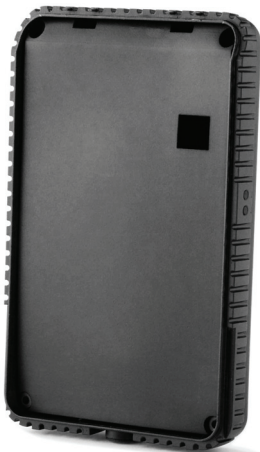


RPX Repeater Li-Ion Battery Frame

HKHN4004A

Accessories



Li-Ion Batteries and Chargers Safety Information

This booklet contains important safety and operating instructions regarding the Li-Ion Batteries and the Chargers. Read these instructions carefully and save them for future reference. Before charging the batteries, read all the instructions and cautionary markings on:

- Chargers
- Li-Ion batteries, and
- The repeater using Li-Ion batteries

When using the Li-Ion Frame, (refer to “Figure 1. Li-Ion Battery Frame” on page 2) the RPX Repeater Series are designed to automatically switch to Li-Ion batteries operation whenever there is an AC/DC power shortage. The batteries will start automatically recharging once AC/DC is reconnected. However, if the repeater is ON during the charging process, the charging time may be longer as the repeater gives priority to transmit and receive. To expedite the charging time, you can either turn the repeater OFF until the charge is complete or take the Li-Ion Batteries out from the repeater and recharge them using any of the RDX Chargers listed in "Table 1: RPX Series Authorized Chargers" on page 4.

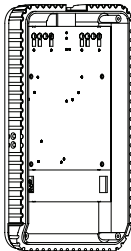


Figure 1. Li-Ion Battery Frame



Caution

OPERATIONAL CAUTION

In the case you decide to use an external Li-Ion charger, the following warnings applies:

1. To reduce risk of injury, charge only the rechargeable Motorola-authorized batteries. Other batteries may present risk of fire or explosion, causing personal injury and damage. Refer to "Table 2: RPX Series Authorized Batteries (*)" on page 4 for authorized batteries information.
2. Use of accessories not recommended by Motorola may result in risk of fire, electric shock, or injury.



Caution

OPERATIONAL CAUTION (continued)

3. To reduce risk of damage to the electric plug and cord, pull by the plug rather than the cord when disconnecting the power supply.
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 18 AWG for lengths up to 6.5 feet (2.0 m), and 16 AWG 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 power supply before attempting any maintenance or cleaning.

The following are the authorized Li-Ion batteries and chargers:

Table 1: RPX Series Authorized Chargers

Part Number	Description
RLN6304	Rapid Charger Kit
RLN6309	Multi-Unit Charger (MUC) Kit
RLN6175	Standard Drop-In Tray Charger

Table 2: RPX Series Authorized Batteries (*)

Part Number	Description
RLN6308	Ultra High Capacity Li-Ion Battery 2400 mAh
RLN6305	High Capacity Li-Ion Battery 2200 mAh
Note:	(*) These are the orderable part numbers. Authorized batteries under these kits are: RLN6305: 60012001001 or 6080384X63 RLN6308: 60012000001 or 6080384Y10

Li-Ion Chargers Operational Safety Guidelines

1. The Li-Ion RDX charger is not suitable for outdoor use. Use only in dry locations/conditions.
2. Connect the RDX charger only to an appropriately fused and wired power supply of the correct voltage (as specified on the product).
3. Disconnect RDX charger from power supply by removing main plug. The outlet to which this equipment is connected should be nearby and easily accessible.
4. Maximum ambient temperature around the power supply equipment must not exceed 60°C (140°F).



Make sure that the cord is located where it will not be stepped on, tripped over, or subjected to water, damage, or stress.

About Li- Ion Batteries

Note: The following information applies ONLY when you are using the Li-Ion battery frame accessory (with the Li-Ion batteries installed).

Please read the following information regarding Li-Ion battery features carefully.

The RPX Series™ can use rechargeable Li-Ion batteries. These batteries 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 number of full charge and discharge cycles. Typically, the greater the charge and discharge is, the shorter the battery life becomes. For example, a battery which is charged and discharged 100% several times a day, lasts fewer cycles than a battery that receives less charge and discharge of 50% per day.

Note: Motorola batteries are designed specifically to be used with a Motorola charger and vice versa.



Important

Charging in non-Motorola equipment may lead to battery damage and void the battery warranty. Refer to "Table 2: RPX Series Authorized Batteries (*)" on page 4 for authorized batteries part number information.

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.

Li-Ion Battery Recycling and Disposal



Important

Dispose of used battery promptly. Keep away from children. Do not disassemble and to not dispose of in fire.

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.A. 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: www.rbrc.org or call: 1-800-8-BATTERY.

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

Li-Ion RPX Battery Frame Solution

"Table 1: RPX Series Authorized Chargers" on page 4 shows the RPX Series™ Li-Ion battery frame solution (P/N HKHN4004 – the kit includes the Li-Ion batteries). This accessory allows the repeater to automatically connect to Li-Ion battery backup power in the event of an AC/DC power absence or failure.

Li-Ion Battery Life Estimations

The following are the estimated battery life time frames:

Table 3: Li-Ion Battery Life Estimations

Capacity	Time (Hours)
Li-Ion 2200 mAh	15
Li-Ion 2400 mAh	16

Note: Estimations are done assuming the repeater is working on 100% duty cycle and 20/80 operation (20% TX/RX, 80% idle).

Charging the Repeater Li-Ion Batteries

When the repeater is housing the Li-Ion batteries, they will be automatically charging whenever the AC/DC power supply is connected to the repeater.

The following estimations assumes that both repeater Li-Ion batteries are of the same capacity and that the repeater is turned OFF:

Table 4: Li-Ion Repeater Estimated Charging Times

Capacity	Time (Hours)
Li-Ion 2200 mAh	3.0
Li-Ion 2400 mAh	3.5

The repeater doesn't charge the batteries during the TX/RX operation intervals. Therefore the charging times will be longer if you decide to charge the batteries and operate the repeater at the same time (you should turn off the repeater if you want to ensure a faster and fuller charge).

Note: When charging the repeater, make sure the operating temperature is between a minimum of 41°F [5°C] and a maximum of 113°F [45°C].

Li-Ion Battery Side LED's

The Li-Ion Battery Frame features two side LEDs that will indicate the charging status details for each one of the repeater Li-Ion batteries.

In order to identify which LED refers to which battery, refer to "Figure 2: Li-Ion Open Housing" below:

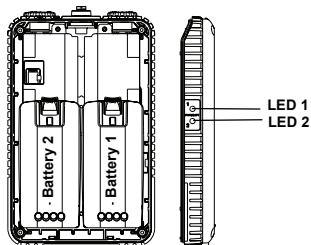






Figure 2. Li-Ion Open Housing

Note: LED 1 shows status for battery 1 on the right.
LED 2 shows status for battery 2 on the left.

“Figure 2. Li-Ion Open Housing” on page 10 gives a back view of the opened repeater, showing the two Li-Ion battery packs and a side view of the Li-Ion battery frame showing the two side LEDs. LED 1 will indicate status for battery 1 on the right side and LED 2 will indicate status for battery 2 on the left side.

The following table shows the Li-Ion battery frame LED’s charging status:

Table 5: Li-Ion Battery Frame Charging LED Indicator (Side LEDs)

Status	LED Status	AC/DC Status	Comments	
Charging		Steady Red	CX	The charger is currently charging.
Charging Complete		Steady Green	CX	Battery is nearly fully charged.
Battery Fault/ Slot Empty		Red (Fast) Blinking	CX	Battery had a fault when battery was inserted, Li-Ion batteries are not in place or temperature is too high.
OFF		OFF	DX	When AC/DC disconnects, the batteries are OFF.
CX: Connected to AC/DC		DX: Disconnected from AC/DC		

Note: Normally re-seating the battery pack will correct this issue. Battery fault can be also due to temperature being too warm or too cold or when wrong power supply is being used.

If the batteries are significantly discharged, it is recommended to use an external charger to charge the battery. You may use any of the RDX Series™ chargers indicated in "Table 1: RPX Series Authorized Chargers" on page 4.

Installing/Removing the Li-Ion Battery Frame

1. Turn OFF the repeater if it is turned ON.
2. Disconnect the AC/DC power.
3. Use a Phillips screwdriver to remove the four corner screws located at each corner on the back of the repeater, disconnect power harness and lift away the repeater back battery frame. Refer to "Figure 3. Installing/Removing Li-Ion Battery Frame to/from the Repeater" below.

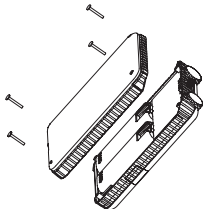


Figure 3. Installing/Removing Li-Ion Battery Frame to/from the Repeater

4. Double check the type of battery frame the repeater has to make sure you are using a Li-Ion Battery Frame. Refer to “Figure 2. Li-Ion Open Housing” on page 10.
5. Once you have removed the repeater battery frame, slide down a Li-Ion battery (with the Motorola logo side up on the battery pack), until it fits the tabs at the bottom of the battery into the slots at the bottom of the repeater’s back housing. Refer to “Figure 4. Installing Li-Ion Batteries into the Repeater Back Housing” below.

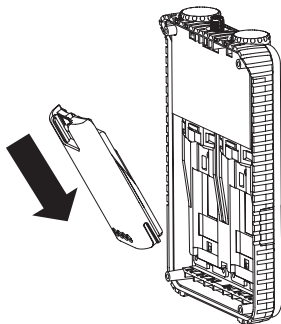


Figure 4. Installing Li-Ion Batteries into the Repeater Back Housing

6. Repeat same procedure with the second battery, making sure both batteries are tightly locked into the repeater back housing. Reconnect power harness. Refer to “Figure 5.Li-Ion Batteries Installed in the Repeater Back Housing” below.

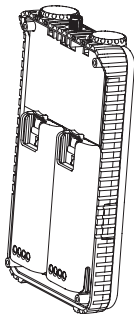


Figure 5. Li-Ion Batteries Installed in the Repeater Back Housing

7. Secure the Li-Ion battery frame by tightening securely the four screws on each of the four corners on the back of the repeater. Refer to “Figure 3. Installing/Removing Li-Ion Battery Frame to/from the Repeater” on page 12.



Important

When securing back the Li-Ion frame lid into the repeater, it is very important to make sure the screws are firmly tight to preserve the sealing of your repeater. Failing to do so can negatively impact the repeater's water and dust resistant IP55 feature (*).

Note: (*) The repeater is not a submersible device.

For Motorola Customer Support, call:

1-800-461-4575 in Canada

1-800-448-6686 in the USA

1-866-522-5210 on your TTY (Text Telephone)

or visit us at: www.motorola.com/rpx

Notes



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