

QP-650
user manual

Quantun Electronics,LLC

THANK YOU

We are grateful for your choice of Quantun transceiver.

This Professional two-way radio incorporates the advanced technology and craft. You will be pleased with the quality and features of our product. Please read this manual carefully to ensure you know how to properly operate the radio before use.

NOTICES TO THE USER

- Government law prohibits the operation of unlicensed radio transmitters. Illegal operation is punishable by fine or imprisonment Of both.
- To avoid problem caused by electromagnetic interference and electromagnetic compatibility, please turn off the transceiver at the sites where you are required, such as hospital, airplane etc.
- In the vehicle equipped with air bag safety, don't put the transceiver within the scope of the air bag inflation.
- Please turn off the transceiver before step into the inflammable and explosive places.
- Don't transmit for a long time, it may damage the transceiver or it may cause scald.
- Don't use the transceiver which antenna is damaged or else when the exposed metal touch the skin, it may cause scald also.
- Don't expose the transceiver to long periods of direct sunlight, nor place it close to heating appliances.
- If belt the transceiver on with belt clip, please notice that the distance Between body and antenna should be more than 5cm when transmitting.
- If an abnormal odor or smoke is detected coming from the transceiver, switch OFF the power immediately and remove the optional battery pack from the transceiver. Contact our dealer nearby.

User Safety, Training, and General Information



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

Compliance with RF Energy Exposure Standards

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

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

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

- United States Federal Communications Commission, Code of Federal Regulations; 47CFR part 2 sub-part J
- American National Standards Institute (ANSI)/Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1992
- Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1999 Edition
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998
- Ministry of Health (Canada) Safety Code 6. Limits of Human Exposure to Radio Frequency Electromagnetic Fields in the Frequency Range from 3KHz to 300GHz, 1999

Operational Instructions and Training Guidelines

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

Transmit and Receive

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

Hand-held radio operation

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

Body-worn operation

- Always place the radio in a Quantun approved clip, holder, holster, case, or body harness for this product. Use of non-Quantun-approved accessories may exceed FCC RF exposure guidelines.
- If you do not use a Quantun approved body-worn accessory and are not using the radio in the intended use position in front of the face, then ensure the antenna and the radio are kept one inch (2.5 cm) from the body when transmitting.

Antennas & Batteries

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

Approved Accessories

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

FCC Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Industry Canada Compliance

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 Canada.

FCC Requirements

Your radio must be properly licensed by the Federal Communications Commission prior to use. Your Quantun Wireless dealer can assist you in meeting these requirements. Your dealer will program each radio with your authorized frequencies, signaling codes, etc., and will be there to meet your communications needs as your system expands.

Caution:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This device complies with part 15 of the FCC Rules.

Operation is subject to the condition that this device does not cause harmful interference

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Unpacking and Checking Equipment

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 Sureave dealers immediately.

■ Supplied Accessories

Strap

ITEM	QUANTITY
Antenna	1
Charger	1
Switch Power Supply	1
Li-ion battery pack	1
Belt Clip	1
Instruction Manual	1

Battery Information

■ Charging Notice

The battery is not charged at the factory, which can not reach its full capacity for the first charging. After being charged and discharged two or three times, it will get optimum. When the battery power is low, it either needs to be charged or replaced by a new one.

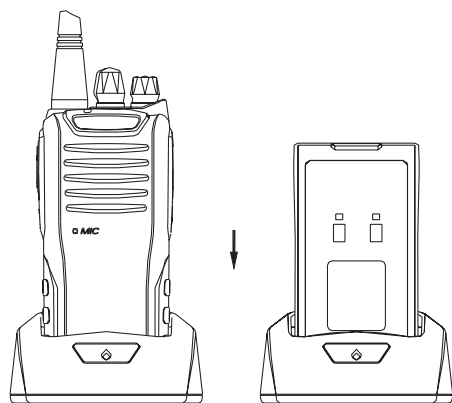
Notices:

- 1、Do not short the battery terminals or throw the battery into the fire.
- 2、In order that the battery attached to the radio is fully charged, the radio needs to be turned off.
- 3、Do not leave the battery or the radio with battery into the charger if it needs not to be charged. Otherwise, the battery life will be shortened.
- 4、Do not charge the battery whose power is high. Overcharging will shorten the battery life.
- 5、Store the battery in a place about room temperature (25℃) if possible. Charging the battery in temperature less than 10℃ may cause electrolyte leakage and damage the battery.
- 6、Charging the battery in temperatures greater than 35℃ will affect work of the battery and further affect the use of the radio.

■ Charging Instruction

Insert the battery or the radio with the battery into the charger, and make sure than the battery connectors are in contact with the charging terminals. The LED indicators glows red during charging and green when the battery is fully charged.

LED INDICATOR	CHARGING STATUS
Red	Charging
Green	Fuil Charge



Care and Cleaning

- 1、 Do not carry your radio by the antenna or remot microrhone;
Wipe the battery contacts with a lint-free cloth to re-move dirt,
- 2、 grease,or other material that may prevent good electrical connection;
- 3、 When not in use,keep the accessory jacks covered with the protective caps;
- 4、 Clean the shell,controls and keys of your radio wyth neutral detergent and warm water after a long period df usage.Avoid using strong chemicals.

Accessory Installation

Attaching the Battery

1. Turn off the radio.
2. Insert the tabs at the bottom of the battery into the slots at the bottom of the radio chassis.
3. Press the top of the battery towards the radio until a click is heard. (See Figure 1)

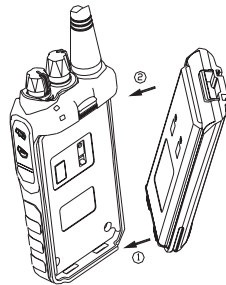


Figure 1

Removing the Battery

1. Turn off the radio.
2. Push the battery latch on the back panel towards the top of the radio.
3. Pull the top of the battery away from the radio chassis, and lift the battery from the radio. (See Figure 2)

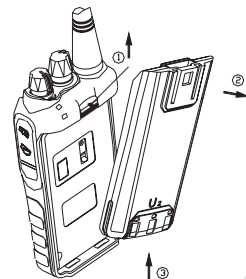


Figure 2

Attaching the antenna

1. Align the threaded end of the antenna with the Radio's antenna connector.
2. Turn the antenna clockwise to tighten. (See Figure 3)

Removing the antenna

1. Turn the antenna counterclockwise until you can remove it. (See Figure 3)

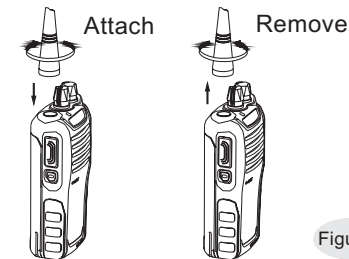


Figure 3

Attaching the Belt Clip

1. Align the grooves of the belt clip those of the battery.
2. Press the belt clip downwards until the belt clip tab locks. (See Figure 4)

Note: attach the belt clip before installing the battery.

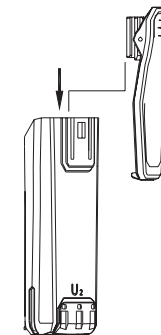


Figure 4

Removing the Belt Clip

1. Press the belt clip tab upwards until it releases.
 2. Slide the belt clip upwards to remove it. (See Figure 5)
- Note: remove the battery pack prior to removing the belt clip.

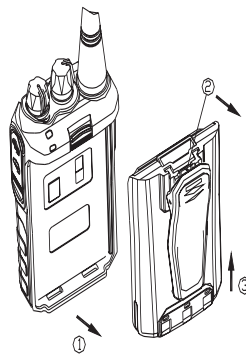


Figure 5

Attaching External Earphone(Optional)

1. Remove the cover of earphone jack.
2. Rotate the cover until earphone jack comes into view. Insert the earphone plug into the jack. (See Figure 6)

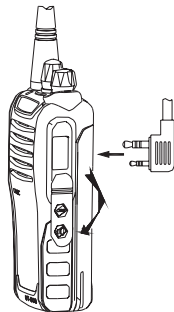
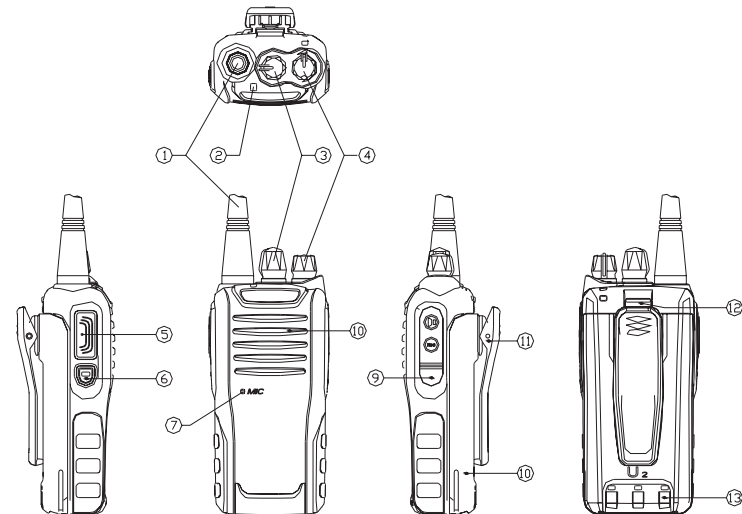


Figure 6

Radio Overview



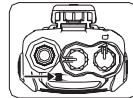
(1) Antenna

Used to transmit/receive signals.

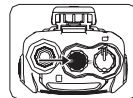


(2) LED Indicator

The radio LED glows red during transmission and green during reception; The LED flashes red when battery voltage is low.

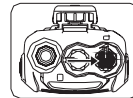


(3) Channel Selector Knob



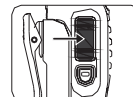
(4) Power/Volume Control Knob

Rotate the knob clockwise until a "click" sound is heard to turn the radio on, fully counter clockwise until a "click" is heard to turn the radio off. When the radio is on, turn the knob to adjust volume.



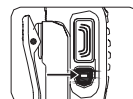
(5) PTT Key

Hold down the [PTT] key to transmit, release it to receive.



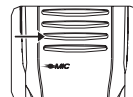
(6) Function Key

The key can be programmed to access the radio features with the preset type of key pressing through the programming software.



(7) Microphone

Used to input sounds.



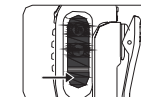
(8) Speaker

Used to output sounds.



(9) External Jack (for external earphone or radio programming)

Rotate the jack cover and insert accessory plug or insert programming cable into the jack to program the radio via programming software.

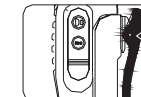


(10) Battery



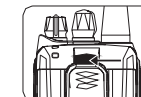
(11) Belt Clip

Used to clip radio on your belt.



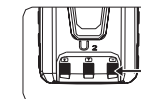
(12) Battery Latch

Used to fasten and remove the battery.



(13) Charging Connector

Insert the battery into the charger; connect the charging connectors with those on the charger to begin charging.



Basic Operation

1. Turn on the radio: Turn the Power/Volume Control Knob clockwise until a "click" is heard.
 2. Adjust the volume: Turn the Power/Volume Control Knob to adjust the volume. When function key is programmed with monitor feature, turn the knob while holding down the function key to adjust the volume to a comfortable level.
 3. Select a Channel: Rotate Channel Selector knob to select your desired channel.
 4. Transmit: Hold down the [PTT] key, speak into the microphone with normal voice. Keep microphone about 5cm away from your mouth.
 5. Receive: Release the [PTT] key, the radio returns to receive mode.
- Note: when battery voltage becomes too low, transmission will stop and radio LED flashes red. Please refer to "Low Battery Alert" for more details.

VOX Operation

Connecting a VOX Headset

1. Turn off your radio
2. Connecting the VOX accessory to your radio and turn the radio on.

Note:

1. Before you use VOX operation, it needs to be enabled by PC programming software.
2. Pressing the PTT button disables VOX.

Features

Channel Annunciation

When you rotate the channel selector, the current channel number will be heard.

Key function programmable

Your dealer may program the Function Key (long or short press) with one of the following auxiliary functions respectively.

Monitor/Monitor momentary/Squelch off/Squelch off Momentary /Channel Lock/Power Level/Battery Indicator/Scan/VOX

Squelch Tail Elimination

The function will minimize the annoying audio outputs that occur at the receiver on completion of a transmission to relieve the fatigue of your ears.

Time-Out-Timer(TOT)

The Time-Out-Timer(TOT) is used to prevent someone from using the same channel for a long time and to prevent the radio from damage due to continuous transmission.

If the transmission exceeds the preset time (it's set by your dealer), transmission will be inhibited and a beep tone will sound. To stop the beep tone, release the [PTT] key. Press the [PTT] key again to resume transmitting.

TOT Reset Time

When this feature is activated, TOT won't reset until the preset TOT Reset Time (it's set by your dealer) expires, even if you have released the [PTT] key.

Monitor

This feature is enabled/disabled by your dealer. In receive mode, press the preprogrammed MONI key to monitor activities on the current channel. This operation is especially useful for adjusting volume level or receiving a weak signal. The LED indicator glows green in monitor mode.

Busy Channel Lockout

If the Busy Channel Lockout feature is enabled by your dealer, it will prevent you from talking on a channel that is already in use. When you press the [PTT] key, the radio will sound a beep tone and will not transmit. Release the [PTT] key to stop the beep tone. Wait until the channel is not in use before you again try to transmit.

Wired Clone

Cloning enables duplication of radios in the field via a simple interface cable, without the use of a PC or a special equipment.

PC Programming

Function settings and frequencies can be customized via programming software.

Selectable Squelch Level(0-9)

The purpose of squelch is to mute audio output from the speaker when no signals are present. The higher the squelch level selected, the stronger the signals must be to receive. The appropriate squelch level depends on ambient RF noise conditions.

Priority Channel Scan

Any programmed channel may be set as the priority channel. The radio will check the priority channel periodically while stopping on a non-priority channel. When there is any activity on the priority channel, the radio will automatically switch to the priority channel for communications.

Programmable 12.5kHz/25kHz Channel Spacing

The feature enables flexibility and easy migration of channel spacing requirements when the need arises, with no need to buy new radios.

DTMF ANI

This feature is enabled /disabled by your dealer. DEMF ANI is encoded by PTT ID. Each radio is assigned with one ANI code consisting of BOT ID (Beginning of Transmission) and EOT ID (End of Transmission). Each channel can be programmed by PC programming software to transmit/not transmit ANI code in transmitting mode.

CTCSS/DCS Signalling

CTCSS/DCS may have been programmed on a channel to ignore unwanted calls from other parties on the same channel. When CTCSS/DCS signalling is set, user will receive the calls on the same channel only when the received signals contain the matching CTCSS/DCS code; otherwise, the user receives all the calls on the same channel within communication range.

The dealer preset CTCSS/DCS signalling on all or just certain channels.

NOTE: Although using CTCSS/DCS enables you to avoid hearing Unwanted calls, it does not mean your calls will be private.

VOX

When hands-free operation is desired, your radio can be activated by voice alone using the VOX feature when you speak through an accessory that is connected to your radio.

High/low power

High transmit power optimizes range coverage while low transmit power conserves battery consumption, all at the user's control.

Battery Save

The Battery Save feature is automatically activated once no activity on the channel and no operation performed for 10 seconds, for extended operation time. When a signal is received or an operation is performed, the Battery Save feature is automatically deactivated.

Low battery Alert

When the battery voltage goes below a preset value, the LED indicator Will flash red and the alert tone sound and then the radio stops transmitting. This feature is designed to automatically reminds you of recharging or replace the battery.

FREQUENCY LIST

Model No.: _____

Serial No.: _____

Channel	TX Frequency	RX Frequency	CTCSS/DCS
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

Troubleshooting Guide

Trouble	Solution
No power	<ul style="list-style-type: none"> ● Battery is low. Recharge or replace the battery. ● The battery may not be properly installed. Remove the battery and attach it again.
Power doesn't last long even if fully charged	<ul style="list-style-type: none"> ● Battery has lost its capacity, replace it with a new one.
Can't talk to or hear group members	<ul style="list-style-type: none"> ● Make sure you are using the same frequency, same CTCSS/DCS and same 2-Tone as your group members. ● Your group members may be out of the communication range.
Other voice(non-group members are present on the channel)	<ul style="list-style-type: none"> ● Change CTCSS/DCS tone. Make sure your group members all change to the same tone.

Warranty Card

Mode Number: _____

Serial Number: _____

Purchasing Date: _____

Dealer: _____ Telephone: _____

User's Name: _____ Telephone: _____

Address: _____ Post Code: _____

Remarks: _____

1. This guarantee card to be kept by the user, no replenishment if lost.
2. This guarantee card to be filled & chopped by the dealer, or it is invalid.
3. Don't alter the guarantee card, please confirm the serial number on the guarantee card is same as that on the machine.
4. The guarantee period of radio is 18 months and the guarantee period of the accessories such as charger, battery and antenna is 6 month.
5. The user can get repairing service from the following ways:
 - a. Go to the shop where you buy the machine.
 - b. Our local repairing agent.