A1.150505

AnyTone®

We only do best radio!

Qixiang Electron Science & Technology Co., Ltd.

www.qxdz.cn

AnyTone®

DIGITAL

AT-D858

DIGITAL HANDHELD TRANSCEIVER

FC CE RoHS COMPLIANT

USER'S MANUAL

THANK YOU!

Thank you very much for choosing our AnyTone transceiver. AnyTone transceiver provides you with reliable, clear and efficient communication service.

This transceiver have both DMR digital and analog communication, introduces innovative DMR digital processing system to achieve SMS, high-audio quality and digital encryption. It boasts novelty, best stability, great reliability, nice timbre and long distance communication as well as fashionable design and smooth exterior lines. AT-D858 is a cost-effective and multi-functional professional DMR digital transceiver It is convinced that you will be satisfied with its quality and functions. For your full comprehension of the various excellent functions and maintenance, please read the user manual before use.

NOTE: When programming the transceiver, read the factory initial data first, then rewrite the frequency and signaling etc., otherwise errors may occur because of different frequency band etc.

User Manual Applied to:

1. AT-D858 UHF/VHF Digital Transceiver (standard)
2. AT-D858 UHF/VHF Digital Transceiver (enhanced)
3. Programming Software: Qixiang D858 CPS
4. AT-D858 digital transceiver (enhanced version) additional function:
   (1) 18 hours communication/ monitoring voice recording
   (2) Man Down

SAFETY INFORMATION FOR USER

AnyTone transceiver is excellently designed with advanced technology. Please observe the following precautions to perform your obligation, prevent personal injury and ensure the safety of transceiver usage.

1. Keep the transceiver and accessories away from children.
2. Please do not try to open or modify the transceiver without permission, non-professionals process may also cause damage.
3. Please use assorted battery and charger to avoid damage.
4. Please use assorted antenna to ensure the communication distance.
5. Please do not expose the transceiver to long period of direct sunlight, nor place it close to heat appliances.
6. Please do not put the transceiver in excessively dusty or humid areas.
7. Do not use harsh chemicals, cleaning solvents to clean the transceiver.
8. Do not transmit without antenna.
9. When using this transceiver, we recommend transmitting for 1 minute then receiving for 4 minutes. Continuous transmitting for long time or working in high power will heat the back of the transceiver. Do not place the transceiver's hot back close to any surface of plastic.
10. If any abnormal odor or smoke detected coming from the transceiver, turn off the power and take off the battery pack and its case. Then contact local AnyTone dealers.

ATTENTION:

All tips above apply to accessories of your AnyTone transceiver. If any device can not work normally, please contact local AnyTone dealers.

If you use any accessories made by other companies, AnyTone Company does not guarantee the operability and safety of the transceiver.

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UNPACKING

Carefully unpack the transceiver. We recommend you to identify the items listed in the following table before discarding the packing material. If any items are missing or have been damaged during shipment, please contact dealers immediately.

Supplied Accessories

Item	Number	Quantity
Antenna	QA13V(136-174MHz) QA13U(350-390MHz) QA13U(400-480MHz) etc	1
Li-ion Battery Pack	QB-44L	1
Battery Charger	QBC-44L	1
AC Adaptor	QPS-01	1
Belt Clip	BC09	1
Hand Strap	GS01	1
Instruction Manual		1

◦ STANDARD/OPTIONAL ACCESSORIES

Standard Accessories

Antenna*1
QA13V (136-174MHz)
QA13U (350-390MHz)
QA13U (400-480MHz) etc.

Li-ion Battery Pack (2000mAh) QB-44L

Charger QBC-44L

AC Adaptor (12V/500mA) QPS-01

Belt Clip BC09

Hand Strap GS01

Instruction Manual

*** Note: For frequency band of antenna, please refer to label indicated in the bottom of the antenna.**

*** Note: Car Charger and QBC–44L Charger should be used together.**

Optional Accessories

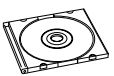
USB Programming Cable PC05(K)

USB Programming Cable PC06(M)

Earphone HS05 (Kenwood connector)

Earphone HS06 (Motorola Connector)

Li-ion Battery Pack (2600mAh)/(3000mAh)



Programming Software QPSD858

Car Charger CPL01*2

Charging Operation

The battery pack is not charged at the factory; please charge it before use.

Charging the battery pack for the first time after purchase or extended storage (more than 2 moths) may not bring the battery pack to its normal operating capacity. After fully charging/ discharging cycle for two or three times, the operating capacity will reach its best performance. The battery pack life is over when its operating time decreases even though it is fully and correctly charged. Replace the battery pack.

Charger Applied

Please use the specific charger appointed by our company. Other models may cause explosion and personal injury. After installing the battery pack, if the radio displays low battery with red flashing lamp or voice prompt, please charge the battery.

Notice for Charging Battery

- ▼ Do not short the battery terminals or throw the battery into fire. Never attempt to remove the casing from the battery pack, we show no responsibility on any results caused by modifying freely without permission of our factory.
- ▼ The ambient temperature should be between 5℃and 40℃while charging is in progress. Charging outside this range may not fully charge the battery.
- ▼ Always switch OFF the transceiver equipped with a battery pack before charging. Otherwise, it will interfere with correct charging.
- ▼ To avoid interfering the charging, please do not cut off the power or take out the battery during charging.

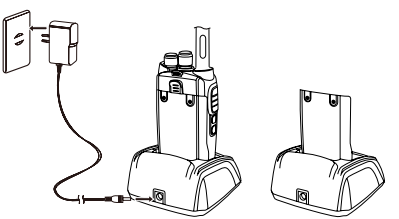
◦ BATTERY INFORMATION

▼ Do not recharge the battery pack if it is already fully charged. This may shorten the life of the battery pack or damage the battery pack.

▼ Do not charge the battery or transceiver if it is damp. Dry it before charging to avoid danger.

WARNING: When keys, ornamental chain or other electric metals contact with the battery terminal, the battery may cause damage or hurt bodies. If the battery terminal short circuit it will generate a lot of heat. Take care when carrying and using the battery. Remember to put the battery or radio into insulated container.Do not put it into metal container.

How to Charge



1. Plug the AC adaptor into the AC outlet, and then plug the cable of the AC adaptor into the DC jack located on the back of the Charger. The Indicator lights orange (1s) and then goes out----waits to charge.
2. Plug the battery or transceiver into the charger. Make sure that the battery terminals are in contact with charging terminals well. The Indicator turns into twinkling red-----Pre-charging begins.
3. After pre-charging for about 5 minutes, the red indicator will stop twinkling----charging begins.
4. It takes approximately 5 hours to fully charge the battery. When the lamp lights green, the charging is finished. Remove the battery or the transceiver equipped with battery from socket.

NOTE: when charging a power−on transceiver equipped with battery, the indicating lamp will not turn into green to show the fully charged status. Only when the transceiver is switched off, can the lamp indicate normally. The transceiver consumes energy when it is power−on, and the charger can not detect the voltage when the battery has been fully charged. So the charger will charge battery in constant voltage and fail to indicate correctly whether the battery has been charged fully.

5. Charging Process

Charging Status	Indicator Status
Standby (Self-examine lights orange 1second when power on)	None
Pre-charging (Pre-charging stage)	Red light twinkles for about 5 minutes
Charging (Charge in a constant current)	Lights red for about 5 hours
Fully charged (Charge in a constant voltage)	Lights green

6. LED Indicator:

STATUS	Self-Examine When Power on	No Battery	Pre-charging	Charge Normally	Fully Charged	Trouble
LED	Orange (for 1 second)	None	Red Light Twinkles for 5 Minutes	Red	Green	Red twinkles for a long time

NOTE: Trouble means battery heating, battery short−circuit or charger short−circuit.

◦ BATTERY INFORMATION

Normal Charging Tips

1. **Self- Examination:** When charging, orange light twinkles for 1 second and goes out, which means the charger has passed its self-examination and it can charge the battery normally. If the light remains orange or the red light twinkles, it means the charger can not pass its self-examination or charge the battery.
2. **Trickle Pre-Charging:** If red light twinkles when battery is inserted into the charger, it means the remnant voltage is low and the charger is trickle-charging the battery (Pre-Charging Status). The charger will automatically turn into normal charging when the battery reaches a certain electric quantity, And if the red light stops twinkling, it means the remnant voltage meets a certain electric quantity, the charger will charge the battery normally.

NOTE: Trickle charging (Pre–Charging Status) time can not beyond 30 minutes. If the indicating lamp still twinkles after 30–minute trickle–charging, it means that the charger can not charge the battery. Please check whether the battery or charger is damaged.

How to Store the Battery

1. If the battery needs to be stored, keep it in status of 80% discharged.
2. It should be kept in low temperature and dry environment.
3. Keep it away from hot places and direct sunlight.

○ BATTERY INFORMATION

WARNING:

▼ Do not short circuit battery terminals.

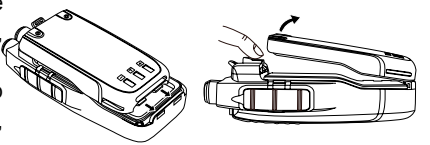
▼ Never attempt to remove the casing from the battery pack.

▼ Never assemble the battery in dangerous surroundings, spark may cause explosion.

▼ Do not put the battery in hot environment or throw it into fire, it may cause explosion.

Installing / Removing the Battery

1. Match the two grooves of the battery pack with the corresponding guides on the back of the transceiver, and then push it.
2. Press the battery pack until the release latch on the top of the transceiver locks. After hearing a “click” sounds, the battery has been locked.
3. To remove the battery pack, slide up the release latch and remove the pack away from the transceiver.



NOTE: Please turn off the transceiver before removing the battery.

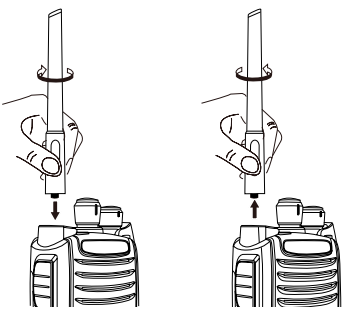
Installing / Removing the Antenna

■ Installing the Antenna:

Screw the antenna into the connector on the top of the transceiver by holding the antenna at its base and turning it clockwise until secure.

■ Removing the Antenna:

Turn the antenna anticlockwise to remove it.



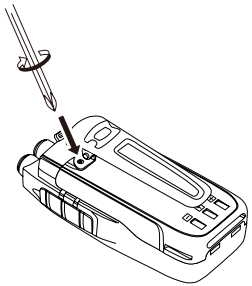
Installing / Removing the Belt Clip

■ Installing the Belt Clip:

Place the belt clip to the corresponding grooves on the back of the transceiver, and then clockwise screw it.

■ Removing the Belt Clip:

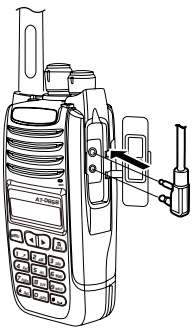
Anticlockwise turn the screws to remove the belt clip.



Installing the Additional Speaker/ Microphone (Optional)

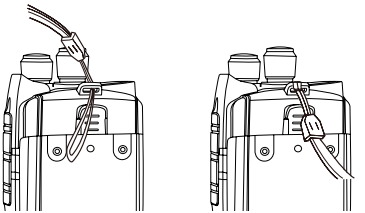
Unveil the MIC-SP jack cover and then insert the Speaker/Microphone plug into MIC-SP jack.

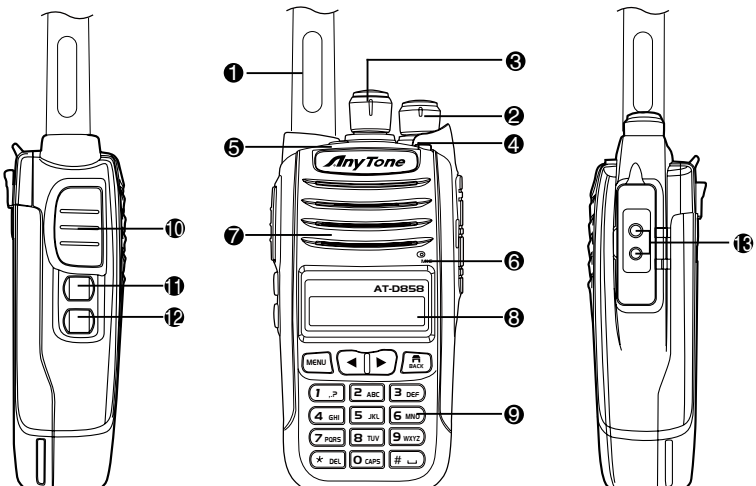
NOTE: When use the additional speaker/ microphone will influence the waterproof of the transceiver.



Installing/ Removing the Hand Strap

Slide the loop of the hand strap through the eyelet on the upper rear of the transceiver, then pull the entire hand strap through the loop to secure the hands strap in place and lastly tighten the hands strap.

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AnyTone
AT-D858
MENU
BACK

◦ GETTING ACQUAINTED

❶ Antenna

❷ POWER / VOLUME Switch:

Turn clockwise to switch on the transceiver, and turn anticlockwise till hearing “Click” to switch off the transceiver. After switching on the transceiver, turn clockwise to increase the volume and anticlockwise to decrease the volume.

❸ Channel Selector Knob

Turn the selector knob to select desired channel. Turn clockwise to increase channel, anticlockwise to decrease channel.

❹ Indicator

Indicate different working status

❺ Top Key

It can realize different functions by programming.

❻ MIC

❼ Speaker

❽ Display

❾ Keypad

❿ PTT Key

When you are making a call, please press and hold this key to speak into the microphone, release the key to receive.

⓫ PF1 Key

It can realize different functions by programming.

⓬ PF2 Key

It can realize different functions by programming.

⓭ Additional Microphone / Speaker Jack, PC program Jack

NOTE: The PF1 and PF2 key's function can be defined by the programming software, the functions as below:

Side key:

1. Unassigned
2. All Alert Tones On/Off
3. High/Low power
4. Monitor
5. One Touch Access 1
6. One Touch Access 2
7. One Touch Access 3
8. One Touch Access 4
9. One Touch Access 5
10. One Touch Access 6
11. Scan On/Off
12. Tight/ Normal Squelch
13. Privacy On/Off
14. VOX On/Off
15. Zone Toggle
16. Low Battery Indicator
17. Private Work On/Off
18. Emergency Call

SUMMARY

Power on the radio

Turn on the radio by turning the Volume switch clockwise till a click is heard, and you will hear a Power up beep if the dealer has set it. Then the screen display DMR and the radio name you have edited. LED lights green, if the backlight have been set auto open, then the screen lights up.

NOTE: If all LED lights have set off, then the screen will not lights up when power on. The transceiver sounds beep to indicate radio power on successfully. If the user prohibit volume/voice prompt function,no voice for power on.

Adjust Volume

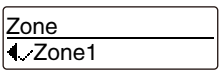
Rotate the Power/Volume knob to adjust the volume. Turn clockwise to increase the volume and counterclockwise to decrease the volume.

Receiving or Making a Call

1.Selecting a Zone

A zone is a group of channels. Your radio supports up to 250 zones, with a maximum of 16 channels per zone. this transceiver can program to 1000 channels by software. Use the following procedure to select a zone.

1. Press [MENU] to access menu mode.
2. Press [◄ / ►] to zone, then press [MENU] to select.
3. The current zone is displayed the name of the zone.
4. Press [◄ / ►] to the required zone and press [MENU] key to select.
5. The display shows <Zone> Selected momentarily, then back to the zone.



2.Selecting a Radio Channel, Subscriber ID, or Group ID Procedure:

Once the required zone is displayed, if you have multiple zones in your radio, turn the programmed channel Knob to select the channel, subscriber alias or ID,or group alias or ID.

3.Receiving and Responding to a Group Call

To receive a call from a group of users,your radio must be configured as part of that group.

Procedure:

When you receive a Group Call (while on the Home screen);

1. The green LED lights.
2. The first line of the display shows the caller alias and the RSSI icon. The second line displays the

group alias and the Group Call icon (in Digital mode only).

3. Press the [PTT] button to respond to the call and the RED LED turns on.
4. Release the [PTT] button to listen.
5. If there is no voice activity for a predetermined period of time. the call ends.

4.Receiving and Responding to a Private Call

A Private call is a call from an individual radio to another individual radio.There are two types of Private Calls. The first type is where a radio presence check is performed prior to setting up the call. The other type sets up the call immediately.

Procedure:

1. The green LED turns on.
2. The first line of the display shows the subscriber alias or ID, and the RSSI icon. The second line displays Private Call and the Private Call icon.
3. Press the [PTT] button to respond to the call. and the RED LED turns on.
4. Release the [PTT] button to listen.
5. If there is no voice activity for a predetermined period of time, the call ends.

5.Receiving an All Call

An All Call is a call from an individual radio to every radio on the channel. It is used to make important announcements requiring the user's full attention.

Procedure:

When you receive an All Call:

1. The Green LED turns on.
2. The first line of the display shows the caller alias or ID, and the RSSI icon. The second line displays All Call and the All Call icon.

NOTE: the radio stops receiving the All Call if you switch to a different channel while receiving the call.

6.Making a Radio Call

You can select a channel, subscriber ID, or group by using:

- The Channel Selector Knob
- A programmed One Touch Call button
- The Contacts list
- Manual Dial (Via Contacts)--This method is for Private Calls only and is dialed using the keypad.

Making a Call by the Channel Selector Knob

1.Making a Group Call

To make a call to a group of users, your radio must be configured as part of that group.

Procedure:

1. Turn the Channel Selector Knob to select the channel with the active group alias or ID.
2. Press the [PTT] button to make the call. The Green LED turns on when target radio respond. The display shows the group call icon, the group alias or ID and transmitting radio alias or ID.

3. If there is no voice activity for a predetermined period of time, the call ends.Radio returns to the previous screen you were on priority.

2.Making a Private Call

Procedure:

1. Turn the Channel Selector Knob to select the channel with the active subscriber alias or ID.
2. Press the [PTT] button to make the call. The first line displays the subscriber alias or ID.The second line displays Private Call and the private Call icon.
3. Release the [PTT] button to listen. When the target radio responds, the screen display subscriber alias or ID, and private call and private call icon.
4. If there is no voice activity for a predetermined period of time, the call ends. Radio returns to the previous screen you were on priority.

3.Making a All Call

This feature allows you to transmit to all users on the channel. Your radio must be programmed to allow you to use this feature.

Procedure:

1. Turn the Channel Selector Knob to select the channel with the active All Call group alias or ID.
2. Press the [PTT] button to make the call. The display shows the All Call group alias or ID and the All Call icon. Users on the channel cannot respond to an All Call.

4.Making a Group or Private Call with the One Touch Call Button

This feature allows you to transmit to all users on the channel. Your radio must be programmed to allow you to use this feature.

Procedure:

The One Touch Call feature allows you to make a Group or Private Call to a predefined alias or ID easily. This feature can be assigned to a short or long programmable button press.

Procedure:

1. Press the programmed One Touch Call button to make a Group or Private Call to the predefined alias or ID.
2. Press the [PTT] button to make the call. The display show the group/subscriber alias or ID, and the Group/Private Call icon.
3. Release the [PTT] button to listen. When the target radio responds, the Green LED turns on.
4. If there is no voice activity for a predetermined period of time. the call ends. Radio returns to the previous screen you were on priority.

5.Emergency Alarm

An Emergency Alarm is used to indicate a critical situation. You are able to initiate an Emergency at any time on any screen display even when there is activity on the current channel.

Your radio supports below type:

- Disable: This radio can not sending emergency alarm, but can received the emergency call from other radios.

- regular: The radio sending an emergency alarm with audio or visual indicator.
- silent: The radio sending an emergency alarm without any audio or visual indicator.
- silent with voice: In the state of emergency alarm, press [PTT] to sending the call and voice.

6.Exiting an Emergency Mode

Your radio exits Emergency mode when one of the following occurs:

- Emergency Alarm acknowledgement is received. (for Emergency Alarm only), OR
- All retries to send the alarm have been exhausted, OR
- Press the button programmed emergency off, OR
- Press [PTT] button.

NOTE: If your radio is powered off, it exits the Emergency mode. The radio will not reinitiate the Emergency mode automatically when it is turned on again.

Character Input

You can check the radio features by 3*4 alphabet button. Use the buttons input the subscriber alias or ID and message. Many character need to press the button few times. Below sheet shows the press times to get the required character.

Key	1 2 3 4 5 6 7 8 9 10 11 12 13
1	1 , ? @ & : % : * #
2	A B C 2
3	D E F 3
4	G H I 4
5	J K L 5
6	M N O 6
7	P Q R S 7
8	T U V 8
9	W X Y Z 9
0	0 note: press and input “0”, long press active capital, long press again inactive capital.
*	delete note: press this button to delete the character.
#	space note: press this button for a space

◦ FUNCTION MENU INTRODUCTION

Menu Manual

1. Press [MENU] to access menu mode, then press [◄ / ►] to visit menu function;
2. Press [MENU] to select or access the sub-menu;
3. Press [BACK] to back to priority menu.

NOTE: The radio will auto exit the menu and back the main screen after a period without any active (you can programmed period of hanging up time by software). Below instruction for Contact, Call log and Text Message only efficiency in digital channel. Or else the above operation is invalid.

Radio Check

If enabled, this feature allows you to determine if another radio is active in a system without disturbing the user of that radio. No audible or visual notification is shown on the target radio.

This feature is only applicable for subscriber aliases or Ids.

Sending a Radio Check.

Procedure: Use the menu.

Radio Check:
Call 1

1. Press [MENU] to access the menu.
2. Press [◄ / ►] to Contacts and press [MENU] to select
3. Press [◄ / ►] to the required subscriber alias or ID and press [MENU] to select. OR Press [◄ / ►] to Manual Dial and presses [MENU] twice. Input the subscriber alias or ID and then Press [MENU].
4. Press [◄ / ►] to Radio Check and press [MENU] to select.
5. Screen display radio checking: < subscriber alias or ID>, indicate that the radio is on checking, LED turns to red.
6. If the target radio is active in the system, a tone sounds and the display briefly shows Target Radio Available.
   OR If the target radio is not active in the system, a tone sounds to show Target Radio Not Available.
7. Radio returns to the subscriber alias or ID screen. If is waiting for acknowledgement, transceiver stop all retry and exit checking mode.

Remote Monitor

Use the Remote Monitor feature to turn on the microphone of a target radio(subscriber alias or IDs only). No audible or visual indication is given to the target radio. You can use this feature to monitor, remotely, any audible activity surrounding the target radio.Your radio must be programmed to allow you to use this feature.

Remote Monitor:
Call 1

Initiating Remote Monitor

Procedure:

Use the programmed Remote Monitor button.Use the menu.

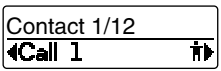
1. Press [MENU] to access the menu.
2. Press [◄ / ►] to Contacts and press [MENU] to select.
3. Press [◄ / ►] to the required subscriber alias or ID and Press [MENU] to select OR Press [◄ / ►] to Manual Dial and press [MENU] twice to select. Input the subscriber alias or ID and Press [MENU] to select.
4. Press [◄ / ►] to Remote Monitor. and press [MENU] to select.
5. Screen display Remote Monitor :< subscriber Alias or ID>, indicate that is on Remote Monitor. LED turns Red.
6. The display shows Remote Monitor Successful.OR The display shows Remote Monitor Failed.
7. If successful: The radio starts receiving audio from the monitored radio for a programmed duration.Once the timer expires, LED lights out.

Contacts Settings

Contacts provides "address-book" capabilities on your radio. Each entry corresponds to an alias or ID that you use to initiate a call.

Each entry within Contacts displays the following information:

- Call Type
- CallAlias
- Call ID



NOTE: You can add, delete, or edit subscriber IDs for the Digital Contacts list. This transceiver can save at most 1000 contacts.

Making a Group Call from Contacts

Procedure:

1. Press [MENU] to access the menu.
2. Press [◄ / ►] to Contacts and press [MENU] to select.
3. Press [◄ / ►] to the required group alias or ID.
4. Press the [PTT] button to make the call, Release the [PTT], if any of the radios in the group responds, LED turns green, and the group call icon display in the screen.

Making a Private Call from Contacts

Procedure:

◦ FUNCTION MENU SETUP

1. Press [MENU] to access the menu.
2. Press [◄ / ►]to Contacts and press [MENU] to select.
3. Press [◄ / ►] to the required subscriber alias or ID.OR Press [◄ / ►] to Manual Dial and press [MENU] twice to select. Use the keypad to enter a new subscriber ID.
4. Press the [PTT] button to make the call, the first line display subscriber alias or ID. The second line display private call or private call icon.
5. Release [PTT] button to listen, when target radio responds, LED turns green and screen display target ID.
6. If there is no audio active in programmed duration, then the call ends.

Call Log Features

Your radio keeps track of all recent outgoing, answered, and missed Private Calls. Use the Call log feature to view and manage recent calls.

Viewing Recent Calls

The lists are Missed, Answered, and Outgoing.

Procedure:

1. Press [MENU] to access the menu.
2. Press [◄ / ►] to Call Log and press [MENU] to select.
3. Press [◄ / ►] to preferred list and press [MENU] to select.
4. The display shows the most recent entry at the top of the list.
5. Press [◄ / ►] to view the list.

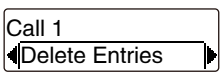
Storing an Alias or ID from the Missed Call List

Procedure:

1. Press [◄ / ►] to access the menu.
2. Press [◄ / ►] to Call Log and press [MENU] to select.
3. Press [◄ / ►] to Missed call and press [MENU] to select.
4. Press [◄ / ►] to the required missed call alias or ID and Press [MENU] to select.
5. Press [◄ / ►] to Store and press [MENU] to select.
6. A blinking cursor appears. If needed, Input the alias for that ID and press [MENU] .
7. The display shows Contact Saved. You can also store an ID without an alias.

Deleting a Call from a Call List

Procedure:



1. Press [MENU] to access the menu.
2. Press [◄ / ►] to Call Log and press [MENU] to select.
3. Press [◄ / ►] to the required list and press [MENU] to select.
4. Press [◄ / ►] to the required alias or ID and press [MENU] to select.
5. Press [◄ / ►] to Delete Entry, And press [MENU] to select delete or not.
6. Select “Yes”, press [MENU] to delete the entry and screen display the entry have deleted.
   OR select “No”, press [MENU] to back to previous screen. When you select a call list and it contains no entries, the display shows List Empty.

◦ FUNCTION MENU SETUP

Call Alert Operation

Call Alert paging enables you to alert a specific radio user to call you back when they are able to do so. This feature is applicable for subscriber aliases or IDs only and is accessible through the menu via Contacts or manual dial.

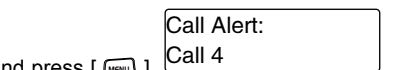
Receiving and Acknowledging a Call Alert

Procedure:

1. LED blink red light.
2. Press and release the [PTT] button to acknowledge the alert. OR Press [MENU] to select Ignore and to exit the Call Alert.

Making a Call Alert from the Contacts List

1. Press [MENU] to access the menu.
2. Press [◄ / ►] to Contacts and press [MENU] to select.
3. Press [◄ / ►] to the required subscriber alias or ID and press [MENU] to select. OR Press [◄ / ►] to Manual Dial and press [MENU] twice to select. A blinking cursor appears. Enter the subscriber ID you want to page and press [MENU] .
4. Press [◄ / ►] to Call Alert and press [MENU] to select. The display shows Call Alert: <SubscriberAlias or ID>, indicating that the Call Alert has been sent.
5. The RED LED turns on when your radio is sending the Call Alert.



6. If the Call Alert acknowledgement is received, a tone sounds and the display shows Call Alert Successful.
   OR If the Call Alert acknowledgement is not received, a tone sounds and the display shows Call Alert Failed.

Text Message Features

Your radio is able to receive data, for example a text message, from another radio or an e-mail application. The maximum length of characters for a text message, including the subject line is 164.

NOTE: press [BACK] at any time to return to the previous screen.

Writing and Sending a Text Message

Procedure:

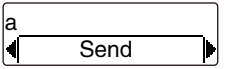
1. Press [MENU] to access the menu.
2. Press [◄ / ►] to Messages and press [MENU] to select.
3. Press [◄ / ►] to Write and press [MENU] to select.
4. A blinking cursor appears.Use the keypad to type your message. Press [◄] to move one space to the left. Press [►] or the [# ␣] key to move one space to the right. Press the [* DEL] key to delete any unwanted characters.
5. Press [MENU] once message is completed to select send or save.
6. Press [◄ / ►] to the required alias or ID and press [MENU] to sending. OR Press [◄ / ►] to Manual Dial and press [MENU] to Key in the subscriber ID and press [MENU] .

7. The display shows Text Message: <Subscriber/Group Alias or ID>, confirming your message is being sent.
8. If the message is sent, a tone sounds and the display shows Message Sent. OR If the message is not sent, a high tone sounds and the display shows Message Send Failed. If the message fails to send, the radio returns you to the Resend option screen.

Sending a Quick Text Message

Your radio supports a maximum of ten (50) Quick Text messages as programmed by your dealer. While Quick Text messages are predefined, you can edit each message before sending it.

1. Press [MENU] to access the menu.
2. Press [◄ / ►] to Messages and press [MENU] to select.
3. Press [◄ / ►] to Quick Text and press [MENU] to select.
4. Press [◄ / ►] to the required Quick Text and press [MENU] to select.



5. A blinking cursor appears. Use the keypad to edit the message, if required. Press [◄] to move one space to the left. Press [►] or the [# ␣] key to move one space to the right. Press the [* DEL] key to delete any unwanted characters.
6. Press [MENU] once message is composed to send or save.
7. Press [◄ / ►] to the required alias or ID and press [MENU] to select. OR Press [◄ / ►] to Manual Dial and press [MENU] to select. Input the subscriber ID and press [MENU] .
8. The display shows Text Message: <Subscriber/Group Alias or ID>, confirming your message is being sent.

9. If the message is sent, a tone sounds and the display shows Message Sent. OR If the message is not sent, a high tone sounds and the display shows Message Send Failed. If the message fails to send, the radio returns you to the Resend option screen You can also press a button programmed calling to sending a quick message to a programmed subscriber alias or ID.

Managing Fail-to-Send Text Messages

You can select one of the following options while at the Resend Option screen:

- Resend
- Forward
- Edit

Resending a Text Messages

Procedure:

1. Press [MENU] to resend the same message to the same subscriber/group alias or ID.
2. If the message is sent, a tone sounds and the display shows Message Sent. OR If the message is not sent, the display shows Message Send Failed.

Forwarding a Text Message

Select Forward to send the message to another subscriber/group alias or ID.
Procedure:

◦ FUNCTION MENU SETUP

1. Press [◄ / ►] to Forward and press [MENU] to select.
2. Press [◄ / ►] to the required alias or ID and press [MENU] to select. OR Press [◄ / ►] to Manual Dial and press [MENU] button, Input the subscriber ID and press [MENU] .
3. The display shows Text Message: <Subscriber/Group Alias or ID>, confirming your message is being sent.
4. f the message is sent, a tone sounds and the display shows Message Sent. OR If the message is not sent, a high tone sounds and the display shows Message Send Failed.

Editing a Text Message

Select edit to edit the message before sending.

1. Press [◄ / ►] to edit and press [MENU] to select.
2. A blinking cursor appears. Use the keypad to type your message. Press [◄] to move one space to the left. Press [►] or the [# ␣] key to move one space to the right. Press the [* DEL] key to delete any unwanted characters.
3. Press [MENU] once message is completed to select send or save.
4. Press [◄ / ►] to the required alias or ID and press [MENU] to sending. OR Press [◄ / ►] to Manual Dial and press [MENU] to Key in the subscriber ID and press [MENU] .
5. The display shows Text Message: <Subscriber/Group Alias or ID>, confirming your message is being sent.
6. If the message is sent, a tone sounds and the display shows Message Sent. OR If the message is not sent, a high tone sounds and the display shows Message Send Failed.

Managing Sent Text Messages

Once a message is sent to another radio, it is saved in Sent Items. The most recent sent text message is always added to the top of the Sent Items list. The Sent Items folder is capable of storing a maximum of 50 last sent messages. When the folder is full, the next sent text message automatically replaces the oldest text message in the folder.

NOTE: Press [BACK] anytime can back to the priority screen.

Viewing a Sent Texf Message

Procedure:

1. Press [MENU] to access the menu.
2. Press [◄ / ►] to Messages and press [MENU] to select.
3. Press [◄ / ►] to Sent Items and pres [MENU] to select.
4. Press [◄ / ►] to the required Message and press [MENU] to select.

Sending a Sent Text Message

You can select one of the following options while viewing a sent text message:

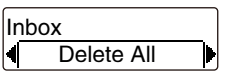
- Resend
- Forward
- Edit
- Delete

1. Review the text message, press [MENU] again.
2. Press [◄ / ►] to resend, then press [MENU] to resend again.
3. The display shows Text Message: <Subscriber/Group Alias or ID>, confirming your message is sending to correct target radio If the message is sent, a tone sounds and the display shows Message Sent. OR If the message is not sent, a high tone sounds and the display shows Message Send Failed. The radio back to the resend screen, press [MENU] to resend the message to the same subscriber/group alias or ID.

- Forward, send the text message to other group/subscriber alias or ID.
- Edit, rewrite the select message before sending.
- Delete, delete the select message.

Deleting all Sent Text Messages from Inbox

Procedure:



1. Press [MENU] to access the menu.
2. Press [◄ / ►] to Messages and press [MENU] to select.
3. Press [◄ / ►] to Inbox and press [MENU] to select.
4. Press [◄ / ►] to Delete All and press [MENU] to select.
5. At Delete Message Press [MENU] to select Yes. The display shows Inbox Cleared. OR At Delete Message Press [◄ / ►] to No and press [MENU] to return to the previous screen. When you select inbox and it contains no text messages, the display shows List Empty.

Receiving a Text Message

When your radio receives a message, the display shows the alias or ID of the sender and the message icon at the far left of the screen.

You can select one of the following options when receiving a text message:

- Read?
- Read Later
- Delete

Reading a Text Message

Procedure:

1. Press [◄ / ►] to Read? And press [MENU] to select.
2. The text message is open, and press [MENU] back to the main screen. OR Press [◄ / ►] to access the Read Later or Delete option screen:

- Select Read Later to return to the screen you were on priority
- Select Delete to delete the text message.

Managing Received Text Messages

Use the Inbox to manage your text messages. The Inbox is capable of storing a maximum of 50 messages. Your radio supports the following options for text.

messages:

- Reply

- Forward
- Delete
- Delete All

Text messages in the Inbox are sorted according to the most recently received.

NOTE: Press [BACK] anytime to back to priority screen.

Viewing a Text Message from the Inbox

Procedure:

1. Press [MENU] to access menu.
2. Press [◄ / ►] to Messages and press [MENU] to select.
3. Press [◄ / ►] to Inbox and press [MENU] to select.
4. Press [◄ / ►] to view the messages.
5. Press [MENU] to select the current message, and press [MENU] again to reply , delete, or forward that message. Unread mark(!) messages are indicated with an exclamation.

Replying a Text Message from the Inbox

Procedure:

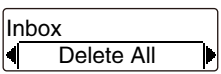
1. Press [MENU] to access menu.
2. Press [◄ / ►] to Messages and press [MENU] to select.
3. Press [◄ / ►] to Inbox and press [MENU] to select.

4. Press [◄ / ►] to the required message and press [MENU] to select.
5. Press [MENU] once more to access the sub-menu.
6. Press [◄ / ►] to Reply and press [MENU] to select.
7. Press [◄ / ►] to Write and press [MENU] to select. A blinking cursor appears. Use the keypad to write your message. OR Press [◄ / ►] to Quick Text and press [MENU] to select. A blinking cursor appears. Use the keypad to edit your message, if required.
8. Press [MENU] to select and again for sending once message is composed.
9. The display shows Text Message: <Subscriber/Group Alias or ID>, confirming your message is being sent.
10. If the message is sent, a tone sounds and the display shows Message Sent. ORIf the message is not sent, the display shows Message Send Failed. And the display back to resend screen.

Deleting a Text Message from the Inbox

Procedure:

1. Press [MENU] to access menu.
2. Press [◄ / ►] to Messages and press [MENU] to select.
3. Press [◄ / ►] to Inbox and press [MENU] to select.
4. Press [◄ / ►] to the required message and press [MENU] to select.
5. Press [MENU] once more to access the sub-menu.
6. Press [◄ / ►] to Delete and press [MENU] to select.
7. At Delete Message? Press [◄ / ►] to Yes and press [MENU] to select delete message.



Deleting All Text Messages from the Inbox

Procedure:

1. Press [MENU] to access menu.
2. Press [◄ / ►] to Messages and press [MENU] to select.
3. Press [◄ / ►] to Inbox and press [MENU] to select.
4. Press [◄ / ►] to Delete All and press [MENU] to select.
5. At Delete Message? Press [◄ / ►] to Yes and press [MENU] to select.
6. The Display shows Inbox Cleared. When you select the Inbox and it contains no text messages, the display shows List Empty.

Privacy

If enabled, this feature helps to prevent eavesdropping by unauthorized users on a channel by the use of a software based scrambling solution.

Your radio must have privacy enabled on the channel to send a privacy-enabled transmission,

To unscramble a privacy--enabled call or data transmission, your radio must be programmed to have the same Privacy Key (for Basic Privacy), OR the same Key.

Value and Key ID (for Enhanced Privacy) as the transmitting radio.

If your radio receives a scrambled call that is of a different Privacy Key, you will either hear a garbled transmission You can preset at most 16 groups of privacy group, privacy key (4Byte), press button programmed privacy to turn on or off scrambled.

If the radio with privacy type, the main display shows scramble or none scramble icon.

Dual Tone Multi Frequency (DTMF) (Analog)

The Dual Tone Multi Frequency (DTMF) have four received/transmit systems, you can set 32 groups encode, every group with 30 characters.

The called party: the called party can set below decode respond by software:

Disable: When the radio received disable code, then the radio forbid to received/transmit.

Enable: In disable state the radio received an enable code and back to normal.

Disable/ Enable

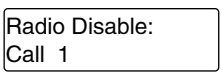
You can enable or disable any radio in the system. For example, you might want to disable a stolen radio, to prevent the thief from using it, and enable that radio, when it is recovered.

NOTE: Performing Radio Disable and Enable is limited to radios with these functions enabled.

Radio Disable

Procedure:

1. Press [MENU] to access menu.
2. Press [◄ / ►] to Contacts and press [MENU] to select.
3. Press [◄ / ►] to the required alias or ID and press [MENU] to select. OR Press [◄ / ►] to Manual Dial and press [MENU] twice to select. Input the subscriber alias or ID and press [MENU] .
4. Press [◄ / ►] to Radio Disable and press [MENU] to select.



5. The display shows Radio Disable: <Subscriber Alias or ID>and the LED lights up RED.
6. If successful, a tone sounds and the display shows Radio Disable Successful. OR If not successful, a tone sounds and the display shows Radio Disable Failed. When disabled the radio, do not press [BACK] , because you will not get the acknowledge info.

Radio Enable

Procedure:

Radio Enable:
Call 1

1. Press [MENU] to access menu.
2. Press [◄ / ►] to Contacts and press [MENU] to select.
3. Press [◄ / ►] to the required alias or ID and press [MENU] to select. OR Press [◄ / ►] to Manual Dial and press [MENU] twice to select. Input the subscriber alias or ID and press [MENU] .
4. Press [◄ / ►] to Radio Enable and press [MENU] to select.
5. The display shows Radio Enable: <Subscriber Alias or ID>.
6. If successful, a tone sounds and the display shows Radio Enable Successful. OR If not successful, a tone sounds and the display shows Radio Enable Failed. When enable the radio, do not press [BACK] , because you will not get the acknowledge info.

Scan Lists

Scan lists are created and assigned to individual channels/groups. Your radio can support up to 250 scan lists, with a maximum of 16 members in a list. Each scan list supports a mixture of both analog and digital entries. You can add, delete, or prioritize channels by editing a scan list.

View the scan list

1. Select a channel programmed with scan list by channel selector knob;
2. Press [◄ / ►] to access the menu.
3. Press [◄ / ►] to Scan and press [MENU] to select.
4. Press [◄ / ►] to View List and press [MENU] to select.
5. Press [◄ / ►] to view each member on the list.
   If you set the priority scan, then the icon of priority list in the leftside, it refers that the member in the priority 1 or priority 2 channel. In the scan list, you can not have multiple priority 1 or priority 2 channel.
   If non priority scan, then will not show the priority icon.

Scan instructions

When you start a scan, your radio cycles through the programmed scan list looking for voice activity. The LED blinks red , and scan icon shows in the screen. while in scan mode.

There are two ways of initiating scan:

- Manual Dial (Manual): Your radio scans all the channels/groups in your scan list. On entering scan, your radio may, depending on the settings, the button programmed scan on/off OR by the menu function to start scan.
- Auto Scan(Automatic): Your radio automatically starts scanning when you select a channel/group that has Auto Scan enabled.

FUNCTION MENU SETUP

Starting and Stopping Scan

Press the programmed Scan button/ OR follow the scan menu.

1. Use the Channel Selector Knob to select a channel programmed with a scan list.
2. Press [MENU] to access the menu.
3. Press [◄ / ►] to Scan and press [MENU] to select
4. The display shows Turn Off if scan is disabled. OR The display shows Turn On if scan is enabled.
5. Press [MENU] to select.
6. The LED blinks red and shows scan icon when Scan is enabled. Or the LED turns off and without scan icon when Scan is disabled.

Responding to a Transmission During a Scan

During scanning, your radio stops on a channel/group where activity is detected. The radio stays on that channel for a programmed time period known as "hang time"

Procedure:

1. Hold the radio vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth. If digital channel and the Channel Free Indication feature is enabled, you will hear a short alert tone the moment the transmitting radio releases the [PTT] button, indicating the channel is free for you to respond.
2. Press the [PTT] button during hang time. The RED LED turns on.
3. Release the [PTT] button to listen.
4. If you do not respond within the hang time, the radio returns to scanning other channels/groups.

Locking and Unlocking the Keypad

You can lock your radio's keypad to avoid inadvertent key entry.

Procedure:

1. Press [MENU] to access menu.
2. Press [◄ / ►] to Utilities and press [MENU] to select.
3. Press [◄ / ►] to Radio Settings and press [MENU] to select.
4. Press [◄ / ►] to Keypad Lock and press [MENU] to select.
5. The display shows Keypad Locked and returns to the Home screen.
6. To unlock the keypad, press [MENU], then press [* DEL] .
7. The display shows Keypad Unlocked and returns to the Home screen.

Turning Keypad Tones On or Off

You can enable and disable keypad tones if needed

Procedure:

1. Press [MENU] to access menu.
2. Press [◄ / ►] to Utilities and press [MENU] to select.
3. Press [◄ / ►] to Radio Settings and press [MENU] to select.
4. Press [◄ / ►] to Tones/Alerts and press [MENU] to select.
5. Press [◄ / ►] to Keypad Tones and press [MENU] to select.

6. The display shows Turn On. Press [MENU] to enable keypad tones. The display shows Keypad Tone On. OR The display shows Turn Off. Press [MENU] to disable keypad tones. The display shows Keypad Tone Off.

Setting the Squelch Level (Analog)

You can adjust your radio's squelch level to filter out unwanted calls with low signal strength or channels that have a higher than normal background noise.

Settings: Normal is the default. Tight filters out (unwanted) calls and/or background noise. However, calls from remote locations may also be filtered out.

Press the programmed Squelch button to toggle squelch level between normal and tight.

1.Press [MENU] to access menu.

2 .Press [◄ / ►] to Utilities and press [MENU] to select.

3. Press [◄ / ►] to Radio Settings and press [MENU] to select.

4. Press [◄ / ►] to Squelch and press [MENU] to select and access sub-menu.

5. Choose either Tight or Normal and press [MENU] to select, Screen returns to the previous menu.

Setting the Power Level

You can customize your radio's power setting to high or low for each channel.

Settings: High enables communication with radios located at a considerable distance from you. Low enables communication with radios in closer proximity.

Press the programmed Power Level button to toggle transmit power level between high and low.

1. Press [MENU] to access menu.
2. Press [◄ / ►] to Utilities and press [MENU] to select.
3. Press [◄ / ►] to Radio Settings and press [MENU] to select.
4. Press [◄ / ►] to Power and press [MENU] to select.
5. Change your current setting as prompted on the display.
6. Press [MENU] to select a new power level.
   Press [BACK] Screen returns to the main menu, screen display power level icon.

Turning the Voice Operating Transmission(VOX) Feature On or Off

This feature allows you to initiate a hands-free voice activated call on a programmed channel.

NOTE: Turning this feature on or off is limited to radios with this function enabled.

Press the programmed VOX button to toggle the feature on or off.

Procedure:

1. Press [MENU] to access menu.
2. Press [◄ / ►] to Utilities and press [MENU] to select.
3. Press [◄ / ►] to Radio Settings and press [MENU] to select.
4. Press [◄ / ►] to VOX and press [MENU] to select.
5. The display shows VOX On. Press [MENU] to enable VOX, and screen shows VOX transmit application. The display shows VOX Off. Press [MENU] to disable VOX, and screen shows VOX transmit cancle.

ADVANCED OPERATIONS

Controlling the Display Backlight

You can enable or disable the radio's display backlight as needed. The setting also affects menu and keypad backlighting accordingly.

Procedure:

1. Press [MENU] to access menu.
2. Press [◄ / ►] to Utilities and press [MENU] to select.
3. Press [◄ / ►] to Radio Settings and press [MENU] to select.
4. Press [◄ / ►] to Backlight and press [MENU] to select.
5. The display shows Auto On. Press [MENU] to enable the display backlight. The display shows Backlight Auto On. OR The display shows Turn Off. Press [MENU] to disable the display backlight. The display shows Backlight Turn Off. The display backlight and keypad backlighting are automatically turned off if the LED indicator is disabled.

Turning the Radio Tones/Alerts On or Off

You can enable or disable the radio tones and alerts(except for the incoming Emergency alert tone) if needed.

Procedure:

1. Press [MENU] to access menu.
2. Press [◄ / ►] to Utilities and press [MENU] to select.
3. Press [◄ / ►] to Radio Settings and press [MENU] to select.

4. Press [◄ / ►] to Tones/Alerts and press [MENU] to select and access sub-menu.
5. Press [◄ / ►] to All Tones and press [MENU] to select.
6. The display shows Turn On. Press [MENU] to enable all tones and alerts. The display shows All Tones On. OR The display shows Turn Off. Press [MENU] to disable all tones and alerts. The display shows All Tones Off.

Switch Chinese and English

You can switch Chinese or English language if needed.

1. Press [MENU] to access menu.
2. Press [◄ / ►] to Utilities and press [MENU] to select.
3. Press [◄ / ►] to radio setting and press [MENU] to select.
4. Press [◄ / ►] to language selection and press [MENU] to sub menu.
5. Press [◄ / ►] to select Chinese or English, then press [MENU] to selct.

Turning the LED Indicator On or Off

You can enable or disable the LED Indicator if needed.

Procedure:

1. Press [MENU] to access menu.
2. Press [◄ / ►] to Utilities and press [MENU] to select.
3. Press [◄ / ►] to Radio Settings and press [MENU] to select.
4. Press [◄ / ►] to LED Indicator and press [MENU] to select.

5. The display shows Turn On. Press [MENU] to enable the LED Indicator. The display shows All LEDs On.
   OR The display shows Turn Off. Press [MENU] to disable the LED Indicator. The display shows All LEDs Off. The display backlight,buttons,and keypad backlighting are automatically turned off if the LED indicator is disabled.

Turning the Introduction Screen On or Off

You can enable or disable the Introduction Screen if needed.

Procedure:

1. Press [MENU] to access menu.
2. Press [◄ / ►] to Utilities and press [MENU] to select.
3. Press [◄ / ►] to Radio Settings and press [MENU] to select.
4. Press [MENU] to Intro Screen and press [MENU] to select.
5. The display shows Turn On. Press [MENU] to enable the Introduction Screen. The display shows Intro Screen On. OR The display shows Turn Off. Press [MENU] to disable the Introduction Screen. The display shows Intro Screen Off.

Accessing General Radio Information

Your radio contains information on the following:

- Radio ID
- Software Version
- Code plug Version

NOTE: Press [BACK] at anytime to back to priority screen.

Check radio ID

1. Press [MENU] to access menu.
2. Press [◄ / ►] to Utilities and press [MENU] to select.
3. Press [◄ / ►] to Radio info, then press [MENU] to select.
4. Press [◄ / ►] to Self Number and press [MENU] to select.
5. Screen shows radio alias and ID.

Check Software Version

Display radio software version

1. Press [MENU] to access menu.
2. Press [◄ / ►] to Utilities and press [MENU] to select.
3. Press [◄ / ►] to Radio info, then press [MENU] to select.
4. Press [◄ / ►] to Software version and press [MENU] to select.
5. Screen shows current software version.

Check Codeplug Version

Display radio Codeplug version.

1. Press [MENU] to access menu.

2. Press [◄ / ►] to Utilities and press [MENU] to select.
3. Press [◄ / ►] to Radio info, then press [MENU] to selct.
4. Press [◄ / ►] to CP version and press [MENU] to selct.
5. Screen shows current Codeplug version.

Voice Recording(Option)

When enable recording, you can record in communication or remote monitoring, this radio have 18 hours recording and play , delete. See attachment for details.

Man Down (Option)

Enable this function, If the angle of radio inclination bigger than programmed angle, the radio will alarm. If lift the radio up and the angle bigger than programmed recover angle, the radio stop alarm. See attachment for details.

◦ TROUBLE SHOOTING GUIDE

Problems	Solutions
The radio cannot be switched on or no display afterswitched on.	A. Battery pack may not be installed properly. Remove the battery pack and install it again. B. Battery power may be insufficient. Recharge or replace the battery pack.
The battery doesn't last for long after charging.	The battery life is finished; please replace it with a new battery pack.
Cannot talk to or hear other members in your group.	1. Make sure the frequency and CTCSS same with other members. 2. Make sure you are in the efficiency range, cannot too far away from your member. 3. Make sure you are set in correct digital mode, and frequency. 4. In digital mode, make sure set correct code and encrypt group in current channel. 5. In digital mode, make sure set correct receiving contacts and receiving group.
Other voices from non-group members are heard on the channel.	Analog: Change the CTCSS/DCS tone, and make sure change the tone on all radios in your group.

◦ TECHNICAL SPECIFICATIONS

General	
Frequency Range	VHF: 136-174MHz UHF: 350-390MHz UHF: 400-480MHz UHF: 450-520MHz
Channel Capacity	1000 channels
Channel Spacing	25KHz (Wide Band) 12.5KHz (Narrow Band)
Phase-locked Step	5KHz, 6.25KHz
Operating Voltage	7.4V DC ±20% /(2000mAh)
Frequency Stability	±2.5ppm
Operating Temperature	-20℃~ +55℃
Size	128×61×40mm (with battery pack)
Weight	257g (with battery pack, antenna)

Receiving Part		
	Wide band	Narrow band
Sensitivity(12dB SINAD)	≤0.25μV	≤0.35μV
Digital Sensitivity	0.3uV/-117.4dBm (BER 5%) 0.7uV/-110dBm (BER 1%)	
Adjacent Channel Selectivity	≥70dB	≥60dB
Intermodulation	≥60dB	≥60dB
Spurious Rejection	≥70dB	≥70dB
Blocking	84db	
Hum & Noise	≥45dB	⩾40dB
Audio Distortion	≤5%	
Audio Power Output	1000mW/16Ω	

Transmitting Part		
	Wide band	Narrow band
Power Output	5W/1W	
Modulation	±5.0KHz@25KHz	±2.5KHz@12.5KHz
Adjacent Channel Power	≥70dB	≥60dB
Hum & Noise	≥40dB	≥36dB
Spurious Emission	≤-36dB	≤-36dB
4FSK Digital Modulation	12.5KHz (data) 7K60FXD 12.5KHz (data+voice) 7K60FXE	
Audio Distortion	≤5%	
Error rate	≤3%	