



SHENZHEN HQT SCIENCE & TECHNOLOGY CO., LTD.

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if there is fluctuation, please take the material object as the standard.



User Manual DM-9800 DIGITAL MOBILE RADIO



Preface

Thank you for purchasing HQT DMR Digital Mobile Radio DM-9800.

As a product built to the DMR standard, DM-9800 is endowed with ergonomic design, all-round digital functions and remarkable quality to increase your management efficiency and enable you to be responsive to emergent situations.

To derive optimum performance from your product, please read this manual carefully before use.

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 interpret is reserved to Shenzhen HQT Science&Technology Co., Ltd.

The design and specifications of this product are subject to being modified by Shenzhen HQT Science&Technology Co., Ltd. without prior notice.

It is prohibited to copy, transmit, excerpt and store this manual in any retrieval system, or translate it to any language without written authorization of HQT.

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. Your radio radiates measurable RF energy only while it is transmitting(during talking), not when it is receiving(listening)or in standby mode. Antenna gain must not exceed 3.5dBi.The antenna installation comply with the requirements of manufacturer or supplier, and at least 0.74m from any body part of the user.

Your Shenzhen HQT Science & Technology CO.,LTD. 2-way radio is designed and tested to comply with a number of national and international standards and guidelines (listed below) for human exposure to radio frequency electromagnetic. This radio complies with the IEEE and ICNIRP exposure limits for occupational/controlled RF exposure environment at operating duty factors of up to 50% transmitting and is authorized by the FCC for occupational use only. In terms of 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 factor (5% talk -5% listen -90% standby) even though this radio complies with the FCC occupational RF exposure limits and may operate at duty factors of up to 50% talk.

Your Shenzhen HQT Science & Technology CO.,LTD. Two-way radio complies with the following RF energy exposure standards and guidelines:United States Federal Communications Commission, Code of Federal Regulations; 47CFR §§1.1.307,1.1310,

- 2.1091 and 2.1093
- 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

Warning! : This radio generates RF electromagnetic energy during transmit mode. This radio is designed for and classified as "Occupational Use Only," meaning it must be used only during the course of employment by individuals aware of the hazards and the ways to minimize such hazards. This radio is NOT intended for use by the "General Population" in an uncontrolled environment.

RF Specification:
 Frequency range: 136-174MHz
 RF output power: High power 50W / Low power 25W
 Modulation Type: Analog : FM / Digital: 4FSK
 Channel Separation: 12.5kHz

Contents

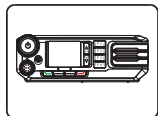
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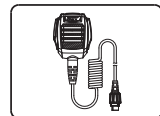
Product Inspection

Please unpack carefully and check that all items listed below are received. If any item is missing or damaged, please contact your dealer.

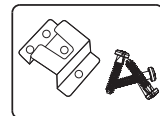
Items



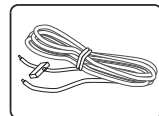
Radio DM-9800



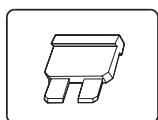
Palm Microphone



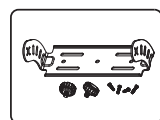
Microphone Hanger and Screws



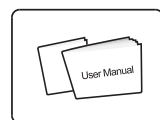
Power Cord



Fuse



Mounting Bracket Kit



User Manual

Installation

Before you install the radio in a vehicle, be sure to read the following instructions carefully:

Instructions

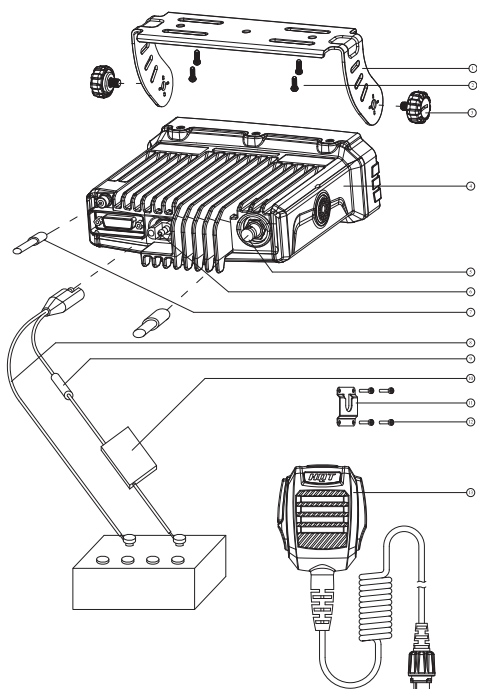
- The radio operates with cathode-grounded power supply of 13.6V ± 15% only. Please check polarity and voltage of the power supply on the vehicle before you install the radio.
- Please check how long the screws will extend from the bottom surface of the radio, before you install the radio. Drill the mounting hole cautiously to avoid damage to the vehicle wiring and other parts.
- Please connect HQT supplied antenna and power cord to the radio, before you install it in the bracket. And make sure the antenna and power cord is dedicated for HQT digital radios.
- Install the radio with HQT supplied mounting bracket, to avoid radio looseness in case of accidents. The loose radio may cause bodily injury.
- Install the radio in a location where it's easy to reach the front panel controls.
- Please make sure there's sufficient space at back of the radio for wiring.
- When the fuse for DC power cord needs replacement, it must be replaced by a fuse with the same specification.

Installation Tools

- Electric drill
- Cross head screwdriver
- Hex socket sleeve (used for 4.8*20mm self-tapping screws)

Installation Steps

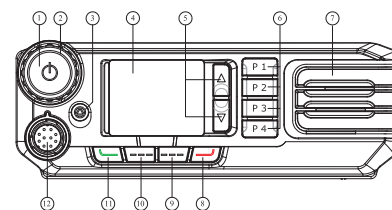
- Install the bracket in a location where it's easy to operate the radio.
- Connect accessories such as antenna and power cord to the radio.
- Slide the radio into the mounting bracket and secure it using the locking knobs.
- Install the microphone hanger in a location where it can be reached easily.
- Plug the palm microphone into the microphone jack on the front panel (but at first align the triangle index on the palm microphone with the microphone installation index), and place it on the hanger when you do not use it.



No.	Part Name
1	Mounting Bracket
2	4.8*20 mm Self-tapping Screws
3	Locking Knobs
4	Radio Unit
5	RF Antenna Connector
6	Power Inlet
7	GPS Antenna Connector
8	Black Power Cord
9	Red Power Cord
10	Fuse
11	Microphone Hanger
12	4*16 mm Self-tapping Screws
13	Palm Microphone

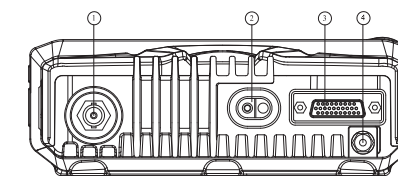
Radio Overview

Front Panel



No.	Part Name	No.	Part Name
1	Volume Control/Channel Selector/Power On-Off Knob	2	LED Indicator
3	Emergency Key	4	LCD Display
5	Up/Down Keys	6	Programmable Keys
7	Speaker	8	Back Key
9	Programmable Key	10	Programmable Key
11	Select Key	12	Palm Microphone Jack

Rear Panel



No.	Part Name	No.	Part Name
1	RF Antenna Connector	2	Power Inlet
3	Accessory Jack	4	GPS Antenna Connector

Status Indicators

LCD Icons

Icon Name	Icon	Radio Status
RSSI		No signal.
		More bars indicate better signal strength.
Message Icons		New Message/Unread Message.
		InBox is full.
Scan Icons		Scanning is in processing.
		Scanning pauses on a non-priority channel.
		Scanning pauses on Priority Channel 1.
		Scanning pauses on Priority Channel 2.
Tx Power Icons		Low Tx power for the used channel.
		High Tx power for the used channel.
Monitor Icon		The feature "Monitor" is active.
Speaker Icon		The speaker is open.
Emergency Icon		The Emergency mode (other than secret emergency) is active or an emergency message is received.
GPS Icon		The GPS feature is active, and valid GPS data is received.

LED Indicator

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

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

Operation Mode Icons

Icon Name	Icon	Operation Mode
Operation Mode Icons	DM	Direct Mode Operation: In this mode, radios communicate with each other directly.
	RM	Repeater Mode Operation: In this mode, radios communicate with each other via a repeater.

Programmable Keys

For enhanced convenience, you may request your dealer to program the keys **P1,P2,P3,P4**, 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	Keypad Lock	To lock or unlock the keypad
10	Contact List	To access the Menu "Contact List" quickly
11	Message	To access the Menu "Message" quickly
12	Call Logs	To access the Menu "Call Logs" quickly
13	Adjust Squelch Level	To adjust the squelch threshold required for the speaker to unmute
14	One Touch Call1	To transmit a call, text message or other service to a preset contact quickly
15	One Touch Call2	To transmit a call, text message or other service to a preset contact quickly
16	One Touch Call3	To transmit a call, text message or other service to a preset contact quickly
17	One Touch Call4	To transmit a call, text message or other service to a preset contact quickly

No.	Shortcut Keys	Description
18	One Touch Call5	To transmit a call, text message or other service to a preset contact quickly
19	Squelch Off Momentary	To momentarily open the speaker
20	Squelch Off	To always open the speaker
21	Monitor	To adjust the condition for incoming signal match
22	Talk Around	To directly communicate with other radios
23	Home Screen	To quickly return to the previous menu or home screen
24	Scramble/Encrypt	Scramble (in analog mode): To encrypt your voice so as to guarantee privacy of your communication Encrypt (in digital mode): To encrypt your voice so as to guarantee privacy of your communication
25	VOX	To enable or disable the VOX function
26	Lone Worker	To enable or disable the Lone Worker function
27	Roaming	To enable or disable the Roaming function
28	Option Board	To enable or disable the Option Board function
29	Phone List	To access the "Phone List" menu quickly
30	DTMF Keypad	To access or exit the DTMF Keypad mode. The number input from the radio keypad is phone number in DTMF Keypad mode.


Note: (1) Different functions can be assigned to Long Press and Short Press of a key by your dealer.
(2) The is programmed as the Emergency key by default, and is programmable by your dealer.

Basic Operations

Turning the Radio On/Off

To turn the radio on, long press the Power On/Off key until the radio shows power-up screen and sounds power-up alert, and the LED flashes green. To turn the radio off, press the Power On/Off key.

Adjusting the Volume


When the Volume Control / Channel Selector knob operates in volume adjustment mode (the radio displays the icon ) , rotate the knob clockwise to increase the call volume, or counterclockwise to decrease it.

Selecting a Zone

A zone is a group of channels exhibiting the same property, and is programmed by your dealer. The radio supports up to 64 zones, each with a maximum of 16 channels. You may select a zone through any of the following methods:

1. Through menu selection
Go to the menu "Zone", and use the Up/Down keys to select your desired zone.
2. Through the function keys
You may quickly toggle to your desired zone by pressing the programmed Zone Up or Zone Down key.

Selecting a Channel

Press the Volume Control / Channel Selector knob to switch it to channel selection mode (the radio displays the icon ) , and then rotate the knob to select your desired channel. Alias of the current channel will appear in the home screen.


Note: The knob is in volume adjustment mode by default, and will return to this mode in 5 seconds after you select a channel.

Analog/Digital Switch

Each channel can be programmed as either analog channel or digital channel. If the current zone includes both analog and digital channels, you may quickly switch between digital and analog through the Channel Selector knob.

Private Call

Transmitting a Private Call

You can make a Private Call through any of the following methods. When transmitting a Private Call, the icon  will appear.

Transmitting a Call to the Preset Contact

In standby mode, it will transmit a Private Call to the contact (a Private Call number) preset for the current channel by pressing the PTT key.

Note: Your dealer may preset a contact for each digital channel. The preset contact can be a Private Call number, a Group Call number or an All Call number.

Transmitting a Call Through Contact List or Call Logs

- 1) Go to Contact -> Contact List, or go to Call Logs -> Call List.
- 2) Use the Up/Down keys to select your desired Private Call number.
- 3) Hold down PTT key to transmit a Private Call to the selected contact.

Transmitting a Call Through Manual Dial

- 1) Go to Contact -> Manual Dial.
- 2) Press [#] to enter Private Call input mode, input a Private Call number you want to call.
- 3) Press PTT key to transmit a Private Call.


Receiving and Responding to a Private Call

After a Private Call is received, you can respond to it

by pressing the PTT key within the preset time period. If you do not respond to it, the radio will display the missed call icon.

Group Call

Transmitting a Group Call

You can make a Group Call through any of the following methods. When transmitting a Group Call, the icon  will appear.

Transmitting a Call to the Preset Contact

In standby mode, it will transmit a Group Call to the contact (a Group Call number) preset for the current channel by pressing the PTT key.

Note: Your dealer may preset a contact for each digital channel. The preset contact can be a Private Call number, a Group Call number or an All Call number.

Transmitting a Call Through Contact List or Call Logs


- 1) Go to Contact -> Contact List, or go to Call Logs -> Call List.
- 2) Use the Up/Down keys to select your desired Group Call number.
- 3) Hold down PTT key to transmit a Group Call to the selected contact.

Receiving and Responding to a Group Call


After a Group Call is received, you can respond to it by pressing the PTT key within the preset time period.

All Call

Transmitting an All Call

Methods are the same as those of Transmitting a Group Call. When transmitting an All Call, the icon  will appear.

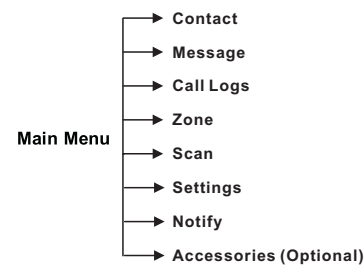
Receiving an All Call

When an All Call is received, your radio will display the  icon.

Making a Call on Analog Channels

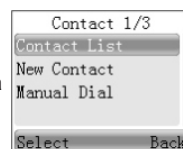
To make a call, hold down [PTT] key and speak into the microphone with normal voice. Please keep the microphone 2.5-5cm away from your mouth.

Menu Navigation



Contact

To access this item, press the Menu key in idle mode and then select "Contact".



Contact List

You can save up to 512 entries in the list. To access this item, select "Contact -> Contact List" or press the shortcut key for Contact List.

- Editing a Contact
You can edit the number and alias of each Private Call contact.
- Viewing a Contact
You can view details of each contact.
- Deleting a Contact
You can delete a Private Call contact. However, please note that you can not delete the contact when there is only one entry left in the list. In addition, the private contact preset on the digital channel cannot be deleted.

New Contact

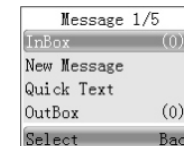
You can add a Private Call contact to the contact list. The number and alias of each contact must be unique, and the available number range is 1-16776415.

Manual Dial


You can manually input the Private/Group Call number for calling.

Message

To access this item, press the Menu key in idle mode and then select "Message", or press the shortcut key for Message directly.



InBox

The InBox can save up to 10 received messages. When the InBox is full, the icon  will appear, and the oldest entry will be overwritten by the latest one automatically. For each message, you can choose to perform any of these operations: Reply, Forward, View Details and Delete. To delete all messages in the InBox, select "Message->InBox -> Delete All".

New Message

You can create your desired text message (128 characters at most) and send it to an individual user or a talk group.

Quick Text

Under this option there are some text messages (10 entries at most) preset by your dealer. You can choose to edit and send any entry.

OutBox

The OutBox can save up to 10 sent messages. When the OutBox is full, the oldest entry will be overwritten by the latest one automatically. For each message, you can choose to perform any of these operations: Reply, Forward and Delete. To delete all messages in the OutBox, select "Message->OutBox-> Delete All".

Drafts

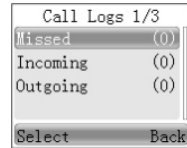
The Drafts can save up to 10 draft messages. When the Drafts is full, the messages will be overwritten by the latest one automatically.

For each message, you can choose to perform any of these operations: Send, Save and Delete.

To delete all messages in the Drafts, select "Message -> Drafts -> Delete All".

Call Logs

To access this item, press the Menu key in idle mode and then select "Call Logs", or press the shortcut key for Call Logs directly.



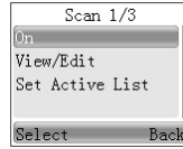
This radio can save up to 10 entries in the Outgoing List, Incoming List and Missed List respectively. When the memory for call logs is full, the oldest entry will be overwritten by the latest one automatically.

After accessing a list and selecting an entry, you can perform any of these operations: hold down the PTT key to initiate a call; View Details or delete it.

To delete all entries in Outgoing List, Incoming List or Missed List at a time, select "Call Logs -> Outgoing/Incoming / Missed -> Delete All".

Scan

To access scan, press the Menu key on home screen and then select "Scan".

**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.

Scan List

You can request your dealer to create a scan list for each channel. Each list may contain 32 channels at most (either digital channel or analog channel is OK). After accessing the list, you can perform any of the following operations:

- Adding a Channel

To include a new channel into the active scan list.

- Editing Priority Channel

To set the selected channel as a non-priority or a priority channel. If you are interested in activities

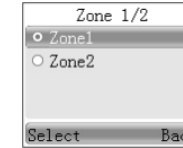
on a channel, you can set it as a priority channel which will be scanned more frequently than a non-priority channel. Each scan list may contain two priority channels at most. indicates priority channel 1, and indicates priority channel 2.

- Deleting a Channel

To remove a channel from the active scan list. However, the first channel in the list can not be deleted.

Zone

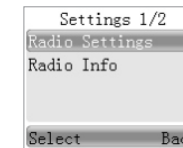
To access this item, press the Menu key in idle mode and then select "Zone".



This radio supports up to 64 zones. You can use this menu to select your desired zone.

Settings

To access this item, press the Menu key in idle mode and then select "Settings".



You can optimize your radio performance by customizing related parameters according to actual needs and your preferences.

Radio Settings

- Language

To set the language in which all interface information is displayed. Currently, this radio only supports two languages: Chinese and English.

- Tx Power

This option allows you to set transmit power level. Alternatively, you can change the power level by pressing the shortcut key for Adjust Power Level in idle mode.

There are two levels available: High (indicated by) and Low (indicated by). High power level enables you to communicate with farther team members.

Note: Power level should be set for each channel individually.

- Lone Worker

This function can trigger off the Emergency mode if the radio does not work for a certain time period. This parameter determines whether to enable the Lone Worker function.

- Tone

To set tones for your radio. You can set the following tones: Radio Silent: to set whether the radio will give tone indication. If Silent On is selected, all alerts will be off. Call End Tone: to set whether the radio will give tone indication when the call ends.

Private Call Tone: to set whether the radio will give tone indication when the radio receives a private call.

Text Message Tone: to set whether the radio will give tone indication when the radio receives a message.

Keypad Tone: to set whether the radio will give tone indication when you are making keypad operations.

Group Call Tone: to set whether the radio will give tone indication when the radio receives a group call.

Signaling Side Tone: to set whether the radio will give tone indication when PTT is pressed (during transmission of PTT ID);

- Squelch

This option allows you to select an appropriate squelch level. Alternatively, you can change the squelch level by pressing the shortcut key for Adjust Squelch Level in the home screen.

There are three levels available: Tight, Normal and Open. The default squelch level is "Normal", and is often used in low noise environment.

And generally, "Tight" is used in high noise environment. It requires stronger signal for the radio to unmute. However, if the squelch level is set to Open, the speaker will keep unmuted irrespective of the decoding conditions.

- Scrambler /Encrypt

To set whether to enable the Scrambler/Encrypt feature.

- 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.

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

- VOX

On/Off

If "On" is selected, it allows the user to make calls every time the user speaks into the radio directly without pressing the PTT key.

If "Off" is selected, the user should make calls by pressing the PTT key.

Gain Level

The range of "Gain Level" is Level 1 to Level 9. The lower the Gain Level is, the easier the VOX to be enabled.

- Radio Password

Options: Off / On

When "On" is selected, users have to input the correct Radio Lock Password to operate the radio normally. When "Off" is selected, users can operate the radio without inputting the password.

Radio Info

With this option, you can view the basic information of your radio, including Serial Number, Radio Alias, Frequency Range, Firmware Ver, Radio Data Ver and Last Programmed Date.

Accessories

To access this item, press the Menu key in idle mode and then select "Accessories".

**GPS(Optional)**

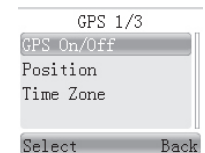
Operation:

1. To enable the feature:

Go to "Main Menu-> Accessories->GPS On/Off-> Off or On" and select "On".

2. To disable the feature:

Go to "Main Menu-> Accessories->GPS On /Off->Off or On" and select "Off"



- Position

With this option, you can view longitude, latitude, time, date, speed, altitude and SA (satellite) information of your radio.

- Time Zone

Users can select a desired time zone from the drop-down list. The radio adjusts its time according to the selected time zone.

- GPS Update Time

This option defines the time interval to update the GPS information. Range:1 – 60 seconds.

Functions and Operations

Home Screen

The feature allows you to quickly return to the previous menu or the home screen.

Operation:

Press the [Option] Key on the editing screen, then the radio exits the screen and returns to the previous menu immediately;
Press the [Option] Key on other screens, then the radio returns to the home screen.

Talk Around

You can continue communicating 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 the talk 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, and the radio displays the icon  . 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 displays the icon  and sounds background noise. To disable the feature, press this key again.

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

Digital Emergency

Emergency Alarm with Voice to Follow Operation:

- Press the programmed Emergency key to go to the Emergency Revert Channel, and the radio displays the icon  .
- When the icon appears, you can speak into the microphone to make an emergency call.
- When the icon appears, your radio is receiving. When a call is received, the icon appears. If the preset voice cycles expire, you can press the PTT key to make the emergency call again (the radio displays the icon with LED glowing red).

After the emergency call is transmitted, please release the PTT key to receive (the radio displays the icon). When a call is received, the icon appears. To exit the Emergency mode, long press the programmed Emergency key.

Note: Your dealer may set the time of voice cycles, duration of each transmission and Tx interval.

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

Squelch

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

Optional Accessories

Optional accessories and replacement parts are available through your Authorized Dealer.

Those items include:

- VHF Antenna
- UHF Antenna
- GPS Antenna
- DTMF Microphone
- Programming Cable
- Programming Software

Troubleshooting

Phenomena	Analysis	Solution
The radio can not be powered on.	The power cord may be unconnected.	Connect the power cord correctly.
During receiving signals, the voice is weak, discontinuous or totally inactive.	The volume may be set to a low level.	Increase the volume by rotating the Volume Control knob clockwise.
	The antenna may get loose or may be improperly installed.	Power off the radio, re-install the antenna and power on the radio again.
	The speaker may be blocked or damaged.	Clean surface of the speaker. If the problem can not be solved, contact your dealer or our authorized service center for inspection and repair.

You can not communicate with other members in Analog mode.	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.
	You may be too far away from the group members.	Move towards other members. And make sure that you are within the communication range.
You can not communicate with other members in Digital mode although there is receiving indication.	Your ID may be inconsistent with that of other members. Consequently, the digital carrier can be received but can not be demodulated.	Set your ID to the same as that of other members.
	You may be interrupted by radios using the same frequency.	Adjust the squelch level.
Irrelevant communications or noises are heard on the analog channel.	The radio may be set with no signaling.	Set your radio with signaling to avoid interference at the same frequency, and make sure that all members share the same signaling.

The noise is too loud.	You may be too far away from other members.	Move towards other members, and then try again.
	You may be at an unfavorable position. For example, your communication may be blocked by high buildings or frustrated in the underground areas.	Move to an open and flat area, and try again.
	You may suffer from external disturbance (such as electromagnetic interference).	Stay away from equipment that may cause interference.
You can not use the keys.	The keypad may fail to function temporarily.	Restart the radio.
There is no display.	The LCD may fail to function temporarily.	Restart the radio.
The GPS cannot locate your position.	The GPS antenna is improperly connected.	Connect the GPS antenna correctly.
	No GPS signal is received.	Move to an open and flat area, and restart the radio.

If the above solutions can not fix your problems, or you may have some other queries, please contact us or your local dealer for more technical support.

Care and Cleaning

To guarantee optimal performance as well as a long service life of the product, please follow the tips below.

Product Care

- Keep the product at a place with good ventilation and heat dissipation to facilitate normal work.
- Do not place irrelevant articles on top of the product to ensure optimal heat dissipation.
- Do not place the product in corrosive agents, solutions or water.

Product Cleaning

- Clean up the dust and fine particles on the product parts with a clean and dry lint-free cloth or a brush regularly.
- Use a non-woven fabric with neutral cleanser to clean the keys, control knobs, LCD and jacks after long-time use. Do not use chemical preparations such as stain removers, alcohol, sprays or oil preparations. Make sure the product is completely dry before use.

Caution: Power off the product before cleaning.

Service and Support

Shenzhen HQT Science & Technology Co., Ltd. ("HQT") provides long-term support for its products, including repair and supply of the radio and its parts and accessories.

Service Commitment

1. HQT two-way radio body has an 18-month warranty; accessories: 6 months.
2. Free repair is available and subject to the fully-filled warranty card or valid original invoice of purchase in the case that the radio or accessories can not work normally due to non-human factor during the warranty period.
3. Replacement or repair is available and subject to the fully-filled warranty card or valid original invoice of purchase in the case that the radio or accessories can not work normally because of non-human factor within 30 days from the date of purchase.
4. Repaired parts are warranted for the balance of the original applicable warranty period or 90 days from the date of repair. The longer one is valid.

Warranty

1. The warranty is only valid for products under normal use, defects or damages resulting from human

- factors are excluded from the warranty coverage. Such as: disassembling or modifications, damages caused by outside force, water penetration, burns, use of HQT unapproved accessories, using against the user manual and so on.
2. The warranty period starts from the date of purchase on the invoice.
 3. Free repair is unavailable if the HQT mark or serial number label is torn off.
 4. Only the fully-filled warranty card and valid original invoice of purchase with HQT's seal or authorized dealer's seal affixed are valid for receiving the warranty service.

Cautions

1. Read the user manual before use.
2. Do not use the radio with damaged antenna, only HQT approved antenna is applicable.
3. Turn off the radio in potentially explosive or flammable environments.
4. Do not immerse the radio into liquids or discard it in fire.
5. Use the radio only with standard accessories.

Terms of Warranty

1. HQT two-way radio body has an 18-month warranty; accessories: 6 months.
2. Only the fully-filled warranty card and valid original invoice of purchase with HQT's seal or authorized dealer's seal affixed are valid as proofs for identifying the warranty period. (The invoice should give clear indication of radio, accessories, serial number, date of purchase, purchase price and so on.)
3. If the radio body goes wrong during the warranty period, it should be ensured working normally over 30 days after the repair.
4. Replacement or repair is available and subject to the fully-filled warranty card and valid original invoice of purchase in the case that the radio can not work normally as the instructions list within 30 days from the date of purchase. (Note that there must not be abrasions on radio body and accessories.)
5. Replacement of the same model is available and subject to the 3 repair receipts in the case that the radio body still works abnormally after 3-time-or-above repairs during the warranty period.
6. Repair of the radio and accessories is available and subject to the valid original invoice of purchase.
7. The costs of materials and repair are covered during the warranty period.

Note: This warranty will be adjusted or modified properly according to the market, and it is subject to change without notice. If adjusted or modified, the warranty is subject to the latest version issued by HQT service center in HQT official channels.

8. No warranty service is provided if the HQT mark and/or serial number label on the product are/is torn off.
9. Exclusions from warranty coverage:
 - 1) Beyond the valid warranty period;
 - 2) Defects or damages that result from use of the product in other than its normal and customary manner;
 - 3) Defects or damages resulting from misuse, accident, water penetration or neglect;
 - 4) Defects or damages caused by improper testing, operation, repair, installation, reconfiguration or adjustment;
 - 5) Defects or damages to antenna unless caused by material or processing problems;
 - 6) Product which has the serial number removed or illegible;
 - 7) Product with unclear date of purchase;
 - 8) Defects or damages because of unauthorized repair or disassembling;
 - 9) Abrasions under normal use.

Warning! :

The antenna of this device must be installed on the roof or trunk of the vehicle. Maximum the gain of the antenna is 3.5dBi, the minimum operating separation distance $R_{safe} = 74\text{cm}$. This distance must be maintained during normal operations.