

# RDX Series™

## Two-way Radios

*User Guide*



model RDM2070d



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# SAFETY

## PRODUCT SAFETY AND RF EXPOSURE COMPLIANCE



Caution

Before using this product, read the operating instructions and RF energy awareness information contained in the Product Safety and RF Exposure booklet enclosed with your radio.

### ATTENTION!

This radio is restricted to occupational use only to satisfy FCC RF energy exposure requirements.

For a list of Motorola-approved antennas, batteries, and other accessories, visit the following website which lists approved accessories:

<https://www.motorolasolutions.com/rdx>

## BATTERIES AND CHARGERS SAFETY INFORMATION

This document contains important safety and operating instructions. Read these instructions carefully and save them for future reference.

Before using the battery charger, read all the instructions and cautionary markings on

- the charger,
  - the battery, and
  - the radio using the battery
1. To reduce risk of injury, charge only the rechargeable Motorola-authorized batteries. Other batteries may explode, causing personal injury and damage.
  2. Use of accessories not recommended by Motorola may result in risk of fire, electric shock, or injury.

3. To reduce risk of damage to the electric plug and cord, pull by the plug rather than the cord when disconnecting the charger.
4. An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in risk of fire and electric shock. If an extension cord must be used, make sure that the cord size is 18AWG for lengths up to 6.5 feet (2.0 m), and 16AWG for lengths up to 9.8 feet (3.0 m).
5. To reduce risk of fire, electric shock, or injury, do not operate the charger if it has been broken or damaged in any way. Take it to a qualified Motorola service representative.
6. Do not disassemble the charger; it is not repairable and replacement parts are not available. Disassembly of the charger may result in risk of electrical shock or fire.
7. To reduce risk of electric shock, unplug the charger from the AC outlet before attempting any maintenance or cleaning

## OPERATIONAL SAFETY GUIDELINES

- Turn the radio OFF when charging battery.
- The charger is not suitable for outdoor use. Use only in dry locations/conditions.
- Connect charger only to an appropriately fused and wired supply of the correct voltage (as specified on the product).
- Disconnect charger from line voltage by removing main plug.
- The outlet to which this equipment is connected should be nearby and easily accessible.
- Maximum ambient temperature around the power supply equipment must not exceed 40°C (104°F).
- Power output from the power supply unit must not exceed the ratings stated on the product label located at the bottom of the charger.

## INTRODUCTION

Thank you for purchasing the Motorola® RDX Series™ Radio. This radio is a product of Motorola's 80 plus years of experience as a world leader in the designing and manufacturing of communications equipment. The RDX Series™ radios provide cost-effective communications for businesses such as retail stores, restaurants, schools, construction sites, manufacturing, property and hotel management and more. Motorola Business two-way radios are the perfect communications solution for all of today's fast-paced industries.

**Note:** Read this user guide carefully to ensure you know how to properly operate the radio before use.

**Business Radios,  
RPSD 1C15, Motorola  
8000 West Sunrise Boulevard  
Plantation, Florida 33322**

## PACKAGE CONTENTS

- Radio
- Spring Action Belt-Clip
- Lithium-Ion Battery
- Power Supply
- User Guide
- Warranty Card
- Drop-in Tray Charger
- Product Safety & RF Exposure Booklet

For a copy of a large-print version of this user guide or for product-related questions, contact:

**1-800-461-4575 in Canada**

**1-800-501-8614 Menu option # 9 in the USA**

For product information visit us at: [https://www.motorolasolutions.com/en\\_us/products/two-way-radios/on-site-business-radios.html](https://www.motorolasolutions.com/en_us/products/two-way-radios/on-site-business-radios.html) or visit our microsite at: <https://www.motorolasolutions.com/rdx>



## FCC LICENSING INFORMATION

### REGULATION ON MURS (MULTI-USE RADIO SERVICE) FREQUENCIES

RDM2070d radio is exclusively a MURS frequencies radio. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

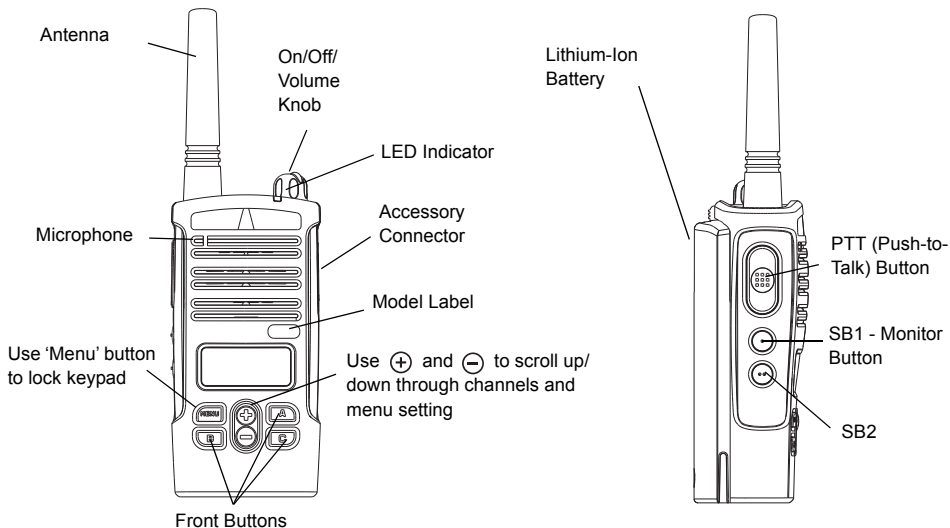
1. This device does not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

FCC License is not required. This device operates on frequencies authorized for use in the Multi-Use Radio Service (MURS). MURS frequencies are available for unlicensed business or personal use.

Take into account that change or modifications not expressly approved by Motorola may void the user's authority granted by the FCC to operate this radio and should not be made. To comply with FCC requirements, transmitter adjustments should be made only by or under the supervision of a person certified as technically qualified to perform transmitter maintenance and repairs in the private land mobile and fixed services as certified by an organization representative of the user of those services. Replacement of any transmitter component (crystal, semiconductor, etc.) not authorized by the FCC equipment authorization for this radio could violate FCC rules. Use of this radio outside the country where it was intended to be distributed is subject to government regulations and may be prohibited. For questions regarding FCC license, call 1-888-CALL-FCC (1-888-225-5322) or go to [www.fcc.gov](http://www.fcc.gov).

# RADIO OVERVIEW

## PARTS OF THE RADIO



### On/Off/Volume Knob

Used to turn the radio ON or OFF and to adjust the radio's volume.

### Accessory Connector

Used to connect compatible audio accessories.

### Model Label

Indicates the model of the radio

### Microphone

Speaks clearly into the microphone when sending a message.

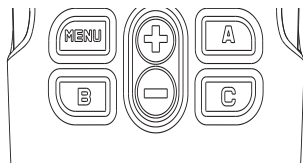
### Antenna

The antenna is a non-removable antenna.

### LED Indicator

Used to give battery status, power-up status, radio call information and scan status.

### Front Buttons



- **MENU Button**

No options are enabled under the **MENU** button for this radio model.

- **+ - Toggle up/down Buttons**

Allows you to change channels or set up values in Programming Mode. These buttons are not programmable buttons.

- **A B C Programmable Buttons(\*)**

Disabled by default. Use CPS to program function (\*).

**Note:** (\*) You can assign different functions to these buttons via the CPS. For example: Backlight Time Out, Reverse Burst, Power Select, Scan/Nuisance Channel Delete, Monitor and Call Tones. Contact the Motorola Service Support Center at 1-800-501-8614 option # 9 for programming support.

## Side Buttons

### ***Push-to-Talk (PTT) Button***

Press and hold down this button to talk, release it to listen.

### ***Side Button 1 (SB1)***

The Side Button 1 is a general button that can be configured by the CPS. The default setting of the SB1 button is 'Monitor'.

### ***Side Button 2 (SB2)***

Disabled by default. Use CPS to program function (\*).

## The Lithium-Ion (Li-Ion) Battery

RDX Series™ provides different types of batteries. For more information, refer to "Battery Features" on page 8 and "Accessories" on page 43.

### **BATTERY FEATURES**

RDX Series™ radios provide Lithium-Ion batteries that come in different capacities that will define the battery life. It also offers the option to use Alkaline batteries.

### **About the Li-Ion Battery**

The RDX Series™ radio comes equipped with a rechargeable Li-Ion battery. This battery should be charged before initial use to ensure optimum capacity and performance.

Battery life is determined by several factors. Among the more critical are the regular overcharge of batteries and the average depth of discharge with each cycle. Typically, the greater the overcharge and the deeper the average discharge, the fewer cycles a battery

will last. For example, a battery which is overcharged and discharged 100% several times a day, lasts fewer cycles than a battery that receives less of an overcharge and is discharged to 50% per day. Further, a battery which receives minimal overcharging and averages only 25% discharge, lasts even longer.

Motorola batteries are designed specifically to be used with a Motorola charger and vice versa. Charging in non-Motorola equipment may lead to battery damage and void the battery warranty. The battery should be at about 77°F (25°C) (room temperature), whenever possible. Charging a cold battery (below 50° F [10°C]) may result in leakage of electrolyte and ultimately in failure of the battery. Charging a hot battery (above 95°F [35°C]) results in reduced discharge capacity, affecting the performance of the radio. Motorola rapid-rate battery chargers contain a temperature-sensing circuit to ensure that

batteries are charged within the temperature limits stated above.

### **Battery Recycling and Disposal**

Li-Ion rechargeable batteries can be recycled. However, recycling facilities may not be available in all areas.

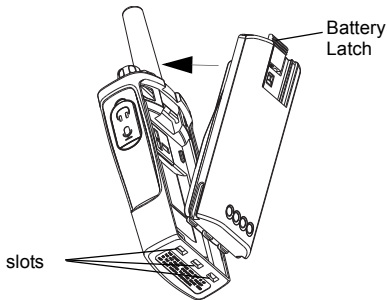
Under various U.S. state laws and the laws of several other countries, batteries must be recycled and cannot be disposed of in landfills or incinerators. Contact your local waste management agency for specific requirements and information in your area. Motorola fully endorses and encourages the recycling of Li-Ion batteries. In the U.S. and Canada, Motorola participates in the nationwide Rechargeable Battery Recycling Corporation (RBRC) program for Li-Ion battery collection and recycling.

Many retailers and dealers participate in this program. For the location of the drop-off facility closest to you, access RBRC's Internet web

site at: <http://www.call2recycle.org> or call toll free: (877) 723-1297.

This internet site and telephone number also provides other useful information concerning recycling options for consumers, businesses and governmental agencies.

### Installing the Lithium-Ion (Li-Ion) Battery

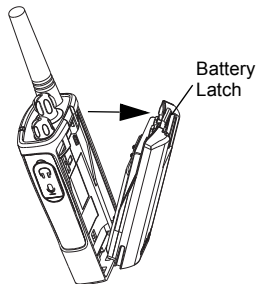


1. Turn OFF the radio.
2. With the Motorola logo side up on the battery pack, fit the tabs at the bottom of the battery into the slots at the bottom of the radio's body.

3. Press the top part of the battery towards the radio until a click is heard.

To learn about the Li-Ion Battery Life features, refer to "About the Li-Ion Battery" on page 8.

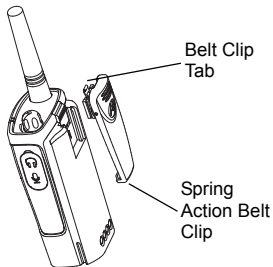
### Removing the Lithium-Ion (Li-Ion) Battery



1. Turn OFF the radio.
2. Push down the battery latch and hold it depressed while removing the battery.
3. Pull the battery away from the radio.

**Note:** RDX Series offers an Alkaline Battery Frame accessory (P/N RLN6306A) as an alternative battery solution. If you plan to use this accessory, please contact Motorola Service Support Center (1-800-501-8614 Option # 9) to ensure your radio settings are updated to work with alkaline batteries.

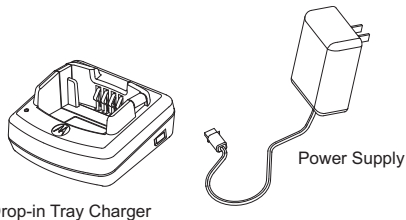
### Installing Spring Action Belt Clip



1. Slide the spring action belt clip rails into the belt clip grooves on the back of the battery pack and slide it down until the belt clip tab snaps into place.

2. To remove, pull back the metal release tab on the belt clip tab and push the spring action belt clip upward to remove.

### Power Supply, Adaptor and Drop-in Tray Charger



The radio is equipped with one Drop-in Tray Charger and one Power Supply with Adaptor. For details, see “Chargers” on page 44.

### Charging the Battery

RDX Series™ offers two types of chargers:

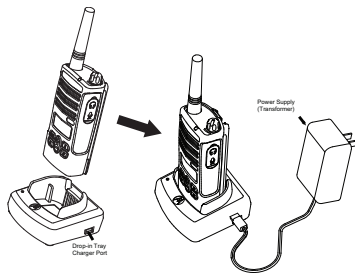
- Standard Charger and,
- Rapid Charger.

The radio comes equipped with a Standard Charger.

To charge the battery (with the radio attached), place it in a Motorola-approved Drop-in Tray Single Unit Charger or Drop-in Tray Multi Unit Charger.

**Note:** When acquiring additional chargers or power supplies, make sure you have similar drop-in tray chargers and power supplies sets (all “rapid” or all “standard”). For part number details, refer to “Chargers” on page 44.

### **Charging with the Drop-in Tray Single Unit Charger (SUC)**

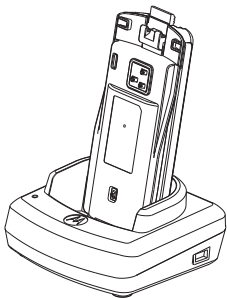


1. Place the drop-in tray charger on a flat surface.
2. Insert the connector of the power supply into the port on the side of the drop-in tray charger.
3. Plug the AC adaptor into a power outlet.
4. Insert the radio into the tray with the front of the radio facing the front of the charger, as shown.

**Note:** When charging a battery attached to a radio, turn the radio OFF to ensure a full charge. See “Operational Safety Guidelines” on page 3 for more information.



## Charging a Standalone Battery

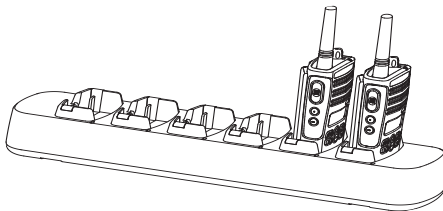


To charge only the battery – at step 4, insert the battery into the tray, with the inside surface of the battery facing the front of the charger, as shown. Ensure the slots in the battery correctly engage in the charger.

**Note:** Ensure that the bracket in the charger is adjusted to the correct position for either Standard or High capacity battery. See “Charging a Standard Battery” on page 13.

## Charging the Standard Battery

The drop-in tray charger has a removable bracket that is adjustable depending on the type of battery that needs to be charged. It is designed to charge either the battery (with the radio) or a standalone battery. The drop-in tray charger's default position will charge a standard battery. The following image shows the orientation for each battery:



**Note:** Identify the drop-in charger's position before charging the battery

**Drop-in Tray Charger LED Indicators**

<b>Standard Charger LED Indicator</b>		
<b>Status</b>	<b>LED Status</b>	<b>Comments</b>
Power ON	Steady red indication for 3 seconds	The charger has powered up
Charging	Blinking red (slow)	The charger is currently charging
Charging Complete	Steady red indication	Battery is fully charged
Battery Fault(*)	Blinking red (fast)	Battery had a fault when battery was inserted

**Notes:**

- (\*) Normally re-seating the battery pack will correct this issue, or battery temperature is too warm or too cold or wrong power supply is being used.

**Estimated Charging Time and Battery Life**

The battery meter located in the upper left corner of the display indicates how much battery power you have remaining. Estimated battery life for the standard battery in RDM2070d is 12 hours. Charging time with the standard drop in tray charger is estimated at 7 hours.

For more information on different batteries and chargers refer to the Accessories booklet or go to the Motorola website <https://www.motorolasolutions.com/rdx>

## GETTING STARTED

For the following explanations refer to "Parts of the Radio" on page 6.

### TURNING RADIO ON/OFF

Turn the On/Off/Volume knob clockwise to turn ON the radio. The radio will chirp and the LED will briefly blink a red light.

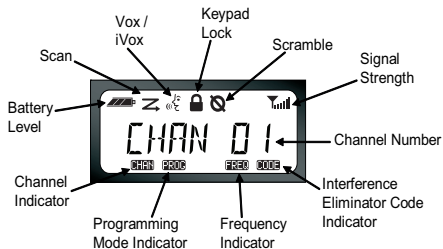
To turn the radio OFF rotate the On/Off/Volume knob counterclockwise until you hear a 'click' and the radio LED indicator turn OFF.

### ADJUSTING VOLUME

Turn the On/Off/Volume knob clockwise to increase the volume, or counterclockwise to decrease the volume.

**Note:** Do not hold the radio too close to your ear when adjusting the volume or if it is at a high volume setting.

### READING THE DISPLAY



**Note:** The radio display shown here is for icon location only. Each radio display may appear different (channel and code) based on the preprogrammed radio defaults. Pressing any button, except the PTT, will turn on the backlight.

### SELECTING A CHANNEL

Your radio offers 7 different MURS channels. To select a channel, press the toggle  $\oplus/\ominus$  buttons until you reach the desired channel.

Program each channel separately. Each channel has its own Frequency and Interference Eliminator Code.

## TALKING AND MONITORING

It is important to monitor traffic before transmitting to ensure that you do not 'talk over' someone who is already transmitting

For monitoring press and hold the SB1 (\*) button to access channel traffic. If no activity is present, you will hear 'static'. Press again SB1 to release.


Once channel traffic has cleared, proceed with your call by pressing the PTT button.

When transmitting, the radio LED blinks red.


**Note:** To listen to all activity on a current channel, short press the SB1 to set the PL/DPL code to 0. This feature is called 'PL/DPL Defeat' (Squelch set to SILENT).

(\*) This assumes SB1 is not being programmed to a different mode.

## RECEIVING A CALL

1. Select a channel by pressing the toggle  buttons until you reach the desired channel.
2. Make sure the PTT button is released and listen for voice activity.
3. The LED indicator blinks RED while your radio is receiving.
4. To respond, hold the radio vertically 1 to 2 inches (2.5 to 5cm) from your mouth. Press the PTT button to talk; release it to listen.

## Signal Strength Indicator and Channel Busy Indicators

When there is activity on a frequency the radio displays the strength indicator icon  while radio LED blinks faster. When there is activity on the same frequency and code as your radio (your radio is receiving), the radio signal strength icon can change from 1 (weakest) to 6 (strongest) depending on the radio reception

coverage. This can help determine when a radio is moving out of range.

**Note:** Obstacles that block the signal path may affect the strength of the incoming signal.



## TALK RANGE

Estimated talk range for RDM2070d is up to 220,000 sq ft (inside steel/concrete industrial buildings) and up to 13 floors (inside multi-level buildings).

To talk with someone on your two-way radio, the channel, frequency, and interference eliminator code must be the same on both radios, which will depend on the stored profile that has been preprogrammed on the radio:

1. Channel: Current channel that the radio is using.

2. Frequency: The frequency your radio uses to transmit/receive.
3. Interference Eliminator Code: These codes help minimize interference by providing you with a choice of code combinations.
4. Scramble Code: Codes that make your transmissions sound garbled to anyone listening who is not set to that specific code.
5. Bandwidth: Frequencies have selectable channel spacing, which must match other radios for optimum audio quality.

For details of how to set up frequencies and PL/DPL codes in your channels refer to the 'Programming Mode' Section.

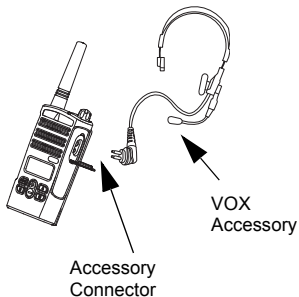
(\* For information on other RDX models with higher talk range visit us at <https://www.motorolasolutions.com/rdx>

## RADIO LED INDICATORS

RADIO STATUS	LED INDICATION
Channel Alias Edit	Red heartbeat
Channel Busy	Solid orange
Cloning Mode	Two orange heartbeats
Cloning In Progress	Solid orange
Fatal Error at Power up	One green blink, one orange blink, one green blink, then repeat for 4 seconds
Low Battery	Orange blink
Low Battery Shutdown	Orange heartbeat
Monitor	LED is OFF
Power-Up	Solid red for 2 seconds
'Idle' Programming Mode / Channel Mode	Green heartbeat
Scan Mode	Red heartbeat
Transmit (TX)/Receive (RX)	Red heartbeat
Transmit in Low Power Select	Orange heartbeat

**Note:** Channel Alias Edit only applies to Display Models

## HANDS-FREE USE/VOX




Motorola RDX™ radios can operate hands-free (VOX) when used with compatible audio accessories. Refer to “Accessories” on page 43 for part number details.

### With Compatible VOX Accessories

Follow these steps when using accessories:

1. Turn the radio OFF.
2. Open accessory cover.

3. Insert audio accessory's plug firmly into accessory port.
4. Turn the radio ON. Radio will beep and LED will blink double red. The display will show the VOX  icon.
5. Lower radio volume BEFORE placing accessory near ear.
6. To transmit, speak into accessory microphone and to receive, stop talking.
7. You can disable VOX operation by pressing the PTT button or removing the audio accessory.

**Note:** Please contact the Motorola Service Support Center at 1-800-501-8614 option # 9 to modify sensitivity levels for the audio accessories in your radios.

### Battery Save

Battery Save feature extends battery life as your radio goes into 'Idle' state each time there is no radio activity. Battery save mode is enabled by default.

## Reset to Factory Defaults

Reset to Factory Defaults will set back all radio features to the original factory default settings. To do so press PTT, SB2 and SB1 simultaneously while turning ON the radio until you hear a high tone chirp.

## End of Transmission Tone (Roger Beep Tone)

This setting is set to OFF by default (\*).

## Keypad Beeps

Keypad Beeps can be enabled/disabled by short pressing SB2 button (until radio 'chirps') while turning ON the radio.

## Keypad Lock/Unlock

You can lock the keypad to avoid accidentally changing your radio settings. Press and hold MENU for 4 seconds to lock the radio keypad or until the lock icon appears on the radio display. To unlock, press MENU for 4 seconds or until the lock icon disappears from the radio display.

**Note:** The only buttons that cannot be locked using this feature are the PTT button and Button A (if Call Tone feature has been assigned).



## MENU Options

There are no MENU options available for RDM2070d (\*).

**Note:** (\*) Contact the Motorola Service Support Center at 1-800-501-8614 option # 9 if you require special programming support.



## PROGRAMMING PL/DPL CODES

1. Before you can program PL/DPL codes, you should first enter "Programming Mode" by pressing and holding both the PTT button and the SB1 button simultaneously for three seconds, while turning ON the radio. A unique tone will sound, indicating that the radio has entered 'Programming Mode' and the radio LED will signal a green heartbeat.
2. Once the radio enters the 'Programming Mode', (which defaults to 'Idle' Programming Mode) **the LED will blink a continuous green heartbeat.**

**Note:** Whenever you enter 'Programming Mode' the **PROG** icon will be displayed and the current channel aliasing name will be blinking to indicate that you can select the channel you want to program.

To exit 'Programming Mode', long press the PTT button to return to normal operation.

3. Once you are in Programming Mode, scroll up/down to select the different channels by pressing the **(+)** / **(-)** buttons:





4. Once you have chosen the channel you want to program, short press the PTT button or **MENU** button in order to access the PL/DPL programming option. The radio display will show the blinking PL/DPL code as follows:



5. To program the desired code, scroll up/down with the **(+)** / **(-)** buttons until you get the PL/DPL code value you want to set up.

- To save changes, long press the PTT button.  
The radio will return to 'Idle' Programming Mode.

**Note:** If you don't want to save changes, short press  or the PTT button to go back. Alternatively, you can exit Programming Mode without saving changes by turning the radio OFF.

 <b>Important</b>	RDM2070d has many programmable features like Channel Alias, Scramble, Call Tones, Channel Nuisance Delete, Scan, Bandwidth, Time Out Timer, etc. Please contact the Motorola Support Center at 1800-501-8614 option # 9 for radio features customization details.
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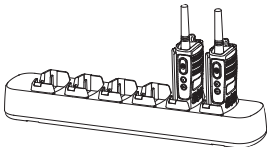
# CLONING RADIOS

## CLONING RADIOS

You can clone RDX™ Series radio profiles from one radio (also known as the 'Source' radio) to a second radio (also known as the 'Target' radio) by using any one of these 2 methods:

- One Multi Unit Charger (optional accessory P/N RLN6309)
- Two Single Unit Chargers and a Radio-to-Radio cloning cable (optional accessory P/N RLN6303)

### Cloning with a Multi-Unit Charger (MUC)



The MUC is capable of cloning radios. To do so, there must be at least two radios:

- a Source radio (radio which profiles will be cloned or copied from) and
- a Target radio (the radio which profile will be cloned from the source radio).

The Source radio has to be in Pocket 1, 3 or 5 while the Source radio to be cloned has to be in Pockets 2, 4 or 6, matching in the MUCs pockets by pairs as follows: 1 and 2 or 3 and 4 or 5 and 6 (\*).

When cloning, the MUC does not need to be plugged into a power source, but ALL radios require charged batteries.

1. Turn ON the Target radio and place it into one of the MUC Target Pockets
2. Power the Source radio following the sequence below:
  - Long press the PTT button and SB2 simultaneously while turning the radio ON.
  - Wait for 3 seconds before releasing the buttons until a distinctive audible tone is heard.

3. Place the Source radio in the source pocket that pairs with the target pocket you chose in step 1. Press and release SB1.
4. After cloning is completed, the Source radio will sound either a 'pass' tone (cloning was successful) or a 'fail' tone (cloning process has failed). The 'pass' tone sounds like a good key 'chirp' whereas the 'fail' tone sounds similar to a 'bonk' tone. If the Source radio is a display model, it will either show 'Pass' or 'Fail' on the display (a tone will be heard within 5 seconds).
5. Once you have completed the cloning process, turn the radios OFF and ON to exit the 'cloning' mode.

**Note:** If cloning fails please refer to "What to Do If Cloning Fails" on page 26.

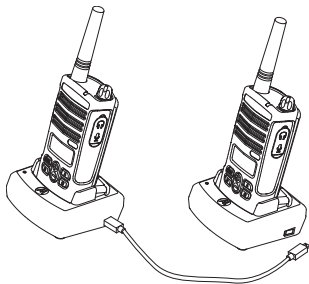
Further details on how to clone units are explained in the instructions sheet provided with the MUC.

See accessories details on "Chargers" on page 44.

#### Notes:

- Paired target radios and source radios must be of the same type in order for cloning to run successfully.
- (\*) MUC pockets numbers should be read from left to right with the Motorola logo facing front.

#### Cloning Radios Using the Radio to Radio (R2R) Cloning Cable (Optional Accessory)



#### Operating Instructions

Source Radio: Radio to be cloned.

Target Radio: Radio to which the configuration of the “Source Radio” will be copied (cloned).

1. Before beginning the cloning process, make sure you have:
    - A fully charged battery on each one of the radios.
    - Two Single Unit Chargers (SUC).
    - Both radios are turned OFF.
    - Both radios are of the same radio model.
  2. Unplug any cables (power supply or USB cables) from the SUCs.
  3. Plug one side of the cloning cable mini connector to one SUC. Plug the other end to the second SUC.
- Note:** During the cloning process no power is being applied to the SUC. The batteries will not be charged. A data communication is being established between the two radios.
4. Turn ON the “Target Radio” and place it into one of the SUCs.

5. On the “Source Radio”, power the radio following the sequence below:
  - Long press the Push-to-Talk (PTT) and Side Button 2 (SB2) simultaneously while turning the radio ON.
  - Wait for 3 seconds before releasing the buttons until a distinctive audible tone is heard.
6. Place the “Source Radio” in its SUC, press and release Side Button 1 (SB1).
7. After cloning is completed, the “Source Radio” will sound either a “pass” tone (cloning was successful) or a “fail” tone (cloning process has failed). The pass tone sounds like a good key “chirp” whereas the “fail” tone sounds similar to a “bonk” tone. If the “Source Radio” is a radio with a display, it will either show “Pass” or “Fail” on the display. (A tone will be heard in no more than 5 seconds).

8. Once you have completed the cloning process, you should turn the radios “OFF” and “ON” to bring them to normal user mode (exit “clone” mode).

### ***What to Do If Cloning Fails***

The radio will emit an audible “bonk” indicating that the cloning process has failed. In the event that cloning fails, try performing each of the following before trying to start the cloning process again.

1. Make sure that the radio batteries on both radios are fully charged.
2. Verify the cloning cable connection on both SUCs.
3. Make sure that the battery is engaged properly on to the radio.
4. Make sure that there is no debris in the charging tray or on the radio contacts.
5. Verify that the source radio is in cloning mode.
6. Make sure that the radio to be cloned is turned ON.

7. Make sure that radios are both from the same type (same frequency band, same front panel (display/non display), same region and same transmission power).

**Note:** This cloning cable is designed to operate only with compatible Motorola RLN6175 (Standard) and RLN6304 (Rapid) Single Unit Chargers.

**Note:** When ordering Cloning Cable please refer to P/N RLN6303. For details about accessories refer to Accessories section.

# TROUBLESHOOTING

<i>Symptom</i>	<i>Try This...</i>
No Power	Recharge or replace the Li-Ion battery. Reposition or replace AA batteries. Extreme operating temperatures may affect battery life. Refer to See “About the Li-Ion Battery” on page 16.
Hearing other noises or conversation on a channel	Confirm Interference Eliminator Code is set. Frequency or Interference Eliminator Code may be in use. Change settings: either change frequencies or codes on all radios. Make sure radio is at the right frequency and code when transmitting. Refer to “Talking and Monitoring” on page 16
Message Scrambled	Scramble Code might be ON, and/or setting does not match the other radios' settings.
Audio quality not good enough	Radio settings might not be matching up correctly. Double check frequencies, codes and bandwidths to make sure they are identical in all radios
Heavy static or interference	Radios are too close; they must be at least five feet apart. Radios are too far apart or obstacles are interfering with transmission. Refer to “Talking and Monitoring” on page 16.

<i>Symptom</i>	<i>Try This...</i>
Limited talk range	<p>Steel and/or concrete structures, heavy foliage, buildings or vehicles decrease range. Check for clear line of sight to improve transmission. Wearing radio close to body such as in a pocket or on a belt decreases range. Change location of radio. To increase range and coverage, you can either reduce obstructions, increase power, or use UHF radio instead of VHF radio. UHF radios provide greater coverage in industrial and commercial buildings. VHF is designed for outdoor or smaller or wood structures. Increasing power provides greater signal range and increased penetration through obstructions.</p> <p>Refer to See Talking and Monitoring on page 16.</p>
Message not transmitted or received	<p>Make sure the PTT button is completely pressed when transmitting. Confirm that the radios have the same Channel, Frequency, Interference Eliminator Code and Scramble Code settings. Refer to “Talking and Monitoring” section on page 16 for further information.</p> <p>Recharge, replace and/or reposition batteries. Refer to “About your Li-Ion Battery” section on page 16.</p> <p>Obstructions and operating indoors, or in vehicles, may interfere. Change location. Refer to “Talking and Monitoring” Section on page 16.</p>



<b>Symptom</b>	<b>Try This...</b>
Cannot activate VOX	<p>VOX feature might be set to OFF.</p> <p>Use the CPS to ensure that the VOX Sensitivity level is not set to '0'.</p> <p>Accessory not working or not compatible.</p> <p>Refer to "Hands-Free Use/VOX" section on page 17.</p>
Low batteries	<p>Recharge or replace Li-Ion battery. Replace AA batteries.</p> <p>Extreme operating temperatures affect battery life.</p> <p>Refer to "About the Li-Ion Battery" on page 16.</p>
Drop-in Charger LED light does not blink	<p>Check that the radio/battery is properly inserted and check the battery/charger contacts to ensure that they are clean and charging pin is inserted correctly.</p> <p>Refer to "Charging the Battery" section on page 25, "Drop-in Tray Charger LED Indicators" section on page 28 and "Installing the Lithium-Ion Battery" section on page 18.</p>
Low battery indicator is blinking although new batteries are inserted	<p>Verify that the radio is set to the correct battery type.</p> <p>Refer to "Installing the Li-Ion Battery" section on page 18, "Installing Alkaline Batteries" section on page 19 and "About your Li-Ion Battery" section on page 16.</p>

<i>Symptom</i>	<i>Try This...</i>
Battery does not charge although it has been placed in the drop-in charger for a while	<p>Check drop-in tray charger is properly connected and correspond to a compatible power supply.</p> <p>Ensure that you have the drop-in tray charger adjustable piece placed on the right position.</p> <p>Refer to “Charging with the Drop-In Tray Single Unit Charger” section on page 25 and “Charging a Standalone Battery” section on page 26.</p> <p>Check the charger’s LEDs indicators to see if the battery has a problem. Refer to “Drop-in Tray Charger LED Indicators” section on page 28.</p>

**Note:** Whenever a feature in the radio seems to not correspond to the default or preprogrammed values, check to see if the radio has been programmed using the CPS with a customized profile.

## USE AND CARE



Use a soft damp cloth  
to clean the exterior

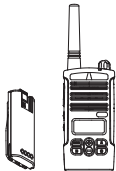


Do not immerse  
in water

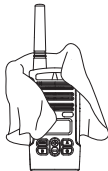


Do not use alcohol or  
cleaning solutions

### If the radio is submerged in water...



Turn radio OFF and  
remove batteries



Dry with soft cloth



Do not use radio until  
completely dry

# FREQUENCY AND CODE CHARTS

## RDM2070d CHANNELS DEFAULT SETTINGS



**Important**

The following are the default frequencies, codes and bandwidth settings programmed in the RDM2070d (RDX) radio, which complies with latest FCC regulations. In order for the RDM2070d to inter-operate with the Walmart XV2600 (XTN) or CP100 radios, you must make sure you choose the exactly the SAME channel settings (frequency, code and bandwidth) for all radios.

**Table 1: XV2600 Channel Factory Default Settings**

Channel	Frequency #	Frequency (MHz)	Code	Code Value	Channel Name/ Alias	Bandwidth Setting	Bandwidth Selectable
1	3	154.5700	0	OFF	Channel 1	25.0 KHz	Selectable (25.0 KHz/12.5 KHz)
2	4	154.6000	0	OFF	Channel 2	25.0 KHz	Selectable (25.0 KHz/12.5 KHz)
3	7	151.8200	57	131	Channel 3	12.5 KHz	Fixed (12.5 KHz)
4	8	151.8800	57	131	Channel 4	12.5 KHz	Fixed (12.5 KHz)
5	9	151.9400	57	131	Channel 5	12.5 KHz	Fixed (12.5 KHz)
6	3	154.5700	57	131	Channel 6	25.0 KHz	Selectable (25.0 KHz/12.5 KHz)
7	4	154.6000	57	131	Channel 7	25.0 KHz	Selectable (25.0 KHz/12.5 KHz)


## RE-PROGRAMMING XTN RADIOS TO OPERATE WITH RDM2070d













*Table 2: XV2600 Channel Factory Default Settings*

Channel	Frequency #	Frequency (MHz)	Code	Code Value	Channel Name/Alias	Bandwidth Setting
1	3	154.570	0	OFF	Channel 1	25.0 KHz (Fixed)
2	4	154.600	0	OFF	Channel 2	25.0 KHz (Fixed)

Factory defaults for both XV2600 and RDM2070d are identical on Channels 1 and 2. If you want to make sure you're operating with these settings you can turn your radio ON while holding the MENU and PTT buttons simultaneously for three seconds in order to do a Factory Reset.

Please note that sometimes using other frequencies and codes different from the factory default settings may reduce unwanted interference on the radio. To program Channel 1 or 2 of XV2600 to operate on any settings (different from the factory defaults) and available on the RDM2070d, follow these instructions:

1. Disconnect any audio accessories from the radio.
2. **Factory Reset.** Make sure your XTN is programmed to the factory default frequencies. If you're not sure, turn your radio ON while holding the  and PTT buttons simultaneously for three seconds.
3. **Programming Mode.** Place your XTN radio in Programming Mode by pressing and holding the PTT button and SB1 button at the same time for 3 seconds while turning ON your radio. The radio beeps and displays **PROG**.

- Select Channel.** Once you enter the Programming Mode, the channel number blinks. Frequency and Code will be displayed alternately. Press  or  until the desired channel is selected.
- Program the Frequency.** Press  until the  indicator illuminates and the frequency number blinks. Press  or  to select the frequency. Refer to “Table 1: XV2600 Channel Factory Default Settings” on page 32 for frequencies.
- Program the Code.** Press  until the Code Number display begins to blink. Then, press  or  to choose the Code # 57 (131).
- Program the Bandwidth.** Press  until the “b” displays begins to blink. Bandwidth is only selectable when blinking. Press  or  to choose either “HI” (High 25.0 KHz) or “LO” (Low: 12.5 KHz). Refer to “Table 1: XV2600 Channel Factory Default Settings” on page 32 for frequencies.
- Exit Programming Mode.** Press PTT button or turn OFF the radio to exit programming mode.

## PROGRAMMING MORE THAN ONE RADIO (CLONING INTO OTHER RADIOS)

The settings for frequency and code must match for radios to operate together. To save time in programming additional radios, use either a Multi Unit Charger (P/N RLN6309) or a Cloning Cable (P/N RLN6303). Refer to “Cloning Radios” on page 23 for radio cloning instructions.

## SERVICE SUPPORT

Please call 1-800-501- 8614 # 9 (for Walmart Associates) in order to obtain service support or to inquire for any other information.

## CTCSS AND PL/DPL CODES

### CTCSS Codes

CTCSS	Hz
1	67.0
2	71.9
3	74.4
4	77.0
5	79.7
6	82.5
7	85.4
8	88.5
9	91.5
10	94.8
11	97.4
12	100.0
13	103.5

CTCSS	Hz
14	107.2
15	110.9
16	114.8
17	118.8
18	123
19	127.3
20	131.8
21	136.5
22	141.3
23	146.2
24	151.4
25	156.7
26	162.2

CTCSS	Hz
27	167.9
28	173.8
29	179.9
30	186.2
31	192.8
32	203.5
33	210.7
34	218.1
35	225.7
36	233.6
37	241.8
38	250.3
122 (*)	69.3

**Note:** (\*) New CTCSS code.

*PL/DPL Codes (cont.)*

DPL	Code
39	23
40	25
41	26
42	31
43	32
44	43
45	47
46	51
47	54
48	65
49	71
50	72
51	73
52	74
53	114
54	115

DPL	Code
55	116
56	125
57	131
58	132
59	134
60	143
61	152
62	155
63	156
64	162
65	165
66	172
67	174
68	205
69	223
70	226

DPL	Code
71	243
72	244
73	245
74	251
75	261
76	263
77	265
78	271
79	306
80	311
81	315
82	331
83	343
84	346
85	351
86	364



*PL/DPL Codes (cont.)*

DPL	Code
87	365
88	371
89	411
90	412
91	413
92	423
93	431
94	432
95	445
96	464
97	465
98	466

DPL	Code
99	503
100	506
101	516
102	532
103	546
104	565
105	606
106	612
107	624
108	627
109	631
110	632

DPL	Code
111	654
112	662
113	664
114	703
115	712
116	723
117	731
118	732
119	734
120	743
121	754

## MOTOROLA LIMITED WARRANTY FOR THE UNITED STATES AND CANADA

### What Does this Warranty Cover?

Subject to the exclusions contained below, Motorola, Inc. warrants its telephones, pagers, and consumer and business two-way radios (excluding commercial, government or industrial radios) that operate via Family Radio Service or General Mobile Radio Service, Motorola-branded or certified accessories sold for use with these Products (“Accessories”) and Motorola software contained on CD-ROMs or other tangible media and sold for use with these Products (“Software”) to be free from defects in materials and workmanship under normal consumer usage for the period(s) outlined below.

This limited warranty is a consumer’s exclusive remedy, and applies as follows to new Motorola Products, Accessories and Software purchased by consumers in the United States, which are accompanied by this written warranty.

### Products and Accessories

Products Covered	Length of Coverage
<b>Products and Accessories</b> as defined above, unless otherwise provided for below.	<b>One (1) year</b> from the date of purchase by the first consumer purchaser of the product unless otherwise provided for below.
<b>Decorative Accessories and Cases.</b> Decorative covers, bezels, PhoneWrap™ covers and cases.	<b>Limited lifetime warranty</b> for the lifetime of ownership by the first consumer purchaser of the product.
<b>Business Two-way Radio Accessories</b>	<b>One (1) year</b> from the date of purchase by the first consumer purchaser of the product.
<b>Products and Accessories that are Repaired or Replaced.</b>	<b>The balance of the original warranty or for ninety (90) days</b> from the date returned to the consumer, whichever is longer.

## Exclusions

**Normal Wear and Tear.** Periodic maintenance, repair and replacement of parts due to normal wear and tear are excluded from coverage.

**Batteries.** Only batteries whose fully charged capacity falls below 80% of their rated capacity and batteries that leak are covered by this limited warranty.

**Abuse & Misuse.** Defects or damage that result from: (a) improper operation, storage, misuse or abuse, accident or neglect, such as physical damage (cracks, scratches, etc.) to the surface of the product resulting from misuse; (b) contact with liquid, water, rain, extreme humidity or heavy perspiration, sand, dirt or the like, extreme heat, or food; (c) use of the Products or Accessories for commercial purposes or subjecting the Product or Accessory to abnormal usage or conditions; or (d) other acts which are not the fault of Motorola, are excluded from coverage.

## Use of Non-Motorola Products and Accessories.

Defects or damage that result from the use of Non-Motorola branded or certified Products, Accessories, Software or other peripheral equipment are excluded from coverage.

**Unauthorized Service or Modification.** Defects or damages resulting from service, testing, adjustment, installation, maintenance, alteration, or modification in any way by someone other than Motorola, or its authorized service centers, are excluded from coverage.

**Altered Products.** Products or Accessories with (a) serial numbers or date tags that have been removed, altered or obliterated; (b) broken seals or that show evidence of tampering; (c) mismatched board serial numbers; or (d) nonconforming or non-Motorola housings, or parts, are excluded from coverage.

**Communication Services.** Defects, damages, or the failure of Products, Accessories or Software due to any communication service or signal you may subscribe to or use with the Products Accessories or Software is excluded from coverage.

## Software

Products Covered	Length of Coverage
<b>Software.</b> Applies only to physical defects in the media that embodies the copy of the software (e.g. CD-ROM, or floppy disk).	<b>Ninety (90) days</b> from the date of purchase.

## Exclusions

**Software Embodied in Physical Media.** No warranty is made that the software will meet your requirements or will work in combination with any hardware or software applications provided by third parties, that the operation of the software products will be uninterrupted or error free, or that all defects in the software products will be corrected.

## Software NOT Embodied in Physical Media.

Software that is not embodied in physical media (e.g. software that is downloaded from the internet), is provided “as is” and without warranty.

## WHO IS COVERED?

This warranty extends only to the first consumer purchaser, and is not transferable.

## HOW TO OBTAIN WARRANTY SERVICE OR OTHER INFORMATION?

Contact your Motorola Service Support Center at 1-800-501-8614 option # 9 for Warranty Information.

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### **PATENT NOTICE**

This product is covered by one or more of the following United States patents.

5896277 5894292 5864752 5699006 5742484  
D408396 D399821 D387758 D389158 5894592  
5893027 5789098 5734975 5861850 D395882  
D383745 D389827 D389139 5929825 5926514  
5953640 6071640 D413022 D416252 D416893  
D433001

### **EXPORT LAW ASSURANCES**

This product is controlled under the export regulations of the United States of America. The Governments of the United States of America may restrict the exportation or re-exportation of this product to certain destinations. For further information contact the U.S. Department of Commerce.

## NOTES

## ACCESSORIES

### AUDIO ACCESSORIES

Part No.	Description
HKLN4606	Remote Speaker Mic
HKLN4599	Earpiece w/Inline Mic
HKLN4601	Dual Pin Surveillance with PTT
HKLN4604	Swivel Earpiece with PTT

### BATTERY

Part No.	Description
RLN6351	Standard Li-Ion Battery
RLN6308	Ultra High Capacity Li-Ion Battery

### CARRY ACCESSORIES

Part No.	Description
RLN6307	Spring Action Belt Clip

### CABLES

Part No.	Description
RLN6303	Radio to Radio Cloning Cable

## CHARGERS

Part No.	Description
RLN6304	Rapid ACCY Charging Kit -- Americas (*)
RLN6309	Multi Unit Charger (MUC) Kit -- North America
RLN6175	Standard Drop-in Tray Charger

## POWER SUPPLIES








Part No.	Description
RPN4054	Standard US Fixed Power Supply





**Note:** Certain accessories may be or may not be available at the time of purchase. For latest information on accessories, contact your Motorola point of purchase or visit: <https://www.motorolasolutions.com/rdx> or [https://www.motorolasolutions.com/en\\_us/products/two-way-radio-accessories.html](https://www.motorolasolutions.com/en_us/products/two-way-radio-accessories.html)

**Note:** (\*) Americas Rapid Charging Kit includes Power Supply, Drop-in Tray Charger, and AC Pin adaptors.



## Icons Chart

Icon	Symbol	Comments
<b>Battery Level</b>		Displayed during normal radio mode operation, displays battery life remaining.
<b>Channel</b>		Displayed during normal radio operation and when programming channel features.
<b>Code</b>		Displayed during normal radio operation and when programming codes features.
<b>Frequency</b>		Displayed during normal radio operation and when programming frequency features.
<b>Keypad lock</b>		Displayed whenever the Keypad lock feature is enabled (keypad is locked).
<b>Program</b>		Displayed whenever the radio is set up to Programming Mode.
<b>Scan</b>		Displayed whenever the radio is set to SCAN mode.

Icon	Symbol	Comments
<b>Scramble</b>		Displayed whenever scramble is enabled.
<b>Power Select</b>		Displayed whenever the radio is transmitting or set to a high-power selection.
<b>Signal Strength</b>		RSSI Display Icon numbers of bars will indicate the strength of the received signal.
<b>VOX/IVOX</b>		Displayed when VOX/IVOX enabled or when programming MIC/MIC gain features.





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