

HX3

Wearable Computer

Microsoft® Windows® CE 5 Operating System

Battery Charger User's Guide

Disclaimer

Honeywell International Inc. ("HII") reserves the right to make changes in specifications and other information contained in this document without prior notice, and the reader should in all cases consult HII to determine whether any such changes have been made. The information in this publication does not represent a commitment on the part of HII.

HII shall not be liable for technical or editorial errors or omissions contained herein; nor for incidental or consequential damages resulting from the furnishing, performance, or use of this material.

This document contains proprietary information that is protected by copyright. All rights are reserved. No part of this document may be photocopied, reproduced, or translated into another language without the prior written consent of HII.

© 2007-2012 Honeywell International Inc. All rights reserved.

Web Address: www.honeywellaidc.com

Microsoft® Windows, ActiveSync®, MSN, Outlook®, Windows Mobile®, the Windows logo, and Windows Media are registered trademarks or trademarks of Microsoft Corporation.

Intel® and Intel XScale® are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Summit Data Communications, the Laird Technologies Logo, the Summit logo, and "Connected. No Matter What" are trademarks of Laird Technologies, Inc.

The Bluetooth® word mark and logos are owned by the Bluetooth SIG, Inc.

Symbol® is a registered trademark of Symbol Technologies. MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M Logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under license.

Wavelink®, the Wavelink logo and tagline, Wavelink Studio™, Avalanche Management Console™, Mobile Manager™, and Mobile Manager Enterprise™ are trademarks of Wavelink Corporation, Kirkland.

Acrobat® Reader © 2012 with express permission from Adobe Systems Incorporated.

Other product names or marks mentioned in this document may be trademarks or registered trademarks of other companies and are the property of their respective owners.

Patents

For patent information, please refer to www.honeywellaidc.com/patents.

Limited Warranty

Refer to www.honeywellaidc.com/warranty_information for your product's warranty information.

Table of Contents

Chapter 1: Introduction	1-1
About this Guide	1-1
Setup Overview	1-1
Cautions and Warnings	1-2
Battery Charger	1-2
Lithium-Ion Battery Pack	1-2
Components	1-3
Battery Charger	1-3
Battery Charging Pocket	1-4
Installation	1-5
Assemble the Power Supply	1-5
Setup	1-6
Charging Batteries	1-7
Inserting a Battery into the Charging Pocket	1-8
Remove the Battery from the Charging Pocket	1-8
Interpreting the Charging Pocket LEDs	1-9
RED Continuous - on any charge pocket	1-9
RED FLASHING - on any charge pocket	1-9
RED FLASHING - on all charge pockets	1-9
GREEN - on any charge pocket	1-9
YELLOW - on any charge pocket	1-9
NO LIGHT - on any charge pocket	1-9
NO LIGHT - on all charge pockets	1-9
Using the Charge/Analyze Pocket	1-10
Begin Analyzing	1-11
Battery Charger Help	1-12
Charger Cleaning, Storage and Service	1-14
Cleaning	1-14
Storage	1-14
Service	1-14
Battery Cleaning, Storage and Service	1-15
Cleaning	1-15
Storage	1-15
Service	1-15
Technical Specifications	1-16
Electrical	1-16
Temperature	1-16

Dimensions.....	1-16
Chapter 2: Set up a Battery Maintenance Routine.....	2-1
Introduction.....	2-1
Extending Battery Life.....	2-1
Self-Discharge.....	2-1
Peripheral Devices.....	2-2
Maintenance Routine.....	2-3
Label the Batteries.....	2-3
A Simple Battery Usage Routine.....	2-4
Sample Log for Battery Maintenance.....	2-5
Chapter 3: Technical Assistance.....	3-1

Chapter 1: Introduction

The HX3 Battery Charger is designed to simultaneously charge six rechargeable Lithium Ion (Li-Ion) battery packs. The time required for charging is dependent upon the battery pack temperature and conditions.

The battery charger should be located in an area where it:

- Is well ventilated.
- Is not in high traffic areas.
- Locates or orients the AC cord so that it will not be stepped on, tripped over or subjected to damage or stress.
- Has enough clearance to allow easy access to the power port on the back of the device.
- Is protected from rain, dust, direct sunlight or inclement weather.

This device is intended for indoor use only and requires an indoor AC power source. The charger is not approved for use in Hazardous Locations.

This device cannot charge/recharge coin cell batteries sealed inside the mobile device, if any.

About this Guide

This HX3 Battery Charger User's Guide is intended to familiarize the user with the safety and operating instructions necessary to use the HX3 Battery Charger (Model HX2A310CHGR6US, HX2A311CHGR6WW) to charge rechargeable lithium-ion battery packs (HX2A301BATTSTD, HX2A302BATTEXT).

This guide should be readily available to all users and maintenance personnel using this battery charger.

Setup Overview

The following instructions are abbreviated and intended to give an overview of the process to be followed.

1. [Assemble](#) the power supply.
2. [Connect](#) the power supply to the charger.
3. [Insert](#) a battery into a charging bay.
4. When the battery is [charging](#), the setup process is complete.

Note: Store the charger and batteries when not in use in a cool, dry, protected place.

Note: Batteries used by the HX3 body worn Voice device are charged, recharged and analyzed using the HX2 labeled battery charger.

Please refer to the HX3 User's Guide for instruction when connecting and removing batteries.

Cautions and Warnings

Battery Charger

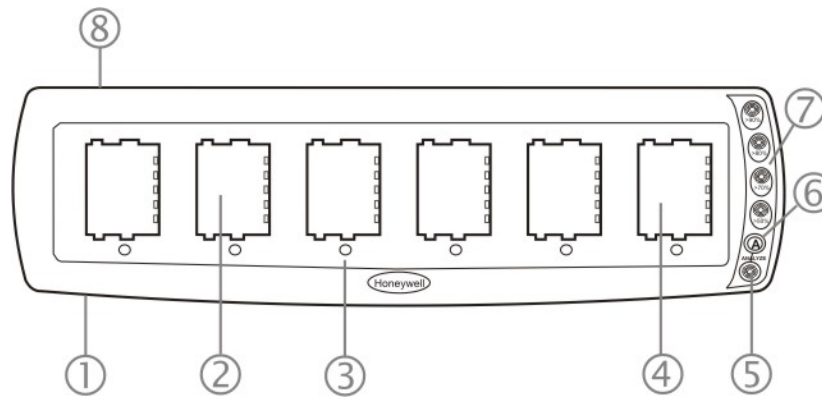
- There is a risk of explosion if the HX3 Li-Ion battery in the charging pocket is replaced by an incorrect type. Other batteries or battery packs may burst causing injury or property damage.
- Do not insert any other type of Li-Ion battery in the HX3 battery charging pocket.
- Do not allow cleaning agents of any kind to contact the battery charging contacts; they may be damaged. If necessary, clean them with a soft-bristle, dry brush or compressed air.
- Disconnect the charger from AC power by pulling the plug; not the cord.
- Use care when inserting battery. Do not "slam" or slide the battery into the pocket, this could damage the charger.
- Keep dirt and foreign objects out of the battery pocket. Do not short circuit any of the contacts in the battery pocket, this could result in injury or property damage.
- Do not disassemble or perform modifications to the charger. There are no user serviceable components in the charger.

Lithium-Ion Battery Pack

- Dispose of used Li-Ion batteries according to the instructions for the type of battery.
- When not in use, lay the battery pack contact-side up in a protected environment.
- Do not store the Li-Ion battery pack in direct sunlight or anywhere the battery pack cannot cool down.
- If the Li-Ion battery pack is hot after removal from the HX3, allow it to cool at room temperature or in a cool air stream before placing it in the charger.
- Do not dispose of Li-Ion batteries into a fire. Burning will generate hazardous vapors and may cause the battery to explode. Failure to observe this warning may result in injury from inhalation of vapors or burns from flying debris.
- Do not immerse Li-Ion batteries in water or any other liquid. If batteries are immersed, contact Honeywell.
- Do not disassemble or perform modifications to the battery. There are no user serviceable components in the battery.
- Do not place the Li-Ion battery into a pocket or toolbox with conductive objects (coins, keys, tools, etc.). A Li-Ion battery placed on damp ground or grass could be electrically shorted.
- Do not store Li-Ion batteries above 140°F (60°C) for extended periods.
- Failure to observe these warnings could result in injury or damage to the battery from rapid discharge of energy or battery overheating.
- Electrolyte Burns. Be careful when handling batteries. If a battery is broken or shows signs of leakage do not attempt to charge it. Dispose of it! Lead and Nickel-based cells contain a chemical solution that burns skin, eyes, etc. Leakage from cells is the only possible way for such exposure to occur. In this event, rinse the affected area thoroughly with water. If the solution contacts the eyes, get immediate medical attention.
- Electrical Burns. Batteries are capable of delivering high currents when accidentally shorted. Accidental shorting can occur when contact is made with jewelry, metal surfaces, conductive tools, etc., making the objects very hot. Never place a charged battery in a pocket or case with keys, coins, or other metal objects.

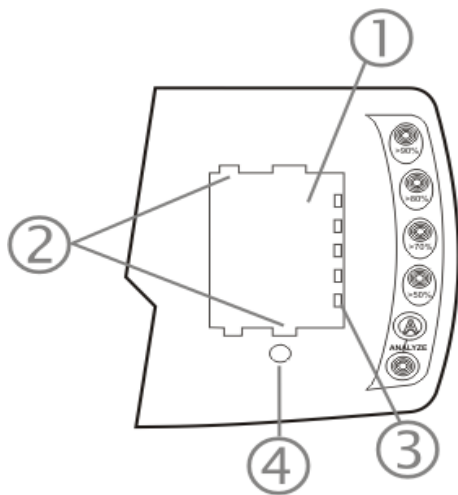
Components

Battery Charger



1. Front
2. Battery Charging Pocket
3. Battery Charge LED Indicator
4. Analyze Pocket
5. Analyze LED
6. Analyze Dome Switch
7. Analyze Progress LEDs
8. AC/DC Power Connector

Battery Charging Pocket



1. Battery Charging Pocket
2. Alignment Ribs
3. Battery Charging Contacts
4. Battery Charge Progress LED

Note: Batteries used by the HX3 body worn Voice device are charged, recharged and analyzed using the HX2 labeled battery charger.

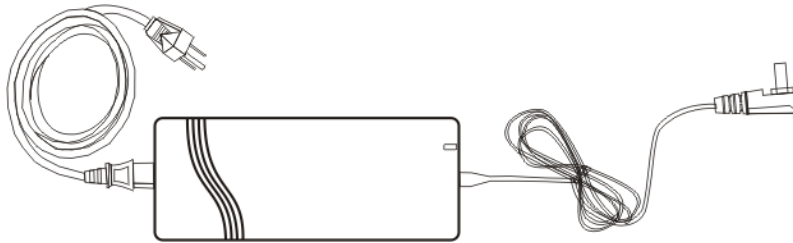
Installation

Assemble the Power Supply

Assemble the AC adapter for the HX3 Battery Charger before connecting it to the charger.

The AC power supply for the battery charger is shipped with the battery charger. Contact [Technical Assistance](#) if there is no AC cable.

The battery charger power supply is intended for use with the HX3 battery charger *only*.



- Plug the 3-prong end of the cable into an AC wall outlet.
- Firmly press the female end of the power cable into the male connector on the AC power adapter. An LED on the power adapter illuminates when AC power is available.
- AC power is now being applied to the power adapter.

Setup

Prerequisite: The AC Adapter is assembled and receiving AC power.

The battery charger should be located in an area where it:

- Is well ventilated.
- Is not in high traffic areas.
- Locates or orients the AC cord so that it will not be stepped on, tripped over or subjected to damage or stress.
- Has enough clearance to allow easy access to the power port on the back of the device.
- Is protected from rain, dust, direct sunlight or inclement weather.

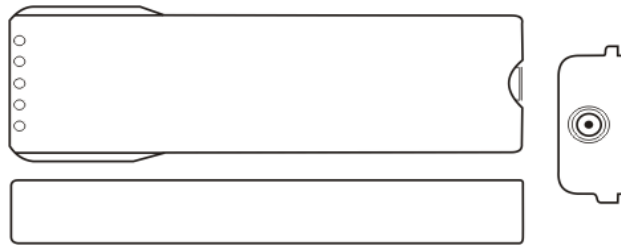
This device is intended for indoor use only and requires an indoor AC power source. The charger is not approved for use in Hazardous Locations.

Place the battery charger on a flat, horizontal, hard surface or fasten securely to a stable surface using the keyhole openings on the bottom of the battery charger.

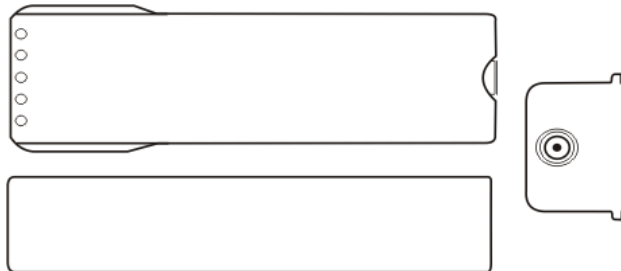
Do not insert battery packs until the battery charger has finished powering up:

- Insert the power connector into the power outlet at the back of the battery charger.
- AC power is now being applied to the battery charger and it begins to power up.
- Charge pocket LEDs flash while the battery charger enters and exits the startup check.
- When the charge pocket LEDs are not illuminated, the battery charger is ready for use.

Charging Batteries



Standard Battery



Extended Battery

New batteries should be charged fully before first use. The life and capacity of a Lithium Ion battery pack can vary significantly depending on the discharge current and the environment in which it is used.

Use the charge function to return the HX3 battery pack to its maximum available power capacity.

Use the analyze function to compare the battery pack's maximum available capacity to the specified capacity. This allows you to determine the battery pack's power loss due to age. As the capacity decreases, the amount of time the battery pack can power a mobile device will decrease.

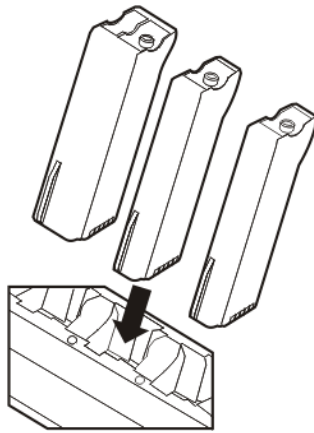
When a battery is placed in a charging pocket, the battery charger begins charging the battery. There is a slight delay while the charger evaluates the condition of the battery (ambient temperature, remaining charge, etc.) before charging begins.

As with all batteries, expect to see a reduction in the total number of operations a fully charged battery pack can deliver as it ages. When the battery reaches end of life (end-of-life occurs after 500 charge/discharge cycles) it must be replaced.

Battery packs do not need to be fully discharged between charge cycles.

While charging, the charger and battery pack will generate enough heat to feel warm. This is normal and does not indicate a problem.

Inserting a Battery into the Charging Pocket



Caution! It is important that battery packs are inserted into the charging pocket correctly. Inserting the battery incorrectly could result in damage to the battery pack or the charger.

Caution! Do not “slam” the battery pack into the charging pocket. Damage may result.

When preparing the battery pack for insertion into the battery charging pocket, hold the battery with the battery charging contacts in line with the charging contacts in the charging pocket.

The alignment ribs on the standard and extended batteries line up and fit snugly with the rib notches in the charging pockets. Both the standard battery pack and extended battery packs fit in all pockets. If the battery will not align with the rib notches, take the battery out, turn it around and insert into the charging pocket again.

Remove the Battery from the Charging Pocket

If necessary, stabilize the charger with one hand before removing a battery from a charging pocket. Grasp the battery firmly and pull it straight up and out of the charging pocket.

Interpreting the Charging Pocket LEDs

The status of the charge operation is indicated by the color of the LED for each charging pocket.

RED Continuous - on any charge pocket

- Continuous red means the battery pack is charging.

RED FLASHING - on any charge pocket

- Battery pack fault or failure.
- Battery analyzer timeout period expired.

RED FLASHING - on all charge pockets

- Battery charger fault or failure.
- Battery analyzer fault or failure.
- Battery pack fault or failure or a battery charger timeout period expiration.

GREEN - on any charge pocket

- Continuous green means the battery pack charge is complete - Battery is Ready.

YELLOW - on any charge pocket

- Continuous yellow / amber means the battery pack temperature is out of range. The charging pocket is in standby mode while the pocket waits for the battery pack to warm up or cool down.

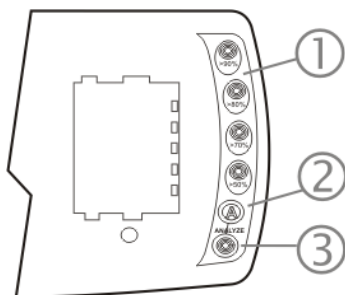
NO LIGHT - on any charge pocket

- No light on a charge pocket means there is no battery pack installed
- or the battery pack in the pocket is not fully inserted
- or a defective or damaged battery pack is installed
- or the charger is defective or damaged. Refer to [Battery Charger Help](#).

NO LIGHT - on all charge pockets

- No light means there is [no AC power](#) available to the battery charger or there is power but there are no batteries in any charging bay.

Using the Charge/Analyze Pocket



1. Analyze/Charge Percentage of Original value
2. Analyze Dome switch
3. Analyze/Charge Pocket LED

The analyze/charge pocket is the one closest to the HX2 battery charger label and the Analyze dome switch. The analyze/charge pocket can be used to:

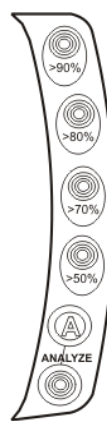
- Charge a standard battery pack in less than four hours.
- Charge an Extended battery pack in less than 8 hours.
- Analyze a standard battery pack, ending with the battery pack fully charged, in less than twelve hours.
- Analyze an extended battery pack, ending with the battery pack fully charged, in less than 32 hours.

Begin Analyzing

Press the **Analyze dome switch** within 15 seconds of inserting the battery in the Analyze pocket to start the Analyze (Charge – Discharge – Charge) process.

If the analyze dome switch is not pressed within 15 seconds, the battery will be charged, but not analyzed.

The Analyze progress LEDs indicate the battery capacity as a percent of the original value. When all LEDs are off, the battery capacity is less than 50%.

	Between 90% and 100%	Between 80% and 90%	Between 70% and 80%	Between 50% and 70%	Less than 50%
>90%	Green	Off	Off	Off	Off
>80%	Green	Green	Off	Off	Off
>70%	Green	Green	Green	Off	Off
>50%	Green	Green	Green	Green	Off
ANALYZE	Green	Green	Green	Green	Off

When the Analyze dome switch has been pressed, the Analyze LED will illuminate Red to indicate that the battery testing has started.

As the analysis proceeds and during the discharge activity, the four progress LEDs at the side of the battery pocket will illuminate in sequence to indicate the capacity of the battery .

The Analyze LED is Green when the process is finished.

The battery is then ready for use provided the capacity is acceptable.

Battery Charger Help

The following is intended as an aid in determining whether the battery pack or the charger may be malfunctioning:

Problem	Cause	Solution
Battery pack does not fit in charging pocket.	Different manufacturer's battery pack, or there is an object in the charging pocket.	Check if the HX3 battery pack has Honeywell part number HX2A301BATTSTD /160289-0001 or HX2A302BATTEXT/160320-0001 on the label. If not, do not use. Remove the object from the charging pocket.
No battery pack in charger, but any of the LEDs are on.	Dirt or foreign objects are in the charging pocket.	Unplug charger from AC supply. Remove any dirt or foreign objects from the charging pocket . If the LEDs continue to remain ON, the charger may be defective. Return charger to an authorized Honeywell service center.
Charger is plugged into a live outlet, battery pack is inserted, but RED LED is OFF and no other LEDs are on, or all LEDs are off.	Battery pack is not making contact with battery charge terminals in the charging pocket.	Push battery pack in firmly . Do not "slam" the battery pack into the charging pocket.
Charger is plugged into a live outlet, battery pack is inserted, but RED LED is OFF and no other LEDs are on, or all LEDs are off.	Faulty battery pack.	Replace battery pack.
Charger is plugged into a live outlet, battery pack is inserted, but RED LED is OFF and no other LEDs are on, or all LEDs are off.	New battery pack, same result.	Contact Technical Assistance for replacement options.
When you first put a fully charged battery pack in the charging pocket, the RED LED comes on, indicating the battery pack is charging.	During the first few minutes, the battery charger checks the battery pack for correct voltage and charge state. During this time the LED is RED and is continuously ON. After charging is complete, the LED is GREEN.	There is nothing wrong with the battery pack or charger. Do not "top off" a fully charged battery pack by repeatedly placing it in the charging pocket. The battery pack may overheat and be damaged.
LED is flashing RED at any pocket.	Current could not be sourced through the battery pack due to age, exhaustion or damage to the cell(s). The battery pack does not communicate with the charger.	Contact Technical Assistance for battery pack replacement options.
LED is flashing RED at any pocket.	The charger's timeout period has expired.	Make sure that the battery pack temperature is within specification and retry charging. Contact Technical Assistance if problem repeats, for battery pack

Problem	Cause	Solution
		replacement options.
LED is flashing RED at any pocket.	The battery pack voltage has not reached 6.0V within 30 minutes and the charger has timed out.	Contact Technical Assistance for battery pack replacement options.
Solid YELLOW / AMBER LED when battery pack is inserted in the charging pocket.	The battery pack is too hot or too cold to charge.	Remove battery pack from the charging pocket and allow it to adjust to room temperature. <i>Note:</i> <i>If the battery pack is left in the charging pocket, it will cool down or warm to a temperature upon which the charger will begin the charge cycle. However, depending on the temperature of the battery, it may take 2-3 hours to adjust. The cool-down / warm-up of a battery pack is much quicker if the battery is not in the charging pocket.</i>

Charger Cleaning, Storage and Service

Cleaning

Unplug the charger from the power source before cleaning or removing debris from charging pockets.

Use only mild detergent with a slightly damp cloth to clean the outside of the charger. Do not use solvents or flammable cleaners. Allow the case to dry fully before using again.

Do not allow cleaning agents of any kind to contact the charging contacts; they may be damaged. If necessary, clean them with a soft-bristle, dry brush or compressed air.

Storage

Remove all batteries from the charging bays and disconnect AC power before placing the charger in storage. It should be stored in a cool, dry place, protected from weather and airborne debris.

Battery packs should be kept in a cool, dry place whenever possible. Do not store battery packs in direct sunlight, on a metal surface, or anywhere the battery pack cannot cool down. Do not leave the battery pack in a non-operating charger. The battery pack may discharge through the charger rather than hold its charge.

Service

There are no user serviceable parts in the Rechargeable Lithium Ion Battery or the Charger. Contact [Technical Assistance](#) should your charger require service.

Battery Cleaning, Storage and Service

Cleaning

The battery pack should not require cleaning unless it has become heavily soiled. Old or damaged batteries should be disposed of promptly and properly. The best way to dispose of used batteries is to recycle them. Battery recycling facilities recover the Nickel, Lithium or Lead from old batteries to manufacture new batteries.

Use only mild detergent with a slightly damp cloth to clean the outside of the battery. Do not use solvents or flammable cleaners. Allow the case to dry fully before using again.

Do not allow cleaning agents of any kind to contact the charging contacts; they may be damaged. If necessary, clean them with a soft-bristle, dry brush or compressed air.

Storage

Battery packs should be stored, charging contact side up, in a cool dry place, protected from weather and airborne debris, whenever possible.

Do not store battery packs in direct sunlight, on a metal surface, or anywhere the battery pack cannot cool down.

Do not leave the battery pack in a non-operating charger. The battery pack may discharge through the charger rather than hold its charge.

Note: Battery packs may leak up to 1 mA current through the battery contacts when left in an unpowered charger pocket.

Service

There are no user serviceable parts in the Lithium Ion Battery Pack. Contact [Technical Assistance](#) for battery disposal and replacement options.

Technical Specifications

Electrical

Note: Battery packs may leak up to 1mA current through the battery contacts when left in an unpowered battery charger charging pocket.

Parameter	Minimum	Maximum	Note
Power Supply Input Voltage (V AC-IN)	100 VAC	240VAC	Auto-switching
Power Supply Input Frequency (freq)	47Hz	63Hz	

Temperature

Function	Minimum	Maximum	Note
Operating	-20°C (-4°F)	+40°C (104°F)	Battery packs will only be charged when their internal temperature is between 10°C (50°F) and 40°C (104°F)
Battery Pack Charging	10°C (50°F)	+40°C (104°F)	Battery packs will not begin charging when their internal temperature is outside this range.
Storage	-20°C (-4°F)	+70°C (160°F)	Unit is off.

Dimensions

Weight	Battery charger: 15 oz / .43 kg (no batteries, no power connection) Power Supply: 10 oz / .28 kg
Length	11.25" (28.57 cm)
Width	4.25" (10.79 cm)
Height	1.70" (4.32 cm)
Plug Type	IEC320 (3 prong, grounded) / barrel connector

Standard: Li-Ion 2000mAh battery with a 500 charge/discharge life cycle

Extended: Li-Ion 4000mAh battery with a 500 charge/discharge life cycle

Chapter 2: Set up a Battery Maintenance Routine

Introduction

The HX3 uses a standard (2000 mAh) or extended (4000 mAh) battery. Minimum battery life is 500 charge/discharge cycles before replacement.

Hand held devices and body worn devices use Lithium Ion (Li-Ion) main battery packs that are lightweight and relatively small. Vehicle mounted mobile devices and vehicle mounted cradles/docks are powered by the vehicle battery.

Extending Battery Life

The life and capacity of a Lithium Ion battery pack can vary significantly depending on the discharge current and the environment in which it is used. Li-Ion battery packs do not need to be fully discharged between charge cycles.

Regardless of the type of battery being used, following are suggestions for extending battery life:

- Immediately replace batteries in mobile devices with the appropriate, fully charged battery when equipment battery warnings are issued, heard or displayed.
- Fully charge a new battery before using.
- Remove batteries from unused units or units that will be unused longer than a day.
- Periodically analyze batteries for maximum capacity.
- Place discharged batteries in a battery charger/analyzer as soon as possible.
- Store batteries in locations that maintain an ambient temperature of approximately 25°C (77°F).
- Recycle defective, shorted or end-of-life batteries.
- Any Lithium-Ion battery that is over a year old is considered an old battery.
- Replace all batteries more than a year old with new batteries.

To determine the age of the battery, check the battery label that shows the manufacturer ship date. The ship date has the year and the month that the battery was shipped. The first field (labeled 1-0) is the year the battery was shipped. The second field (labeled J, F, M, A, etc.) is the month. So if the 8 and the F are punched out, the battery was shipped in February of 2008.

To determine the actual shipping date, use the serial number on the battery label to determine the ship date. Contact [Technical Assistance](#) for help if needed.

Self-Discharge

Batteries should be stored at temperatures close to 25°C (77°F) because higher temperatures cause batteries to self discharge faster than lower temperatures.

All batteries begin self-discharging after receiving a charge. The rate at which the battery self discharges depends on the battery construction, temperature, initial capacity of the battery, and the amount of time that has passed since the battery was charged.

Note: Temperatures significantly above 25°C (77°F) increase the self-discharge rate of all batteries.

Peripheral Devices

Hand-held and vehicle mount devices have ports for the attachment of peripheral devices. A peripheral device might be a bar code decoder, a bar code printer, a keyboard, a mouse or a monitor.

If the peripheral device does not have its own power source, and is designed to draw power from your HX3 battery, be aware that the way you use the peripheral device affects the drain on your battery. Peripheral devices affect your battery life in the following ways:

- The number of peripheral devices you use affects the drain on your batteries.
- The length of time you use peripheral devices affects the drain on your batteries. Using a peripheral device for 6 hours per shift drains your batteries more than using a peripheral device for 4 hours per shift.
- Scanning bad bar code labels with your bar code decoder can increase the drain on your batteries significantly. You should ensure that your bar code labels are in good condition to prevent unnecessary drain.
- Using a heater, if installed, greatly reduces battery life.

Wireless Bluetooth peripherals have their own power source.

Maintenance Routine

Managing your batteries with a battery maintenance routine is intended to ensure:

- You get as much battery life as you can.
- You need fewer batteries per shift.
- Every shift has fully charged batteries.
- There is a battery slot on the charger for each battery at the end of every shift.
- All unused batteries are placed in a charger at the end of every shift.
- The mobile device's backup battery has sufficient capacity to maintain the device, if the main battery fails, until a fully charged main battery can be installed.

As with all batteries, expect to see a reduction in the total number of operations a fully charged battery pack can deliver as it ages. When the battery reaches end-of-life, it must be replaced.

Note: It is not necessary to place unused spare batteries in chargers; lay the battery pack contact-side up in a protected environment.

Label the Batteries

Label batteries with an identification number, symbol, or color. Base the identification scheme on the type of equipment that uses the battery, the type of battery (NiCd, Li-Ion) and, if necessary, the specific charger/analyzer that accepts the battery type.

The outside of the battery charger/analyzer may look the same, but the internal programming and algorithms, as well as the charger cup configuration, are the factors that determine the type of battery that can be maintained in each particular battery charger/analyzer.

Place a blank label, such as a mailing label, on the battery for recording the date and capacity reading (spare batteries too). Do not cover the battery's charging terminals with the label. Record on the battery the date and capacity reading each time it is analyzed, if possible.

Note: You may use a log sheet instead of a label for tracking capacity readings. However, the labels ensure that the necessary information concerning each battery is always with that battery.

A Simple Battery Usage Routine

A color coding routine used for a large or small operation that uses the same kind of battery in all mobile devices:

1. Color code all batteries by shift:
 1. Shift 1 Blue
 2. Shift 2 Red
 3. Shift 3 Green
2. Charge all batteries according to color. For example, all blue coded batteries should be charged during shifts 2 and 3.
3. Users place all used batteries into battery chargers at the end of every shift.
4. Backup batteries: As appropriate, discharge and recharge NiCd backup batteries twice a year.
5. Track battery capacity readings by recording the date of last charge for each battery on the label (or log sheet).

Sample Log for Battery Maintenance

Coin (Backup) Battery Maintenance

Mobile Device HX3
Serial Number (on exterior label)
Placed in Service (Date)
Backup Battery Type Nickel-Cadmium (NiCd)
Power Source HX3 Main Battery

Backup Battery	Shift	Date Discharged	Date Recharged	Final Capacity Reading

HX3 Main Battery

Charger (HX3 Battery Charger)
Charger Identification (Serial Number)
Placed in Service (Date)
Battery Type Lithium Ion
Power Source AC power adapter

Battery Serial Number / Mfr Date on Battery	Shift	Date Charged

Chapter 3: Technical Assistance

If you need assistance installing or troubleshooting your device, please contact us by using one of the methods below:

Knowledge Base: www.hsmknowledgebase.com

Our Knowledge Base provides thousands of immediate solutions. If the Knowledge Base cannot help, our Technical Support Portal (see below) provides an easy way to report your problem or ask your question.

Technical Support Portal: www.hsmsupportportal.com

The Technical Support Portal not only allows you to report your problem, but it also provides immediate solutions to your technical issues by searching our Knowledge Base. With the Portal, you can submit and track your questions online and send and receive attachments.

Web form: www.hsmcontactsupport.com

You can contact our technical support team directly by filling out our online support form. Enter your contact details and the description of the question/problem.

Telephone: www.honeywellaidc.com/locations

For our latest contact information, please check our website at the link above.

Product Service and Repair

Honeywell International Inc. provides service for all of its products through service centers throughout the world. To obtain warranty or non-warranty service, please visit www.honeywellaidc.com and select **Support > Contact Service and Repair** to see your region's instructions on how to obtain a Return Material Authorization number (RMA #). You should do this prior to returning the product.

Limited Warranty

Honeywell International Inc. ("HII") warrants its products to be free from defects in materials and workmanship and to conform to HII's published specifications applicable to the products purchased at the time of shipment. This warranty does not cover any HII product which is (i) improperly installed or used; (ii) damaged by accident or negligence, including failure to follow the proper maintenance, service, and cleaning schedule; or (iii) damaged as a result of (A) modification or alteration by the purchaser or other party, (B) excessive voltage or current supplied to or drawn from the interface connections, (C) static electricity or electro-static discharge, (D) operation under conditions beyond the specified operating parameters, or (E) repair or service of the product by anyone other than HII or its authorized representatives.

This warranty shall extend from the time of shipment for the duration published by HII for the product at the time of purchase ("Warranty Period"). Any defective product must be returned (at purchaser's expense) during the Warranty Period to HII factory or authorized service center for inspection. No product will be accepted by HII without a Return Materials Authorization, which may be obtained by contacting HII. In the event that the product is returned to HII or its authorized service center within the Warranty Period and HII determines to its satisfaction that the product is defective due to defects in materials or workmanship, HII, at its sole option, will either repair or replace the product without charge, except for return shipping to HII.

EXCEPT AS MAY BE OTHERWISE PROVIDED BY APPLICABLE LAW, THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER COVENANTS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, ORAL OR WRITTEN, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

HII'S RESPONSIBILITY AND PURCHASER'S EXCLUSIVE REMEDY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT WITH NEW OR REFURBISHED PARTS. IN NO EVENT

SHALL HII BE LIABLE FOR INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, AND, IN NO EVENT, SHALL ANY LIABILITY OF HII ARISING IN CONNECTION WITH ANY PRODUCT SOLD HEREUNDER (WHETHER SUCH LIABILITY ARISES FROM A CLAIM BASED ON CONTRACT, WARRANTY, TORT, OR OTHERWISE) EXCEED THE ACTUAL AMOUNT PAID TO HII FOR THE PRODUCT. THESE LIMITATIONS ON LIABILITY SHALL REMAIN IN FULL FORCE AND EFFECT EVEN WHEN HII MAY HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH INJURIES, LOSSES, OR DAMAGES. SOME STATES, PROVINCES, OR COUNTRIES DO NOT ALLOW THE EXCLUSION OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

All provisions of this Limited Warranty are separate and severable, which means that if any provision is held invalid and unenforceable, such determination shall not affect the validity of enforceability of the other provisions hereof. Use of any peripherals not provided by the manufacturer may result in damage not covered by this warranty. This includes but is not limited to: cables, power supplies, cradles, and docking stations. HII extends these warranties only to the first end-users of the products. These warranties are non-transferable.

The duration of the limited warranty for the HX3 is 1 year.

The duration of the limited warranty for the HX3 Desktop Cradle is 1 year.

The duration of the limited warranty for the HX3 Battery Charger is 1 year.

The duration of the limited warranty for the HX3 2000mAh Li-Ion and 4000mAh Li-Ion Battery is 6 months.

The duration of the limited warranty for the HX3 Ring Scanner and Ring Imager is 1 year.

The duration of the limited warranty for the HX3 AC power supply and cables is 1 year.

The duration of the limited warranty for the HX3 cables (USB, Serial, Communication, Power) is 1 year.

The duration of the limited warranty for the HX3 fabric accessories (e.g., belt, case, straps) is 90 days.

Honeywell Scanning & Mobility
9680 Old Bailes Road
Fort Mill, SC 29707
www.honeywellaidc.com