

THANK YOU!

We are grateful that you chose our radio for your land mobile radio applications.

We believe this easy-to-use transceiver will provide dependable and reliable communication to personal operating at peak efficiency. The transceivers incorporate the latest in advanced technology. As a result, we feel strongly that you will be pleased with the quality and features of this product!

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FOR YOUR SAFETY

Read these simple guidelines. Not following them may be dangerous or illegal. Read the complete user manual for further information.



SWITCH ON SAFELY

Do not switch the device on when transceiver use is prohibited or when it may cause interference or danger.



ROAD SAFETY COMES FIRST

Obey all local laws. Always keep your hands free to operate the vehicle while driving. Your first consideration while driving should be road safety.



INTERFERENCE

All wireless devices may be susceptible to interference, which could affect performance.



SWITCH OFF IN HOSPITALS

Follow any restrictions. Switch the device off near medical equipment.



SWITCH OFF IN AIRCRAFT

Follow any restrictions. Wireless devices can cause interference in aircraft.



SWITCH OFF WHEN REFUELING

Do not use the device at a refueling point. Do not use near fuel or chemicals.

FOR YOUR SAFETY



SWITCH OFF NEAR BLASTING

Follow any restrictions. Do not use the device where blasting is in progress.



USE SENSIBLY

Use only in the normal position as explained in the product documentation. Do not touch the antenna unnecessarily.



QUALIFIED SERVICE

Only qualified personnel may install or repair this product.



ENHANCEMENTS AND BATTERIES

Use only approved enhancements and batteries. Do not connect incompatible products.



WATER-RESISTANCE

Your device is not fully water-resistant. Keep it dry.



BACK-UP COPIES

Remember to make back-up copies or keep a written record of all important information.



CONNECTING TO OTHER DEVICES

When connecting to any other device, read its user manual for detailed safety instructions. Do not connect incompatible products.

UNPACKING AND CHECKING EQUIPMENT

Carefully unpack the transceiver. We recommend that you identify the items listed in the following table before discarding the packing material. If any items are missing or have been damaged during shipment, file a claim with the carrier immediately.

Packing List

ITEM	QUANTITY
Unit Radio	1
Antenna	1
Battery Pack	1
Adapter	1
Desktop Charger	1
Belt Clip	1
User Manual	1
Hand Strap	1
Warranty Card	1

PREPARATION

Charging the Battery Pack

1. Using the Battery Pack

The battery pack is not charged at the factory, please charge it before use. To extend the battery pack lifetime, please power off the transceiver and remove the battery pack when not in use and leave the battery in dry or cool place.

2. Battery Pack Characteristics

The battery will slowly wear out even not in use. After charging and discharging, it's normal capacity and standby times will noticeably shorter than normal times. If leaving the battery in very hot place or conditions, it will reduce the capacity and lifetime of the battery. Overcharging may also shorten its lifetime.

3. Charging the Battery Pack

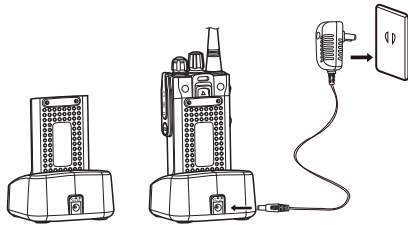
Please charge your battery only with approved charger.

Initially charging the battery pack after purchase or extended storage (greater than 2 months) will not bring the battery pack to its normal operating capacity. After repeating the charge/discharge cycle two or three times, the operating capacity will increase to normal level.

PREPARATION

Please charge the battery pack as follows:

1. Slide the battery pack or transceiver with a battery pack into the desktop charger.
2. Make sure the battery pack contacts are in contact with the charging terminals.
3. The charging LED lights red and charging begins.
4. After charging about 4 hours, when the light turns to green, it means the battery pack is fully charged.
5. Then you can take off the battery pack or transceiver with the battery pack and use it.

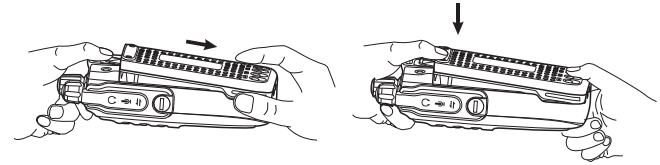


LED Indication	Status
The LED glows red	Charging the battery pack
The LED flashes between red and green	Already charge the battery pack up to 90%
The LED glows green	Already finish the charging
The LED flashes red	The battery pack is short circuit the terminals or low voltage status

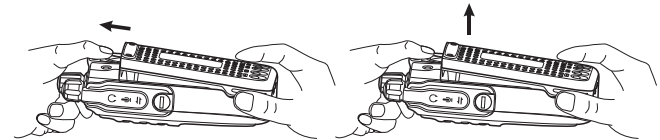
PREPARATION

Installing/Removing the Battery Pack

To install the battery pack, fit the extensions at the bottom of the battery into the slots at the bottom of the transceiver's body. Press the top part of the battery towards the transceiver until a "click" sound is heard.



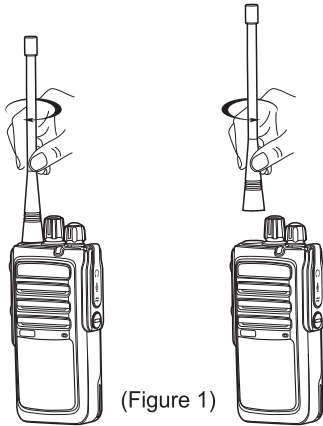
To remove the battery pack, slide the battery latches in the middle of the transceiver, upwards. Pull the top part of the battery away from the transceiver's body, and lift the battery from the transceiver's body.



PREPARATION

Attaching/Removing the Antenna

1. 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 (Figure 1).
2. Turn the antenna counter clockwise until you can remove it (Figure 2).

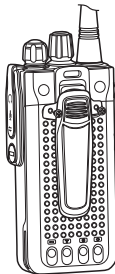


(Figure 1)

(Figure 2)

Installing the Belt Clip

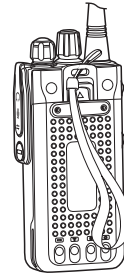
If necessary, attach the belt clip at the back of unit transceiver.



PREPARATION

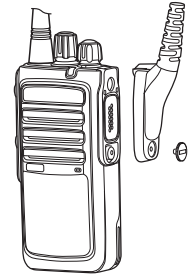
Installing Hand Strap

If necessary, you can install the hand strap in the back of the unit transceiver.



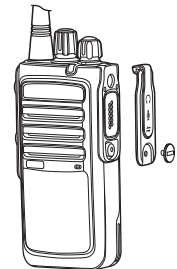
Installing the Earphone

Screw the speaker/microphone and make sure good contact with earphone/data cable jack.



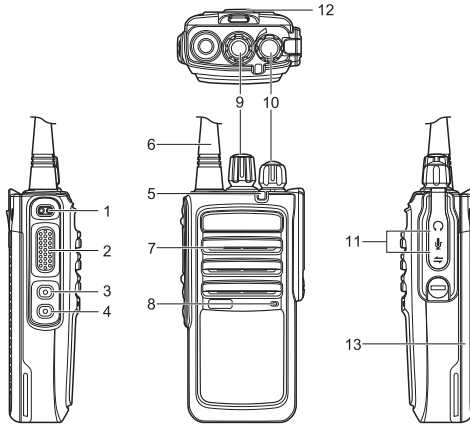
Installing the Cover of Earphone/ Data Cable Jack

Screw the cover of earphone/data cable jack if necessary.



GETTING ACQUAINTED

Orientation



1. Programming Key(P1)

Your dealer may program this key as shortcuts to the function. Please refer to chapter of "Programmable Auxiliary functions" (Page 11).

2. PTT Switch

Push and hold to transmit; Release to receive.

3. Programming Key(P2)

Your dealer may program this key as shortcuts to the function. Please refer to chapter of "Programmable Auxiliary functions" (Page 11).

4. Programming Key(P3)

Your dealer may program this key as shortcuts to the function.

GETTING ACQUAINTED

Please refer to chapter of "Programmable Auxiliary functions" (Page 11).

5. TX/RX Indicator

Light green while receiving a signal or when the squelch is open; Lights red while transmitting.

6. Antenna

Rubber antenna using for receiving or transmitting a signal.

7. Speaker

Output the audio.

8. Internal Microphone

Input the audio signal while you talk.

9. Channel Selector

It is used to select channels.

10. Power/Volume Switch

Rotate clockwise to switch power on or to increase the audio output; Rotate counter-clockwise to switch power off or to reduce the audio output level.

11. Earphone/Data Cable Jack

Connects an earphone or connects a data cable for PC software programming.

12. Battery Lock Button

Use to lock/unlock the battery pack.

13. Battery Pack

Supply the power to the transceiver.

GETTING ACQUAINTED

Programmable Auxiliary Functions

Your dealer may program the [P1], [P2], [P3] (long press or short press) with one of the following auxiliary functions respectively.

No.	Shortcut key	Function
1	None	No function
2	All tones ON/OFF	To control all alert tones ON/OFF
3	Emergency ON	In digital channel, press the featured key to switch emergency alert feature on
4	Emergency OFF	Press to disable emergency alarm
5	High/Low power select	To select the output power of current channel.
6	Monitor	Monitor ON/OFF
7	One touch call (1~6)	To make corresponding service
8	Repeater/Talk around	To quickly change working mode
9	Scan ON/OFF	To receive signals on other channels
10	Strong/Normal squelch	To select SQL level on the current channel, adjust signal strength for signal receiving
11	Encrypt ON/OFF	Channel audio encrypt feature (applicable for the digital channel that set encrypt feature)

GETTING ACQUAINTED

No.	Shortcut key	Function
12	VOX ON/OFF	Hands-free transmission
13	Zone switch	To select a desired zone quickly
14	Battery capacity indicator	Indicates current battery capacity
15	Lone worker ON/OFF	Press to enable/disable lone worker

Note:

- You can set the time of pressing long key from 1.5-5 seconds (default: 2.0 seconds) with programming software, when you press anyone of [P1],[P2],[P3] keys, the time of pressing is over your setting time, then it's a long time key, otherwise, it's a short key
- Squelch Off and Squelch Off Momentary feature only to be enabled for analog channels.

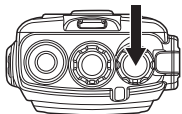
LED Indicator

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

LED Indication	Status
LED glows red	Transmitting
LED flashes red	Low battery
LED glows green	Receiving
LED flashes orange	Scanning

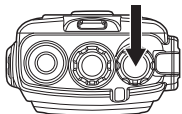
BASIC OPERATION

Switch Power On/Off



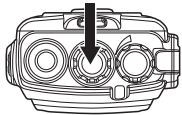
- Turn the Power switch control clockwise to switch the transceiver ON.
- Turn the Power switch control counter clockwise to switch the transceiver OFF.

Adjusting the Volume



- Rotate the Volume control to adjust the volume. Clockwise increases the volume and counter clockwise decreases it.
- You may need to adjust the volume more precisely while communicating with other parties.

Selecting a Channel



- There are 32 channels in 2 zones for selection. Rotate the [Channel Selector] to choose your desired channel. Clockwise increases the number and counter clockwise decreases it.
- If no channel has been programmed, it cannot be used. When a non-programmed channel is selected, the LED indicator flashes orange and an alert tone sounds.

BASIC OPERATION

Channel Number Annunciation

There are 2 kinds of the channel number annunciation: "Chinese Male Voice, English Male Voice (Default Setting)". When you turn the [Channel Selector], the transceiver sounds the current corresponding channel number.

Alert Tone Disabled

This feature helps you to disable all the alert tone, the default setting is OFF.

PTT Permission Tone

When you enable this feature, an alert tone will be heard once [PTT] key are pressed. The default setting is OFF.

Battery Save

The battery save function decreases the amount of power used when signal is not being received and no operations are being performed (no keys are being pressed and no switches are being turned); While the channel is not busy and no operation is performed, battery save function activates. When a signal is received or an operation is performed, battery save is disabled. This function helps to increase working time.

Low Battery Alert

For extra convenience, if the battery level run low, when press PTT to transmit, the transceiver will sounds "Please charge the battery" at setting time (every 1~255 seconds, default: OFF), to

BASIC OPERATION

alert the user to recharge the battery.

Transmitting

You can transmit on an analog channel or digital channel, but should be in the same format when communicate, an analog channel can't communicate with a digital channel.



1. On digital channel, press the [PTT] switch and speak into the microphone in your normal speaking voice, transmit a call.
 - ◆ For best sound quality at the receiving station, hold the microphone approximately 2.5~5cm from your mouth.
2. Release the [PTT] switch to receive.

Receiving

On analog channels, your dealer may have programmed CTCSS/DCS signaling in your transceiver. If your selected channel is programmed with one of these features, you will hear calls only when another party in your system transmits. All other calls will not be heard.

If your selected channel is not set up with a signaling type, you will hear calls made by any party with same frequency (not just those in your system).

On digital channels, only the same color code or radio ID can be received.

ADVANCED OPERATIONS

Receiving & Calling

Selecting a Zone

A zone is a group of channels exhibiting the same property, and is programmed by your dealer. The radio supports 2 zones. Each zone contains 16 channels at most.

You may quickly toggle to your desired zone by pressing the programmed Zone Up or Zone Down key. In the process, you will hear one alert tone for Zone 1, two tones for Zone 2.

Selecting a Channel/User ID/Call Group ID

After selecting the desired zone, rotate the [Channel Selector] to select a desired channel, user ID or call group ID number.

Receive and Respond to a Call

After you preset the channel, user ID or call group ID, this transceiver is able to receive or respond to a call.

- Analog receiving: open squelch when received the same carrier and matched signaling.
- Voice receiving: start receiving and heard the voice when received correct call (matched number: private call, group call, all call).
- Text receiving: two alert tones heard means text sent successfully when received a text, a low-pitched alert tone indicates text cannot send.

ADVANCED OPERATIONS

Receive and Respond to Private Call

Private call is the call from one single transceiver to another transceiver, there are two types of private call: first, detect the transceiver before calling; second, prepare for call immediately.

When you are receiving:

1. LED glows green.
2. Hold down the transceiver and put it in vertical place, keep the microphone away from your mouth approximately 1 to 2 inches (2.5~5.0cm). If enabled "idle channel indication" feature, when calling party released [PTT] key, you will hear an alert tone indicates this channel is idle and wait for response.
3. Press [PTT] key to respond to the call, LED glows red.
4. PTT alert tone heard (if activated), and speak into microphone.
5. Release [PTT] key to listen.
6. Call ends if no voice transmission detected during preset period.
7. A tone will be heard.

Receive and Respond to Group Call

When received the call from user group, the transceiver must be set to belong this user group.

1. LED glows green.
2. Hold down the transceiver and put it in vertical place, keep the microphone away from your mouth approximately 1 to 2 inches (2.5~5.0cm). If enabled "idle channel indication" feature, when

ADVANCED OPERATIONS

calling party released [PTT] key, you will hear an alert tone indicates this channel is idle and wait for response.

3. Press [PTT] key to respond to the call, LED glows red.
4. PTT alert tone heard (if activated), and speak into microphone.
5. Release [PTT] key to listen.
6. Call ends if no voice transmission detected during preset period.

Receive an All Call

All call is one single transceiver calls for all transceiver on the same channel. It is used to deliver important notices.

When you are receiving an all call:

1. An alert tone heard, LED glows green.
2. If there is no voice detected during the preset period, all call ends. If enabled "idle channel indication" feature, when calling party released [PTT] key, you will hear an alert tone indicates this channel is available for use. You are not allowed to respond to all call.

Note:

While receiving all call, if you switched to another channel, then the transceiver stops to receive all call. During the period of all call, it is not allowed to use any preset programmed key until call ends.

ADVANCED OPERATIONS

Initiate a Group/Private Call Via One Touch Call Key

One touch call key feature helps you to initiate a group call or private call to preset ID or contact conveniently. This feature could be programmed as a shortcut of short press or long press any key. You may also set one single ID or preset contact as an one touch call key, it supports to set several one touch call keys.

1. Press programmed one touch call key, initiates a group call or private call to preset ID or current contact.
2. Hold down the transceiver and put it in vertical place, keep the microphone away from your mouth approximately 1 to 2 inches (2.5~5.0cm).
3. Press [PTT] key to respond to the call, LED glows red.
4. PTT alert tone heard (if activated), and speak into microphone.
5. Release [PTT] key to listen, when target transceiver responds, LED glows green.
6. If enabled "idle channel indication" feature, when calling party released [PTT] key, you will hear an alert tone indicates this channel is idle and wait for response. Press [PTT] key to respond, call ends if no voice detected during preset period.
For private call, you will hear a short voice alert after call ended.

Text Setting

Send preset text

Send programmed preset text by pressing programmed key, it supports 50 preset text at most.

ADVANCED OPERATIONS

1. Press programmed one touch call key to send a preset text to one preset contact.
2. LED glows red.
3. Two alert tones indicates text sent successfully, one low-pitched alert tone means text cannot be delivered.

Encrypt

Encrypt setting (this feature is applicable for digital mode only)
The encrypt feature can encrypt your audio signals to prevent eavesdropping. Thus privacy of your communication is guaranteed. It supports program to preset 16 encrypt group, encrypt key (4 Byte). Enable this feature ON/OFF by programmed key.

Digital Emergency Alarm System

Alarm type (set by programming software)

Enable this feature by pressing emergency alarm key ON/OFF.

Disable: Disable emergency alarm feature, means this transceiver can only receive the emergency alarm from other transceiver.

Regular: Emergency alarm sounds locally, after the certain period (preset by programming software), send emergency alarm and identification code to receiving party.

Silent: This transceiver will not alarm, but send alarm identification code, receiving party alarm sounds.

Silent with Voice: After emergency alarm started, press [PTT] key to call and output audio in the alarm mode.

ADVANCED OPERATIONS

Lone Worker

This feature helps to keep the safety of the staff work alone. If you encounter an incident and cannot operate your radio within the preset time period, your radio will transmit an alert tone automatically to remind you, your radio will enable emergency mode if there is no operation detected.

Scan

The feature "Scan" allows you to listen to communication activities on other channels so that you can keep a close track of your team members.

Scan list

Create scan list and assign to single channel/call group. Your radio scans channel/call group in sequence of scan list. Your radio supports up to 250 scan lists, each list with 31 members at most.

Scan

When you start scanning, your transceiver scans through the channel number in the contact list, LED glows red.

Two scan methods:

- Main channel scan (manual): your transceiver scans all the channels and call groups in the scan list. Depends on different setting, your transceiver could start scanning from the last scanned channel/call group automatically.

ADVANCED OPERATIONS

- Auto scan (auto):when you select a channel/call group that activated auto scan, the transceiver start scanning from this channel.

Start/Stop Scan

1. Press programmed scan key, or use tuning control knob to select a channel that activated auto scan feature.
2. When the scan feature activated, LED flashes orange, you will hear an alert tone, When scan disabled, LED lights out, and you will hear another alert tone.

Dual-Priority Channel Scanning

When you set priority channel, it is allowed to enable priority scan feature, priority scan adopts scan in a circular manner. Scan priority channel once while scan each normal channel.

During scanning, respond to a call once.Your transceiver will stay on the channel/call group detected signal.

1. Hold down the transceiver and put it in vertical place, keep the microphone away from your mouth approximately 1 to 2 inches (2.5~5.0cm). If enabled "idle channel indication" feature, when calling party released [PTT] key, you will hear an alert tone indicates this channel is idle and wait for response.
2. Press [PTT] key during idle period, LED glows red.
3. PTT alert tone heard (if activated), and speak into microphone.
4. Release [PTT] key to listen.

ADVANCED OPERATIONS

5. If you don't respond during idle period, the transceiver return to scan other channel/call group.

Remote Monitor

Your transceiver enable Monitor feature once received correct remote monitor code. Meanwhile, secret transmission activated, it helps you to transfer the ambient sound to others unobserved. It is mainly used that user is under the condition of emergency, it is applicable for digital channel only. You can only use this feature while you enable emergency remote monitor decoding ON.

Setting

SQL Change

The purpose of the squelch level is to mute the speaker when no signals are present. With the squelch level correctly set, you will hear sound only while actually receiving signals.

1. Press the programmed Strong/Normal squelch feature key.
2. You will hear a tone to indicate your current selection is strong squelch or normal squelch.

Selecting an Output Power

You can set each channel with high or low output power. The high output power will make sure reliabler and farther communication, the low one will save the battery capacity and make sure the radio to be used for more long time.

1. Press the programmed High/Low output power feature key.

ADVANCED OPERATIONS

2. You will hear a tone to indicate your current selection is high or low output power.

VOX

Press the programmed VOX key to transmit hands-free with the transceiver or thru a headset. Re-press the programmed key to exit this feature. The transceiver will transmit signals automatically during programmed preset period, no matter the microphone detects audio signals or not. The default setting is OFF.

Press [PTT] key will disable VOX feature while you are on the period of transceiver operation. To enable VOX feature again, refer to following methods:

- Power off and restart transceiver.
- Change channel by tuning Channel Selector.
- Use following methods:

Note: Enable or disable this feature is only applicable for the transceiver that enabled VOX feature.

1. Press programmed "VOX ON/OFF" key to enable or disable this feature.
2. If enabled PTT permission alert tone, press [PTT] to initiate a call. PTT preparation alert tone heard (if enabled), then you can speak into microphone clearly.

Tone Enable/Disable

If necessary, enable/disable the alert tones.

1. Press programmed "all tones ON/OFF" key.

ADVANCED OPERATIONS

2. A positive alert tone will be heard, indicates this feature ON;
or an negative alert tone heard, indicates this feature OFF.

Battery Capacity Indicator

This feature allows you to know the current battery capacity.
LED glows orange indicates the battery is on charging, glows
green means the battery is fully charged.

1. Press programmed "Battery Capacity Indicator" key to check
battery capacity by BEEP tone.
2. A whistle tone indicates the battery capacity.
 - High: 3 tones
 - Medium: 2 tones
 - Low: 1 tone.

DTMF

DTMF (Dual Tone Multi Frequency) is the communication agree-
ment between the transceivers. DTMF has 4 kinds of receiving/
transmitting signaling systems (programmed by software), supports
up to 32 groups of codes. Each group could be set 30 characters
at most.

Called party:

The called party could set decoding response type as follows by
programming software:

Normal:

This means once received matched ID code, an alert tone heard

ADVANCED OPERATIONS

and enter to communication mode.

■ Remote Kill

When received correct remote kill code, the transceiver forbids
to transmitting or receiving any audio signals, it can only receive
activate code to cancel remote kill. This transceiver accepts two
kinds of remote kill.

DTMF remote kill:

The transceiver received correct DTMF remote kill code, enabled
remote kill feature. For more information, please consult your
dealer.

Digital channel remote kill:

The transceiver will be automatically remote killed once received
remote kill code. This feature is applicable for the transceiver that
set remote kill decoder, and only suitable for digital channel.

■ Activate

When the remote killed transceiver received correct activated
code, the transceiver will be activated automatically. This trans-
ceiver accepts two kinds of activating.

DTMF activate:

The transceiver received correct DTMF activate code, enabled
activate feature. For more information, please consult your dealer.

ADVANCED OPERATIONS

Digital channel activate:

The transceiver will be automatically activated once received activate code. This feature is applicable for the transceiver that is being remote killed, and only suitable for digital channel.