



Fujian HQT Communication Co., Ltd.
No. 3 Yuanhong Road, Jiangnan Hi-tech Industrial Park, Quanzhou City, Fujian Province, China
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Hello

We appreciate your purchasing DH9100 digital portable radio! We believe that the quality and function of this radio will bring you stable performance and smooth communication.

As a product built to the DMR standard, DH9100 is gifted with ergonomic design, all round digital functions and remarkable quality to refresh your experience and enable you to be responsive to critical situations.

Please read this manual before use.

FCC RF EXPOSURE COMPLIANCE REQUIREMENTS FOR OCCUPATIONAL USE ONLY

The Federal Communications Commission (FCC), with its action in General Docket 93-62, November 7, 1997, has adopted a safety standard for human exposure to Radio Frequency (RF) electromagnetic energy emitted by FCC regulated equipment. Proper operation of this radio will result in user exposure far below the Occupational Safety and Health Act (OSHA) and Federal Communications Commission limits.

DO NOT transmit for more than 50% of total radio use time (50% duty cycle). Transmitting more than 50% of the time can cause FCC RF exposure compliance requirements to be exceeded.

This radio is NOT approved for use by the general population in an uncontrolled environment. This radio is restricted to occupational use, work related operations only where radio operator must have the knowledge to control the user's exposure conditions for satisfying the higher exposure limit allowed for occupational use.

When transmitting, hold the radio in a vertical position with its microphone 1 inch (2.5cm) away from your mouth. The radio is transmitting when the red LED on the front of the radio is illuminated. You can cause the radio to transmit by pressing the PTT bar on the radio.

These are required operating configurations for meeting FCC RF exposure compliance. Failure to observe these restrictions mean violation.

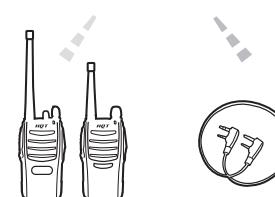
FCC Caution

Any changes or modifications not expressly approved by the party responsible for compliance could void user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

More detailed product information
More professional technique support



More plentiful product models



More optional accessories

HQT On-line Service Center

HQT service network provides more information about on-line service of HQT two-way radio.

More detailed product information
To deepen your understanding of the functions of this radio.

More plentiful product models.
To display more plentiful product models, so that you can understand the details of these products in advance and make decisions correctly according to the requirement of work.

More professional technique support

User manual and brochures

To provide download or on-line reading of the latest user manuals and brochures in covering detailed information of two-way radios.

Software download

To provide downloading of the latest programming software from HQT website. Your two-way radio can be connected to the computer with programming cable to manage or edit the parameters of channel frequency and other items.

On-line learning

To offer guidelines for detailed setting of the two-way radio.

More optional accessories

To provide various kinds of accessories, which can offer more comfortable operation and more remarkable performance of the radio to you.

Statement

HQT endeavors to achieve the accuracy and completeness of this manual. As for any inaccuracies and omissions that may possibly occur, the right to interpretation is reserved to Fujian HQT Communication Co., Ltd.

The design or specification of this product is subject to be modified by Fujian HQT Communication Co., Ltd. Without prior notice.

It is prohibited to copy, transmit, excerpt and store in any retrieval system, or translated to any languages without written authorization of HQT.

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Safety Matters

Please read rules below. Nonobservance of these rules may cause danger or violation of law.

- The use this radio must comply with regulations of local government.
- Turn off the radio before you enter places of flammable or explosive environment.
- Do not replace or charge battery pack in places of flammable or explosive environment.
- Turn off the radio before you approach blast area and detonator area.
- Do not use the damaged antenna which may cause lightly burn on skin.
- Only qualified technician are allowed to maintain this two-way radio. Do not disassemble the radio by yourself.

- To avoid problems caused by electromagnetic interference or electromagnetic compatibility, please turn off the radio in places with "Wireless Communication Transmit Equipment Prohibited" mark, such as hospitals or other health care places. When taking a plane, turn off the radio if required.
- In a car with air bag, do not place the radio within possibly involved area when air bag expands.
- Do not expose the radio to direct sunlight or near heating devices for a long time.
- Keep the radio vertical and speak near the microphone during transmitting.
- Make sure that the antenna is 2.5 cm away from the body during transmitting if you carry the radio on your body.

Product Inspection

Thanks for using DH9100 Digital portable radio. Before use, we recommend that:
First check the package for any signs of damage;
Carefully open the package and identify the items listed below;
If any items are missing or damaged during shipment, please contact your dealer.

Items

	Radio DH9100 Qty:1		Antenna Qty:1		Li-Ion Battery Qty:1		Charger Qty:1		Adapter Qty:1
	Lanyard Strap Qty:1		Belt Clip Qty:1		Warranty Card Qty:1		User Manual Qty:1		Certificate Qty:1

 Note: Frequency is marked on the color circle at the bottom of the antenna.

Get Acquainted

Battery Information

Applicable Battery Model:

Please charge with HQT approved battery; Using other batteries may burst and cause personal damage.

Note:

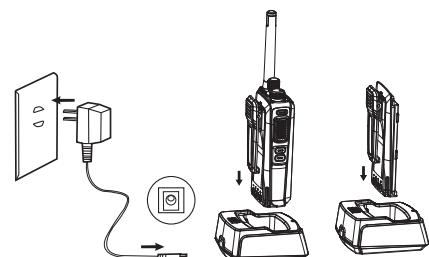
1. Do not short-circuit the battery terminals or dispose the battery in fire. Never attempt to disassemble the battery pack.
2. Charge the battery in 0-45 °C temperature. Otherwise the battery may not be fully charged.
3. Turn off the radio equipped with battery before charge. Use the radio while charging may interfere with charging.
4. Do not pull/plug the adapter and the battery during charging to avoid interfere with the charging procedure.
5. When the battery power consumes quickly even if it is fully and correctly charged, that means the battery life is over and please replace with new battery.
6. Do not charge if the battery or radio is wet. Before charge, you should dry it with cloth to avoid danger.

⚠ Warning:

Conductive metals such as jewelry, key or decorating lace may result in short circuit and generate a large quantity of heat when coming to contact with battery electrodes. Treat any battery carefully especially when placing it into pocket, wallet or other metal container.

Charge Operation

Please charge as follows:



1. Turn off the radio. Plug the DC connector of adapter into the DC jack on the rear of the charger.

2. Plug the AC connector of adapter into an AC outlet.

3. After the charger is electrified, the LED glows red for 1 second and goes out. That means the charger is ready for normal charging. If the LED flashes red, it means the charger is not ready for battery charging.

4. Insert the battery or radio equipped with battery into the charger. Make sure the battery is in good connection with the charger electrode.

5. LED glows red during charging and flashed during trickle charging because of very low battery power. And after the battery power reached a certain mount during trickle charge, the charger automatically turns to normal charge mode.

6. The battery is fully charged when LED glows green. The charger stops charging automatically.

3. When the battery power consumes quickly even if it is fully and correctly charged, that means the battery life is over and please contact your dealer and buy new HQT approved battery.

Antenna Information

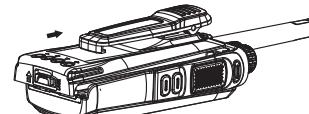
- Stubby antenna is suitable for short-distance communication; thin and long antenna will provide best communication effect. Also it is comfortable to carry on the waist.
- The communication range may be shortened in rainy days or in forest. Please make preparations for that.

Attaching and Removing

Attaching the Battery

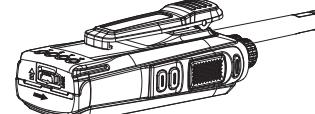
Match the two grooves of battery with corresponding guides on the back of the radio. And make sure the full contact and parallel between the battery and aluminum chassis.

Then push the battery along the guide until the battery latch locks.



(Figure 1)

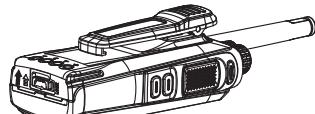
Push the battery latch towards the mark "Lock" to lock it.



(Figure 2)

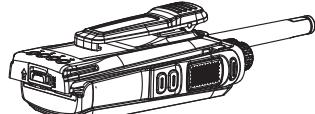
Removing the Battery

To remove the battery, first make sure the radio is turned off, then push the battery latch in the opposite direction of the mark "LOCK" to unlock it, and push the battery latch downwards.



(Figure 3)

Slide the battery away from the radio.



(Figure 4)

Attaching/Removing the Antenna

Attaching the antenna:

1. Insert the antenna into the connector on the top of radio by holding the antenna at its base.
2. Rotate the antenna clockwise to fasten it.



(Figure 5)

Removing the Antenna:

Rotate the antenna counter clockwise until you can remove it.



(Figure 6)

Installing/Removing the Belt Clip

Installing Belt Clip

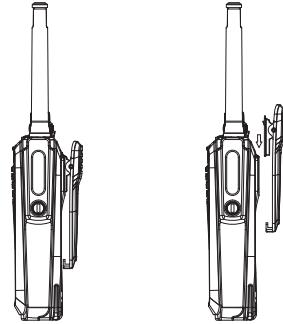
Match the grooves of belt clip with those on the rear of radio and press the belt clip downwards until it is locked.

Removing Belt Clip

Use your nail or a tool to lift the metal spring piece in the belt clip from topside and pull the belt clip upward from the battery pack.

Note:

1. To use belt clip, please install the belt clip onto the battery before the installing of battery pack.
2. Remove the battery from the radio before the removing of belt clip.



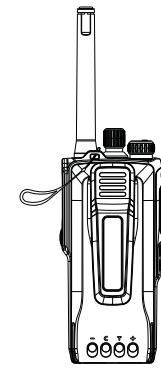
09

(Figure 1)

(Figure 2)

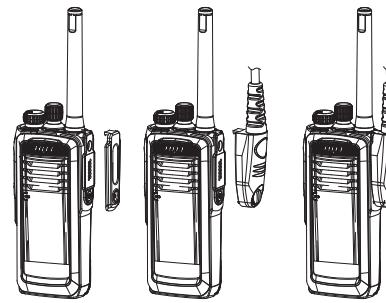
Installing Hand Strap

Thread the strap into the hole at the back of the radio and fasten it.



Attaching the Audio Accessory Programming Cable

1. Remove the screw on the accessory jack cover, open the accessory jack cover as figure show below.
2. Align the plug with the accessory jack.
3. Tighten the screw on the plug.



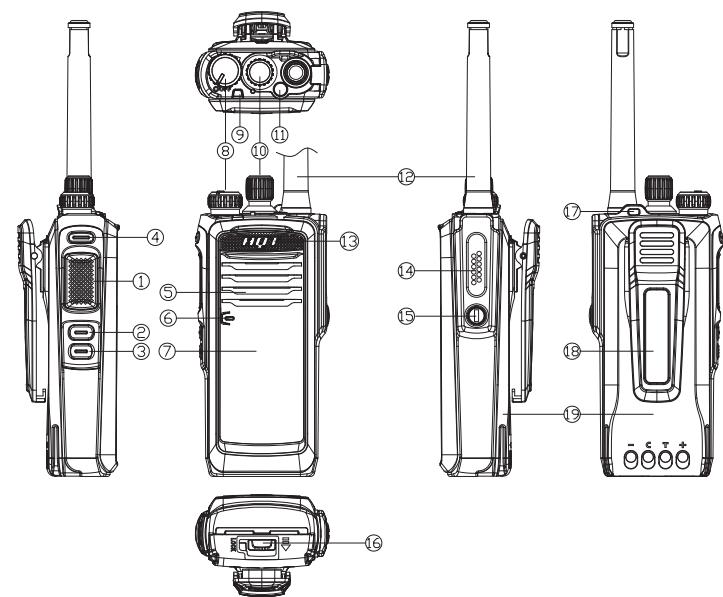
Removing the Accessory

To remove accessories, loosen the screw as figure shown below.



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Radio Overview



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1. PTT Key
2. Sk1(SideKey 1)
3. SK2(Side Key 2)
4. SK3(Side Key 3)
5. Speaker
6. Microphone
7. Body Case
8. Radio On-Off/Volume Control Knob
9. LED Indicator
10. Channel Selector
11. Top key
12. Antenna
13. Name Plate
14. Accessory Jack
15. Accessory Screw
16. Battery Latch
17. Strap Hole
18. Belt Clip
19. Battery

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LED Indicator

The top LED indicator will help you easily identify current radio status.

LED Indicator	Radio Status
LED ashes green.	Powering on
LED flashes red.	Transmitting
LED flashes green.	Receiving
LED ashes orange.	Scanning

Programmable Keys

For enhanced convenience, you may request your dealer to program the keys **SK1,SK2,SK3,P1,P2,TK** as shortcuts to the functions listed below:

No.	Shortcut Keys	Description
1	None	No feature will be assigned.
2	Zone Down	To select a desired zone quickly
3	Zone Up	To select a desired zone quickly
4	Scan	To receive signals on other channels
5	Nuisance Temporary Delete	To temporarily ignore unwanted channel activity
6	Emergency On	To summon help in emergent situations
7	Emergency Off	Emergency function is off
8	Adjust Power Level	To adjust power level
9	Adjust Squelch Level	To adjust the squelch threshold required for the speaker to unmute
10	One Touch Call1	To transmit a call, short message or other service to a preset contact quickly
11	One Touch Call2	To transmit a call, short message or other service to a preset contact quickly
12	One Touch Call3	To transmit a call, short message or other service to a preset contact quickly
13	One Touch Call4	To transmit a call, short message or other service to a preset contact quickly

No.	Shortcut Keys	Description
14	OneTouchCall5	To transmit a call, short message or other service to a preset contact quickly
15	SquelchOffMomentary	To momentary open the speaker
16	SquelchOff	To always open the speaker
17	Monitor	To adjust the condition for incoming signal match
18	TalkAround	To directly communicate with other radios
19	Scramble/Encrypt	Scramble: To encrypt your voice so as to guarantee privacy of your communication Encrypt: To encrypt your voice and message so as to guarantee privacy of your communication
20	VOX	To enable or disable the VOX function

Note: (1) Long and short press of a key can be assigned with different functions by your dealer.

(2) The TK is programmed as the Emergency key by default, and is programmable by your dealer.

Basic Operations

Turning the Radio On/Off

Rotate the Radio On-Off/Volume Control knob clockwise/counter-clockwise until a click is heard to turn the radio on/off.



Adjusting the Volume

After turning the radio on, rotate the Radio On-Off/Volume Control knob clockwise to increase the volume, or counter-clockwise to decrease the volume.



Selecting a Zone

You can include a group of channels with the same property in to a zone for convenient management. The radio supports three zones, each of which consists of up to 16 channels.

You can switch to the appropriate zone by pressing the programmed Zone Up or Zone Down key preset by your dealer.

Selecting a Channel

After the radio is powered on, you can rotate the Channel Selector knob to select an appropriate channel. You can also switch to the designated channel directly by pressing the programmed Preset Channel key preset by your dealer. If the Channel Notify feature is enabled by your dealer, the radio will play the channel number upon channel switching.

After the radio is powered on, you can make different kinds of calls. To ensure optimal volume of the receiving radio, keep the microphone about 2.5 to 5 centimeters away from your mouth when transmitting. The types of calls you may initiate are listed below:

- Private call: A call made to a private contact.
- Group call: A call made to the group contacts.
- All call: A call made to all the contacts on the current channel.

Optional Accessories

Optional accessories are available according to your requirements. All HQT accessories with good quality will ensure you clear communication and outstanding performance.



Antenna(VHF)



Antenna(UHF)



Programming Cable: PR03

Care and Maintenance

Question and Answer

Phenomena	Analysis	Solution
The equipment can not be powered on.	The battery may be improperly installed.	Remove the battery and attach it again.
	The battery may run out.	Recharge or replace the battery.
	The battery may suffer from poor contact caused by dirtied or damaged battery contacts.	Clean the battery contacts. If the problem can not be solved, contact your dealer or authorized service center for inspection and repair.
During receiving signals, the voice is weak, discontinuous or totally inactive.	The battery strength may be too low.	Recharge or replace the battery.
	The volume may be set to a low level.	Increase the volume.
	The antenna may get loose or may be improperly installed.	Power off the radio, and re-install the antenna.
You can not communicate with other members.	The speaker may be blocked or damaged.	Clean surface of the speaker. If the problem can not be solved, contact your dealer or authorized service center for inspection and repair.
	The frequency or signaling may be inconsistent with that of other members.	Set your TX/RX frequency and signaling to the same as that of other members.
	The channel type (digital/analog) may be set inconsistently.	Make sure all members are on the same digital/analog channel.
Irrelevant communications or noises are heard on the channel.	You may be too far away from the group members.	Move towards other members.
	You may be interrupted by radios using the same frequency.	Change the frequency, or adjust the squelch level.
	The radio may not be set with any signaling.	Set signaling for all member radios to avoid interference at the same frequency.

Maintenance

Your radio is a product with excellent design and technology, please treat it with care. These recommendations can help you effectively use the radio.

- Keep the radio dry. Rain, moisture or other liquid may cause damage to the radio.
- Do not throw, hit or vibrate the radio. Brutal treatment.
- May damage the inner IC or other elements.
- Do not hold the radio by the antenna or external MIC.
- Please use the original or standard antenna. Unapproved antenna or modifications of accessories may cause damage to the radio.

Note:

All recommendations above also refer to your battery, charger and accessories. If any of them works abnormally, please send it to nearest service center.

Service and Support

Fujian HQT Communication Co., Ltd. provides long-time support for its products, including repair and supply of the radio and its parts.

Service Commitment

1. HQT two-way radio body has an 18-month guarantee; accessories (battery, charge adapter, charger and antenna) 6 months; earphone 3 months.
2. Replacement is available subject to the presentation of fully-filled warranty card or original purchasing invoice in case that the radio cannot work normally due to non-personal cause within the guarantee.
3. Replacement and repair is available subject to the presentation of fully-filled warranty card or original purchasing invoice in case that the radio or accessories cannot work normally within 30 days from the purchase date.
4. The repaired part has its own guarantee or 90-day guarantee from the repair date. The longer one is valid.

Warranty

1. The guarantee is only valid under normal use. And guarantee is unavailable under such conditions disassembling or modifications, damages caused by

outside force, water let-in, fire burning, and usage of unapproved accessories or antenna, not according to unapproved accessories or antenna, not according to the instruction manual and so on.

2. The guarantee is in effect from the purchase date on the invoice.
3. Free repair is unavailable if the HQT mark or Serial Number mark is torn off.
4. Only the fully-filled warranty card and original purchasing invoice with HQT's seal or dealer's seal affixed is valid for identifying the guarantee.

Cautions

1. Read the user manual before use.
2. Do not use the radio with damaged antenna. Use the radio only with standard antenna.
3. Turn off the radio in potential dangerous environment.
4. Avoid the contact between the battery and the metal oily or corrosive objects.
5. Do not dip the radio or battery into water or throw them in fire.
6. Use the radio only with standard battery, adapter charger and earphone.

Calling on Digital Channel

You can initiate a private call, group call or all call (your radio must be programmed to allow you to use the all call service) through the same operations on digital channel. When calling back, the radio will make a call to the calling party in private call and all call (your radio must be programmed to allow you to call back in an all call); but in group call, the radio will make a call to all parties involved when calling back.

Here we take the private call as example to illustrate the call process:

1. User A and B select the same digital channel.
2. User A holds down the PTT key to initiate a call. You preset a regular private call/group call/all call contact for each digital channel via your dealer.
3. User A can talk to the microphone when the LED indicator on the radio glows red.
4. User A releases the PTT key to finish talking. User A can hold down the PTT key to talk when the LED indicator on the radio is glowing orange. When receiving, the LED indicator on the radio glows green.
5. User B can receive the call without any operation. When receiving, the LED indicator glows green.
6. User B can hold down the PTT key to talk when the LED indicator on the radio is glowing orange.

Note: The duration of LED indicator glowing orange (Call Hold Time) is preset by your dealer. If neither one talks before this duration expires, the call will end.

- Press the programmed Squelch Off Momentary key to enable the feature. Then the radio sounds background noise. To disable the feature, release this key.

Emergency Alarm

In case of emergency, you can use this feature to inform your colleagues or control center for help. The Emergency Alarm has the highest priority which can terminate the ongoing activities on the current channel.

You can make emergency call even when your radio is transmitting or receiving.

Emergency Alarm feature needs to be configured and enabled by your dealer. Please refer to the corresponding Feature Book for details.

Calling on Analog Channel (No Signaling)

On the analog channel without signaling, the calling operations are the same as on the digital channel. The difference is that the called parties are all the users on the channel, rather than the preset contact for the channel. Please refer to the corresponding Feature Book for calling operations on the analog channel with signaling.

Scan On/Off

The function "Scan" allows you to listen to communication activities on other channels so that you can keep a close track of your team members. This option is used to enable or disable the function.

Zone

This radio supports up to 64 zones. You can set it by CPS.

LED

All LEDs: to enable /disable all LED indications.
TX LED: to set whether the Tx LED indicates during transmission.
RX LED: to set whether the Rx LED indicates during reception.
Scan LED: to set whether the Scan LED indicates in Scan mode.

Low Battery LED: to set whether the Low Battery LED indicates when the battery is low.

Carrier LED: to set whether Carrier LED indicates when receiving carrier.

VOX

If enabled, the VOX function allows users to transmit every time the user speaks into the radio directly without pressing the PTT key.

Man Down (Optional)

With this feature, your radio will alarm automatically to summon help from your companion when it is tilted to a certain gradient for a certain time period.

Talk Around

You can continue to communicate in DM mode by pressing the programmed Talk Around key, when your repeater malfunctions, or when your terminal is out of the repeater's range but within talking range of other terminals.

Operation:

Press the programmed Talk Around key to switch between DM mode and RM mode.

Monitor

To adjust match conditions for signal receiving, you can enable the feature "Monitor".

Operation:

- Press the programmed Monitor key to enable the feature, To disable the feature, press this key again.

Squelch Off

If the feature "Squelch Off" is enabled, your radio's speaker will keep unmuted no matter whether carrier is present.

Operation:

- Press the programmed Squelch Off key to enable the feature. Then the radio sounds background noise. To disable the feature, press this key again.

Busy Channel Lockout

If enabled via the programming software, this feature can prevent your radio interfering with other transmitting terminals on the same channel. If you hold down the PTT key while the channel is in use, your radio will keep beeping and display text information "Channel Busy", alerting you to transmission prohibition. To stop beeping, please release the PTT key. When the channel is free, you can press and hold down the PTT key to transmit.

Time-out Timer (TOT)

The purpose of TOT is to prevent any user from occupying a channel for an extended period. If the preset time expires, the radio will automatically terminate transmission and keep beeping. To stop beeping, please release the PTT key. You must wait for a certain time period (preset by your dealer) before you can press and hold down the PTT key to transmit again. If the pre-alert function is set by your dealer, your radio will alert you to the TOT expiration in advance.

Note: This feature is null in Emergency mode.

Invalid Channel Indication

If current operating channel is invalid channel, the radio will send continuous "Dududu" as alert tone, which means current channel is unable to transmit or receive.

Squelch

Through setting squelch level to decide how strong the signal is to unmute the speaker. The lower the squelch level the stronger the background noise to unmute the speaker, the larger the talk range and the weaker the Rx anti-interference ability. Setting range is 0~9, selecting "0" causes the squelch open. the higher the squelch level, the harder to open the squelch.

Transmission Management

This feature can prevent your radio interfering with other transmitting radios on the same channel. If you hold down the PTT key while the channel is in use, your radio will keep beeping, alerting you to transmission prohibition. It can be programmed via the CPS.TX Admit includes the followings:

Always Allow: The User can transmit all the time by holding down the PTT key, regardless the channel is being interfered or not.

- Channel Free: The radio is allowed to transmit when the channel is not being interfered.
- CTCSS/CDCSS Match: the radio can transmit when CTCSS/CDCSS is matched.
- CTCSS/CDCSS Mismatch: the radio can transmit when CTCSS/CDCSS is mismatched.

Terms of Warranty

1. HQT two-way radio body has an 18-month guarantee; accessories (battery, adapter, charger and antenna) 6 months; earphone 3 months.
2. Only the fully-filled warranty card or original purchasing invoice with HQT's seal or dealer's seal affixed is valid for identifying the guarantee. (The invoice should give clear indication of accessories, radio, serial-number, purchasing date, purchasing price and other items.)
3. If the radio body went wrong within the guarantee, it should be ensured to work normally over 30 days after the repair.
4. Replacement and repair is available subject to the presentation of fully-filled warranty card or original purchasing invoice in case that the radio cannot work normally as the instruction says within 30 days from the purchase date. (Not that there must not be visible abrasion on radio body and accessories.)
5. Replacement of the same model is available subject to the presentation of 3-time repair receipt in case that the radio body still work abnormally after 3-time-or-above repairs within the guarantee.
6. Repair of accessories (battery, adapter, charger and antenna) is available to the original purchasing invoice.
7. The cost of materials and repair are covered during the time of guarantee.

8. Guarantee is unavailable in case that the HQT mark or the serial-number mark is torn off.
9. Guarantee is unavailable in cases below:
 - 1) Beyond the warranty period;
 - 2) Defects or damages under abnormal use;
 - 3) Defects or damages because of misoperation, accident, water penetration and carelessness;
 - 4) Defects or damages because of incorrect testing, operation, repair, installation, reconfiguration or adjustment;
 - 5) Defects or damages to antenna because of non-material or non-processing problems;
 - 6) Defects or damages because of unauthorized repair and disassembling;
 - 7) Product that the serial-number mark is torn off or unable to identify;
 - 8) Product with unclear purchasing date;
 - 9) Battery under such conditions:
 - a. Any damages or unsealing to the battery pack;
 - b. Defects or damages to battery because of charging with improper equipment use beyond regulated maintain condition;
 - 10) Abrasion under normal use.

Note: The warranty ordinance, which is in accordance with Chinese warranty regulations, will be modified properly according to marking. If modified, the warranty ordinance is subject to our latest updating notice issued by HQT service center.

Appendix 1: Specification

Item	DH9100
Frequency Range	VHF: 136~174MHz UHF: 350~390MHz 400~470MHz 450~520MHz
Channel Capacity	1024
Modulation Type	FM/4FSK
Frequency Stability	≤±2.5ppm
Operating Temperature	-30°C~ +60°C
Antenna Impedance	50Ω
Operating Voltage	7.4V

Item	DH-9100
RF Output Power	UHF:4W/1W VHF:5W/1W
Audio Distortion	≤5%
Sensitivity	0.22u
Max Audio Output Power	1.5W
Dimension (H×W×D)	130×55×34mm
Weight (with antenna & battery)	320g
Battery	2000mAh

Appendix : Frequency Chart (Used to record the frequency.)

Model:

Serial number:

Channel	Tx Frequency	Tx CTCSS/CDCSS	Rx Frequency	Rx CTCSS/CDCSS	Optional Signaling
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

FCC Caution:

Any 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 following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

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Important Information

RF Energy Exposure Information

RF Energy Exposure Awareness And Control Information For Fcc Occupational Use Requirements

Before using the Digital portable radio, review the following important RF energy awareness and control information and operational instructions. Comply with this information and instructions in order to ensure compliance with RF exposure guidelines. See the capability to access information in that form.



This radio is intended for use in occupational/controlled conditions, where users have full knowledge of their exposure and can exercise control over their exposure to remain below RF exposure limits. This radio is NOT authorized for general population, consumer, or any other use.



Changes or modifications not expressly approved by Fujian HQT Communication Co., Ltd. could void the user's authority to operate the equipment.

This Digital portable radio uses electromagnetic energy in the radio frequency (RF) spectrum to provide communications between two or more users over a distance. It uses RF energy or radio waves to send and receive calls. RF energy is one form of electromagnetic energy. Other forms include, but are not limited to, electric power, sunlight, and x-rays. RF energy, however, should not be confused with these other forms of electromagnetic energy, which, when used improperly, can cause biological damage. Very high levels of x-rays, for example, can damage tissues and genetic material.

Experts in science, engineering, medicine, health, and industry work with organizations to develop standards for exposure to RF energy. These standards provide recommended levels of RF exposure for both workers and the general public. These recommended RF exposure levels include substantial margins of protection. All two-way radios marketed in North America are designed, manufactured, and tested to ensure they meet government-established RF exposure levels. In addition, manufacturers also recommend specific operating instructions to users of digital portable radios. These instructions are important because they inform users about RF energy exposure and provide simple procedures on how to control it. Refer to the following websites for more information on what RF energy exposure is and how to control exposure to assure compliance with established RF exposure limits:

<http://www.fcc.gov/oet/rfsafety/rf-faqs.html>

<http://www.osha.gov/SLTC/radiation/index.html>

Important Information

Federal Communications Commission Regulations

Before it was marketed in the United States, the Digital portable radio was tested to ensure compliance with FCC RF energy exposure limits for two-way portable radios. When digital portable radios are used as a consequence of employment, the FCC requires users to be fully aware of and able to control their exposure to meet occupational requirements. Exposure awareness can be facilitated by the use of a label directing users to specific user awareness information. The radio has an RF exposure product label. Also, the Product Safety Manual and this Operator's Manual include information and operating instructions required to control RF exposure and to satisfy compliance requirements.

Operation Safety Recommendations

Occupational Safety Guidelines And Safety Training Information

To ensure bodily exposure to RF electromagnetic energy is within the FCC allowable limits for occupational use. Always adhere to the following basic guidelines:

- The push-to-talk button should only be depressed when intending to send a voice message.
- The radio should only be used for necessary work-related communications.
- The radio should only be used by authorized and trained personnel. It should never be operated by children.
- Do not attempt any unauthorized modification to the radio. Changes or modifications to the radio may cause harmful interference and/or cause it to exceed FCC RF exposure limits. Only qualified personnel should service the radio.
- Always use only authorized accessories (antennas, control heads, speakers/mics, etc.). Use of unauthorized accessories can cause the FCC RF exposure compliance requirements to be exceeded.

The information listed above provides the user with information needed to make him or her aware of a RF exposure, and what to do to assure that this radio operates within the FCC exposure limits of this radio.