AnyTone

We only do best radio!

Qixiang Electron Science & Technology Co., Ltd.

www.qxdz.cn

AnyTone

ISO 9001
ISO 14001

AT-628

TWO-WAY RADIO

USER'S MANUAL

THANK YOU!

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

The transceiver introduces innovative DSP (Digital Signal Processing) technology and highly integration. **It also designs with professional multi- function, best stability and great reliability.** Exterior lines pithiness, compact body (only with 158 grams)and introduction with metal stereo loudspeaker net make AT-628 fashion & novelty, **so AT-628 radio is a fashion and cost-effective transceiver and greatly suits for instant messaging. It lets you enjoy the instant messaging at ease. Unique and innovative functions, such as, oscillation and chord rings prompt missed calls, voice prompt battery capacity, jacklight and optional high-fidelity earphones fitted for using in Hotels, Amusement buildings, Emporium, Super shopping center, estate management and other trades.** Particularly in the noisy surroundings, oscillation & chord rings prompt missed calls and high-fidelity earphones are of excellent practicality.

SAFTY INFORMATION FOR USER

AnyTone transceiver is excellent designed with advanced technology. The following tips will be helpful for you in performing your obligation, understanding the safety of maintaining and using the transceiver

- Keep the transceiver and accessories away from children.
- Please do not try to open or modify the transceiver without permission, non-professionals process may also cause damage.
- Please use assorted battery and charger to avoid damage.
- Please use assorted antenna to ensure the communication distance.
- Please do not expose the transceiver to long period of direct sunlight, nor place it close to heat appliances.
- Please do not put the transceiver in excessively dusty or humid areas.
- Do not use harsh chemicals, cleaning solvents to clean the transceiver.
- Do not transmit without antenna.
- 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 surface of plastic.
- If any abnormal odor or smoke detected coming from the transceiver, turn off the power and take off the battery pack and its case. Then contact local AnyTone dealers.

Models apply to this manual: AT-628 Transceiver
Software applies to AT-628 Transceiver: QPS628

Attention: **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.,**

◦ CONTENTS

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UNPACKING AND CHECKING EQUIPMENT ---------- 1
STANDARD ACCESSORIES/OPTIONAL ACCESSORIES -- 2
BATTERY INFORMATION ---------- 3-6
PREPARATION ---------- 7-9
Installing / Removing the Battery ---------- 7
Installing / Removing the Antenna ---------- 8
Installing / Removing the Belt Clip ---------- 8
Installing Additional Earphone / Microphone ---------- 9
Installing the Hand Strap (Optional) ---------- 9
GETTING ACQUAINTED ---------- 10-12
AUXILIARY FUNCTIONS ---------- 13
BASIC OPERATIONS ---------- 14-17
Switch On /Off Transceiver ---------- 14
Battery Capacity Inquiry ---------- 14
Turn On/Off Jacklight ---------- 14
Calling Prompting ---------- 14
Turbo Power ---------- 15
Volume Control ---------- 15
Current Channel Inquiry ---------- 15
Channel Selection ---------- 15
Group Selection ---------- 16
Receiving ---------- 17
Transmitting ---------- 17
Emergency Alarm Function ---------- 17
ADVANCED OPERATIONS ---------- 17-23
Squelch Off ---------- 18
Monitor ---------- 18
High / Low Power Switch ---------- 19
Scan ---------- 18

○ CONTENTS

Frequency Reverse ---------- 19
Talk Around ---------- 19
Battery Capacity Inquiry ---------- 20
Calling Prompting ---------- 20
Temporary Deletion of the Interfering Channel ---------- 20
Open / Close VOX Function ---------- 20
VOX Levels Setup ---------- 21
Keyboard Lockout ---------- 22
Squelch Levels Setup ---------- 22
FM Radio Function (Optional) ---------- 22
Upending Alarm Function (Optional) ---------- 23
BACKGROUND OPERATTONS ---------- 24-27
CTCSS / DCS Encode / Decode ---------- 24
Wide / Narrow Band Setup ---------- 24
Busy Channel Lockout ---------- 24
Scan Accession ---------- 24
Time-out Timer ---------- 25
Time-out Timer Pre-alarm ---------- 25
Voice Prompt ---------- 25
Battery Save Setup ---------- 25
Priority Scan Setup ---------- 25
Returning to Appointed Channel ---------- 26
Programming Software Installing & Starting ---------- 26
Resume Factory Default ---------- 27
Maintaining and Cleaning ---------- 27
TECHNICAL SPECIFICATIONS ---------- 28
TROUBLE SHOOTING GUIDE ---------- 29-30
ATTACHED CHART ---------- 31-32

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 dealers immediately.

Supplied Accessories

Item	Number	Quantity
Antenna	QA05V(136-174MHz) or QA05U(400-480MHz)etc.	1
Li-ion Battery Pack	QB-27L	1
Battery Charger	QBC-30L	1
AC Adaptor	QPS-04	1
Belt Clip	BC05	1
Instruction Manual		1
Certificate		1

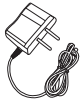
○ STANDARD ACCESSORIES/OPTIONAL ACCESSORIES

Standard Accessories

Antenna*
QA05V(136~174MHz)
QA05U(400~480MHz) etc.

Battery Pack
QB-27L

Charger
QBC-30L



AC Adaptor
(5V/500mA)
QPS-04

Belt Clip
(including screw)
BC05

Instruction Manual

Certificate

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

Optional Accessories

USB Programming Cable (PC04)

External Battery Back (OBC-02)

USB Charge Cable (QL02)

Earphone
QHS04

Programming Software
QPS628

Spare Battery
QB-27L

Hand Strap
GS01

Charging the Battery Pack

The battery pack is not charged at the factory, please charge it before use.Charge the battery pack for the first time after purchase or extended storage (more than 2 months) may not bring the battery pack 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 pack life is over when its operating time decreases even though it is fully and correctly charged. Replace the battery pack.

Charger Applied

Please use the specific charger appointed by our company, other models may cause explosion and injure people. After installed the battery pack, if the radio displays low battery with red flashing lamp or voice prompt, please charge the battery.

Notes

- Do not short the battery terminals or dispose of the battery by fire. Never attempt to remove the casing from the battery pack, we show no responsibility on the faulty causing by modifying freely without permission of our factory.
- The ambient temperature should be between 5°C and 40°C while charging is in progress. Charging outside this range may not fully charge the battery.
- Always switch off the transceiver equipped with a battery pack before charging. Otherwise, it will interfere with correct charging.
- To avoid interfering the charging, please do not cut off the power or take out the battery during charging.
- Do not recharge the battery pack if it is already fully charged. This may shorten the life of the battery pack or damage the battery pack.

○ BATTERY INFORMATION

- Do not charge the battery or transceiver if it is damp. Dry it before charging to avoid danger.

Warning

When keys or ornamental chain and other electric metals contact with the battery terminal, 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 Store the Battery

1.If the battery needs to be stored, the battery should keep 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.

How to Charge

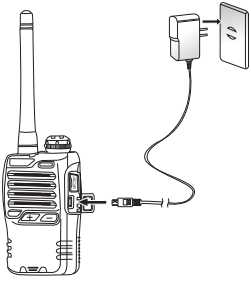
This type of transceiver can be charged in convenient and flexible ways, which are optional by users themselves.

The charge ways showed as followings:

■ Direct Charge via AC Adaptor

1.Plug the AC adaptor into the AC outlet socket.

2.Open USB charge connection port cover of the transceiver, then plug the jack of AC adaptor into the transceiver USB port, and make sure them in contact with each other well. LED turns into ORANGE --- charge begins.



3.It takes approximately 5 hours to fully charge the battery, when ORANGE LED disappears--- charging finishes. Then cut off the connecting between AC adaptor and transceiver. Also remove AC adaptor from socket.

Note: Do not keep connecting the AC adaptor with transceiver which has already finished charge because over charge can decrease the battery cycle life and performance. LED displaying twinkling orange means that Li-ion battery without installation into transceiver. (Prohibit pressing the [**PTT**] to transmit if the transceiver without installing the Li-ion battery is only connected with AC adaptor)

■ Charge the Battery or the Transceiver via Charger

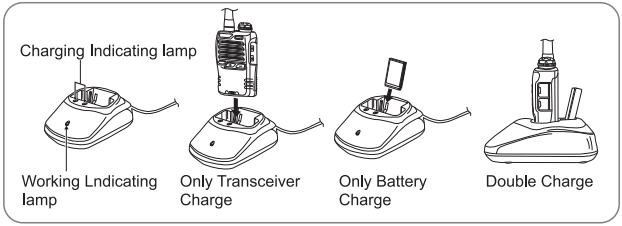
You can only charge the battery and the transceiver separately, but also can charge them at the same time.

1.Plug the AC adaptor into the AC outlet socket, and then plug the cable of AC adaptor into the USB jack located on the rear of the charger.

Working indicating lamp---**Red**

Charging indicating lamp---**Green**

○ BATTERY INFORMATION



2.Slide the battery or transceiver with battery pack into the charger.

A.Make sure the battery pack terminals are in contact with the charging terminals well.

B.LED displays RED in the charging process.

3. When the battery finishes charging, LED displays Green.

Note: It takes approximately 10 hours to fully charge battery and transceiver meanwhile. And charging time depends on the left electricity for battery usage. Do not keep the battery of full charge in the charger for a long time because over charge can decrease the battery cycle life and its performance.

■ Direct Charge via Computer USB Connection Port (Optional)

1.Plug the USB charge cable into the USB charge port in the computer.

2.Open USB charge connection port cover of the transceiver, then plug the other end of USB charge cable into transceiver port, and make sure them in contact with each other well. LED turns into **ORANGE** ---charge begins

3.It takes approximately 5 hours to fully charge the battery, when **ORANGE** LED disappears---charging finishes. Then cut off the connecting between USB charge cable and transceiver. Also remove USB charge cable from USB charge port in the computer.

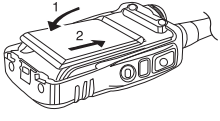
Installing / Removing the Battery

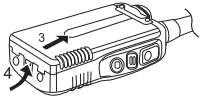
Installing the Battery Pack

1.Match the battery contact plate with the battery contact plate of the transceiver, press the battery and push it upward until it is fully in the battery groove.

2.Place the battery groove cover flat above the aluminum shell of transceiver and then push the cover upward until it is tightest.

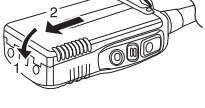
3.Push the battery groove lock button to "**LOCK**" until the lock button displays "**UNLOCK**". The battery has finished installing completely.

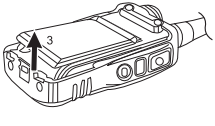




Removing the Battery Pack

1. Push the battery groove lock button to "**UNLOCK**" till the lock button displays "**LOCK**".
2. Slide the battery groove cover downward and remove it.
3. Lift the battery bottom up and then remove it.





○ PREPARATION

Installing / Removing the Antenna

■ Installing the Antenna:

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

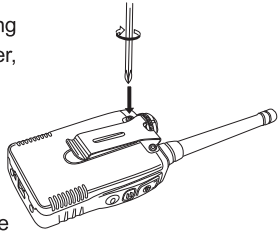
■ Removing the Antenna:

Anticlockwise turn the antenna to remove it.

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.



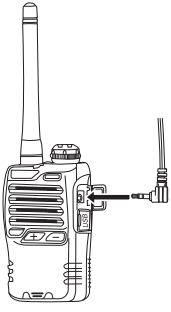
■ Removing the Belt Clip:

Anticlockwise turn screws to remove the belt clip

Installing the Additional Speaker/ Microphone

Uncover the MIC-SP jack and insert the optional QHS04 speaker/microphone plugs into the MIC-SP jack.

Please do the installation as the picture showed. Please pay more attention to plug insertion. If the plug is not completely inserted, the transceiver will be in transmitting state.

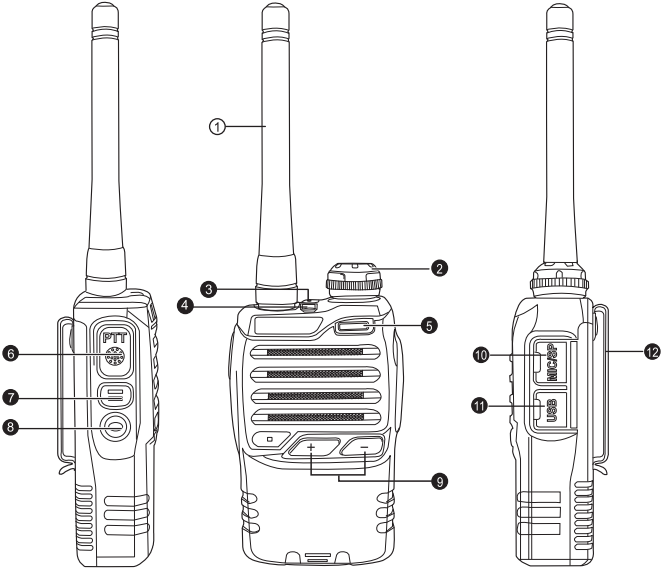


Note: The transceiver is not completely water resistant while using the additional earphone / microphone.

Installing/ Removing 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 hands strap in place and lastly tighten the hands strap.

○GETTING ACQUAINED



❶ **Antenna**

❷ **Power / Volume Switch:**

Turn clockwise to switch the transceiver on while anticlockwise to switch off the transceiver. After switching on the transceiver, turn clockwise to increase the volume and anticlockwise to decrease the volume.

❸ **Jacklight**

Under the standby conditions, press emergency alarm key to lighten the jacklight and repeat above actions to close the jacklight.

❹ **Emergency Alarm Key**

Press it to open or close jacklight.

Press it for over 3 seconds to start alarm function.

Press and hold it and then switch on/off the transceiver to enable/disable the keyboard lockout function.

❺ **State Indicating Lamp**

It indicates different working state of transceiver.

❻ **PTT Key**

When you are making a call, please press and hold this key to speak into the microphone, release to receive.

❼ **PF1 Key**

It can realize different functions by programming. And press it for over 3 seconds to open or close VOX function.

❽ **PF2 Key**

It can realize different functions by programming. And press it for over 3 seconds to enter into VOX levels adjustment mode and modulate the levels by [**UP/ DOWN**] key.

❾ **＋ / – Key**

Press＋or– key one time to announce the current channel number in current group

Press＋ or – key for over one second and then release it to up or down the channels.

Press and hold＋or–key long time to increase or decrease the channels fast.

Under the radio mode, press + or − key to seek the radio stations.

⑩ **External Microphone / Loudspeaker Jacks**

⑪ **Charger Jacks / Programming Cable Jacks**

⑫ **Belt Clip**

Indicating Lamp State and Beep

Warning on low voltage	LED red indicating lamp twinkles and voices a low voltage beep at intervals of 30 seconds.
Transmission	LED red indicating lamp lightens. (when transmitting in low power, LED green also lightens.)
Receive	LED green indicating lamp lightens.
Scan	LED green indicating lamp twinkles per second.
Read / Write programming data	Reading: LED red indicating lamp twinkles. Writing: LED green indicating lamp twinkles.
Operation indications	When enter into a function state, it emits a "**Du**" beep, When exit, it emits "**Du Du**" beep.
Charge indications	In the charge state, LED orange lightens.

[PF1] & [PF2] Key Default

[**PF1**] press	Calling
[**PF2**] press	Squelch Off
[**PF1**] press and hold for one second	Battery Capacity Inquiry
[**PF2**] press and hold for one second	High / Low Power Switch
[**PF1**] press and hold for three seconds	Open / Close VOX Function
[**PF2**] press and hold for three seconds	Enter Into VOX Levels Adjustment Mode

◦AUXILIARY FUNCTIONS

Users can program [**PF1**] and [**PF2**] key for one of auxiliary functions by programming software.

Please refer to part instructions of Advanced Operations.

- Squelch Off
- Monitor
- High / Low Power Switch
- Scan
- Frequency Reverse
- Talk Around
- Current Battery Capacity Inquiry
- Calling
- Temporary Deletion of the Interfering Channel

○ BASIC OPERATIONS

Switch On /Off Transceiver

Switch on transceiver: When the transceiver is in the closed state, turn **Power / Volume** clockwise to switch the transceiver on. After the transceiver voices "**click**", the power supply is switched on, the transceiver announces "**Power on**" and "**Current channel number** " in current group.

Switch off transceiver: When the transceiver is in the open state, turn **Power / Volume** anticlockwise to switch the transceiver off. After the transceiver voices "**click**", the power supply is switched off.

Battery Capacity Inquiry

Press the programmed Battery Capacity Inquiry key, then voice prompt indicates the current left capacity. It is 10 levels. If current capacity is in the tenth level, the battery is in full power supply state. The LED red indicating lamp twinkles if the battery is in the first level (3.2V). Then voice prompt will remind you of "**Please charge the battery**" at intervals of 30 seconds. And the transceiver automatically comes into inhibit transmission state.

Turn On / Off Jacklight

Under the standby conditions, press the emergency alarm key to turn on jacklight.

Repeat this action to turn off jacklight.

Calling Prompting

It reminds users of current missed call.

Under the standby conditions, the transceiver will send the calling signal after pressing programmed calling key. When the other party receives the calling signal, it reminds users as per the programmed way.

Five call prompting ways:

Oscillation, ring (chord 1), ring (chord 2), oscillation + ring (chord 1), oscillation + ring (chord 2).
Default: oscillation + ring (chord 1) as missed call prompting.

Turbo Power

Under transmitted state, press the emergency alarm key to flash the jacklight, the transceiver will transmit at the maximum power (the output power will increase 1W than normal). Repeat this action to return into normal transmitting power.

Note: Under the standby conditions, press the emergency alarm key for one second, it also can exit **Turbo Power** with "**Du Du**" beep.

Volume Control

When the transceiver is under open state, turn **Power / Volume Switch** to adjust the volume. Turn clockwise to increase the volume, and turn anticlockwise to decrease the volume. You can press the programmed key of squelch off [**PF1**] / [**PF2**] to monitor current volume.

Note: You can firstly press the programmed key of squelch off [**PF1**] / [**PF2**] to monitor the background noise and meanwhile turn **Power / Volume Switch** to adjust the volume. Under the communication state, you can adjust volume what you need more accurately.

Current Channel Inquiry

Under the standby conditions, press + or − key, then the transceiver will announce current channel number in current group.

Channels Selection

Under the standby conditions, you can choose the channel what you desire by pressing + or - key. Press + or − key for one second and

then release it after "**Du Du**" beep, the transceiver will announce the adjusted channel number.

Pressing + key can increase the channel, pressing – key can decrease the channel and pressing + or – key for more than 3 seconds can adjust the channels fast.

Note: When adjusting channels, if there is a blank channel (without edition) between two channels, it will skip the blank channel automatically when choosing the channels. For example, if you want to adjust the first channel to the second channel, but the second channel is blank, it will be directly adjust to the third channel and skip the second channel.

Group Selection

There are 8 groups of channels in this transceiver. There are total 128 channels for 16 channels in one group. You can choose the group what you want by hand, and the specific operations as followings:

1. Press and hold + and – key to switch on the transceiver, until the transceiver emits "**Du**" beep and then release + and – key synchronously. The transceiver will announce the current group.
2. Press + and – key to choose the group what you need. The transceiver will announce the current group each time. Press + key to adjust into upward group and press – key to adjust into downward group.

Note: When the transceiver only edits one group channel, it cannot make a choice between the upward group and the downward group. If there is a group without edition between two chosen channels, it will skip the group without edition automatically when the group choice is done.

Receiving

You can hear the other party calling when LED green indicating lamp lightens under the current channel being called.

Note: You may not receive the calling if you set the higher squelch level of the transceiver.
If current channel has programmed with signaling, you can only hear the call from a same signaling, other call can't be heard.

Transmitting

Be sure that the channel you want to use is not in busy state after you monitor for a while on pressing the programmed squelch off [**PF1**] / [**PF2**] key. Under these conditions, press the [**PTT**] key and speak into microphone.
Please keep around 2.5-5cm distance between microphone and your lip. And please speak in normal tone so as to make the receiver obtain best tone quality.

Note: It is transmitting when you press the [**PTT**] key and LED red indicating lamp lightens. Release to receive.

Emergency Alarm Function

Press this key for over 3 seconds to start the emergency alarm function.
After starting the function, the transceiver will voice alarm beep, start transmitting and send the alarm beep to companions or systems. Restart the power supply to exit the emergency alarm function.

◦ADVANCED OPERATIONS

This type transceiver of [**PF1**] and [**PF2**] key can be programmable. They can realize the following function by programming software.

Note: If programming the following function as [**PF1**] 1S or [**PF2**] 1S, you must press the [**PF1**] / [**PF2**] key for one second until the transceiver beeps and then release the key to realize the programmed function.

Squelch Off

Press the programmed key of squelch off [**PF1**] / [**PF2**], the squelch circuit is not mute and at present you can hear the background noise. Press this key again, the squelch circuit is mute. Use this function you can monitor the weaker signal which is hard to receive.

Monitor

Press the programmed key of monitor [**PF1**] / [**PF2**], the transceiver emits "**Du**" beep and then comes into the monitor state. Under these conditions, transceiver will ignore CTCSS / DCS decode and monitor the other party signal as long as receiving the matched carrier wave. Press this key again, transceiver emits "**Du Du**" beep and exits the monitor state.

High / Low Power Switch

Under the standby conditions, press the programmed key of **High/ Low Switch**, transceiver will announce the currently selected power. Choosing high power, current channel will transmit under these conditions. Choosing the low power, the current channel will transmit under these conditions.

Scan

Scan function can be used in monitoring every channel of current group.

Under the standby conditions, press the programmed scan key,

transceiver emits "**Du**" beep and comes into scan state.Scaning channels one by one according to the channels of scan line, LED green indicating lamp flashes per second. When one channel receives a matching signal, LED green indicating lamp lightens continuously and temporarily stays in this channel till the signal disappears. Pressing scan key again, transceiver emits "**Du Du**" beep, exits scan and switches the working channel to returned channel which is programmed by users in advance (Please refer to returned channel in the programming software.).

Frequency Reverse

Under the standby conditions, pressing the programmed key of **Frequency Reverse**, transceiver emits "**Du**" beep and then comes into **Frequency Reverse** state. After that, the current channel RX frequency will be switched to TX frequency, and the CTCSS or DCS signal which has been setting will be also switched. Pressing this key again, the transceiver exits reverse function with "**Du Du**" beep.

Talk Around

Under the standby conditions, pressing the programmed key of **Talk Around**, transceiver emits "**Du**" beep and then the current channel comes into **Talk Around** state. Under these conditions, transceiver will transmit by receiving frequency. Also, setting code (CTCSS / DCS) will transmit by decoding signal as encoding signal. Press this key again, transceiver emits "**Du Du**" beep and exits the **Talk Around** state.

Note: Under the **Talk Around** state, the transceiver can not communicate with other transceivers through repeaters.

Battery Capacity Inquiry

Under the standby conditions, press the programmed key of **Battery Capacity Inquiry**, transceiver will announce the current battery capacity.

Calling Prompting

This function reminds users of current missed call.

Under the standby conditions, the transceiver will send the calling signal after pressing programmed calling key. When the other party receives the calling signal, it reminds users as per the programmed way.

Five call prompting ways:

Oscillation, ring (chord 1), ring (chord 2), oscillation + ring (chord 1), oscillation + ring (chord 2).

Default: oscillation + ring (chord 1) as missed call prompting.

Temporary Deletion of the Interfering Channel

Usage of this function can temporarily delete the interfering channel or channel that has been occupied from scan line. When scan rests on one channel, pressing the programmed key of **Temporary Deletion of the Interfering Channel**, transceiver emits "**Du**" beep and temporarily deletes this channel from scan line. But the priority channels cannot be temporarily deleted. If only one or two channels is in scan line, this operation is not available. Restart the transceiver, you can add the temporarily deleted channels into scan line again.

Open/Close VOX Function

When this function is started, you can begin transmitting by fitted high voice, no need to press the [**PTT**] key.

Under the standby conditions, press [**PF1**] for more than 3 seconds, transceiver will beep and open VOX function. Repeat this action or restart the transceiver to close VOX function.

Note: If you want to open VOX function, you should program this function availably by programming software, otherwise above operation is not working.

VOX Levels Setup

This function use for setting volume level which is needed when doing the VOX transmission. The higher level transceiver sets, the higher volume it needs.

1. Under the standby conditions, press [**PF2**] for more than 3 seconds, transceiver will beeps and comes into VOX level setup state.
2. Press + or − key to choose the VOX level what you need.
3. There are total 5 VOX levels to choose.
4. Press [**PF1**] or [**PF2**] or Emergency Alarm key to exit.

Note: If you want to set VOX levels, you should program VOX function availably by programming software, otherwise above operation is not working.

◦ADVANCED OPERATIONS

The transceiver can realize the following functions by the keys combination:

Keyboard Lockout

In order to prevent wrong operations which lead to make use of transceiver abnormally, Keyboard Lockout will lock the + and − key. Press and hold emergency alarm key to switch on the transceiver until transceiver emits "**Du**" beep. This function is begun. Repeat the above operations till transceiver emits "**Du Du**" beep, this function is ended.

Squelch Levels Setup

This function keeps speaker quiet when no receiving signal. If the receiving signal intensity attain to a certain level, you can hear the other party calling, otherwise transceiver will remain mute.

1. Press [**PF2**] key to switch on transceiver, and continuously press it until transceiver emits "**Du**" beep and comes into squelch level adjusting mode.
2. Release [**PF2**] key, voice indicates the current squelch level.
3. Press + and − key to choose the squelch level what you need.
4. There are Close and 1-5 levels of squelch, total 6 levels to be optional.
5. Press [**PF1**], [**PF2**] or emergency key to exit.

FM Radio Function (Optional)

1. Press and hold + key to switch on the transceiver to come into FM radio mode.
2. Press + key or − key to prompt transceiver current channel and go on seeking FM radio station. When it finds a station, it will automatically rest on this radio station.
3. Press and hold + key and − key synchronously until transceiver emits "**Du Du**" beep or restart the power supply. You can exit the FM radio mode.

Note: If the transceiver is in the FM radio mode, it can still go on receiving and transmitting normally.

Upending Alarm Function (Optional)

Press and hold – key to switch on the transceiver and continuously press – key until transceiver emits "**Du**" beep. The upending alarm function begins working. After that, transceiver will prompt alarm when the abnormally placing conditions happen at least 10 seconds. Restart the power supply and then exit upending alarm function.

◦BACKGROUND OPERATTONS

CTCSS/DCS Encode/Decode

When the transceiver is edited with this function, it can receive the other party calling only if transceiver receives the matching CTCSS / DCS signal.

CTCSS / DCS signal matching you transceiver or transceiver without setting signal can receive your calling.

Wide/Narrow Band Setup

On the basis of national conditions, users can set 25K (wide band) or 12.5K (narrow band) as channel spacing on the transceiver by programming software to communicate.

This transceiver can realize 25K (wide band) or 12.5K (narrow band) as communication way.

Busy Channel Lockout

When activate BCL, you can not transmit in busy channel, BCL prevents you from interfering with other parties who use the same channel that you select, pressing the [**PTT**] while the channel is in use will cause your transceiver to emit an alert tone and return to receive mode.

Please use programming software to setup busy channel lockout mode.

CTCSS / DCS: Repeat lock, transmitting is inhibited when current channel receives a matching carrier with different CTCSS/DCS.

Carrier wave: Carrier busy lock, transmitting is inhibited when current channel receives a matching carrier wave.

Close: BCL disable, you can do transmission under whatever the receiving state.

Scan Accession

User can choose whether add the current channel to scan line or not by programming software. If the current channel is not added in the scan line, transceiver will skip this channel when scanning.

Time-out Timer

The purpose of time-out timer is to restrict transceiver continuous transmission for a long time. If you continuously transmit for a period of time that exceeds the programmed time, the transceiver will stop transmitting and an alarm tone will sound.

The users can set TOT timer on transceiver by programming software.

Time-out Timer Pre-alarm

Time-out timer alarm is to alarm the users that overtime transmission is pending.

Users can program the TOT pre-alarm time what they want by programming software.

Voice Promote

This function is to prompt users to confirmation of entry, wrong operation or trouble state.

There are Chinese report and English report on transceiver. Users can choose what beep they want by programming software.

Battery Save Setup

Transceiver can save the battery consumption efficiently when starting this function. Transceiver will automatically switch on battery save when it is without receiving any signal or making any operations. But when the transceiver receives a matching signal or make operations, it will automatically exit this function.

Priority Scan Setup

There are two priority scan settings of this transceiver. They are Normal priority scan setting and Selected priority scan setting. Users can set the priority scan what they want by programming software. If transceiver set priority scan, under scanning and unreceiving signal state, it will scan per channel and also test priority channel at a time.

○BACKGROUND OPERATTONS

When the non-priority channel receives signal, it will test priority channel according to flyback time A and flyback time B setup by users.

Returning to Appointed Channel

Returning to appointed channel means that transceiver will return to a appointed channel during transceiver scan when press [**PTT**] key to transmit or pause scan.

There are many ways of returning to appointed channel. Users can set the returning ways what they want by programming software.

Programming Software Installing & Starting (Base On WINDOWS XP System For Example)

1. Double click "QPS628 setup.exe", and then install the software as per computer instructions.
2. Click "**START**" menu in computer, choose and click "**USB TO COM port** "entry in the QPS628 program from "**ALL PROGRAMS**" menu. And then install "**USB TO COM port** " drive program as per computer instructions.
3. Connect optional programming cable PC04 to USB port in PC device and connect the transceiver with the other end of cable.
4. Double click QPS628 setup short-cut icon or click "**START**" menu to choose QPS628 entry in the QPS628 program from "**ALL PROGRAMS**" menu. As per computer command, choose serial port "**COM Port** " firstly , 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 has 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.

Resume Factory Default

Transceiver can be setting as factory default through this function for wrong operations or wrong program lead to make use of transceiver abnormally. The operations showed as followings:

Under the closed state, press and hold [**PTT**] key and [**PF1**] key synchronously to switch on transceiver until red light and green light illuminate together, then release these two keys,the transceiver will resume factory default.

Maintaining and Cleaning

If you do not use transceiver, please cover the jack. After the long-term usage of transceiver, [**PTT**] key, control buttons and housing becoming dirty, you can use nature detergent (not using corrosive chemicals) and wet cloth to clean it.

○ TECHICAL SPECIFICATIONS

General	
Frequency Range	VHF：136~174MHz 245~246MHz UHF：400~480MHz
Channel Capacity	128 channels
Channel Spacing	25KHz (Wide Band) 12.5KHz (Narrow Band)
Phase-locked Step	5KHz, 6.25KHz
Operating Voltage	3.7V DC ±20%
Battery Life	More than 12 Hours (1200mAh), by 5-5-90 work cycle
Frequency Stability	±2.5ppm
Operating Temperature	-20~ +55℃
Size	200x58x28mm (with battery pack, antenna)
Weight	158g (with battery pack, antenna)

Receiving Part		
	Wide band	Narrow band
Sensitivity (12dB SINAD)	⩽0.25μV	⩽0.35μV
Adjacent Channel Selectivity	⩾60dB	⩾60dB
Intermodulation	⩾60dB	⩾60dB
Spurious Rejection	⩾80dB	⩾80dB
Audio Response	6dB/ per interval	6dB/ per interval
Hum & Noise	⩾50dB	⩾45dB
Audio Distortion	⩽5%	
Audio Power Output	500mW (at 10%)	
Transmitting Part		
	Wide band	Narrow band
Power Output	3W/1W/TURBO(4W)	
Modulation	16KΦF3E	11KΦF3E
Adjacent Channel Power	⩾60dB	⩾60dB
Hum & Noise	⩾45dB	⩾36dB
Spurious Emission	⩽-36dB	⩽-36dB
Audio Response	6dB/ per interval	6dB/ per interval
Audio Distortion	⩽5%	

Note: Specifications is adjusted for technology improvement. Excuse there is no further notice.

○TROUBLESHOOTING GUIDE

Problem	Corrective Action
No power	A.The battery pack may be exhausting. Recharge or replace the battery pack. B.The battery pack may not be installed correctly. Remove the battery pack 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 correctly charging.	The battery pack 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 or green light always lightens	Turn on squelch when programmed. Non-professionals are advised not to adjust this function.
Regular "**DA DA DA**" sounds after programmed.	Error programmed, the frequency range or selected model do not match the transceiver.
No sound after using microphone for a while	Earphone jack is broken. (Please contact with local dealers to repair it.)
Communication distance becomes short, and it is Low sensitivity	A.Check whether the antenna is in good condition and the antenna base do not come adrift. B.The selected model frequency is not in accord with transceivers' frequency when programming. C.Whether it has set in low power output. (Please contact with local dealers to repair it.)
Cannot talk to or hear other members in your group	A.Different frequency or channel, please change it. B.Different CTCSS / DCS,please reset it. C.Out of communication range.
Can not power on or frequent power-off	Check whether the battery touch is out of sharp or broken.

○TROUBLESHOOTING GUIDE

Problem	Corrective Action
The other party gets low or intermittent receiving sound	Check weather the MIC is stoppage. (Otherwise, please contact with local dealers to repair it.)
Intermittent receiving with big noise.	Out of communication range or obstruct by tall buildings or in basement and so on.
Loudspeaker become lower or with "**ka ka**" sound after using a certain time	Check whether the loudspeaker net is broken. Iron powder or sundries is in the loudspeaker. (Please contact with local dealers to repair it.)
Receive voice from the other party but can not transmit	Check [**PTT**] key. (Please contact with local dealers to repair it.)
Receiving indicating lamp (green light) lightens but no sound	A.Low volume, please turn on clockwise. B.Loudspeaker is broken. (Please contact with local dealers to repair it.) C.Earphone jack is broken. (Please contact with local dealers to repair it.) D.Volume switch is broken. (Please contact with local dealers to repair it.)

CTCSS Frequency Chart

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

○ ATTACHED CHART

DCS Chart

1	017	21	115	41	223	61	315	81	446	101	627
2	023	22	116	42	225	62	325	82	452	102	631
3	025	23	122	43	226	63	331	83	454	103	632
4	026	24	125	44	243	64	332	84	455	104	645
5	031	25	131	45	244	65	343	85	462	105	654
6	032	26	132	46	245	66	**345**	86	464	106	662
7	036	27	134	47	246	67	346	87	465	107	664
8	043	28	**135**	48	251	68	351	88	466	108	703
9	047	29	143	49	252	69	356	89	503	109	712
10	050	30	145	50	**254**	70	364	90	506	110	723
11	051	31	152	51	255	71	365	91	516	111	731
12	053	32	155	52	261	72	371	92	523	112	732
13	054	33	156	53	263	73	411	93	526	113	734
14	**055**	34	162	54	265	74	412	94	532	114	743
15	065	35	165	55	266	75	413	95	**534**	115	754
16	071	36	172	56	271	76	423	96	546	116	**765**
17	072	37	174	57	274	77	**425**	97	565		
18	073	38	205	58	**305**	78	431	98	606		
19	074	39	212	59	306	79	432	99	612		
20	114	40	**217**	60	311	80	445	100	624		

Note: **N** is positive code. **I** is inverted code. Total 232 groups of DCS. Overstriking marks are non-standard DCS.