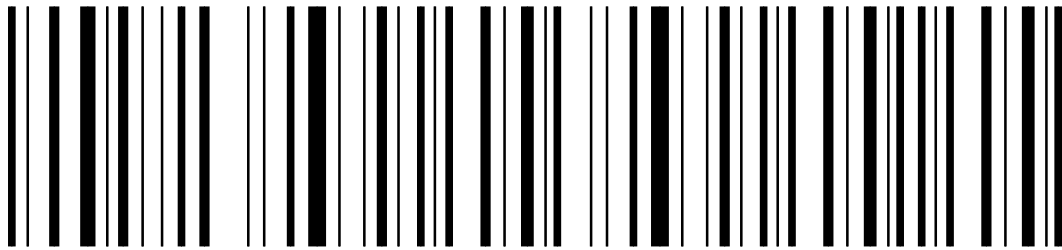


# Frequently Asked Questions About Zebra® Mobile Printer Batteries



**Zebra Technologies**



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## Why is it beneficial to use a Zebra-branded battery?

- Zebra batteries provide maximum run-time, they assure maximum cell life, and they utilize protective circuitry to guard against premature failure.

## What is the difference between the various battery technologies?

Battery Technology	Used in	Advantages
Nickel Cadmium (NiCd)	Older, end-of-life Zebra products such as the <i>PA™/PT™</i> series	Older, but reliable, battery technology. Must be conditioned. Can be damaged by repeated charging without fully discharging. This is called the “Memory Effect.”
Nickel Metal Hydride (NiMH)	Encore® (EOL), Cameo®, PS 2100™ series base	These batteries offer capacities up to 30% higher per charge than NiCd batteries of the same physical size. They are less likely to be damaged by the “Memory Effect.”
Lithium-Ion (Li-Ion)	QL™ series, RW 420™, PS 2100 series controller	The newest rechargeable battery chemistry available. The “Memory Effect” does not affect Li-Ion. It can deliver the same capacity and run time in a smaller, lighter pack. The chemistry is most popular in cellular phones, PDAs, data terminals, and laptop products.

## How should I care for my printer battery to get utmost performance?

- Nickel Metal Hydride and Nickel Cadmium batteries require conditioning. If your battery requires conditioning, you should charge, then discharge your new battery a few times before using it. By charging your battery fully, then not charging it again until it has fully discharged, you are “training” it to know its full capacity. This will enable you to obtain maximum battery capacity.

## Why did my Zebra battery arrive without a full charge?

- To preserve the greatest amount of service life on new batteries, Zebra manufactures and stores its batteries in a discharged state. Each battery comes with a label attached explaining that it needs to be charged.
- Li-Ion batteries are shipped partially charged and will require an additional charge upon receipt.

## What does the amperage rating mean?

- A typical amperage rating for a Zebra printer battery ranges from .7 to 4.2 ampere-hours. This means that if you draw 4.2 amps from a fully charged battery, you can do so for one hour. Since the average duty cycle for printing is in a range much lower than this amount, the battery will last a number of hours before needing a recharge.

## How long will my batteries last?

- While batteries supplied to customers are of the highest quality possible, a characteristic of NiCd, NiMH and Li-Ion batteries is that they have a limited shelf life. The shelf life of the battery is determined by the “self-discharge rate” of the battery. The typical number of charge cycles for each battery varies by chemistry.



## **How do I know if my battery should be replaced?**

- The printer may make grinding noises, show signs of degraded print quality, or exhibit communications problems (such as skipping labels, or unresponsiveness).
- If you fully charge the battery and get half the usage time you used to get, it should be replaced.
- Zebra's Li-Ion battery packs contain a date code that allows our facilities to monitor the battery's age and cell life. Users should also monitor the date code on the battery and discard batteries beyond the expected cell life (one to two years). The first three digits of this date code represent the day, and the last two digits after the dash represent the year.

## **How should I dispose of my mobile printer battery?**

Zebra Technologies Corporation is voluntarily participating in an industry program to collect and recycle these batteries at the end of their useful life, when taken out of service in the United States or Canada. The RBRC® program provides a convenient alternative to placing used Li-Ion batteries into the trash or the municipal waste stream, which may be illegal in your area. Please call 1-800-8-BATTERY for information on Li-Ion battery recycling and disposal bans/restrictions in your area. Zebra Technologies Corporation's involvement in this program is part of our commitment to preserving our environment and conserving our natural resources. Outside North America, please follow local battery recycling guidelines.

## **How can I avoid unexpected drain on my battery?**

- Keep the battery out of extreme cold or extreme heat, and never expose the battery to direct sunlight.
- Be sure you have the correct radio settings when using 802.11b. These settings can be configured in Label Vista, under "Printer," "Network Settings," "RF Settings." There is a setting called "Power Mode" that can be adjusted. This value will affect the power consumption used by the network radio card in the printer. The "off" setting puts the radio into CAM (Constant Awake Mode). The Symbol® radio has a range of power save modes from "1" (best throughput) to "best" (best power save). The Cisco® radio has a fast power save mode ("1-4," switches between power save and CAM, not scaleable), and a full power save mode ("best").
- Leaving a battery installed in the printer for an extended period of time (more than five days) will cause drain. The battery may completely discharge as a result of self-discharge. In some instances, this can damage the battery.
- Choose the media that requires the lowest heat setting. An authorized Zebra reseller can help you determine this.
- If you print the same text or graphic on every label, consider using a pre-printed label.
- Choose the correct print darkness, print speed, and printhead pressure for your media.

## **Will any Zebra charger work on my mobile printer battery?**

- Battery chargers may not be interchanged. Li-Ion battery chargers will only charge Li-Ion batteries and nickel metal hydride battery chargers can only be used on NiMH batteries.





### **Why is it beneficial to use a Zebra-branded charger?**

- When using Li-Ion batteries, there is a protective circuit in the battery that guards against overcharge and over discharge. Zebra chargers can evaluate the battery's status and bring it back to life, or abandon it if it is past recovery. Voltage, temperature, and total charging time are monitored throughout the process to protect against conditions that could damage the battery.
- NiMH batteries are also cautiously charged by Zebra chargers, taking into consideration the temperature and battery voltage to prevent cell damage. The charger also evaluates the cell condition to determine if it is good or bad.
- Batteries are complex devices designed along with their charger. Using another charger could cause damage, not operate properly, and/or could present a safety hazard! Chargers supplied by other companies, or not approved by Zebra, can have higher charge rates that will result in overcharging and battery damage or degraded battery performance. NEVER use chargers that are not recommended by the battery manufacturer.

### **How long will my battery maintain its charge?**

- Length of charge will vary based on type of usage; however, under normal circumstances, the battery should last about eight hours. Adding a radio option may impact the time between charges.

### **How long is my Zebra battery covered under warranty?**

Mobile printer batteries are warranted to be free of defects in material and workmanship for 90 days from date of purchase. In the event of notification within the warranty period, ZEBRA will replace the defective battery provided there had not been damage resulting from user abuse.





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