ZONTON

999 Professional FM Transceiver

THE USER'S MANUAL

Multi-function handheld FM transceiver

THANK YOU!

We are grateful for your purchase of this transceiver.

We believe this easy-to-use transceiver will provide you with dependable and reliable communications.

We adopt advanced technology & workmanship for this transceiver, we trust our aborative design will make it better & quicker service for you. For correct use, please read this manual before use.

MODELS COVERED BY THIS MANUAL

ST-618: VHF FM Transceiver 136-174MHz

ST-618: UHF FM Transceiver 350-390MHz

400-470MHz etc.

The transceiver apply for the software of QXPG-78D

NOTE: For avoiding mistakes, should read the data first, then program.

QUICK-OPERATION GUIDE

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Channel Mode	[DIAL](1 second)+[LOW]	12
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Frequency Mode	[DIAL](1 second)+[SCAN]	12
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Add Channel Scan	Channel Mode and Frequency +Channel Mode. [FUNC](1 second)+[SCAN]	17
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QUICK-OPERATION GUIDE

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Stepping	Frequency Mode [FUNC](1 second)+[#] Press[LOW] to choose stepping level in circle	22
VOX	[FUNC](1 second)+[1]. Rotate [Circumrotate Encoder] to choose gain level	23
Adjust Receiving CTCSS/DCS Decode	[FUNC] (1 second)+ [A].Press [LOW] to choose CTCSS/DCS/ OFF in circle, when in DCS, press [DIAL] to choose Normal or Inverted code.Rotate [Circumrotate Encoder] to choose code.	24
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Slip Frequency	Frequency Mode. [FUNC] (1 second) + 0Press[SCAN] to choose +/- slip frequency Rotate[Circumrotate Encoder] to choose slip frequency value.	25

QUICK-OPERATION GUIDE

Function	Operation	Page
Wide/Narrow Band	[FUNC](1 second)+[4] Choose wide/narrow band in circle	26
Copy Channel	Channel Mode and Frequency+Channel Mode. [FUNC](1 second)+[C] Rotate[Circumrotate Encoder] to choose channel,press PTT to save.	26
Save Channel	Frequency Mode. [FUNC] (1 second)+[C]. Rotate [Circumrotate Encoder] to choose channel, press PTT to save.	27
Delete Channel	Channel Mode and Frequency+Channel Mode. [FUNC](1 second)+[D]. Rotate [Circumrotate Encoder] to choose delete channel,press PTT to exit.	27
Copy Function with Cable	Press[LOW]+[MONI]+Power ON at the same time. Press [MONI] to transmit data,then exit to power off and reboot.	28

PROMPTION

The red indicator flashes when transmitting but it can still communicate	Low battery, need to be charged
The transmitting will stop when the red indicator flashes and "Du" sounds	The voltage of battery is too low.Please charge at once!
"Da da" sounds at intervals.	Out of lock, programmed frequency is out of the range of the transceiver.
The transmitting(last a little while) will stop when hear "Du" sounds from speaker.	TOT alert is ON. Release **PTT** to stop the alert tone.
The transmitting(last a little while) will stop when hear a prompting voice.	TOT alert is ON.
The transceiver transmits after a while of the TOT alerts.	Set Interval after TOT or TOT resume time. After limited time the transceiver can transmit.
When receive signal from other transceiver,the green light ON. Press **PTT** to transmit and "Du" sounds heard,then return to receive signal.	BCL function is ON.

PRECAUTION

For using this transceiver with high safety and efficiency, please read the following information carefully:

1. Repairing is only for qualified technicians.Please do not disassemble the transceiver causally.
2. Do not modify the transceiver causally.
3. Power off when enter into the flammable and explosive places.
4. Please do not change or charge the battery when under the flammable and explosive circumstances.
5. Please power OFF the transceiver before entering the explosive and detonators areas.
6. To avoid the problem caused by electromagnetism interfering or compatibility,please power OFF when you entering into the places where is not allowed to use the transceiver,such as hospitals and airplanes.
7. Please put the device out of the range of the extension of the airbag in the car.
8. Do not expose the transceiver under sunshine for a long time,nor place it close to heating appliances.
9. Please keep the antenna at least 2.5cm far away from you when transmitting.
10. Do not put the device into the dusty,humid and wet areas, nor put it into the rough surface.
11. If the device smelled abnormally or smoking,please power OFF at once,and take out the battery,then contact with the local distributor.

CONTENT

CONTENT

UNPACKING & CHECKING EQUIPMENT

Carefully unpack the transceiver. We suggest that you confirm the items listed in the following table before discarding the packing material. If any items are missing or have been damaged during shipment, contact with the dealer immediately.

■ *SUPPLIED ACCESSORIES*

ITEM		QUANTITY
Antenna	136-174MHz	1
	350-390MHz	
	400-470MHz etc.	
Li-ion Battery Charger		1
Adaptor		1
Li-ion Battery (7.4V 1100mAh)		1
Gallus		1
Belt Clip		1
Screws		1
Instruction Manual		1

Standard Accessories

Antenna

Li-ion Battery Charger

Adaptor

Li-ion Battery

Gallus

Belt Clip

Screws

Instruction Manual

Optional Accessories

Headset

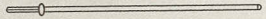
Speaker/Mic (QME-01)

Speaker/Mic (QME-02)

Programming Software

Programming Cable (QXPL-01)

Copy Cable



ST-6.5-150V-1 ST-8.5-400V-1

ST-8.5-150V-2 ST-10-400V-2

High Gain Antenna

BATTERY

NOTES:

Please charge the battery before you use it,because it was uncharged against delivery. The first charging after purchasing or keeping for more than 2 months without using cannot achieve normal battery capacity. After repeating the charge/discharge for 2 or 3 times,the battery can get to the best performance.Please change or charge the battery if low power.

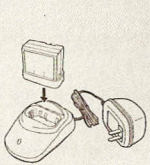
1. *Please use the specific charger, other models may cause explosion and lead to hurt the body.*
2. *Do not short circuit the battery or put it into fire,nor remove the housing of the battery.*
3. *The ambient temperature should between 5℃ and 40℃ while charging. Otherwise, it may not fully charge.*
4. *Power OFF the transceiver with battery while charging.Using the device while charging would affect normal charging.*
5. *To avoid interfering the charging,please do not cut off the power or take out the battery during charging.*
6. *The battery life will over soon when its operating time decreases even though it is fully and correctly charged. Please replace the battery.*
7. *Please do not take out the battery and recharge it after it was fully charged,otherwise the battery would be damaged or the life would be shorten.*
8. *Please do not charge when the battery or the transceiver is damped. Do it before wipe it up to avoid the hazard.*

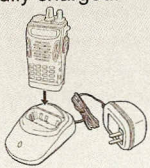
Warning

When jewelry, 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 wil generate a lot of heat, Please be careful when you bring or use the battery, especially put it into the pocket, purse or other metal container.

HOW TO CHARGE

1.Plug the AC adaptor into the AC outlet,then plug the cable of adaptor into the socket at the back of charger. The charger indicator on GREEN.
2.Plug the Li-ion battery pack or transceiver with a Li-ion battery pack into the charger.
a.Make sure the battery is connected with the charging terminal.
b.The indicator lights RED while charging.
3.When it is 90% charged(about 4 hours),the indicator turns to LIGHT GREEN (and need to be charged for 2 hours more).
4.The indicator turns to GREEN while fully charged.





NOTE

- *After charging the supplied battery for 6 hours,remove it or transceiver equipped with the battery from the charger. Please do not charge for over 10 hours,nor place it in charger for recharging.Over-charging will shorten the life of the battery and affect its performance.*
- *Please pay attention to the local net power,in order to supply different adaptors.*

How to Store

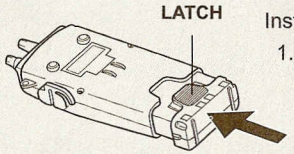
1.If the battery needs to be stored,it should keep in the status of 50% charged.
2.It should be keep in low temperature,dry environment.
3.Keep it far away from heating places,included the place where the sunshine is too strong.

INSTALLIN THE ACCESSORIES

Installing/Removing the Battery

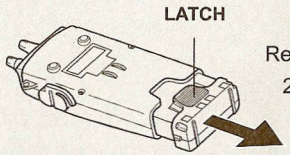
Warning

- *Do not short circuit the battery and put battery into fire.*
- *Do not try to remove the housing of battery pack.*
- *Do not install battery in the dangerous circumstance,it may cause explosion.*
- *Do not place them in high temperature place or put it into fire, in case of explosion.*



Installing the Battery :

1. Slide the battery pack along the back of the transceiver until the release latch on the base of the transceiver locks.



Removing the Battery :

2. Press the release latch and slide the pack away from the transceiver.

The transceiver performs best when the Li-ion battery pack is fully charged,especially for long-time transmitting or continuously use.

INSTALLING THE ACCESSORIES

Installing/Removing the Antenna

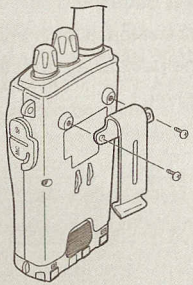
Installing the Antenna :

Screw the antenna into the connector on the top of the transceiver and turn clockwise to fasten it.

Removing the Antenna :

Turn the antenna counterclockwise to remove it.

Installing/Removing the Belt Clip



Installing the Belt Clip :

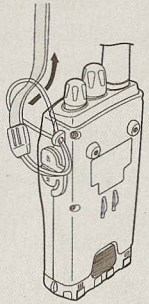
Aim the screw eyes of belt clip and the Al. shell of transceiver at each other,then fasten the belt clip with the screws.

Removing the Belt Clip :

When remove the belt clip,fastening its fixed screws.

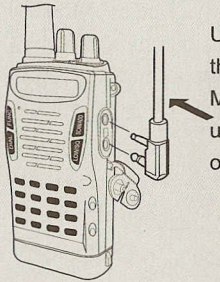
INSTALLING THE ACCESSORIES

Installing the Gallus

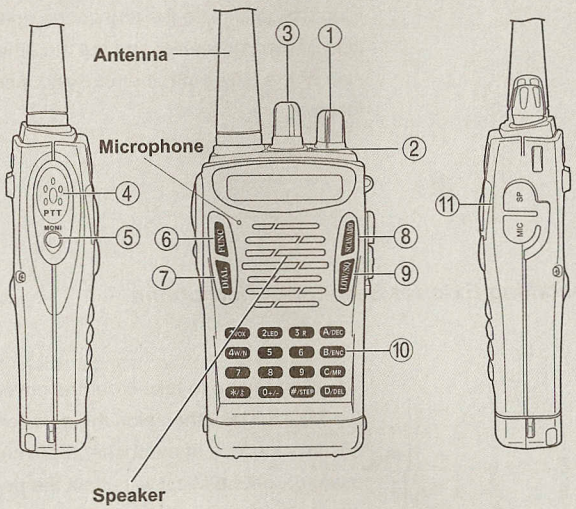


Plug the gallus into the ring on the right side of the transceiver,and put the other side of the gallus into the ring, and then fasten it.

Installing Exterior Earphone/Microphone



Unveil(not need to take it out)the cover of the MIC-SP jack,then plug the earphone/Mic into the jack of earphone/Mic.When using earphone/Mic,it will affect the perf-ormance of waterproof.



1. Power Switch/Volume Control

Turn clockwise to power ON and adjust volume while turn counterclockwise to power OFF.

2. LED Indicator

Lights RED while transmitting,lights KELLY while receiving, flashes RED while in low battery.

3. Circumrotate Encoder

Rotate to select channels, and also work with other function keys to set functions.

4. [PTT] Switch

Press,then speak into the microphone to transmit, and also work with other function keys to set functions.

5. [MONI] Key

According to how to program auxiliary functions of this key. Please refer to P30 of the details instruction,press ON/OFF the programmable auxiliary function,and also work with other function keys to set functions.

6. [DIAL] Key

Use to store/confirm/transmit/delete DTMF number,also using as a function key.

7. [FUNC] Key

Function key,press to unlock other functions setting.

8. [SCAN] Key

Press to begin or stop scanning,and also work with other function keys to set functions.

9. [LOW] Key

Press to choose transmitting in High/Low power,and also work with other function keys to set functions.

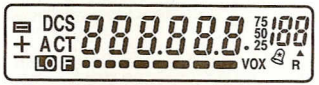
10. [DTMF] Keypad

Use to store and transmit DTMF number,and also work with other function keys to set functions.

11. MIC-SP Jack

Connect earphone/microphone bought by users.

LED Screen



ICON	INSTRUCTION
—	Displays when monitoring the channels (Squelch ON)
A	Dsiplays when the selected channels are in the scan list while displays nothing when the channelis out of scan list.
888.88.8	Displays the working frequency or channel number.Select different functions displays different numbers.
188	Displays all kinds of numbers as per selected functions.
R	Displays when the Reverse Frequency function is ON
VOX	Displays when VOX function is ON.
▬▬▬▬▬▬	While receiving,it means signal strength (the more,the stronger), while transmitting, it means power(the more,the higher).
F	Displays when pressing FUNC to set the functions
LO	Displays when transmitting in low power.
+	Displays when Key Locked function is ON.
▲	Displays when using narrow band.
CT	Displays when CTCSS function is ON.
DCS	Displays when DCS function is ON.
▭	Displays when setting Slip Frequency function.
75 50 .25	Mantissa of frequency.

Power ON/OFF

Turn [Power Switch/Volume Control] clockwise to power ON the transceiver.

Turn [Power Switch/Volume Control] counterclockwise to power OFF the transceiver.

Volume Control

Rotate [Power Switch/Volume Control] to adjust volume.Turn clockwise to turn up the volume while turn counterclockwise to turn down. When adjusting the volume,press MONI to monitor the background noise.

- When communicating with others, you need to adjust the volume correctly.

Choose Displaying Mode

There are 3 kinds of displaying modes for free choice.

Channel Mode

Press DIAL for 1 second (the prompting voice would be heard if set),"F " flashes on the screen,then press LOW.

- The current channel displays on the screen.

Frequency+Channel Mode

Press DIAL for 1 second,and then press again.

- The current communicating frequency and channel displays on the screen.

Frequency Mode

Press DIAL for 1 second, and then press SCAN.

- The current communicating frequency displays on the screen.

NOTE

- *Channel mode displays UNPG if any channel hasn't been programmed.You can only press DIAL to change to frequency mode.*

Choose Channel

This function is valid under the display mode of Channel and Frequency+Channel.Rotate[Circumrotate Encoder] to choose needed channel.Turn clockwise to increase the channel number while turn counterclockwise to decrease it.

NOTE

- *When the programmed frequency of chose channel is out of the range of transceiver, it will alert you out of lock.*

- The screen displays chose channels.

Choose Frequency

This function is valid only under the display mode of Frequency. There are 2 ways for free choice.

1. Input frequency

   Rotate [Circumrotate Encoder] to choose frequency,turn clockwise according "stepping" to increase frequency while turn counterclockwise to decrease it.

   - The selected frequency displays on the screen.

NOTE

- *Please select the stepping before circumrotate encoder to choose frequency. (Refer to P22 of "STEPPING")*

2. Input frequency on Keypad

- Press [DTMF],then input the frequency directly.
  E.g. linput 4,0,3,0,5,0 when communicating in 403,050MHz, he screen displays 403,050, that means you can communicate in 403,050MHz.

NOTE: Input frequency on keypad is related to stepping,use Circumrotate Encoder to select and adjust frequency.

- The input frequency displays on the screen.

⚠ NOTE

- *When inputting wrong frequency,press [MONI] to cancel.*
- *Frequency range and stepping frequency of transceiver would restrict the frequency you input.Please pay more attention about the stepping you set.*

Squelch

When there is no signal,squelch function can mute loudspeaker. When squelch function is ON,you will hear the background noise from the loudspeaker, while the squelch is OFF you will not hear the background noise. The squelch level you choose will decide when your squelch is ON/OFF. If the level is too high,you cannot get weak signal, if the level is too low, the signal will appears in the background noise.

How to Adjust Squelch

1. Press FUNC for 1 second, then press LOW.
   - The screen displays "_SqL" and the current squelch level.

2. Turn the encoder from 0(open) to 9(tightest) to select the squelch level.
   - Turn clockwise to increase the squelch level,turn counter-clockwise to decrease the squelch level.
3. Press any key to end the setting.
   - Return to normal operation.

Transmitting

According to different settings for the monitor function,press MONI to monitor the loudspeaker for a moment,and confirm there is no broadcasting station is transmitting on the selected channel. Press PTT, and then speak into the microphone.

1. Please keep the microphone approximately 3~4cm from your mouth,and speak in normal speaking voice to ensure best performance.
2. When pressing PTT, LED lights RED.
3. Release PTT to receive.

Receiving

If the working channel is called, LED lights Green,you can receive the call.

- If the signal is weak and you have set the higher squelch level,you may miss the call.
- Local dealer may program the CTCSS/DCS.You could only receive calling from the station that selected the same CTCSS/DCS as yours. Other callings cannot be heard.

High/Low Power

For tansmitting in high power,large waste in battery,thus it dose not need high power in short distance communication, we can choose low power to save battery, while we use high power when in long distance communication. Press LOW to choose High/Low power.

- Low power,displays "LO" on the screen while high power displays nothing.

Add Scanning Channel

This function is valid only under the display mode of Channel and Frequency+Channel.You can choose channels for scanning.

1. Rotate [Circumrotate Encoder] to choose add scanning channels.
2. Press FUNC for 1 second to set the function ON.
   - "F" flashes on the screen.
3. Press SCAN to add/cancel the added scanning channels.
   - The channel displays "A" on the screen while it is added to scan.
   - The channel displays nothing while it is not added to scan. Repeat the above operation,channel will alternate between scan and non-scan.

Channel Scanning

This function is valid only under the display mode of Channel and Frequency+Channel, which is used to monitor every added scanning channel of the transceiver. When scanning, the transceiver will check every channel and only stop in the channel with signal.

⚠ NOTE

- *Scan will quit in the channel out of scanning.*
- *The transceiver will alert out of lock when the set scanning channel frequency is out of its frequency range,the transceiver will continue scan.*
- *You can only scan when programming at least 2 channels which are the added scanning of the transceiver.*

1. Press SCAN to begin scanning.
   - Scan starts from current channel,and channel number increases gradually. Screen displays "SCAN".
   - The transceiver will stay in the communicating channel until the signal disappears. Scan will return after signal disappears for 4 seconds, unless there is new signal appears within these 4 seconds.
2. Press any key except MONI to end scanning.

Frequency Scanning

This function is valid only under the display mode of Frequency. It is used to monitor the signal in every frequency of the stepping.When scanning,transceiver will check the increased stepping and only stop in the frequency with signal.

1. Press SCAN to begin scanning.
   - Scan starts from current frequency,and increases according to the stepping.
   - Screen displays "SCAN"

> **NOTE**
>
> *When the increased frequency range is out of transceiver frequency, it will turn to the lowest frequency to increase as per "stepping".*

The transceiver will stay in the communicating frequency until the signal disappears. Scan will return after signal disappears for 4 seconds, unless there is new signal appears within these 4 seconds.

   - When scan quit in a specific frequency,the screen displays frequency rate, the dot between frequency will flash on the screen.

2. Press any key except MONI to end scanning.

DTMF Calling

Manually Dialing

Press PTT, and then enter the needed numbers.

- Press PTT,then enter the first digit you input,release PTT, and then release the digits keypad,the transceiver will keep transmitting within 2 seconds,you need not keep pressing PTT to dial.
- When transmitting DTMF, microphone will be muted,you can monitor the double-audio-frequency through loudspeaker.

Automatically Dialing

Dial Saved DTMF Numbers

Dial saved DTMF number of the memory number units.

1. Press DIAL to enter the dial-up mode.
   - Screen displays "____d"
2. Input the dialed memory number units (1~9)
   - Screen displays and scrolls the calling numbers and sounds DTMF.
3. Return to the former display automatically.

Redial DTMF Numbers

Redial the last transmitted DTMF number (16 digits max.)

1. Press DIAL to enter the dial-up mode.
   - Screen displays "____d"
2. Press [0] to dial the last transmitted number.
   - Screen displays and scrolls the calling numbers and sounds DTMF.
3. Return to the former display autimatically.

Save DTMF Numbers

1. Press DIAL to enter the dial-up mode.
   - ◆ Screen displays "____d"
2. Press [#] to enter the store mode.
3. Enter the numbers in the DTMF keypad.
   - ◆ If you input incorrect number, press MONI to clear it and enter the correct one.
4. Press DIAL after input the digits, and then enter digits of the memory channel numbers (0~9).
   - ◆ Return to the former display.

Confirm Saved DTMF Numbers

Check the memory channel number units.

1. Press DIAL to dial-up mode.
   - ◆ Screen displays "____d"
2. Press [*] to enter confirmed saved mode.
3. Enter the needed memory number units (1~9)
   - ◆ Screen displays and scrolls the saved DTMF numbers and sounds correspongding DTMF.
4. Return to the former display automatically.

Delete Saved DTMF Numbers

Delete the memory channel number units.

1. Press DIAL to enter the dial-up mode.
   - ◆ Screen displays "____d"
2. Press [D] to enter the delete mode.
   - ◆ Screen displays "clr__d"

Press any key except digit keys from 1 to 9 to cancel the operation.

3. Input the needed delete DTMF numbers (1~9).
   - ◆ The selected DTMF numbers were deleted.
4. Return to the former display automatically.

Key Locked

This function is to avoid operating transceiver incorrectly,to lock keypad of the transceiver.

1. Press FUNC for 1 second, the function is ON.
   - ◆ " F " flashes on the screen.
2. Press [*] to enter Key Locked.
   - ◆ "+" displays on the screen.
   - ◆ When key locked function is ON, all the keys are invalid except PTT,MONI,FUNC.

To unlock keypad of the transceiver, please repeat the above operation.

Lightening

You can set the lightening function to be automatism, connection or off.

1. Press FUNC for 1 second, the function is ON.
   - ◆ " F " flashes on the screen.
2. Press [2] to select lightening function.
3. Rotate [Circumrotate Encoder] to select the needed setting.
   - ◆ Displays "A " for automatism. The light on screen will light for 5 seconds when press any key except PTT and MONI, and then put out automatically.
   - ◆ Displays "ON" for connection. The light on screen will light when the transceiver is power ON.
   - ◆ Displays "OFF" for cutting off. The light on screen will not work.
4. Press any key to end setting,and return to the former display.

Reverse Frequency

Transmitting and receiving frequency will reverse when using the reverse frequency function. It means to transmit with receiving frequency, to receive with transmitting frequency.If set CTCS S/DCS function,encoding and decoding signal will also reverse.

1. Press FUNC for 1 second, the function is ON.
   - ◆ "F" flashes on the screen.
2. Press [3] to set reverse frequency function ON.
   - ◆ Screen displays "R"

While changing channel/frequency or scanning,the reverse frequency function is OFF.

3. Repeat the above operation,the channel will alternate between ON/OFF reverse frequency.

Stepping

This function is valid only under the mode of full range of Frequency. Setting setpping would restrict the transceiver choosing frequency and frequency scanning.

1. Press FUNC for 1 second, the function is ON.
   - ◆ "F" flashes on the screen.
2. Press [#] to select stepping frequency.
   - ◆ Screen displays the current stepping frequency.
3. Press LOW to choose stepping frequency in circle.

5	means stepping is 5KHz
6.25	means stepping is 6.25KHz
12.50	means stepping is 12.50KHz
25	means stepping is 25KHz
50	means stepping is 50KHz
1.000	means stepping is 1.000KHz
10.000	means stepping is 10.000KHz

4. Press other key to end setting,and return to the former display.

VOX

This transmitting function can communicate hands-freely. When using VOX, if microphone's gain is higher than VOX gain, the transceiver will turn to transmitting mode automatically while return to receiving mode after 2 secends if microphone's gain is lower than VOX gain. Owing to switching between transmitting and receiving, we suggest not transmit when setting VOX gain if the surrounding is too noisy.

1. Press FUNC for 1 second, the function is ON.
   - ◆ "F" flashes on the screen.
2. Press [1] to enter VOX function.
   - ◆ "VOX" flashes on the screen,at the same time the top right corner of the screen displays the current VOX transmitting gain.
3. Rotate [Circumrotate Encoder] to select the VOX transmitting gain from "OF" to "3".
   - ◆ Turn clockwise to increase VOX transmitting gain while turn counterclockwise to decrease it.
   - ◆ Screen displays "OF" when VOX is OFF. "1" means low gain, "2" means middle gain, "3" means high gain.
4. Press any key to end setting.
   - ◆ Screen displays "VOX" when select the gain from 1 to 3 and displays nothing when VOX function is OFF.

CTCSS/DCS

When the channel setting CTCSS/DCS code,the squelch function ON only received the corresponding CTCSS/DCS code. And, the transceiver which has the same CTCSS/DCS code can receive the signal you transmit.

◆ Program CTCSS/DCS code in your transceiver can help you to ignore (not hear)some unnecessary callings from ther transceiver.But that not means your calling is privacy.

Adjust Receiving CTCSS/DCS Decode

1. Press FUNC for 1 second,the function is ON.
- ◆ "F" flashes on the screen.

2. Press [A] to adjust receiving CTCSS/DCS decode.
- ◆ Screen displays the current code.

3. Press LOW to select the mode of CTCSS/DCS/OFF in circle.
- ◆ Displays "q" before the digits when select CTCSS code, displays "d" before the digits when select DCS code, select "OFF" to delete.
- ◆ When select DCS code, press DIAL to choose Normal or Inverted code. Inverted code displays " - " while Normal code displays nothing.

4. Rotate [Circumrotate Encoder] to select new CTCSS/DCS code.

5. Press any key except PTT and MONI to exit and store the adjusted code.
- ◆ Set CTCSS decode,screen displays "CT" while receiving.
  Set DCS decode,screen displays "DCS" while receiving.
  Set OFF,screen displays nothing.

Adjust Transmitting CTCSS/DCS Encode

1. Press FUNC for 1 second, the function is ON.
- ◆ " F " flashes on the screen.

2. Press [B] to adjust receiving CTCSS/DCS encode.
- ◆ Screen displays the current code.

3. Press LOW to select the mode of CTCSS/DCS/OFF in circle.
- ◆ Displays "q" before the digits when select CTCSS code, displays "d" before the digits when select DCS code, select "OFF" to delete.
- ◆ When select DCS code, press DIAL to choose Normal or Inverted code. Inverted code displays " - " while Normal code displays nothing.

4. Rotate [Circumrotate Encoder] to select new CTCSS/DCS code.

5. Press any key except PTT and MONI to exit and store the adjusted code.
- ◆ Set CTCSS decode,screen displays "CT" while transmitting.
  Set DCS decode,screen displays "DCS" while transmitting.
  Set OFF,screen displays nothing.

Slip Frequency

This function is valid only under the display mode of Frequency, setting the slip frequency of receiving and transmitting it.

1. Press FUNC for 1 second, the function is ON.
- ◆ "F" flashes on the screen.

2. Press [0] to set slip frequency.
- ◆ Screen displays the current slip frequency status.

3. Press SCAN to select +/- slip frequency.
- ◆ " ▭ " displays before the frequency when it is - slip frequency, while + slip frequency displays nothing.

4. Rotate [Circumrotate Encoder] to increase/decrease slip frequency as per the stepping.
- ◆ Screen displays slip frequency.

5. Press other key to exit and store the setting.

Wide/Narrow Band

The user can set transceiver to communicate in wide/narrow band freely according to different countries.

> **NOTE**
>
> *High volume but big distortion when the transceiver with wide band talk to the transceiver with narrow band,and squelch switches OFF as the increasing of volume.Low volume but large noise when the transceiver with narrow band talk to the transceiver with wide band.*

1. Press FUNC for 1 second to set the function ON.
   - " F " flashes on the screen.
2. Press [4] to select Wide/Narrow band.
   - Narrow band displays " ▲ " on the screen while wide band displays nothing.

Repeat the above operation to choose Wide/Narrow band in circle.

Copy Channel

This function is valid only under the display mode of Channel and Frequency+Channel. Copy one channel data of the tranceiver to other channel.

1. Select the needed copy channel.
2. Press FUNC for 1 second to set the function ON.
   - " F " flashes on the screen.
3. Press [C] to select the saved copy channel.
   - Screen displays the saved channel.
4. Rotate [Circumrotate Encoder] to select the channel.
   - Press any key except [PTT] to exit but not store.
5. Press PTT to store and exit.
   - Now the initial channel data is the same with saved channel data.

Save Channel

This function is valid only under the display mode of Frequency. Program receiver channel when the transceiver without any exterior equipment.

1. Enter the Frequency mode. Select the frequency,slip frequency,encode/decode signal,etc.
2. Press FUNC to set the function ON.
   - " F " flashes on the screen.
3. Press [C] to select the saved channel.
   - Screen displays the saved channel.
4. Rotate [Circumrotate Encoder] to select the saved channel.
   - Press any key except PTT to exit but not store.
5. Press PTT to store and exit.
   - The programmed data under full range of Frequency mode was stored in the saved channel.

Delete Channel

Delete the programmed channel data of the transceiver.

1. Press FUNC for 1 second, the function is ON.
   - " F " flashes on the screen.
2. Press [D] to select the deleted channel.
   - Screen displays the deleted channel.
3. Rotate [Circumrotate Encoder] to select the needed delete channel.
   - Press any key except PTT to exit but not store.
4. Press PTT to store and exit.
   - This channel data was deleted and never displays besides you reprogrammed it.

ADVANCED OPERATION

Copy Function with Cable

Copy function with cable is that copying the data from a transceiver to another transceiver without any exterior equipment.

> ⚠ NOTE
>
> ◆ *This function is ON only when the local distributor set it for you.*

1. Power off the main transceiver. Press **[LOW]** and **[MONI]** at the same time to power on and enter into the copying status. The screen displays "COPY".
2. Repeat STEP 1 for the target transceiver. The screen displays "COPY" too.
3. Connect the two transceivers with specified copying cable.
4. Press **[FUNC]** of the main transceiver to begin to copy. The screen displays "COPY-t", sending its data to the target transceiver.
5. The two transceivers display "COPY" when finishing the copying and back to copying stand-by status. If it is needed to copy to another target transceiver, the target transceiver should enter into copying status first, and then repeat STEP 3 and STEP 4. Repeat the operations for multi-transceivers.
6. Restart the power again when finishing copying, and the machine will back to normal working status.
   - ◆ When in stand-by status, displays COPY.
   - ◆ When in receiving status, displays COPY-r.
   - ◆ When in transmitting status, displays COPY-t.

AUXILIARY OPERATION

Adopt QXPG-78D(Software) and QXPG-01 (Program cable) to program.

Time-Out Timer

The purpose of the Time-out timer is to prevent any single person from using a channel for an extended period of time. If you continuously transmit more than limited time, the transceiver will stop transmitting and an alert tone will sound. To stop the tone, release PTT.

- ◆ Pre-caution before TOT: The alert tone sounds before the limited TOT time of the transceiver.
- ◆ Interval after TOT: It is interval after limited TOT time you have set. You cannot transmit during this interval.
- ◆ TOT resume time: Pre-set TOT resume time,when this function is on,you can not transmit before TOT resume time. Only when resume time arrives,then can transmit again.

[MONI] Key Setting

MONI key can be set as the following auxiliary functions.

- ◆ ***Squelch OFF(Default setting)***
  Press to hear the background noise,release to return the normal operation.It is used to get the weak signal which you can't get even operated correctly.
- ◆ ***None(No function)***
  No operation if press.
- ◆ ***Activate Monitor***
  Press to set CTCSS/DCS OFF, press again to return normal operation.

◆ **Monitor Momentary**
Press to set CTCSS/DCS OFF, release to return normal operation.

Busy Channel Locked

When this function is ON, it can avoid interfering other stations of the same channel using with yours.When press PTT, if the channel is being used,your transceiver will alert, and return to the receiving status.

Battery Save

The battery save function is ON when a signal is not being received and no operations are being performed(no keys are being pressed,and no switches are being turned).And it can decrease the amount of power used.While the channel is not busy and no operation is performed for 5 seconds this function is ON,and while a signal is received or an operation is performed this function is OFF.

Prompting Voice

You can choose prompting voice ON/OFF. This covers all prompting voice of the transceiver.

Low Battery Warning

Low battery warning alerts you when the battery needs to be charged or changed. If low power, when transmitting, the indicator flashes and it can transmit continuously.If the voltage is too low, when transmitting, the indicator flashes and an alert

tone sounds,stop transmitting and the indicator flashes.Please change or charge the battery.

PTT ID

PTT ID is used to continue or stop some repeaters and telephone system. Press PTT to transmit ID signal if set begin transmitting. Release PTT to transmit ID signal if set stop transmitting.Press PTT then release it to transmit ID signal if set begin and stop transmitting signal.

Input Information

You can write your own information(64 characters max.) storing in the transceiver.

MAIN TECHNOLOGY PARAMETER

Frequency Range	136-174MHz
	350-390MHz
	400-470MHz etc.
Working Temperature	-20℃~+55℃
Frequency Synthesization	PLL
Working Voltage	DC7.4V (2 Rechargeable Li-ion battery)
Number of Channels	128 Channels
Antenna Configuration	Coil Loaded Antenna
Antenna Impedance	50Ω
Working Way	Simplex in same channel Simplex in different channel
Grounding	Cathode
Size	100mm×52mm×27mm
Weight	230g

Transmitting

Output Power	High power 4W, Low power 1 W
Modulation	FM
Max. Fre. Deviation	Wide≤±5KHz Narrow≤±2.5KHz
Residual Wave Radiation	≤-65dB
Pre-emphasis	6dB
Transmitting Current	High≤1200mA Low≤600mA

MAIN TECHNOLOGY PARAMETER

Receiving

Sensitivity	Wide band <0.18μV Narrow band<0.25μV (12dB SINAD)
Squelch Sensitivity	0.18μV
Intermodulation Interference	60 dB
Audio Power	≥0.5W
Receiving Current	≤200mA
Squelch Standby Current	20mA

NOTE

- *No further advise for changing the specification.*

Trouble Shooting

Trouble phenomenon	Shooting method
No power	Maybe out of battery,please charge or replace it.Maybe the battery is not correctly installed, try again!
Unable to talk with others in the group	Check whether the frequency and CTCSS is same as that of other members,whether other members are in valid communication distance of transceiver.
There is disturbance from other members.	Please modify CTCSS,also signal order of other members or to work in other frequency.
The battery life is short even after correctly charged.	The battery's life is over, replace with a new one.
Noisy after being programmed	Squelch is open when programming, non-professional users please do not modify parameters causally
Some regulated"Da da da" sounds after being programmed	Some errors happen when program it.Maybe it is out of working frequency range.
The transceiver can't scan	Haven't programmed the channel into the scan list
There is no sound after using the earphone for a period.	Something wrong with ear bud(send it to distributor for reparation.)
Communication distance closer and sensitivity weaker.	Whether the antenna and its connector is complete,whether set to be in low power(send it to distributor for reparation)

Trouble Shooting

Trouble phenomenon	Shooting method
It can receive but not transmit.	Check PTT key. (Send it to distributor for reparation)
Power off often	Check whether the connector of battery is complete.
The voice is too low,and often cut off.	Check whether the MIC jack is block with something.(Send it to distributor for reparation)
Receiving signal unconsciously,and with big noise.	Out of communication distance, or block with high buildings, or using it in the underground building. (Send it to distributor for reparation.)
Speaker with "Ka ka" sound after using for a period of time.	Check whether there is something on the cover of speaker.(Send it to distributor for reparation.)
No sound from speaker	Check whether it is in Min. volume. (Send it to distributor for reparation.)