

## Chapter 10 Maintenance

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### Introduction

This chapter covers the basic maintenance procedures for charging the terminal's battery and cleaning and storing the terminal to properly protect it from damage.

### Recharging the Terminal's Battery in the Cradle

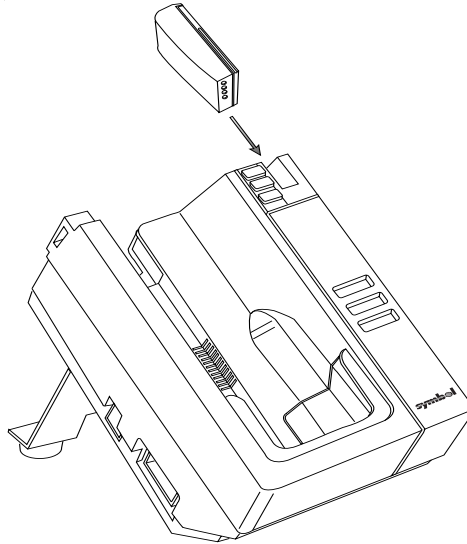
**Note:** Charge the battery fully before attempting to run the terminal from the battery. The cradle cannot fast-charge a terminal and a spare battery pack at the same time. See *Charging the Spare Battery and Terminal in the Cradle* for specific instructions on charging the terminal and spare battery simultaneously.

The rechargeable battery is automatically recharged when the terminal is properly inserted into the cradle. The terminal automatically powers on when inserted in the cradle, provided the necessary software driver has been loaded into the terminal.

1. Place the terminal in the cradle. The cradle's *TERMINAL CHARGE* indicator light turns on or flashes if the terminal is properly inserted and the proper software is loaded. If the light does not turn on or flash, the battery is not charging!
2. Leave the terminal in the cradle for 1.5 hours to recharge a fully-discharged battery. The *TERMINAL CHARGE* indicator light changes to a solid light when the terminal is fully charged.

## Recharging the Battery Pack

1. Insert the battery pack into the charging slot until it is firmly seated on the contacts. The straight edge of the battery pack should be facing outward as shown in Figure 10-1.



**Figure 10-1. Inserting the Battery Pack into the Cradle's Charging Slot**

2. Check the indicator lights to determine the charging status of the battery. A flashing *BATTERY CHARGE* indicator light indicates that the battery pack has a low charge, and should not be used until it is fully charged. This light continues flashing while the battery is being fast-charged.
3. When the *BATTERY CHARGE* indicator light turns to a solid light, the battery pack is fully charged and may be removed from the charging slot. To remove the battery pack from its charging slot, depress the black battery pack release switch and lift the battery pack out of the charging slot.

## Charging the Battery in the Terminal

Prior to using the PPT 41xx for the first time, the NiMH battery pack should be completely charged. To recharge the battery in the terminal:

- Connect the AC adapter (p/n 50-14000-015 or 50-14000-016) to the terminal and plug it into an electrical outlet, as shown above. The terminal's battery is completely charged in 14 hours.
- Place the terminal in the CRD 4100-101x cradle. Provided the appropriate software is loaded, the cradle's *TERMINAL CHARGE* light flashes when the terminal is properly inserted, and continues to flash for approximately 1.5 hours, until the terminal is fully charged. When fully charged, the *TERMINAL CHARGE* indicator light on the cradle turns solid.

## Charging the Spare Battery and Terminal in the Cradle

You may charge a spare battery pack and a terminal in the cradle simultaneously. The cradle can only fast-charge one battery at a time. If the terminal's battery and the spare battery are low, the cradle fast-charges the spare battery first, while trickle-charging the terminal.

A fast charge is indicated by a flashing indicator light, and a trickle charge is indicated by a solid indicator light.

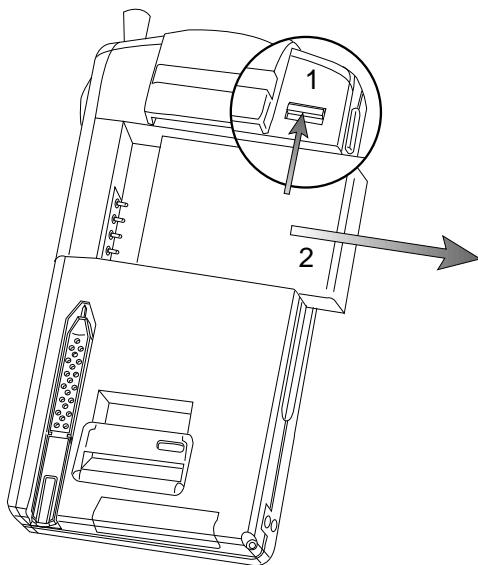
**Note:** A solid *TERMINAL CHARGE* indicator light does not necessarily indicate a fully charged terminal, it may indicate a trickle-charging terminal if a spare battery pack is simultaneously being fast-charged.

## **Charging the Battery Outside of the Terminal**

The battery pack may be charged outside of the PPT 41xx terminal, using the CRD 4100-101X, by removing the battery pack from the back of the terminal (as shown below) and inserting it in the spare battery charging slot on the cradle. The battery pack will be fully recharged in 1.5 hours.

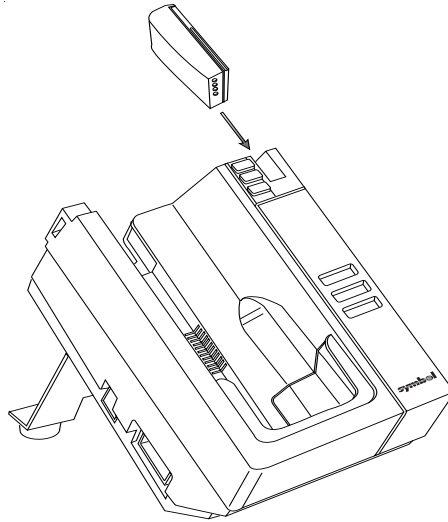
To recharge the battery outside of the terminal:

1. Remove the battery pack by pushing the battery pack release switch on the back of the terminal to release the battery pack as shown in Figure 10-2.



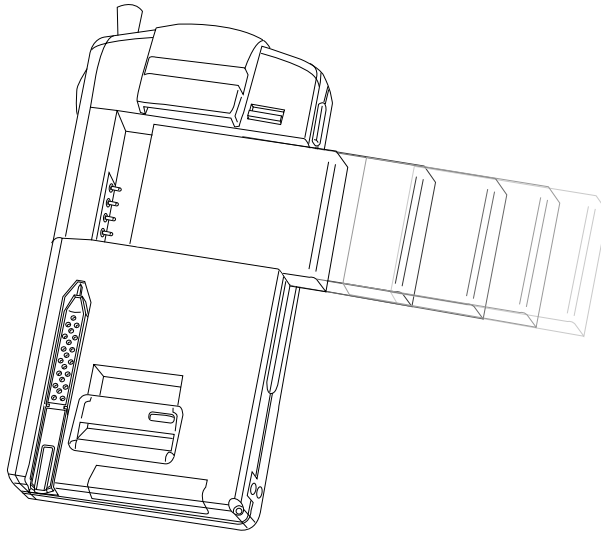
**Figure 10-2. Removing the Battery Pack**

2. Insert the battery pack in the cradles's spare battery charging slot. The battery pack will be fully recharged in 1.5 hours.



**Figure 10-3. Inserting the Battery in the Cradle's Charging Slot**

3. Replace the battery pack into its compartment as shown, making sure that the battery pack release switch catches, and holds the battery pack firmly in place.



**Figure 10-4. Replacing the Battery Pack**

## **The Lithium Back-up Battery**

The PPT 41xx is equipped with a lithium backup battery, which prevents data loss while the main NiMH battery is being changed. The lithium battery is automatically recharged when a fully charged NiMH battery is inserted in the terminal, or when the terminal is inserted in the cradle for charging. It takes approximately 40 hours to fully charge the lithium backup battery.

The lithium backup battery can preserve the contents of data in the terminal while the main NiMH battery is removed for a maximum of 15 minutes. This time may be less if the backup battery is not fully charged. For best results, replace the main battery promptly.

## Environment

The table below summarizes the conditions under which the terminal is intended to operate.

Condition	Range
Operating Temperature	32° to 104° F (0° to 40° C)
Storage Temperature	-4° to 140° F (-20° to 60° C)
Humidity	20 to 95% RH (noncondensing)
Static	15 KV IEC
Shock Rating	Multiple drops (except display face) to tiled floor

**Note:** Batteries lose power faster at extremely high and low temperatures, and at temperatures below 0 °C, the LCD operates slowly.

## Cleaning the Terminal

The PPT 41xx requires a minimum amount of maintenance. However, the terminal should be kept clean to prolong life and avoid problems. To clean the terminal, use a clean, soft cloth dampened with a mild cleanser such as soap and water. Abrasive paper/cloth or abrasive/corrosive cleansers should not be used.

Wipe the entire terminal, avoiding the scanner window.

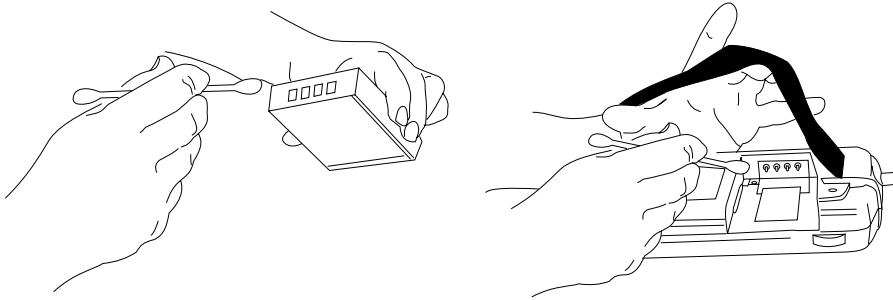
Wipe the scanner window periodically with a lens tissue or other material suitable for cleaning optical material, such as eyeglasses.

### ***Caution***

Do not pour, spray, or spill any liquid directly onto any part of the PPT 41xx terminal or its peripheral devices.

## Cleaning the Battery

The battery contacts on the terminal and on the battery should be cleaned regularly, using a non-residue Isopropyl alcohol-based contact cleaner (non-lubricating) on a cotton swab.



**Figure 10-5. Cleaning the Battery Contacts**

Be sure that the contacts are all dry before inserting the battery into the terminal.

## Storage

If the terminal will not be used for longer than a week, it should be stored in a cool, dry place, away from dust. It is best to remove the battery and repack the terminal in its original shipping container.

If you are storing the terminal for a shorter period of time (a few days), you may leave the batteries in the terminal. However, if the batteries are left in the terminal for an extended time, terminal data may be lost. The NiMH batteries must be kept charged to avoid loss of data.

**Note:** After leaving the terminal without a battery for longer than 20 minutes, you will have to reboot the terminal, and then run `SETUP.COM` to reset the system date and time.