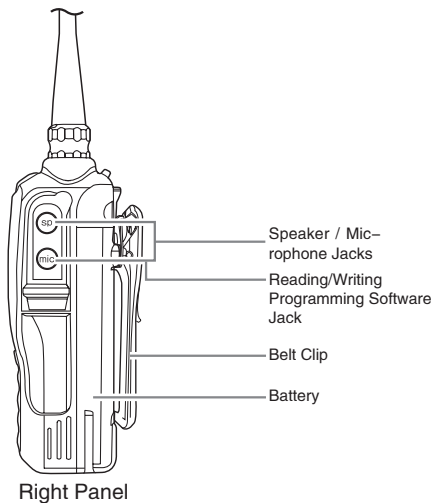
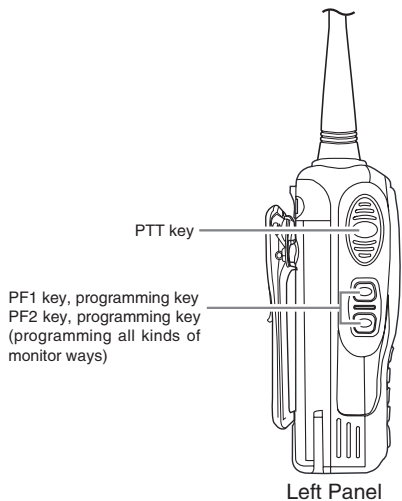
Front Panel



• GETTING ACQUAINTED

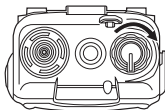
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Side Panel

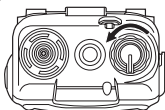


• BASIC OPERATIONS

☞ Turn the Radio On & OFF

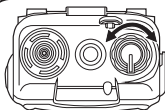


Under power-off state, please turn [POWER]/ [VOLUME] clockwise to turn on the transceiver.



Under power-on state, please turn [POWER]/ [VOLUME] anticlockwise to turn off the transceiver.

☞ Adjusting Volume



Under power-on state, turn [POWER] / [VOLUME] to adjust volume. Clockwise-up, anticlockwise -down.

When adjusting the volume, press and hold side key PF2 to monitor current volume. (Refer to the function setup of side PF2 key)



NOTE:

Press the [PF2] side key programmed as Squelch Off Momentary to monitor the background noise. Turn [POWER]/ [VOLUME] to control the volume. The volume you need can be adjusted more correctly when communicating with the other party.

• BASIC OPERATIONS



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(((Change between Main Channel and FM Radio

Press  key and then press  to switch between Main Channel and FM radio. When switching to FM radio, the transceiver will automatically start FM and Main Channel double scouting function. Arrow directs the current operational channel.

NOTE: FM radio only support these functions: channel editing, channel deletion, keypad lock and beeping on/off. And other functions are for main channel.

(((FM Channel Searching

After the transceiver turns on the FM radio function, please press  key or  key to start FM searching. When one station is sought, LCD displays current station frequency. You can listen to the current station.

(((Frequency Input by Keypad

Under Main Channel frequency mode or FM radio frequency mode, this function is valid. Now you can directly enter frequency through numeric keys.

1. When your transceiver is under Frequency + Channel mode, please press  to switch to VFO.

NOTE:

When the transceiver is under Frequency+Channel mode, it shows current channel number on the right of main frequency.

2. Enter the desired frequency by numeric keys.



• BASIC OPERATIONS





NOTE:

The frequency input of main channel or FM radio is relevant to the stepping and transceiver frequency scope. If frequency setup is beyond scope or not matching with step size, the input is unavailable. Under the FM radio mode, the frequency step size input by numeric keys is 50K.





(((Channel Input by Keypad

Under Frequency + Channel or Channel+Name Tag mode, you can switch to the channel you want by entering three numbers (001–128). If the entered channel is not in the edited range of transceiver, the transceiver will make a beep to prompt you that input is wrong and then return to current channel. For example, entering 001 is as the first channel, then entering 030 as the 30th channel and entering 125 as the 125th channel.

(((Adjusting Channel / Frequency By "B" Key & "C" Key

Under Frequency mode (VFO) , you can adjust current frequency as you desired by  key/  key. Press  to increase the frequency. Press  key to decrease the frequency. Every press can add or reduce one stepping value.

NOTE: Channel step:5K, 6.25K, 10K, 12.5K, 15K, 20K, 25K, 30K and 50KHz in total 9 for option. Please refer to stepping frequency setup.

Under Channel mode, press  key/  key to choose the desired channel. Press  key once to enter the downward channel while press  key to enter the upward channel.

ⓘ Alarm

While side key [PF1] is setup with alarm function. Press this key, alarm beeps and then transmit. Press again this key or restart the power supply to exit.

NOTE: This function should be available after setup by programming software.

ⓘ Squelch Off Momentary/Squelch Off

While side key [PF2] is setup for Squelch Off Momentary / Squelch Off function. You can monitor the weaker signal that is hard to hear by pressing this key.

1. Squelch Off Momentary: Pressing and holding [PF2] key, squelch circuit is not mute, release this key to make squelch circuit turn to mute.
2. Squelch Off: Press [PF2] key once, squelch circuit is not mute, but you can hear the back-ground noise. Press the key again to make squelch circuit turn to mute.

NOTE: The above functions should be available after setup by programming software.

ⓘ Receiving

You can hear the transmission party's calling when the channel you are operation is called and the LCD light turn green.

NOTE: When your transceiver is setup of higher squelch level, you may not receive this calling.

If current channel is programming of decode signaling, only the same signaling call can be heard but not other calls. (Please refer to the signaling relations)

• BASIC OPERATIONS

Transmitting

Before transmitting, it is recommended to monitor the channel you are using to ensure it is not busy by pressing and holding [PF2] side key. And then keep press PTT button and start talking at about 2 inches from the speaker hole. Speak in normal tone to get the best acoustic fidelity.

Side Key [PF1] Function Instruction

Side Key [PF1] can be programmed to achieve the following functions:

1. Calling: Under standby conditions, press this key to transmit pre-stored and selected DTMF signal.
2. Alarm: Under standby state, press this key to start alarm function. After starting the function, the transceiver will voice alarm beep. Then start transmitting and send the alarm beep to companions or system. Repeat the above operation to turn off Alarm function. After the alarm sound for 1 minute, it will exit automatically and return to standby state.
3. Alarm Off: Under the alarm mode, press this key to exit the alarm function.
4. Jacklight Switch: Under standby state, press this key to switch on or off jacklight.
5. Under the transmitting conditions, press and hold this key to send selected tone-pulse signal frequency (eg. 1750Mhz)
6. Default: Press this key once to turn on/ off jacklight. Press and hold this key to turn on/off alarm.

Side Key [PF2] Function Instruction

1. Squelch Off Momentary: Under standby state, press and hold this key to monitor. Release to Exit.

• BASIC OPERATIONS


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2. Squelch Off: Under standby state, press this key once to monitor, while press it again to exit.

3. Press this key to turn on transceiver and hold it for 3 seconds to come into general setting setup.

Default: Squelch Off Momentary







(((Switch between VFO and Frequency+Channel Mode

Press  key to exchange between frequency mode (VFO) and Frequency + Channel mode or Channel+Name Tag mode.

NOTE: When the channel is empty, this operation is unavailable.




• SHORTCUT OPERATIONS

(((Editing Channels

1. Under VFO mode, enter the frequency you want and then do relevant setup.
After pressing  key, the top left corner of LCD display , then press and hold  key for 2 seconds, transceiver voices beeping of "DU" and LCD displays channel No. icon. Namely, the memory channel mode is being.
2. Press  key /  key to choose the memory channel No. you want.
3. After pressing and holding  key for 2 seconds, transceiver voices beeping of "DU" , which means that the channel has been stored.






(((Deleting Channels

Under Channel mode, after pressing  key, the top left corner of LCD displays  and then press and hold  key for 2 seconds, transceiver voices beeping of "DU" and skips to other channels. Namely, the channel deletion is done.



(((Turn On/ Off FM Radio




Under standby conditions, pressing  key, the top left corner of LCD displays  key, and then press  key, LCD displays 'FM'. Namely, the FM radio function is started. At this case, the FM radio function is operating. Repeat the above operations to turn off FM radio.



• SHORTCUT OPERATIONS









(((Enable /Disable Beeping

Beep function is a prompting function for confirming transceiver correct entry ,wrong operation or under fault state.

Under standby conditions, pressing  key , the top left corner of LCD displays  and then press  key to exit beeping. Repeat the above operations to start beeping. It is suggested that transceiver switches on this function so as to examine the wrong operations or faults.

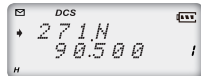


(((CTCSS / DCS Scan

After pressing  key, the top left corner of LCD display  and then press  to enter the state of CTCSS / DCS scan. Under this state, press  key or  key to change the scan direction. When scan the matched signal with transceiver, it will be rested on for 15 seconds and then go on scanning. Press any key to exit except  ,  ,  keys.

NOTE: This function will be invalid when works in professional transceiver mode and no sub tone is received in current channel. In current channel, if signaling sets as CTCSS,it will scan CTCSS, if signaling sets as DCS, it will scan DCS.

Press  key or  key to change CTCSS/DCS scanning direction.



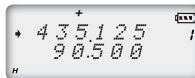
(((Offset Frequency Direction Setup

After pressing  key, the top left corner of LCD displays  and then press




• SHORTCUT OPERATIONS

 key to choose offset frequency direction. Offset frequency directions means:

- 1.(+)Positive offset:Indicates plus offset transmitting frequency is higher than receiving frequency.When enable reverse function,the receiving frequency is higher than transmitting frequency.
- 2.(-)Minus offset:Indicates minus offset Transmitting frequency is lower than receiving frequency.When enable reverse function,the receiving frequency is lower than transmitting frequency.






None: Indicates shut offset off.


Under frequency mode (VFO), frequency + channel mode or channel+name tag mode, after pressing  key, the top left corner of LCD displays  and then press  key to choose positive offset direction (+), minus offset direction (-) one by one or exit offset (Please refer to offset frequency setup).

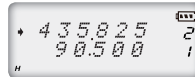
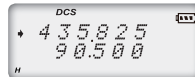
NOTE: This function is unavailable in professional transceiver mode.

Frequency/Channel Scan

Under corresponding mode, after pressing  key, the top left corner of LCD displays  and then press  key to begin frequency scan or channel scan.

1.Frequency Scan


Under VFO mode, frequency scan is available. This function is used for monitoring signal of various communication frequency points by transceiver 'stepping' setup. Press numeric key or  key to exit.





• SHORTCUT OPERATIONS

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2.Channel Scan

Under channel mode, this function is used for monitoring signal of various channels in this mode. Press numeric key or  key to exit.

NOTE:

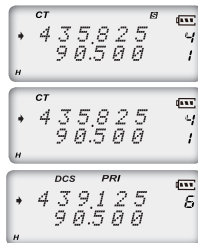
- Frequency scan is of all bands scan. When scanning, it scan up as your STEPPING setting.
- When channel scanning, the skipped channel is not in the line of scan. Scan up as per channel no.. (Please refer to channel scan skip.)
- Frequency / Channel scan can change scan direction by pressing  key or  key. When finding a matching carrier wave and signaling, the transceiver will be stop for 15 seconds and then going on scan. (Please refer to scan setup).

(((Channel Scan Skip

Under Channel+Name Tag mode or Frequency+Channel mode, after pressing  key, the top left corner of LCD displays  and then press  key to set the current channel as channel scan skip. Repeat the above operations to cancel channel scan skip.




- 1.'S' means that current channel will not be scanned.
- 2.No displaying 'S' means that current channel will be scanned.

NOTE: Under professional transceiver mode or VFO mode, this operation is unavailable.






• SHORTCUT OPERATIONS

Priority Scan

Under channel mode, after pressing  key, the top left corner of LCD displays  and then press  key to enter priority scan. Under priority scan state, it tests priority channel once scanning per 10 channels. When the priority channel receives a matching signaling, transceiver will stop scanning until current signal disappear (Please refer to scan setup.).

NOTE: If you want to have this function available, you should set priority channel, otherwise, this operation will be only as general channel scan. Under frequency mode (VFO) , this function is unavailable. (Please refer to priority channel setup.)

TX Power Selection

After pressing  key, the top left corner of LCD displays  and then  key to choose High power / Middle power / Low power.



When the bottom left corner of screen displays 'H' , it means that you choose TX high power.

When the bottom left corner of screen does not displays 'H' character or 'L' character, it means that you choose TX middle power.

When the bottom left corner of screen displays 'L' character, it means that you choose TX low power.









DTMF Code Enquiry and Setup

After pressing  key , the top left corner of LCD displays  and then press



• SHORTCUT OPERATIONS

 key to show the DTMF data of current groups (16 groups in total).

1. Press  key or  key to choose the desired group and DTMF data. If this group don't edit DTMF data, it will display current group number and “_” .
2. When current group display “_” , pressing  key, the top left corner of LCD displays  After pressing and holding  key for 2 seconds, transceiver voices beeping of “DU” and then comes into DTMF edit state. Now you can enter the DTMF editing data you need by keypad.
3. After finishing setup, press side key [PF2] to make a sound of DTMF dialing, to save and exit.

⌂ Manually Transmitting DTMF Signaling

Method 1: Press and hold [PTT] key, then enter the desired number by key.

Method 2: Press and hold [PTT] key to enter the first numbers, then release [PTT] key, transceiver will remain transmitting state within 2 seconds. You can keep entering the desired number by keypad and don't need to always press and hold [PTT] key to dial. When transmitting DTMF audio, you can monitor the transmitting audio by speaker.

⌂ Using DTMF code for Selective Call, Group Call and All Call

This radio allots ID for each channel, it can programme 16 groups DTMF code by programming software or manual.

1. ANI: When receive a matching ANI calling, the LCD will display the caller's ID, then recognize who is the caller.

• SHORTCUT OPERATIONS

2. PTT ID: Set available channel as PTT ID, press or release PTT key to send ID code.
3. By programming software, you can set group call wildcard for each group (DTMF character: A. B. C. D.. * " or "#"). The caller can call different group by sending different group call code. After receiving a matching ID from caller, then carry out selective call, group call and all call function. Meanwhile, one or all of character of receiver's ID will be replaced by wildcard character. Also, Press PTT to input ID code by numeric keys in keypad to carry out selective call, group call and all call function. It is more convenient and flexible.

For example: Group code as "C"

(Radio A) (Radio B) (Radio C) (Radio D)

Receiver self ID 123 223 235 355

Caller press and hold PTT to input 123 223 235 or 355, A or B or C or D will receive selective calling.

Caller press and hold PTT to input C23, A and B will receive group calling.

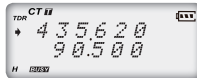
Caller press and hold PTT to input CC5, C and D will receive group calling.

Caller press and hold PTT to input CCC, all radios receive all calling.

(((Remotely Kill / Waken

Sending special code (the remotely kill code of the other party), it will make the other party transceiver of all keys and performance temporarily completely unavailable. Namely, the other party transceiver has been remotely kill. When it is remotely kill, "KILL" is showed on LCD.

Send the other party of remotely kill code + "#" to waken. For example, if



• SHORTCUT OPERATIONS

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“2267” is remotely kill code, sending “2267#” can waken transceiver. When wakening, “WAKEN” is showed on LCD.

NOTE: Remotely kill code should be edited in the programming software.16 digits are the maximum.



(((Remotely Stun / Waken

Sending special code (the remotely stun code of the other party), it will make the other party transceiver of all keys and performance temporarily completely unavailable except for receiving. Namely, the other party transceiver has been remotely stun. When it is remotely stun, “STUN” is showed on LCD.




Send the other party of remotely stun code + “#” to waken. For example, if “2268” is remotely stun code, sending “2268#” can waken transceiver. When wakening, “WAKEN” is showed on LCD.

NOTE: Remotely stun code should be edited in the programming software.16 digits are the maximum.

ATTENTION: When remotely kill or remotely stun is wakened, transceiver returns to normal operation.



(((Frequency Reverse / Talk Around ON/OFF

After press  key, the top left corner of LCD displays  and then press  key for 1 second to start frequency reverse or talk around. Repeat the above operations to exit.

NOTE: If frequency reverse displayed in current channel,this operation will be enable and disable

• SHORTCUT OPERATIONS

Frequency Reverse. Or else, it is as enable and disable Talk Around.




When it displays “R” icon on screen, it means that current channel open the frequency reversion function. Now the transmitting frequency and receiving frequency are interchanged, namely, receiving frequency switches to transmitting frequency while transmitting frequency switches to receiving frequency. If CTCSS / DCS signaling is set, it will also interchange.



When it display “T” icon on screen, it means that current channel start talk around function. Under these conditions, transceiver will transmit as receiving frequency. If CTCSS / DCS signaling is set, it will interchange decoding CTCSS / as encoding.



Keypad Lock

In order to prevent wrong operation, you can make use of keypad lock function of this transceiver. Under standby state, after pressing  key, the top left corner of LCD display  and then press and hold  key for 2 seconds to start key lock function. Repeat the above operations to cancel key lock function.














NOTE: When keypad is locked, only PTT / PF1 / PF2 / A key are available, other keys are unavailable.

• CHANNEL OPERATIONS

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Channel operation is temporarily change current channel function. Once the radio is turned off or switched to another channel, the temporarily change will be erased. Under frequency+channel mode, channel+Name Tag mode or VFO mode, the operating methods are as follows:

1. After pressing  key, the top left corner of LCD displays  and then press "8" key to enter function menu.
2. Press  /  key to choose the desired function to be set.
3. Press  key to enter into function menu setup.
4. Press  key or  key to choose the desired contents to be set.
5. Press  to return to upward menu. Press  key to confirm and to exit.

NOTE: When transceiver works at professional transceiver mode, press  and then press  key are not available. Under frequency mode (VFO), once the radio is turned off or changed to new VFO frequency, the channel operations setting will be remained until next change.

(((Sub tone (CTCSS / DCS) Decode Setup

If enable this function, you can't hear the other party's calling at the same frequency.

1. After pressing  key, the top left corner of LCD displays  and then press  key to enter into function menu.
2. Press  /  key to choose No.1 function item. It shows "R-CDC" on LCD.




• CHANNEL OPERATIONS

3. Press **A FUNC** key to enter into function menu setup.
4. Press **1 FM** key to choose CTCSS, DCS or OFF. When DCS signaling is selected, press *** T/R** key to choose DCS positive and inverse code.
5. Press **B ▲** key or **C ▼** key to choose the desired CTCSS / DCS encode signaling.
6. CTCSS: 67Hz– 254.1Hz, 50 groups in total, Default: 67Hz.
7. DCS: 017N–765I, 232 groups in total. "N" stands for positive code, "I" stands for inverse code, Default: 017N.




(((Sub tone (CTCSS / DCS) Encode Setup

1. After pressing **A FUNC** key, the top left corner of LCD displays  and then press **8 SET** key to enter into function menu.
2. Press **A FUNC** key to choose No.2 function item. It shows "T-CDC" on LCD.
3. Press **A FUNC** key to enter into function menu setup.
4. Press **1 FM** key to choose CTCSS, DCS or OFF. When DCS signaling is selected, press *** T/R** key to choose DCS positive or inverse code.
5. Press **B ▲** key or **C ▼** key to choose the desired CTCSS / DCS encode signaling.
6. CTCSS: 67Hz– 254.1Hz, 50 groups in total, Default: 67Hz.
7. DCS: 017N–765I, 232 groups in total. "N" stands for positive code, "I" stands for inverse code. Default: 017N.



(((Sub tone (CTCSS/DCS) Encode/ Decode Synchronos Setup


If enable this function, you can't hear the other party's calling at the same frequency.

1. After pressing **[A FUNC]** key, the top left corner of LCD displays  and then press **[8 SET]** to enter into function menu.
2. Press **[A FUNC]** to choose No. 3 function item. It shows "C-CDC" on LCD.
3. Press **[A FUNC]** to enter into function menu setup.
4. Press **[1 FM]** key to choose CTCSS, DCS or OFF. When DCS signaling is selected, press **[* T/R]** key to choose DCS positive or inverse code.
5. Press **[A FUNC]** key to choose the desired CTCSS / DCS encode signaling.
6. CTCSS: 67Hz– 254.1Hz, 50 groups in total, Default: 67Hz.
7. DCS: 017N–765I, 232 groups in total. "N" stands for positive code, "I" stands for inverse code. Default: 017N.








(((Offset Frequency

This function works through repeater. Namely, repeater receives accessing signal by one kind of frequency and then transmits in the other kind of frequency. The offset between these two frequencies is called offset frequency.

1. After pressing **[A FUNC]** key, the top left corner of LCD displays  and then Press **[8 SET]** key to enter into function menu.











• CHANNEL OPERATIONS

2. Press  /  key to choose No.4 function item. It shows “OFFSET” on LCD.
3. Press  key to enter into function menu setup.
4. Press  key or  key to choose the offset frequency you want.
5. The frequency range is 00–70MHz.
6. Default: 5MHz.

(((Wide/ Narrow Band Selection

According to the national conditions of various countries, it can be set for communication by wide band or narrow band.



1. After pressing  key, the top left corner of LCD displays  and then Press  key to enter into function menu.
2. Press  /  key to choose No.5 function item. It shows “W/N” on LCD.
3. Press  key to enter into function menu setup.
4. Press  key or  key to choose the desired setup.
Optional: 25K (wide band), 20K (middle band), 12.5K (narrow band).
5. Default: 25K.

(((Selection of Frequency Reverse or Talk Around

1. After pressing  key, the top left corner of LCD displays  and then press  enter into

• CHANNEL OPERATIONS

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function menu.

2. Press / key to choose No.6 function item. It shows “REV/TA” on LCD.



3. Press key to enter into function menu setup.

4. Press key or key to choose the desired setup.



5. REV: The frequency reverse function is selected.

TA: The talk around function is selected.

NOTE: After current channel chooses the relevant function, under standby mode, press key and then hold key to start chosen function.

(((Scramble Setup(Encryption)

An analog voice inversion scrambler be equipped on transceiver.

This special audio process can offer a more confidential communication. Other radios at same frequency will receive only disordered noises.

1. After pressing key, the top left corner of LCD displays and then press key to enter into function menu.

2. Press / key to choose No.7 function item. It shows “SCRM” on LCD.



3. Press key to enter into function menu setup.

4. Press key or key to choose the desired setup.



ON: Scramble is enabled.

• CHANNEL OPERATIONS

OFF: Scramble is disabled.




5. Default:OFF.

After enableing this function, only when the other party transceiver is also enable scramble function, it can go on normal communication.


(((Voice Compander (Reduce noise & enhance audio clarity)



Enabling this function to reduce background noise and enhance audio clarity, especially for long range communication.

Note: Only both receiver and transmitter enable compander function, this function is valid.

1. After pressing  key, the top left corner of LCD displays  and then press  key to enter into function menu.

2. Press  /  key to choose No.8 function item. It shows "COMP" on LCD.

3. Press  key to enter into function menu setup.

4. Press  key or  key to choose the desired setup.

ON: Compander is enabled.

OFF: Compander is disabled.

5. Default:OFF.






(((Busy Channel Lockout

BCLO is to disable transmitting while RX signal is received. Once the channel is busy and you press

• CHANNEL OPERATIONS


PTT, the radio will beep as warning and get back to receiving.

1. After pressing  key, the top left corner of LCD displays  and then press  key to enter into function menu.



2. Press  /  key to choose No.9 function item. It shows “BUSY” on LCD.



3. Press  key to enter into function menu setup.

4. Press  key or  key to choose the desired setup.

BCL: Enable BCL, carrier wave lockout, transmitting is prohibited when current channel receives a matching carrier wave;

BTL: Enable BTL, transmitting is prohibited when current channel receives a matching carrier wave with dis-matching CTCSS/DCS.




OFF: Busy channel lockout is disabled.




5. Default: OFF.




(((Turn On/Off Optional Signal

Optional signalling function as similar as CTCSS/DCS. Without receiving correspondent tone signalling, the speaker will remain mute. Optional signalling can be applied for other advanced features such as ANI, PTT ID, group call, individual call, remotely stun, remotely kill, waken,...etc.

1. After pressing  key, the top left corner of LCD displays  and then press  key to enter into function menu.

2. Press  /  key to choose No.10 function item. It shows “OPTSIG” on LCD.

• CHANNEL OPERATIONS

3. Press  key to enter into function menu setup.
4. Press  key or  key to choose the desired setup

ON: Optional signaling DTMF is enabled.

OFF: Optional signaling DTMF is disabled.









5. Default: OFF

Note: The optional signaling of this transceiver is DTMF signaling.



(((Signaling Relations

It can set receiving call ways.

1. After pressing  key, the top left corner of LCD displays  and then press  key to enter into function menu.
2. Press  /  key to choose No.11 function item. It shows "SIGNAL" on LCD.
3. Press  key to enter into function menu setup.
4. Press  key or  key to choose the desired setup

OR: As long as it receives a matching CTCSS / DCS signaling or any one of optional signaling, the other party calling can be heard.

AND: As long as it receives a matching CTCSS / DCS signaling and optional signaling at the same time, the other party calling can be heard.









5. Default: OR.



• CHANNEL OPERATIONS

NOTE: The optional signaling of this transceiver is DTMF signaling.

《PTT ID

1. After pressing  key, the top left corner of LCD displays  and then press  key to enter into function menu.
2. Press  /  key to choose No.12 function item. It shows "PTT-ID" on LCD.
3. Press  key to enter into function menu setup.
4. Press  key or  key to choose the desired setup

OFF: OFF

BOT: Start, press PTT key to send a series of DTMF code.

EOT: End, release PTT key to send a series of DTMF code.

BOTH: Start and end, press and release PTT key to send a series of DTMF code both.

5. Default : OFF



《TX OFF

After starting this function, [PTT] key is unavailable. Current channel of transceiver is working under receiving mode.



1. After pressing  key, the top left corner of LCD displays  and then press  key to enter into

• CHANNEL OPERATIONS

function menu.

2. Press  /  key to choose No.13 function item. It shows “TX-IHB” on LCD.

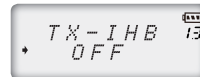
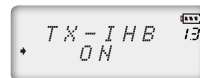
3. Press  key to enter into function menu setup.

4. Press  key or  key to choose the desired setup.

ON: TX Off is enabled.




OFF: TX Off is disabled.

5. Default: OFF





(((Whisper

After enabling this function, as long as you speak with lower voice, the other party also can hear higher voice.

1. After pressing  key, the top left corner of LCD displays  and then press  key to enter into function menu.

2. Press  /  key to choose No.14 function item. It shows “WHISPE” on LCD.

3. Press  key to enter into function menu setup.

4. Press  key or  key to choose the desired setup.

ON: Whisper on








OFF: Whisper off

5. Default: OFF



• BACKGROUND OPERATIONS






Under any mode, the background operations will be changed & stored as the latest value permanently, until next change, operations as followings:

1. Press and hold [PF2] key to turn on transceiver. And keep pressing [PF2] key for 3 seconds to enter into background operations.
2. Press  /  key to choose the menu item you want to set.
3. Press  key to enter menu setup.
4. Press  key or  key to choose the desired setup.
5. Press  key or  key to confirm and exit.

(((Voice Prompt

After enabling this function, when the users enter frequency or channel by keypad, transceiver will inform input numbers by voice prompting.

There are two kinds of beep, Chinese report and English report to be optional.

1. Press and hold [PF2] to turn on the transceiver. And keep pressing [PF2] key for 3 seconds to enter into background operations.
2. Press  /  key to choose No.1 function item. It shows “VOICE” on LCD.
3. Press  key to enter menu setup.
4. Press  key or  key to choose the desired setup.

OFF: Voice prompting is disabled.



• BACKGROUND OPERATIONS

CHN: Chinese annunciation

ENG: English annunciation


5.Default: CHN.


(((Time-Out-Timer(TOT)

The purpose of Time-out-timer is to restrict transceiver for continuous long-term transmission. When the continuous transmission time is beyond the due time, transceiver is forced to stop transmitting and make a sound of beeping.

1.Press and hold [PF2] key to turn on transceiver. And keep pressing [PF2] key for 3 seconds to enter into background operations.

2.Press  /  key to choose No.2 function item. It shows “TOT” on LCD.

3.Press  key to enter into function menu setup.

4.Press  key or  key to choose the desired setup.

15–240 seconds, 4 minutes of TOT is to be optional, per level interval of 15 seconds.

OFF: TOT is Disabled.

5.Default: OFF



(((Voice Operated Transmission (VOX) Setup

After enabling this function, no need to press [PTT] key, you can directly start transmitting by voice.

• BACKGROUND OPERATIONS

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If you want to make use of this function, you should insert the earpiece fitted with the transceiver.

1. Press and hold [PF2] key to turn on transceiver. And keep pressing [PF2] key for 3 seconds to enter into background operation.

2. Press  /  key to choose No.3 function item. It shows “VOX” on LCD.

3. Press  key to enter menu setup.

4. Press  key or  key to choose the desired setup.

1-3: 3 levels VOX, the higher level requires higher volume by VOX.

OFF: VOX transmitting is disabled.

5. Default: OFF




(((• VOX Delay Setup

When the transceiver sends the calling by VOX and returns with receiving mode instantly. If that the bottom of calling may not be transmitted correctly. To avoid this problem, you can set suitable delay time.





1. Press and hold [PF2] key to turn on transceiver. And keep pressing [PF2] key for 3 seconds to enter into background operation.

2. Press  /  key to choose No.4 function item. It shows “VOXDEY” on LCD.

3. Press  key to enter into function menu setup.

• BACKGROUND OPERATIONS

4. Press  key or  key to choose the desired setup.

0.5S–5S, 10 levels of delay time in total to choose, per level interval of 0.5S.

5. Default: 2S


(((• VOX Beep Setup

After enabling this function, beginning transmitting by VOX, the transceiver will voice beeping.

1. Press and hold [PF2] key to turn on transceiver. And keep pressing [PF2] key for 3 seconds to enter into background operation.

2. Press  /  key to choose No.5 function item. It shows “VOXTON” on LCD.

3. Press  key to enter menu setup.

4. Press  key or  key to choose the desired setup.

ON: VOX beeping is enabled.

OFF: VOX beeping is disabled.

5. Default: OFF



(((• Frequency Step Size Setup

Under frequency mode (VFO), only Stepping function is available, while frequency input and frequency scan are both restricted by stepping.



1. Press and hold [PF2] key to turn on transceiver. And press [PF2] key for 3 seconds to enter into

• BACKGROUND OPERATIONS

background operations.

2. Press  /  key to choose No.6 function item. It shows “STEP” on LCD.

3. Press  key to enter into function menu setup.

4. Press  key or  key to choose the desired setup.

Stepping: 5K/ 6.25K/ 10K / 12.5K/ 15K/ 20K/ 25K 30K/ 50K.



5. Default: 5K




(((Squelch Level Setup

Setting the radio at a high squelch level, you can avoid unwanted signals or noise, but you may not receive a weak signal. Therefore, it will be better for you to select the normal squelch level.

1. Press and hold [PF2] key to turn on transceiver. And keep pressing [PF2] for 3 seconds to enter into background operations.

2. Press  /  key to choose No.7 function item. It shows “SQL” on LCD.

3. Press  key to enter into function menu setup.

4. Press  key or  key to choose the desired setup.

0-9: 10 levels of squelch in total, “0” as min setup value (Normally open)

5. Default: 04




• BACKGROUND OPERATIONS

(((Battery Save Setup

The transceiver can be set for saving battery to extend standby time. When receiving the carrier wave or doing the keypad operations, it will instantly exit battery saving mode and come into normal working mode.

1.Press and hold [PF2] key to turn on transceiver. And keep pressing [PF2] key for 3 seconds to enter into background operations.

2.Press  /  key to choose No.8 function item. It shows “SAVE” on LCD.

3.Press  key to enter into function menu setup.

4.Press  key or  key to choose the desired battery saving ratio.

OFF: Battery saving is disabled.

1:1 The ratio between normal working state and battery saving mode as 1:1

1:2 The ratio between normal working state and battery saving mode as 1:2

1:4 The ratio between normal working state and battery saving mode as 1:4

5.Default: 1:2






NOTE:

The battery save ratio is much bigger, the standby electricity consumption will be much smaller, but it may not receive the forepart of signal normally from the other party.



(((LCD Backlight Setup

Normally open, normally closed, automatic, these three modes in total of transceiver backlight to be optional.

1. Press and hold [PF2] key to turn on transceiver. And keep pressing [PF2] key for 3 seconds to enter into background operations.
2. Press  /  key to choose No.9 function item. It shows "LIGHT" on LCD.
3. Press  key to enter into function menu setup.
4. Press  key or  key to choose the desired setup.

AUTO: Automatic, after enabling the backlight, it will delay a period and then automatically quench.

ON: Normally open



OFF: Normally close

5. Default: AUTO






(((LCD Backlight Color Setup

There are three kinds of backlight color to be optional.

1. Press and hold [PF2] key to turn on transceiver. And keep pressing [PF2] key for 3 seconds to enter into background operations.
2. Press  /  key to choose No.10 function item. It shows "COLOR" on LCD.








• BACKGROUND OPERATIONS

3. Press  key to enter into function menu setup.
4. Press  key or  key to choose the desired setup.
ORG: Orange backlight
BLUE: Blue backlight
PUR: Purple backlight
5. Default: BLUE



(((Scan Dwell Time Setup

There are three kinds of scan dwell time to be optional.

1. Press and hold [PF2] key to turn on transceiver. And keep pressing [PF2] key for 3 seconds to enter into background operations.
2. Press  /  key to choose No.11 function item. It shows "SCANTM" on LCD.
3. Press  key to enter into function menu setup.
4. Press  key or  key to choose the desired setup.



5ST: Once the radio receives a matching signal, Scan mode will stop for 5 seconds then resume.

10ST: Once the radio receives a matching signal, Scan mode will stop for 10

• BACKGROUND OPERATIONS

seconds then resume.

15ST: Once the radio receives a matching signal, Scan mode will stop for 15 seconds then resume.

5.Default: 15ST


(((Display Mode Setup

There are Frequency + Channel mode, Channel mode, Channel+Name Tag mode three kinds of display modes to be optional.

1.Press and hold [PF2] key to turn on transceiver. And keep pressing [PF2] key for 3 seconds to enter into background operations.


2.Press  /  key to choose No.12 function item. It shows “DSP” on LCD.

3.Press  key to enter into function menu setup.

4.Press  key or  key to choose the desired setup.

FREQ: Frequency + Channel mode (Amateur transceiver mode) press  key to switch into VFO mode.

CH: Channel mode(Professional transceiver mode).Note:If transceiver programmed as professional operation mode and locked,it is unable to switch into amateur mode by manual from background operations.

NAME: Channel+Name Tag mode(Amateur transceiver mode)press  key to switch into VFO mode.

5.Default: FREQ



• BACKGROUND OPERATIONS


(((Tone Pulse Frequency Selection



This function is used for starting the repeater activated by Tone Pulse. It needs a certain intensity of Tone Pulse to start repeater under sleeping state. In general, as long as the repeater has been start, the repeater system doesn't need this Tone Pulse.

There are four kinds of pilot frequency to be optional. Under transmitting mode, pressing side key [PF2] can send the Tone Pulse signal that you have chosen.

1. Press and hold [PF2] key to turn on transceiver. And keep pressing [PF2] key for 3 seconds to enter into general setting.

2. Press  /  key to choose No.13 function item. It shows "TBST" on LCD.

3. Press  key to enter into function menu setup.

4. Press  key or  key to choose the Tone Pulse frequency you want.

1000Hz: Pilot frequency 1000Hz **1450Hz:** Pilot frequency 1450Hz



1750Hz: Pilot frequency 1750Hz **2100Hz:** Pilot frequency 2100Hz

5. Default: 1750Hz.






(((DTMF Transmitting Time Setup

1. Press and hold [PF2] key to turn on transceiver. And keep pressing [PF2] key for 3 seconds to enter into background operations.






2. Press  /  key to choose No.14 function item. It shows "DTMFSD" on LCD.



• BACKGROUND OPERATIONS

3. Press  key to enter into function menu setup.
4. Press  key or  key to choose the DTMF transmitting time you want.
50MS/100MS/150MS/200MS/250MS/300MS/350MS/400MS/450MS/500MS, which indicates the time for sending each DTMF signal & the interval between each DTMF being sent.
5. Default: 100MS

(((Beep Volume Setup

1. Press and hold [PF2] key to turn on transceiver. And keep pressing [PF2] key for 3 seconds into background operations.
2. Press  /  key to choose No.15 function item. It shows "VOL-BP" on LCD.
3. Press  key to enter into function menu setup.
4. Press key  /  or key to choose the desired volume 1-5, 5 levels of volume in total can be set.
5. Default: 2



(((Priority Channel Setup


After setting priority channel, when doing the priority scan, transceiver returns to scan this channel after per 10 channels scanned. Once this channel receives carrier wave, it will temporarily stop scanning until carrier wave disappears.


1. Press and hold [PF2] key to turn on transceiver. And keep press [PF2] key for 3 seconds to enter into

• BACKGROUND OPERATIONS

background operations.

2. Press  /  key to choose No.16 function item. It shows “PRI-CH” on LCD.

3. Press  key to enter into function menu setup.

4. Press  key or  key to choose the desired channel.

1–128, 128 channels are available.

OFF: Priority channel is disabled.



5. Default: OFF

NOTE: This function is only to choose the edited channel. Channel scan skip or channel without edition cannot be selected under this mode.



(((Current Battery Voltage Enquiry

1. Press and hold [PF2] key to turn on transceiver. And hold [PF2] key for 3 seconds to enter into background operations.

2. Press  /  key to choose No.17 function item. It shows “V-BATT” on LCD.

The value displaying on the screen is current battery voltage value.





(((Resume Factory Default


You can make all the settings of transceiver return to the factory default settings when transceiver cannot work normally because of wrong operation or error setup.

• BACKGROUND OPERATIONS

1. Press and hold [PF2] key to turn on transceiver. And keep press [PF2] key for 3 seconds to enter into background operations.



2. Press  /  key to choose No.18 function item. It shows “RESET” on LCD.

3. Press  key to enter into function menu setup.



4. Press  key or  key to choose the desired settings.

FACT?: Factory default (Frequency,signaling and function setting resume to factory default).

INIT?: Resume Background setting to factory default (it is unable to resume frequency,signaling and channel operations).

5. Press  key to confirm.

PROGRAMMING SOFTWARE STARTING (TAKES WINDOWS XP SYSTEM FOR EXAMPLE)



1. Double click "QPS288 setup.exe" and then go on installing as computer command.
2. Click "START" menu, choose "USB To Comport" in the QPS288 entry from "ALL PROGRAMS" and click it. Please install USB To Comport drive program as computer command.
3. Please plug PC03 programming cable into USB port in PC device and then connect with transceiver.
4. Double click "QPS288" shortcut operation, choose serial port "COM Port" as per computer command, then click "OK" to start programming software. (It must install software firstly and then insert USB programming cable.)

NOTE:

The programming software of this transceiver is attached with product identifying system. Therefore, when you start programming software at the first time, you should connect the transceiver and then you can run the software, otherwise the software cannot be run.

• TECHNICAL SPECIFICATIONS

	General
Frequency Range	VHF:136–174MHz UHF:350–390MHz UHF: 400–470MHz UHF:450–520MHz
Channel Capacity	128 channels
Channel Spacing	25KHz (Wide Band) 20KHz (Middle Band) 12.5KHz (Narrow Band)
Phase-locked Step	5KHz, 6.25KHz
Operating Voltage	7.4V DC $\pm 20\%$
Battery Life	More than 14 Hours (1350mAh), by 5–5–90 working cycle
Frequency Stability	$\pm 2.5\text{ppm}$
Operating Temperature	-20°C $+55^{\circ}\text{C}$
Size	260 × 57 × 37mm (with battery, antenna)
Weight	210 g (with battery, antenna)

Receiving Part (ETSI EN 300 086 standard test)

	Wide band	Narrow band
Sensitivity(12dB SINAD)	$\leq 0.25 \mu\text{V}$	$\leq 0.35 \mu\text{V}$
Adjacent Channel Selectivity	$\geq 70\text{dB}$	$\geq 60\text{dB}$
Intermodulation	$\geq 65\text{dB}$	$\geq 60\text{dB}$
Spurious Rejection	$\geq 70\text{dB}$	$\geq 70\text{dB}$

• TECHNICAL SPECIFICATIONS

Audio Response	+1~ - 3dB(0.3~3KHz)	+1~ -3dB(0.3~2.55KHz)
Hum & Noise	≥45dB	≥40dB
Audio Distortion	≤5%	
Audio Power Output	500mW / 10%	

Transmitting Part (ETSI EN 300 086 standard test)		
	Wide band	Narrow band
Power Output	4W / 2W / 0.5W	
Modulation	16KΦF3E	11KΦF3E
Adjacent Channel Power	≥70dB	≥60dB
Hum & Noise	≥40dB	≥36dB
Spurious Emission	≤ - 36dB	≤ - 36dB
Audio Response	+1~ - 3dB(0.3~3KHz)	+1~ 3dB(0.3~2.25KHz)
Audio Distortion	≤5%	

• TROUBLE SHOOTING GUIDE

Problem	Corrective Action
No power	A.The battery may be exhausting. Recharge or replace the battery. B.The battery may not be installed correctly. Remove the battery and install it again. C.The power switch is broken; send it to local dealers to repair. D.Battery touch is broken; send it to local dealers to repair.
Battery power dies shortly after charging.	The battery life is finished. Replace the battery pack with a new one.
Transceiver cannot scan	The channels are not in scan list. (Professionals set it.)
All band noisy after programmed	Turn on squelch when programmed. Non-professionals are advised not rammed to adjust this function.
No sound after using earphone. for a while	Earphone jack is broken. Please contact with local dealers to repair.
Communication distance becomes short, and Low sensitivity	A.Check whether the antenna is in good conduction and the antenna base do not come adrift. B.Antenna connector is broken or not or with sundries.Whether it has set in low power output. (Please contact with local dealers to repair.)
Cannot talk or hear other members in your group	A.Different frequency or channel, please change it. B.Different CTCSS / DCS /DTMF, please reset it. C.Out of communication range.

• TROUBLE SHOOTING GUIDE

Can not power on or frequent power off	Check weather the battery touch is out of sharp or broken.
The receiving sound gets low or intermittent	Check weather the MIC is stoppage. Otherwise, please contact with local dealers to repair it.
Receiving intermittent with in big noise	A.Out of communication range or obstruct by tall buildings or in big noise. B.450 filter is broken, Please contact with local dealers to repair.
Loudspeaker become lower or with “ka ka” sound after using a certain time	Check whether the loudspeaker is broken, Iron powder or sundries is in the loudspeaker. Please contact with local dealers to repair.
Receive voice from the other party but can not transmit	Check [PTT] key.
Receiving indicator with green light but no sound	A.Low volume, please clockwise to turn on. B.Loudspeaker is broken, please contact with local dealers to repair. C.Earphone jack is broken, please contact with local dealers to repair. D.Volume switch is broken.

• ATTACHED CHART

(((CTCSS Frequency Chart

1	67.0	11	94.8	21	131.8	31	171.3	41	203.5
2	69.3	12	97.4	22	136.5	32	173.8	42	206.5
3	71.9	13	100.0	23	141.3	33	177.3	43	210.7
4	74.4	14	103.5	24	146.2	34	179.9	44	218.1
5	77.0	15	107.2	25	151.4	35	183.5	45	225.7
6	79.7	16	110.9	26	156.7	36	186.2	46	229.1
7	82.5	17	114.8	27	159.8	37	189.9	47	233.6
8	85.4	18	118.8	28	162.2	38	192.8	48	241.8
9	88.5	19	123.0	29	165.5	39	196.6	49	250.3
10	91.5	20	127.3	30	167.9	40	199.5	50	254.1

• ATTACHED CHART

DCS Chart

1	017	18	073	35	165	52	261	69	356	86	464	103	632
2	023	19	074	36	172	53	263	70	364	87	465	104	645
3	025	20	114	37	174	54	265	71	365	88	466	105	651
4	026	21	115	38	205	55	266	72	371	89	503	106	662
5	031	22	116	39	212	56	271	73	411	90	506	107	664
6	032	23	122	40	217	57	274	74	412	91	516	108	703
7	036	24	125	41	223	58	305	75	413	92	523	109	712
8	043	25	131	42	225	59	306	76	423	93	526	110	723
9	047	26	132	43	226	60	311	77	425	94	532	111	731
10	050	27	134	44	243	61	315	78	431	95	534	112	732
11	051	28	135	45	244	62	325	79	432	96	546	113	734
12	053	29	143	46	245	63	331	80	445	97	565	114	743
13	054	30	145	47	246	64	332	81	446	98	606	115	754
14	055	31	152	48	251	65	343	82	452	99	612	116	765
15	065	32	155	49	252	66	345	83	454	100	624		
16	071	33	156	50	254	67	346	84	455	101	627		
17	072	34	162	51	255	68	351	85	462	102	631		

NOTE: 1. N stands for positive code. I stands for inverted code. 232 groups of DCS in total.

2. Overstriking marks are non-standard DCS.

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We only do best radio!

Qixiang Electron Science & Technology Co., Ltd.
www.qxdz.cn