

Model: RDR3500V

### **To Customers**

We are grateful for your purchase of this transceiver.

We believe this easy-to-use transceiver will provide you with dependable and reliable communications.

We employed advanced technology & workmanship for this transceiver and trust that our design will make it user-friendly.

For correct use, please read this manual first.

- Refer service to qualified technicians only.
- Do not operate the transceiver nor charge a battery pack in an explosive atmosphere (gases, dust, fumes, etc.).
- Turn OFF the transceiver while taking on fuel or while parked in a gasoline service station.
- Do not modify nor attempt to adjust this transceiver for any reason.
- Do not expose the transceiver to long periods of direct sunlight, nor place it close to heating appliances.
- Do not place the transceiver in excessively dusty, humid, and/or wet areas, nor on unstable surfaces.

**SAFETY:** It is important that the operator be aware of and understand hazards common to the operation of any transceiver.

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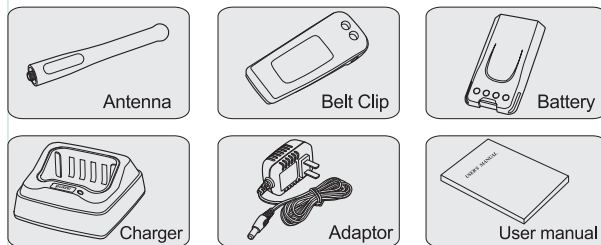
## 01 UNPACKING AND CHECKING EQUIPMENT

Carefully unpack the transceiver. We recommend that you identify the items listed in the following table before discarding the packing material.

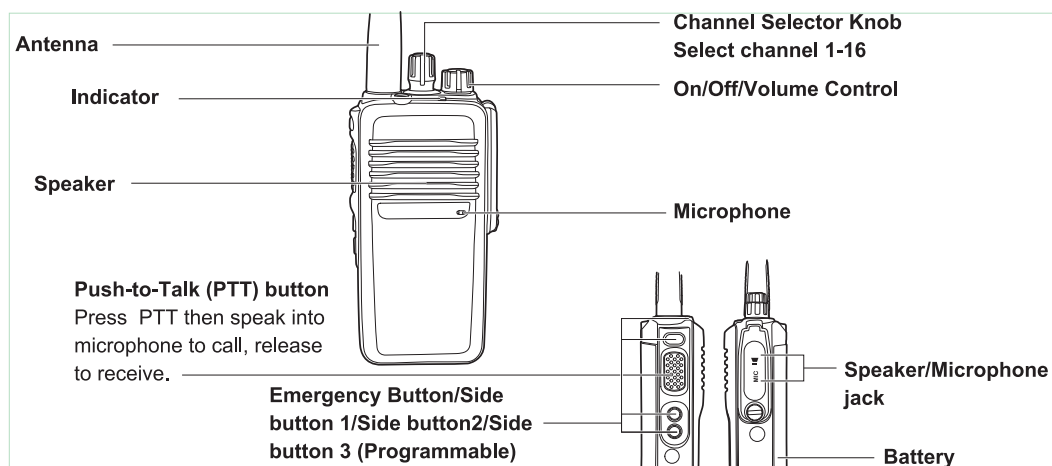
If any items are missing or have been damaged during shipment, file a claim with the carrier immediately.

### Supplied Accessories

ITEM	QUANTITY
Antenna	1
Battery charger	1
AC adaptor	1
Battery pack	1
Belt clip	1
Instruction manual	1



## Getting Understanding 02



**Notices:** Emergency Key/Side button 1/Side button 2 and side

button 3 can be programmable for short press and long press by PC software to these functions:

1.Unassigned, 2.All alert tones on/off, 3.Emergency on, 4.Emergency off, 5.High/low power, 6.Monitor, 7.Nuisance channels delete, 8.One touch Access1, 9.One touch Access2, 10.One touch Access3, 11.One touch Access4, 12.One touch Access5, 13.One touch Access6, 14.scan on/off, 15.Tight/normal squelch, 16.Scrambler on/off, 17. Vox on/off, 18.Tone select, 19.Battery indicator, 20.Lone work on/off, 21.Repeater/talk around, 22.Man down on/off

### Charging the Battery Pack

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

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.

#### CAUTION

- ◆ DO NOT RECHARGE THE BATTERY PACK IF IT IS ALREADY FULLY CHARGED. DOING SO MAY CAUSE THE LIFE OF THE BATTERY PACK TO SHORTEN OR THE BATTERY PACK MAY BE DAMAGED.
- ◆ AFTER RECHARGING THE BATTERY PACK, DISCONNECT IT FROM THE CHARGER. CHARGING THE BATTERY PACK FOR MORE THAN 5 DAYS MAY REDUCE THE BATTERY PACK LIFE.

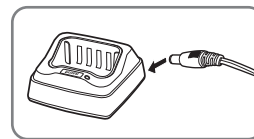
#### Note

- ◆ The ambient temperature should be between 41 and 104° F (5 and 40° C ) 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. Using the transceiver while

charging its battery pack will interfere with correct charging.

- ◆ The battery pack life is over when its operating time decreases even though it is fully and correctly charged. Replace the battery pack.

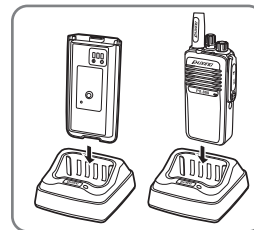
Plug the AC adaptor cable into the adaptor jack located on the rear of the charger.



Plug the AC adaptor into an AC outlet.

Slide the battery pack or transceiver with a battery pack into the charger.

- ◆ Make sure the battery pack contacts are in contact with the charging terminals.
- ◆ The charger LED lights and charging begins.



After charging the supplied battery pack for 4 hours, remove it or the transceiver equipped with it from the charger.

- ◆ The charger turn to green automatically after charging is completed. Unplug the AC adaptor from the AC outlet.

## 05 PREPARATION

### Installing / Removing the Battery Pack

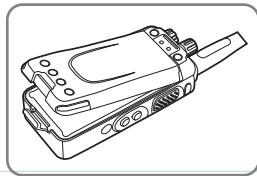
The average life of the supplied battery pack is 10 hours.

Average times are calculated using 5% transmit time, 5% receive time, and 90% standby time.

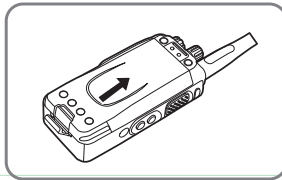
#### CAUTION

- ◆ DO NOT TAMPER WITH THE BATTERY TERMINALS NOR
- ◆ DISPOSE OF THE BATTERY BY FIRE.
- ◆ NEVER ATTEMPT TO REMOVE THE CASING FROM THE BATTERY PACK.

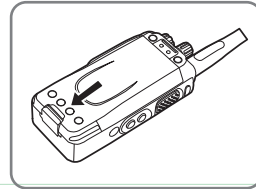
Match the top of battery  
with the frame of chassis.



Push the battery pack to the  
connection of chassis and  
push down the battery locker



To remove the battery pack,  
pull up the battery locker and  
slide the pack away from the  
transceiver.

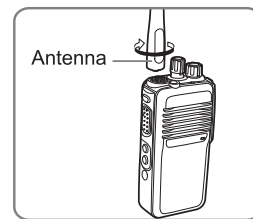


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### Installing the Antenna

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

**Note:** The antenna is neither a handle, a key ring retainer, nor a speaker/microphone attachment point. Using the antenna in these ways may damage the antenna and degrade your transceiver's performance.

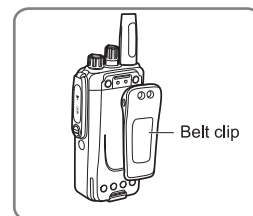


### Installing the Belt Clip

If necessary, buckle the belt clip to the back of the battery pack.

**Note:**

- ◆ if not install the belt clip, the installation position may become hot during High Temperature



#### CAUTION

- ◆ DO NOT USE GLUE WHICH IS DESIGNED TO PREVENT SCREW LOOSENING WHEN INSTALLING THE BELT CLIP, AS IT MAY CAUSE DAMAGE TO THE TRANSCEIVER.

**CAUTION**

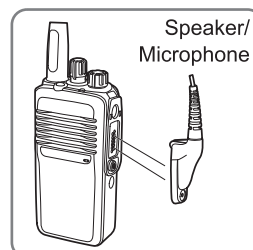
- ◆ ACRYLIC ESTER, WHICH IS CONTAINED IN THESE GLUES, MAY CRACK THE TRANSCIEVER'S BACK PANEL.

**Installing the Earphone/Speaker Microphone**

Plug the earphone/Speaker microphone into the jack.

**Note:**

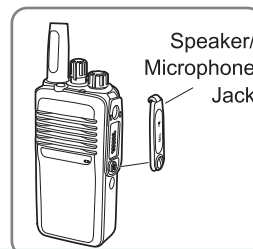
When use the earphone/speaker microphone, the radio may not waterproof.

**Installing the Jack Cover**

If you are not using the jack, cover the jack by jack cover with supplied screw.

**Note:**

To keep the transceiver water resistant, you must cover the jacks with the supplied cover and fix the screw.

**POWER ON RADIO**

Switch ON the transceiver by turning the Power switch / Volume control knob clockwise until a beep sounds heard; To power off it, turning the knob counter-clockwise.

**Note:** there is no beep sounds heard if ALL ALERT TONE set off.

**ADJUST VOLUME**

Adjust the volume knob clockwise to increase the volume, or count-clockwise to reduce the volume

## 1. Transmission

**1) Analog transmission:** Press PTT key and speak to the speaker

**2) Digit transmission:** Each channel can be set to digital channel

- ✦ During the talking, press PTT key to call all other members in this talk, press PTT to call and release PTT to receive. Press PTT to activate the microphone
- ✦ When out of talk, press PTT to send a new calling ( use the channel knob to select one channel or recall one ONE TOUCH ACCESS). If the Talk Permit Tone was programmed, the radio will be waiting for the tone before talking
- ✦ During the talking, if your radio activate CH Free Indication Tone (programmed by software), you will hear a short beep tone after your partner release PTT. This means that the channel is free and waiting for your call.
- ✦ In case of calling was Interrupted (for example, your radio received the emergency call) you can still hear the CH Free Indication Tone, then you can deactivate the tone by programming software.
- ✦ During the talking, if your radio activate and programmed the color code (programmed by software), then the radio on your partner must be programmed with same color code before talking.

## 2. Receive and recall transmission

### Select Zone

The Zone is a channel group, the radio can support two zones, each zone with 16 channel max.

- Press the preset side key which define as the Zone
- You can hear a confirm tone, means the radio go from zone 1 to zone 2, or you can hear a negative tone which means go from zone 2 to zone 1

### Select channels, user's ID or group ID

Rotate the channel knob to select the channels, user's ID or group ID

### Receive and response calling

After setting the channels, user's ID or group ID, you can receive or response calling

When radio was transmitting the LED indicate red or green when receiving

### Analog receive

Receive the same carrier and tone to open the squelch

### Voice receive

## 11 Function

When receive correct calling (correct single call, group call, all call tone), the radio open the speaker and hear the voice

### Short message receive

When two "Di, Di" tone was heard, the radio received the message, otherwise you will hear one alert tone means receive failed.

### Receive and response Group call

When receive the call from one group, the radio must be belong to this group

1. LED indicate green
2. Hold the radio and keep 1-2 inch (2.5-5cm) distance with your mouth.  
If "CH free indication" was enabled, you will hear the short beep tone when your partner release PTT, means the channel is free and waiting for response
3. Press PTT to response the call and LED indicate red
4. you hear the Call permit tone (if enable) and speak to the speaker
5. Release PTT to receive
6. If there is no talking in this channel in preset time, the calling was end

## Function

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### Receive and response single call

Single call mean one radio call to another radio, there is two call type:

- 1) The radio process the inspection before calling
- 2) Immediate calling

When call to you, your radio indicate green. The call type programmed by pc software

### When receiving the single calling

1. LED indicate green
2. If "CH free indication" was enabled, you will hear the short beep tone when your partner release PTT, means the channel is free and waiting for response
3. Press PTT to response the call and LED indicate red
4. you hear the Call permit tone (if enable) and speak to the speaker
5. Release PTT to receive
6. If there is no talking in this channel in preset time, the calling was end
7. A short tone will be hear

### Receive all calling



All calling is one radio call to all radios which is in same channel.

When you receive all calling

1. Sound a alert tone and LED indicate green
2. If there is no talking in this channel in preset time, the calling was end. If "CH free indication" was enabled, you will hear the short beep tone when your partner release PTT, it means the channel can be use , but you cannot response all calling

**Notice:**

When receive all calling, you switch to another channel, the radio will stop receiving the all calling. During the calling, you cannot use any preset button until the calling was end.

**Send the transmission**

You can use 2 ways to select one channel, user s ID or group ID

- 1) Rotate the channel knob
- 2) Press Preset One Touch Access key

**Rotate the channel knob to send the transmission**

Group Call

To send the group call , your radio must belong to this group

1. Rotate the channel knob, use the group ID to select the channel
2. Hold the radio and keep 1-2 inch (2.5-5cm) distance with your mouth
3. Press PTT to send the calling, LED indicate red
4. You hear the Call permit tone (if enable) and speak to the speaker
5. Release PTT to receive, LED indicate green if your partner is answering
6. If "CH free indication" was enabled, you will hear the short beep tone when your partner release PTT, it means the channel is free and wait for your response.
7. Press PTT to response, if there is no talking in this channel in preset time, the calling was end

**Single Call**

1. Rotate the channel knob, use the user s ID to select the channel
2. Hold the radio and keep 1-2 inch (2.5-5cm) distance with your mouth
3. Press PTT to send the calling, LED indicate red
4. You hear the Call permit tone (if enable) and speak to the speaker
5. Release PTT to receive, LED indicate green if your partner is answering
6. If "CH free indication" was enabled, you will hear the short beep tone when your partner release

PTT, it means the channel is free and wait for your response.

7. Press PTT to response, if there is no talking in this channel in preset time, the calling was end

8. You will hear a short beep tone

### All calling

The function let you send calling to all users in this channel. This function must PC programmed

1. Rotate the channel knob, use the All Calling ID to select the channel

2. Hold the radio and keep 1-2 inch (2.5-5cm) distance with your mouth

3. Press PTT to send the calling, LED indicate red

4. You hear the Call permit tone (if enable) and speak to the speaker

Other users in this channels cannot response the all calling

### Use One Touch Access Key to Send Group Call or Single Call

One touch access function let you easily send the group call or single call to the preset ID or contacts, the function can be assigned to the programmable keys by long press or short press. You can program only one ID or preset one contact person to one programmable key, you can program several One Touch Access Keys

1. Press preset One Touch Access key to send the group call or single call

2. Hold the radio and keep 1-2 inch (2.5-5cm) distance with your mouth

3. Press PTT to send the calling, LED indicate red

4. You hear the Call permit tone (if enable) and speak to the speaker

5. Release PTT to receive, LED indicate green if your partner is answering

6. If CH free indication was enabled, you will hear the short beep tone when your partner release

PTT, it means the channel is free and wait for your response.

7. Press PTT to response, if there is no talking in this channel in preset time, the calling was end

8. You hear a short beep tone at the end of group call or single call

### 3. Short message setting

Sending the preset message

You may send the preprogram short message by preprogram key, there are 50 preset short message available

1. Press the preprogram one touch access key to send preprogram message to one contact person

2. LED indicate red

3. Two Di, Di tone will be heard, if failed to send message, you will hear one alert tone

#### 4. Privacy Function

Privacy setting ( for digital mode only)

You can program this function by pc software, the privacy type have Basic and Enhanced option, maximum 16 privacy groups available, Privacy key value (4Byte and 18Byte), the programmable keys to enable/disable privacy function

#### 5. Digital Emergency Alarm System

You can program Alarm Type by pc software and enable/disable the function by programmable keys

**Disabled:** Close the Alarm function and the unit cannot emergency alarm, but can receive the emergency call alarm from other units

**Regular:** The unit sending the Alarm tone and after preset time (programmed by software) send the alarm tone and ID to the receive unit

**Silent:** The unit is not alarmed but send the ID to the receive unit and that unit alarm

**Silent w/voice:** In the status of alarm press PTT key to send the voice from speaker

#### Lone Work

Enable/disable the function by programmable keys, in order to ensure the security of the user when in

the status of lone working. In the process of lone work, the unit will sound the alert tone in the due time, the user must press any key to indicate the security, otherwise the unit will be go for automatically alarm mode

#### 6. Scan (programmable keys on/off)

##### Scan List

Create scan list and program single channel/group as the scan list, the radio will scan all channels/group in the scan list. The radio support maximum 250 scan lists, each list includes 16 members

##### Scan

When the scan enabled, LED indicates yellow, there are two type of scan

- ✦ **Main channel scan (manual):** The radio scans all channels in scan list/group. By programming, the radio can scan the last activated channel or start from 1st scan channel
- ✦ **Auto scan:** You can select one channel/group which already programmed as auto scan, the radio scans from this auto scan channel

##### Nuisance channel delete

When scan remain one channel, press the programmed nuisance channel key, the radio will continue

scan next channel, and will not scan this channel afterward. But when the scan function closed and then opens the scan function, the radio will resume scan this channel

### Start and stop scanning

1. Press programmed scan key or use the channel knob to select one auto scan channel
2. when scan activated, LED indicator flashing yellow, you can hear a confirm tone. When scanning stop, LED indicator Extinguish and a alarm tone heard

### Dual priority channel scan

When set up one priority channel, activated the priority scan function, such scan use Cyclic scan mode, it always scans the priority channel during each common scan

### In time of scan, response the transmission scan

The radio remain in the activated channel/group

The time of the radio keep in this channel mean Scan hold time

1. Hold the radio and keep 1-2 inch (2.5-5cm) distance with your mouth  
If CH free indication was enabled, you will hear the short beep tone when your partner release PTT, it means the channel is free and wait for your response.

2. In the scan hold time, press PTT the LED indicates red
3. You hear the Call permit tone (if enable) and speak to the speaker
4. Release PTT to receive
5. If you don t response in the hold time, the radio continue to scan other channels

## 7.Setting

### Set squelch level

You can adjust the squelch level, filter low signal or useless calling

**Setting:** Normal squelch is default value

1. Press preprogrammed "tight/normal squelch" key
2. You can hear one confirm tone which means the radio in the status of strong squelch, or you will hear a alarm tone which mean in week squelch

### Set power level

You can set each channel to be high or low power

**Setting:** high power to communicate with long distance, low power work with short distance

1. Press pre-programmed "high/low power" key.

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2. you may hear one confirm tone which means it transmits in low power, otherwise in high power

### **Open/close VOX function**

This function enable you hand free calling in the preprogrammed channel, regardless when the VOX accessories detect voice, the radio will automatically send the single during the programmed time

If you press PTT key the VOX function will be deactivated. To activate the VOX function:

Power off and then power on the radio, or change channels or

- 1) press the preprogrammed "VOX on/off" key to open/close this function
- 2) If "Call permit ton" activated, you can use one touch access key to send the calling. You hear the Call permit tone (if enable) and speak to the speaker

### **Open/close voice guide**

If necessary, you can open/close all voice or alert tone (emergency alarm excepted)

1. Press the preprogrammed "all alert tone on/off" key
2. You may hear one confirm tone, means all voice and alert function open, otherwise all closed

### **Check battery power strength**

Press the programmed "battery power strength" key to hear the beep tone, when the battery power is

## Function 22

high, sound 3 beep tone, when battery power is middle sound 2 beep tone, when battery power is low, sound one beep tone.

#### FCC Caution:

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

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

#### **IC statement**

The device has been tested and compliance with SAR limits, users can obtain Canadian information on RF exposure and compliance

Après examen de ce matériel aux conformités aux limites DAS et/ou aux limites d'intensité de champ RF, les utilisateurs peuvent sur l'exposition aux radiofréquences et la conformité and compliance d'acquérir les informations correspondantes

## **RF Exposure Compliance and Control Guidelines and Operating Instructions**

To control your exposure and ensure compliance with the occupational/controlled environment exposure limits always adhere to the following procedures.

### **Guidelines:**

Do not remove the RF Exposure Label from the device.

User awareness instructions should accompany device when transferred to other users.

Do not use this device if the operational requirements described herein are not met.

### **Operating Instructions:**

Transmit no more than the rated duty factor of 50% of the time. To transmit (talk), push the Push-To-Talk (PTT) button. To receive calls, release the PTT button.

Transmitting 50% of the time, or less, is important because this radio generates measurable RF energy exposure only when transmitting (in terms of measuring for standards compliance). Hold the radio in a vertical position in front of face with the microphone (and the other parts of the radio, including the antenna) at least one inch (2.5 cm) away from the nose. Keeping the radio at the proper distance is important because RF exposures decrease with distance from the antenna. Antenna should be kept away from eyes.

When worn on the body, always place the radio in a RCA Communications Systems approved clip, holder, holster, case, or body harness for this product.

Using approved body-worn accessories is important because the use of RCA Communications Systems or other manufacturer's non-approved accessories may result in exposure levels, which exceed the FCC's occupational/controlled environment RF exposure limits.

If you are not using a body-worn accessory and are not using the radio in the intended use position in front of the face, then ensure the antenna and the radio are kept at least 2.5 cm (one inch) from the body when transmitting. Keeping the radio at the proper distance is important because RF exposures decrease with increasing distance from the antenna.

Use only RCA Communications Systems approved supplied or replacement antennas, batteries, and accessories. Use of non-manufacturer-name approved antennas, batteries, and accessories may exceed the FCC RF exposure guidelines.