

USER'S MANUAL



使用说明书



Thank you for purchasing this Radio.

We believe this easy-to-use radio will provide stable and reliable communication for you.

QS Radio incorporates the latest advanced technology.

As a result, we know that you will be pleased with the quality and features of this product.

## PRECAUTIONS BEFORE USING

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Please read the User's Manual before using. It gives you important information about how to operate the portable radio.

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Please put the radio and accessories where the children can not reach.

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Maintenance can only be performed by professional technicians.

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Please use the standard battery pack and charger in order not to destroy the radio.

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Please use the standard antenna, in order not to shorten the distance.

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Do not expose the radio to sunlight for a long period of time, nor put it near the heat, nor use it in a high temperature environment.

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Do not put it in extreme dust or wet nor on unsteady surfaces.

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Keep it dry. (Rain or moisture will erode the electronic board).

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Do not transmit when the antenna is not installed.

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If you find bad smell or smog, please turn off the radio immediately. And take the battery off the radio, then contact with QS agent.

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## FEATURES

- 100 hours super-long standby time
- Jacklight
- PC programmable
- Channel scan
- Time-out-timer(TOT)
- Low power alarm
- Wide/Narrow bandwidth
- Squelch level adjustable
- High/Low power selective
- Voice prompt (Chinese or English)
- CTCSS/DCS
- Dual-watch operation
- PTT-ID
- DTMF
- 1750Hz call tone
- Tail tone elimination

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## SUPPLIED ACCESSORIES

Carefully unpack the portable radio. We suggest that you check the following items before you throw away the packing materials.

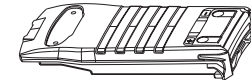
### STANDARD SUPPLIED ACCESSORIES

ITEM	QTY
Portable radio	1
Antenna	1
Li-ion battery pack(7.2V)	1
Battery charger	1
Belt clip	1
User's manual	1

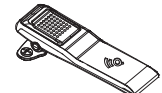
### STANDARD SUPPLIED ACCESSORIES



Antenna



Li-ion battery pack (7.2V)



Belt clip



Battery charger



User's manual

## CHARGING NOTES (1)

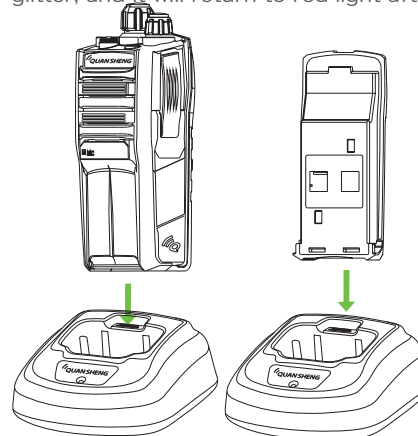
### Charging the Li-ion battery pack:

- Battery packs are not charged when they are shipped. Charge them before using.
- Initially charging the battery pack after purchase or extended storage (longer than 2 months) will not bring the battery pack to its greatest capacity, which can be done only after repeated charging and discharging two or three times.
- The average use time of battery pack is 15 hours
- After the battery is charged to its highest capacity, and then use it on the radio. If the radio still shows low power, please change a new battery pack.
- Do not short-circuit the battery terminals or throw the battery into fire.
- Never attempt to remove the casing from the battery pack.

## CHARGING NOTES(2)

- Slide the Li-ion battery pack or radio with a Li-ion battery pack into the charger.

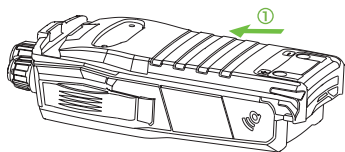
- 1 Make sure the battery pack is in connected with the charging terminals.
- 2 When charging begins, the RED LED light displays; when the battery pack is charged to it's greatest capacity, the GREEN LED light displays.
- 3 If the capacity of the battery is too low, the red indicator will glitter, and it will return to red light after some minutes.



- After the GREEN LED light displays, take the battery pack or the portable radio out of the charger.

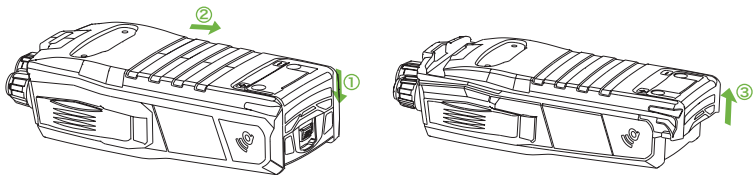
## ATTACHING BATTERY PACK

- Slide the battery pack into the back of the radio in the direction of the arrow(①), then lock it with the battery releasing button. Slide the battery pack until the battery releasing button makes a “clicking” sound.



## RELEASING BATTERY PACK

- Turn off the radio before releasing the battery pack.
- Push the battery releasing button in the direction of the arrow(①).
- Slide the battery pack in the direction of the arrow(②), and take off the battery pack lightly.



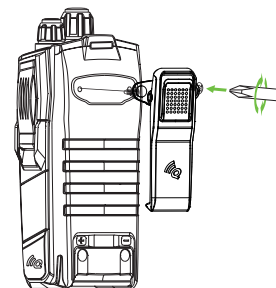
## INSTALLING ANTENNA

- Attach the antenna to the radio as illustrated on the right.



## INSTALLING BELT CLIP

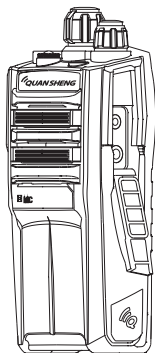
- Attach the belt clip with the supplied screws by a phillips screw driver.



## INSTALLING SPEAKER/MICROPHONE COVER

- If you are not using a speaker/microphone, install the speaker/microphone cover. (The cover has been fitted when the radio is made.)

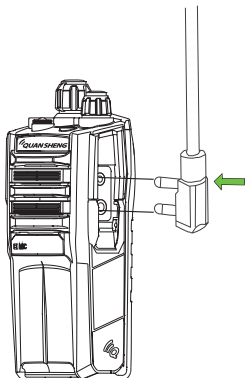
To keep the radio rain-resistant, you must install water-proof speaker/microphone cover.



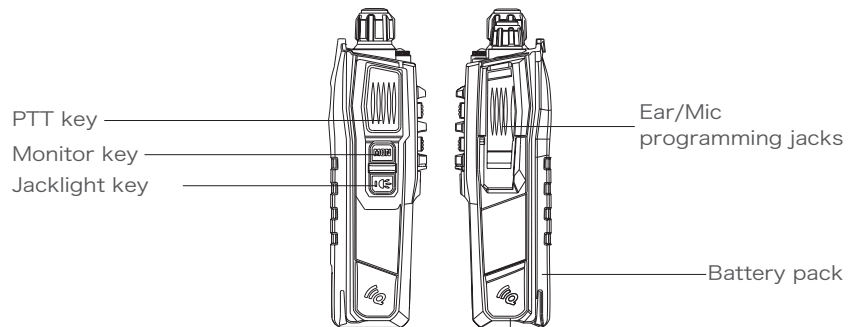
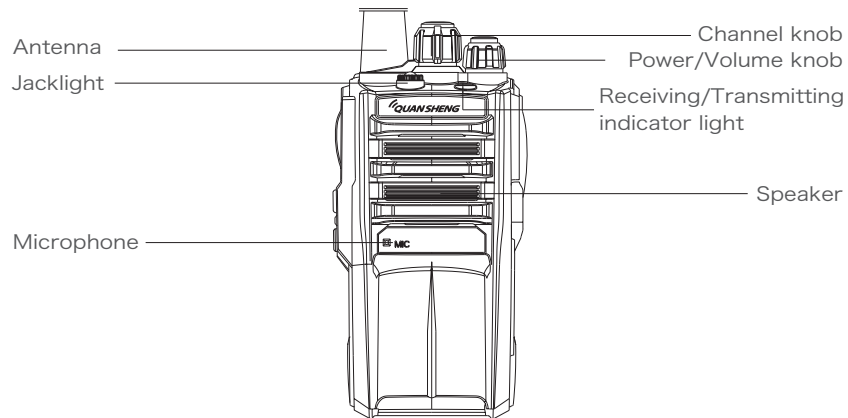
## INSTALLING EXTERNAL SPEAKER/MICROPHONE

- Insert the speaker/microphone plugs into the speaker/microphone jacks.

The radio is not fully rain-resistant while using the external speaker/microphone.



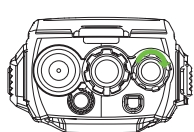
## DIAGRAM



## BASIC OPERATION

### Power/Volume Adjusting

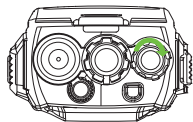
- Turn the Power/Volume knob clockwise to turn the power on. When you turn it on, it will beep and you will hear the voice prompt of the current channel. (AS P-1)
- Press and hold the monitor button, then rotate Power/Volume knob to turn up and down the volume(AS P-2)



P-1

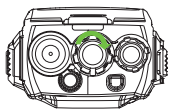


P-2



### Channel Knob

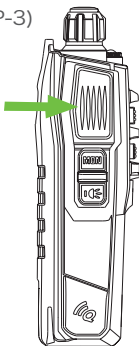
- Rotate the channel knob to choose your desired channel. (AS P-3)  
When you receive a signal, the speaker will make a sound.



P-3

### PTT Key

- To make a call, press and hold the “PTT” key, then speak to the microphone in normal tone.  
Please keep the microphone 3-4cm away from your lip.



P-4

## FUNCTION INSTRUCTION

### 100 hours Super-long Standby Time

### Jacklight

Press() , the jacklight is ON. Press it again, the jacklight is OFF.

### PC Programmable

Please use QS standard programming software. You can set the following features through the software: Time-out-timer, Squelch level, Voice prompt, CTCSS/DCS, Wide/Narrow bandwidth, High/Low power selection, Tail tone elimination,PTT-ID.

### Channel Scan

Rotate the channel knob to channel 16, press key Monitor to turn on the radio, you will hear a voice prompt of “Scan” . It will scan from channel 1 to channel 16. Turn off the radio to exit.

NOTE: There must be frequency in channel 16.

### Time-Out-Timer (TOT)

To limit the calling time, the radio will stop transmitting, and you will hear the warning tone if it transmits over the set time.

### Low Power Alarm

Audible tone will remind you when the battery is running down.

### Wide/Narrow Bandwidth

Frequency space>25KHz, it is wide bandwidth.

Frequency space<25KHz, it is narrow bandwidth.



## FUNCTION INSTRUCTION

### Squelch Level Adjustable

It helps to minimize interference from undesired weak signals and helps weak signals to be heard.

### High/Low Power Selective

You can choose high or low power through the programming software.

### Voice Prompt ( Chinese or English )

You could set Chinese or English as the voice prompt by programming software.

### CTCSS/DCS

Set up workgroups/users with unique CTCSS/DCS to prevent disturbance in the same frequency.

CTCSS: 50 groups    DCS: 208 groups.

### Dual-watch Operation

“Dual-watch” between the current working channel and channel 16. The current working channel can receive its own frequency as well as the frequency of channel 16.

NOTE: There must be frequency in channel 16.

The operation steps are as follows:

- Press key Monitor to turn on the radio, and you will hear the voice prompt of “scan” . Rotate the channel knob to the channel you want to set, the channel will be in “dual-watch” with channel 16.
- It could transmit only the frequency of the current channel by pressing PTT without receiving the signal of channel 16, and it could communicate with the 16th channel only after receiving the signal of channel 16.

## FUNCTION INSTRUCTION

- After the signal disappears for 5s, it comes back to “dual-watch” .Turn off the radio to exit.

### PTT-ID & DTMF

This function can set the sound when you press key PTT to transmit or release to send PTT-ID.

- Set up parameters in the programming software. (Pls download the corresponding software in Quansheng official website.)
- Connect the computer and the radios by specified programming cable, then read the information from the radio; Open “toolbar” , click “edit” , then click “optional functions” , then to set the parameter.
  - A. DTMF CODE: sending the DTMF characters.
  - B. PTT: setting the sending mode (Press: TX; Release: TX; Both)
  - C. PTT-Prolong: setting the prolong time of the radio' s PTT-ID (100ms-1000ms)
- Pls click PTT-ID “ON” or “OFF” when setting the parameter (Note: Select “OFF” when using in case of affecting the radio)

### 1750Hz Call Tone

- Read the information from the radio, open “toolbar” , click “edit” , then click “optional functions” , then select “ON” or “OFF” in the PTT .
- Press PTT+BAND to send 1750Hz call tone. (This function is for the repeater of European market.)

## FUNCTION INSTRUCTION

### Tail Tone Switch

The radio will send closing command of tail tone squelch to receiving radio when call is end, the receiving end won't hear "beep" tail tone.

- Please click "Edit" and select open or close tail tone elimination in "Option function" box after read-in radio.
- Pls open it in normal use, at least there is always "beep" when the call is end. (Note: The "Tail tone elimination" and "Tail tone test" are valid only when you open it.)

### Tail Tone Elimination

To make a delay in closing receiving channel after receiving close command of tail tone squelch function.]

- You can select the tail tone elimination in "Option function" box after click "Edit" in PC program, then set 100ms-1000ms to adjust the length in closing receiving channel.

### Tail Tone Test

To make a delay in closing transmitting command after the radio send close command of tail tone squelch function automatically.

- You can select the tail tone elimination in "Option function" box after click "Edit" in PC program, then set 100ms-1000ms to adjust the length of delay in closing transmitting command.

## CTCSS

01	67.0	18	118.8	35	183.5
02	69.3	19	123.0	36	186.2
03	71.9	20	127.3	37	189.9
04	74.4	21	131.8	38	192.8
05	77.0	22	136.5	39	196.6
06	79.7	23	141.3	40	199.5
07	82.5	24	146.2	41	203.5
08	85.4	25	151.4	42	206.5
09	88.5	26	156.7	43	210.7
10	91.5	27	159.8	44	218.1
11	94.8	28	162.2	45	225.7
12	97.4	29	165.5	46	229.1
13	100.0	30	167.9	47	233.6
14	103.5	31	171.3	48	241.8
15	107.2	32	173.8	49	250.3
16	110.9	33	177.3	50	254.1
17	114.8	34	179.9		

## DCS

01	D023N	19	D116N	37	D225N	55	D325N
02	D025N	20	D122N	38	D226N	56	D331N
03	D026N	21	D125N	39	D243N	57	D332N
04	D031N	22	D131N	40	D244N	58	D343N
05	D032N	23	D132N	41	D245N	59	D346N
06	D036N	24	D134N	42	D246N	60	D351N
07	D043N	25	D143N	43	D251N	61	D356N
08	D047N	26	D145N	44	D252N	62	D364N
09	D051N	27	D152N	45	D255N	63	D365N
10	D053N	28	D155N	46	D261N	64	D371N
11	D054N	29	D156N	47	D263N	65	D411N
12	D065N	30	D162N	48	D265N	66	D412N
13	D071N	31	D165N	49	D266N	67	D413N
14	D072N	32	D172N	50	D271N	68	D423N
15	D073N	33	D174N	51	D274N	69	D431N
16	D074N	34	D205N	52	D306N	70	D432N
17	D114N	35	D212N	53	D311N	71	D445N
18	D115N	36	D223N	54	D315N	72	D446N

## DCS

73	D452N	91	D627N	109	D032I	127	D132I
74	D454N	92	D631N	110	D036I	128	D134I
75	D455N	93	D632N	111	D043I	129	D143I
76	D462N	94	D654N	112	D047I	130	D145I
77	D464N	95	D662N	113	D051I	131	D152I
78	D465N	96	D664N	114	D053I	132	D155I
79	D466N	97	D703N	115	D054I	133	D156I
80	D503N	98	D712N	116	D065I	134	D162I
81	D506N	99	D723N	117	D071I	135	D165I
82	D516N	100	D731N	118	D072I	136	D172I
83	D523N	101	D732N	119	D073I	137	D174I
84	D526N	102	D734N	120	D074I	138	D205I
85	D532N	103	D743N	121	D114I	139	D212I
86	D546N	104	D754N	122	D115I	140	D223I
87	D565N	105	D023I	123	D116I	141	D225I
88	D606N	106	D025I	124	D122I	142	D226I
89	D612N	107	D026I	125	D125I	143	D243I
90	D624N	108	D031I	126	D131I	144	D244I

## DCS

145 D245I	163 D346I	181 D464I	199 D662I
146 D246I	164 D351I	182 D465I	200 D664I
147 D251I	165 D356I	183 D466I	201 D703I
148 D252I	166 D364I	184 D503I	202 D712I
149 D255I	167 D365I	185 D506I	203 D723I
150 D261I	168 D371I	186 D516I	204 D731I
151 D263I	169 D411I	187 D523I	205 D732I
152 D265I	170 D412I	188 D526I	206 D734I
153 D266I	171 D413I	189 D532I	207 D743I
154 D271I	172 D423I	190 D546I	208 D754I
155 D274I	173 D431I	191 D565I	
156 D306I	174 D432I	192 D606I	
157 D311I	175 D445I	193 D612I	
158 D315I	176 D446I	194 D624I	
159 D325I	177 D452I	195 D627I	
160 D331I	178 D454I	196 D631I	
161 D332I	179 D455I	197 D632I	
162 D343I	180 D462I	198 D654I	

## SPECIFICATIONS

### GENERAL

Frequency Range	VHF: 136~174MHz, UHF: 400~480MHz
Rated Voltage	DC 7.2V(Rechargeable Li-ion battery)
Memory Channel	16channels
Antenna Impedance	50Ω
Working Manner	Same frequency single operation or different frequency single operation
Dimensions(H*W*D)	121.2mmX57.3mmX37mm(without antenna)

### TRANSMITTER

Output Power	5W
Modulation Mode (W/N)	16KΦF3E/11KΦF3E
Maximum Frequency Deviation (W/N)	≤5KHz/≤2.5KHz
Spurious Radiation	≤7.5μW
Preemphasis Character	6dB/Per fold
Emission Current	≤ 1.3A
CTCSS/DCS Frequency Deviation (W/N)	0.7±0.1KHz/0.4±0.1KHz
Modulation Sensitivity	8-12mV
Modulation Distortion	< 10%

### RECEIVER

Sensitivity	≤0.25/0.28μV
Modulation Receiving Bandwidth	5KHz
Audio Power	≤0.5W
Audio Distortion	< 10%
Blocking	≥85dB
Intermodulation (W/N)	≥60dB ≥55dB
Adjacent Channel Selectivity(W/N)	≥65dB ≥60dB
Spurious Rejection	≥65dB

All stated specifications are subject to change without notice or obligation.