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For patent information, please refer to [www.hsmpats.com](http://www.hsmpats.com).

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## Customer Support

If you need assistance installing or troubleshooting your product, contact us by using one of these methods:

**Knowledge Base:** [www.hsmknowledgebase.com](http://www.hsmknowledgebase.com)

Our Knowledge Base provides thousands of immediate solutions. If the Knowledge Base does not help you solve your problem, log into the Technical Support Portal to submit your problem or ask your question.

**Technical Support Portal:** [www.hsmsupportportal.com](http://www.hsmsupportportal.com)

Log into the Technical Support Portal to search our Knowledge Base, submit your problem or question, request a call back, or provide feedback. When filling out one of the forms, provide as much detail as possible. You can even include attachments.

**Telephone:** [www.honeywellaidc.com/locations](http://www.honeywellaidc.com/locations)

For our latest contact information, please check our website.

## Product Service and Repair

Honeywell International Inc. provides service for all of its products through service centers throughout the world. To find your service center, go to [www.honeywellaidc.com](http://www.honeywellaidc.com) and select **Support > Contact Support > Service and Repair**. Contact your service center to obtain a Return Material Authorization number (RMA #) before you return the product.

To obtain warranty or non-warranty service, return your product to Honeywell (postage paid) with a copy of the dated purchase record.

## Media Supplies

Honeywell offers seven certified grades of paper for use in the PrintPAD series of printers. Our certified supplies are guaranteed compatible — this important qualification means that rigorous performance and image life testing have been performed. Quality supplies are key to obtaining optimal image quality and print performance. Quality supplies are also the key to extending the life of the printer. Honeywell strongly recommends using Honeywell Certified Supplies only.

For more information, contact Honeywell at 407.523.5650.

## Maintenance Supplies

We recommend that you follow a regular maintenance schedule using our cleaning card (or cleaning kit when using linerless labels). Honeywell cleaning cards are designed to effectively remove dirt and other contaminants from the thermal printhead, rollers, and paper path...resulting in a clean, crisp image output — every time. Our cleaning kits remove any adhesive residue in addition to dirt and other contaminants.

For more information, contact Honeywell at 407.523.5650.

## Limited Warranty

For warranty information, go to [www.honeywellaidc.com](http://www.honeywellaidc.com) and click **Resources** > **Warranty**.

## Send Feedback

Your feedback is crucial to the continual improvement of our documentation. To provide feedback about this manual, please contact the Technical Communications department directly at [ACSHSMTechnicalCommunications@honeywell.com](mailto:ACSHSMTechnicalCommunications@honeywell.com).

# Agency Approvals



## FCC Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



The manufacturer declares under sole responsibility that this product conforms to the following standards or other normative documents:

- EMC: EN 55022 (2010+AC:2011 Class A)
- EMC: EN 50024 (2010)

Complies with EU directives:

- EMC: 2004/108/EC
- LVD: 2006/95/EC
- ROHS2: 2011/65/EU



UL60950-1; 2nd Edition

CSA C22.2 No. 60950-1?07, 2nd Edition, 2007-03







# 1

## Safety Information

Please read the following safety information prior to setting up or operating your printer.

## Important Safety Requirements

The PrinterPad Series has been carefully designed to provide many years of safe, reliable performance. As with all types of electrical equipment, however, there are a few basic precautions you should take to avoid hurting yourself or damaging the equipment:

- Carefully read the provided installation and operating instructions.
- Read and follow all warning instruction labels on the printer.
- Place the printer on a flat, firm, solid surface.
- Make sure all openings on the printer remain unblocked; never insert anything into the openings or ventilation slots.
- Do not place the printer near a heat source.
- Do not use your printer near water or spill liquid into it.
- Be certain that your power source matches a listed voltage rating for the printer (if unsure, check with your dealer or local utility company).
- Do not place the power cord where it can be stepped on and, if the power cord becomes damaged, immediately replace it.
- If service is required, use only qualified trained technicians to repair your printer.

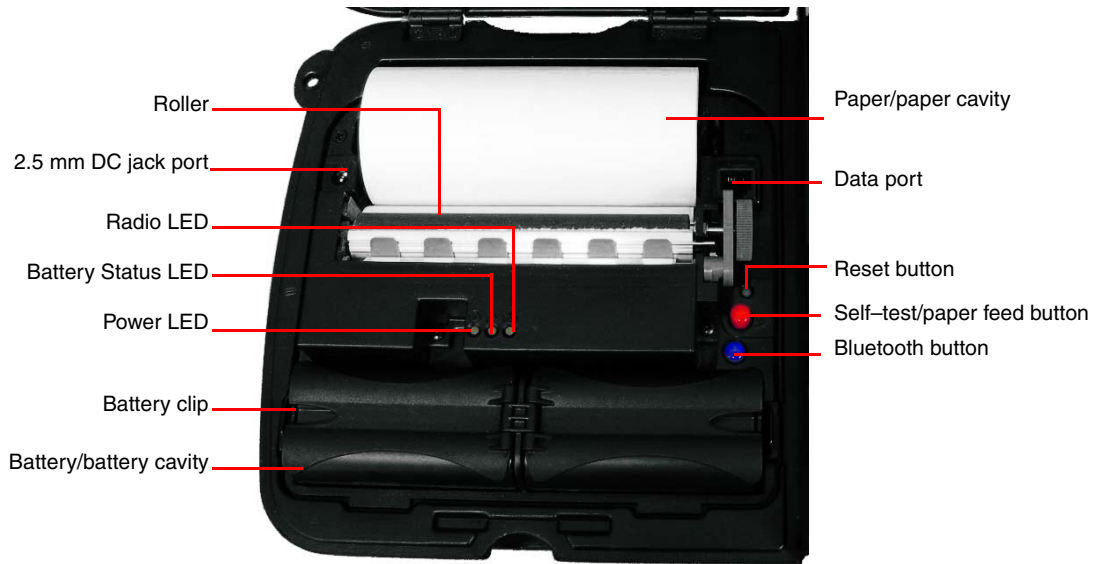
# 2

## Printer Basics

Learn to use the printer basic features, including how to load the media; install, replace and charge the batteries; and perform a test to ensure the printer is operating properly. Also in this chapter, refer to the printer status LEDs and indicators for proper usage and functionality.

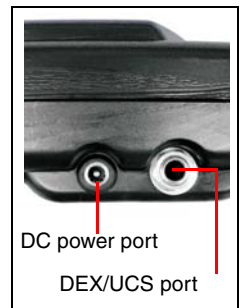
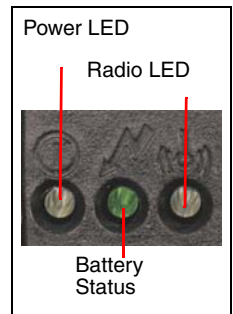
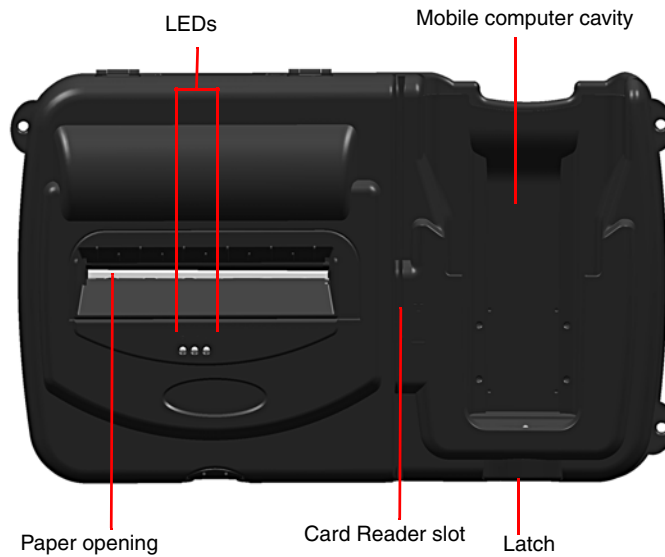
# Printer Component Identification

## Open View



**Open View:** Use this illustration to familiarize yourself with the printer components in the open position.

## Closed View



**Closed View:** Use this illustration to familiarize yourself with the printer components in the closed position.

# Status LEDs and Indicators



*Printer LEDs: Use this illustration to reference the location of the printer LEDs.*

## Power LEDs

Battery LED Status	Description	Action
Red (solid) The battery has less than 5% power.	<ul style="list-style-type: none"> <li>If AC power is not plugged in, the printer will soon turn off.</li> <li>If the AC power is plugged in, the LED flashes and charging is in progress.</li> </ul>	<ul style="list-style-type: none"> <li>Charge the battery.</li> <li>None. Wait for the charge LED to turn green.</li> </ul>
Orange (solid) The battery has less than 25% power.	<ul style="list-style-type: none"> <li>If AC power is not plugged in, the battery charge is low.</li> <li>If AC power is plugged in, the LED flashes and charging is in progress.</li> </ul>	<ul style="list-style-type: none"> <li>Charge the battery.</li> <li>None. Wait for the charge LED to turn green.</li> </ul>
Green (solid) The battery is near or at full capacity	<ul style="list-style-type: none"> <li>If AC power is not plugged in, the battery is well charged.</li> <li>If AC power is plugged in, the LED is solid and charging is complete.</li> </ul>	<ul style="list-style-type: none"> <li>None.</li> </ul>
Red to orange flash – fast	<ul style="list-style-type: none"> <li>Battery voltage is too high.</li> </ul>	<ul style="list-style-type: none"> <li>Replace battery.</li> </ul>
Orange flash – slow	<ul style="list-style-type: none"> <li>Charge has timed out.</li> </ul>	<ul style="list-style-type: none"> <li>Restart battery charge (battery may be bad).</li> </ul>
Orange flash – fast	<ul style="list-style-type: none"> <li>Internal code error.</li> </ul>	<ul style="list-style-type: none"> <li>Remove the battery, then reconnect AC power.</li> </ul>
Orange, red, or green flash – fast	<ul style="list-style-type: none"> <li>When AC power is plugged into the printer's power port, the battery status LED flashes orange, red, or green (depending on the battery status) to indicate the AC adapter is plugged in.</li> </ul>	<ul style="list-style-type: none"> <li>None.</li> </ul>

## Audio Indicators

Beeps	Description	Action
1	Printer wakes up.	None.
2	Out of paper.	Install paper.
3	Low battery.	Charge battery.
1 short	RF power is on (when blue, RF power button is pressed and power was turned off).	None.
2 short	RF power is off (when blue, RF power button is pressed and power was turned on).	None.

**Audio Indicators (continued)**

Beeps	Description	Action
1 long	Boot code is starting or restarting (when downloading new firmware).	Redownload firmware.
8 short	CRC error in firmware.	Redownload firmware.

**Radio LEDs**

LED	Description
Blue flash – slow	RF power is on and printer is asleep.
Blue flash – fast	RF power is on and printer is awake.
Off	RF power is off.

**Power LED**

LED	Description
Off	Printer is asleep.
Red flash	Out of paper.
Green	Printer is awake.

**CardReader Audio Indicators – Magnetic**

Beeps	Description	Action
1 long	Bad read.	Swipe card again.
2 short	Good read.	None.

## How to Use the Batteries

The printer ships with two batteries installed, but they are not operational. Before operating the printer, remove the two red battery isolator labels either by gently pulling the labels out or by lifting the batteries up.

If you are storing your printer for a long period of time or shipping it, reinstall the battery isolator labels. Both batteries must be installed for your printer to operate properly.

## Install and Replace Batteries

- 1 Open the printer by unsnapping the latch on the front of the case.



- 2 Lift the battery cover upward by pushing the retainer clip inward with your finger.



- 3 Lift up the outside end of the battery to remove it.
- 4 Insert the new batteries. Verify the battery contacts are facing down and are facing the outside edge of the printer.



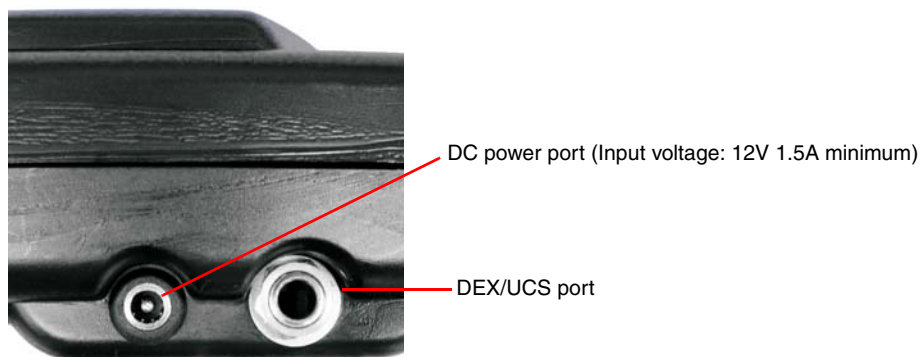
- 5 Close the battery cover by snapping it into place.



## Charge the Batteries and Mobile Computer

If the battery is low when the printer “wakes up,” the printer sounds three short beeps.

- 1 Remove the red battery isolator labels, if necessary.
- 2 Plug the power supply connector into the printer’s external DC power port. The DC power port is located on the side of the printer’s case.



- 3 Plug the adapter into an appropriate power source.

The Charge LED flashes red when charging and flashes green when fully charged. The Charge LED is visible when the printer's lid is open or closed. A complete charge takes approximately 7 to 9 hours.

For more information on Charge LEDs, see “Status LEDs and Indicators” on page 5.



**Note:** To obtain full battery capacity, a new battery must cycle through two to three charges. To restart a charge, unplug the power cord. Wait 30 seconds, then replug the power cord. The mobile computer will charge while power is plugged into the DC power port while properly seated in the mobile computer cavity.



**Do not plug DC power into the internal and external power ports at the same time. Do not plug the DC power supply into the printer if the printer is being charged by means of external charge contacts.**

## Determine Battery Condition

You can determine the relative battery condition by printing a self test. For more information, see “Printing a Self-Test” on page 11. On the printout, “Battery Volt” varies between 6.8 and 8.4 volts.



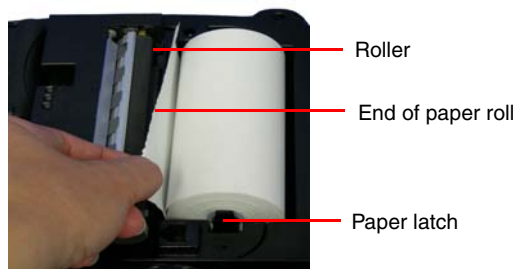
Caution

**There is a risk of explosion if the battery is replaced by an incorrect type. Dispose of the used batteries according to the instructions. The maximum operating temperature of the portable printer is 122 °F (50 °C). However, the operating temperature when used with a Datamax-O’Neil by Honeywell power supply for charging, the portable printer is limited to 104 °F (40 °C). Charge the printer in a suitable location that meets this temperature requirement.**

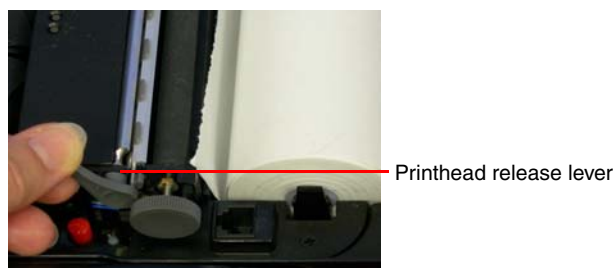
**(For U.S.A./Canada) Use only the Datamax-O’Neil by Honeywell part number 220240-100 power supply with this product.**

## Load the Media

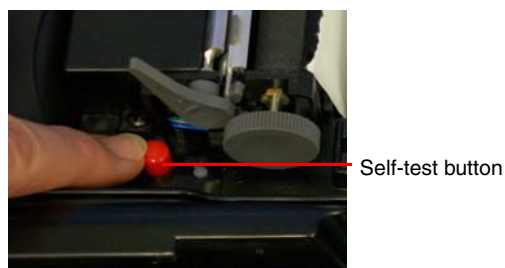
- 1 Press a new roll of paper in the paper cavity. The end of the roll should exit from the bottom of the paper cavity and face the printer's roller. When properly installed, the roll of paper latches into place.



- 2 Raise the printhead release lever until it is fully open. The lever clicks midway at the partially open position; however, do not stop here and continue to raise the lever until it is fully open.



- 3 Wake up the printer by momentarily pressing the red self-test button.



- 4 Feed the end of the paper and center it under the roller until the paper exits from the top of the printhead. The printer has an auto-advance feature that will aid moving the paper through the printer. Verify the paper exits straight.



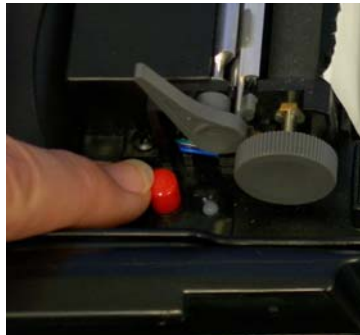
- 5 Lower the printhead release lever.



- 6 Remove any excess paper by grasping the top corner of the paper and pulling it up and away.
- 7 Close and latch the printer's cover.

## Print a Self-Test

- 1 Open the printer's cover.
- 2 Press and hold the red self-test button for 4 to 5 seconds until the printer starts to print.



- 3 After printing starts, release the red self-test button.



# 3

## Printer Configuration

Use this chapter to configure your printer.

## Printer Data Cables

- 1 Select the appropriate cable for use with the host and device you are using.
- 2 Insert the plug into the printer's data port.



**Note:** Do not close the lid or damage will occur to the cable. The data cable is intended for reflashing the printer.

Please note that printer data cables are not included.

## Update Firmware and Drivers

To configure or upgrade the firmware, download the Windows configuration program at [www.honeywellaidc.com](http://www.honeywellaidc.com).

Before using the handheld computer and printer, it is necessary that the appropriate USB driver is installed. To obtain the appropriate driver for the PrintPAD:

### To Install the USB Driver:

- 1 Go to [www.datamax-oneil.com](http://www.datamax-oneil.com) and select **Supports & Download**.
- 2 Select **Downloads and Drivers**.
- 3 Select **PrintPAD Series**.
- 4 Download the **USB-CDC** driver that matches the device operating system (OS).

Install the driver (.cab file) onto the handheld computer.



## Establish a Printer Connection

A printer connection to your host PC must be established before proceeding to setup the parameters of the printer. The connection is established through various options included with the model you are using. Below provides the setup based on your preferred connection type. Once connected, proceed with “MFlash Configuration Utility” on page 18 for adjusting the settings and parameters of the printer.

### Setup Serial Connection

To setup a serial connection, an RJ-11-to-Serial interface cable is required (optional).

- 1 Connect the RJ-11 connector to the PrintPAD printer. The port is located on the top of the printer. The connector should click in-place once secured.
- 2 Connect the serial connector of the cable to your host computer’s serial port or to the DB9 connector of the USB-to-Serial adapter cable. Then plug the USB connector to an available USB port on the host Windows PC. The printer will automatically assign the connection that was setup for the USB-to-Serial adapter.

### Setup USB Connection

To connect the printer via USB connection, an Internet connection may be required. You may also need administrative access rights to your host computer for completing this installation. If you do not have these access rights under your profile, you will need to log off and log in under a profile that has the administrative rights for your host computer.

To connect the printer to the host computer, a USB cable (P/N: 210267-000) is required (optional).

#### **To setup a USB connection on Windows OS 7.0, or later device:**

- 1 Connect the RJ-11 end of the USB cable to the RS-232 port on the printer, then power on the printer.
- 2 Connect the standard USB connector to an available USB port of the host Windows PC. Your host computer should recognize the printer and begin “Adding Device Driver.”
  - If the setup does not start, locate the Devices and Printers section on the Control Panel. Select “Add a Printer.” Once initiated, select the printer model under Datamax-O’Neil Printers.
  - If the model is not located, follow the steps to “Locate Driver thru Windows Update.” Follow the instructions to complete the installation. Once completed, you should see the PrintPAD as an available printer from your host PC.
- 3 The default setting will setup as a “CDC Composite” printer type.

## **Setup Bluetooth Connection**

Power on the printer and confirm that the wireless radio is on.

Follow your host PC for adding a new Bluetooth device.

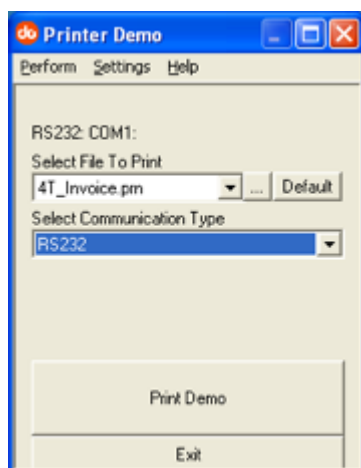
Once connected and connection is established, proceed to “Setup Bluetooth Parameters” on page 20.

## Verify Printer Connection

### Printer Demo Utility

The Printer Demo program is used to verify a connection and to send demo print formats to the printer.

- 1 To download the Printer Demo program, go to [www.datamax-oneil.com](http://www.datamax-oneil.com) and select **Supports & Download > Downloads and Drivers > PrintPAD Series > Utility > Printer Demo**.
- 2 Launch the Printer Demo utility.
- 3 Locate and select a file from the “Select File to Print” dropdown menu.



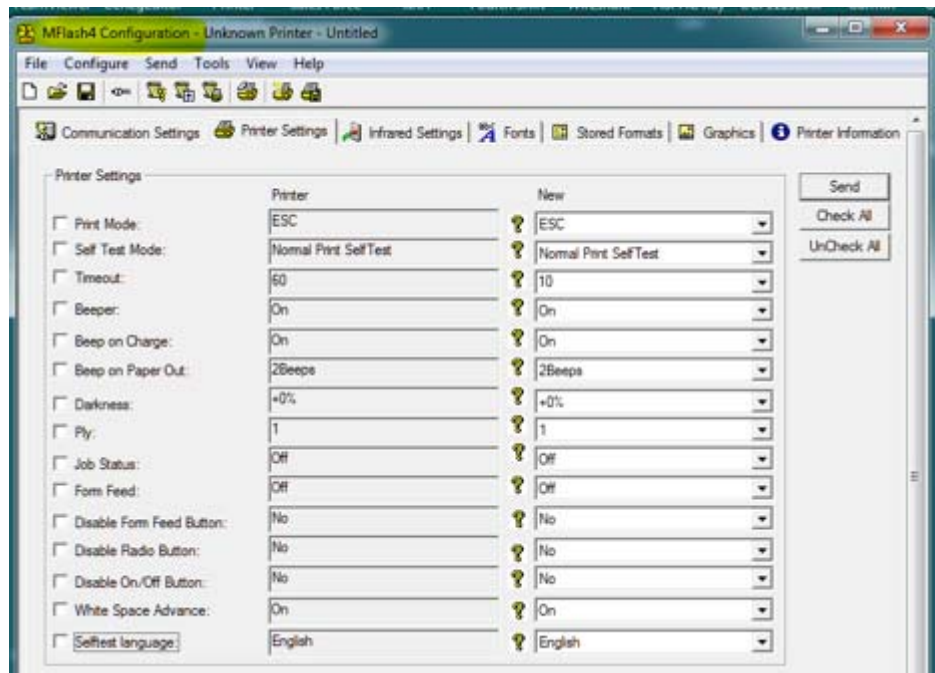
- 4 Select “Settings” to set the communication parameters for the communication type selected.
- 5 Select “Print Demo” to send the file to the printer.

# Update Printer Settings

## MFlash Configuration Utility

The MFlash Configuration utility is used to verify or change printer settings.

- 1 To download the Printer Demo program, go to [www.datamax-oneil.com](http://www.datamax-oneil.com) and select **Supports & Download > Downloads and Drivers > PrintPAD Series > Utility > MFlash Configuration**.
- 2 Launch the MFlash Configuration utility.
- 3 Verify the communication port and query the printer.



## Setup Bluetooth Parameters



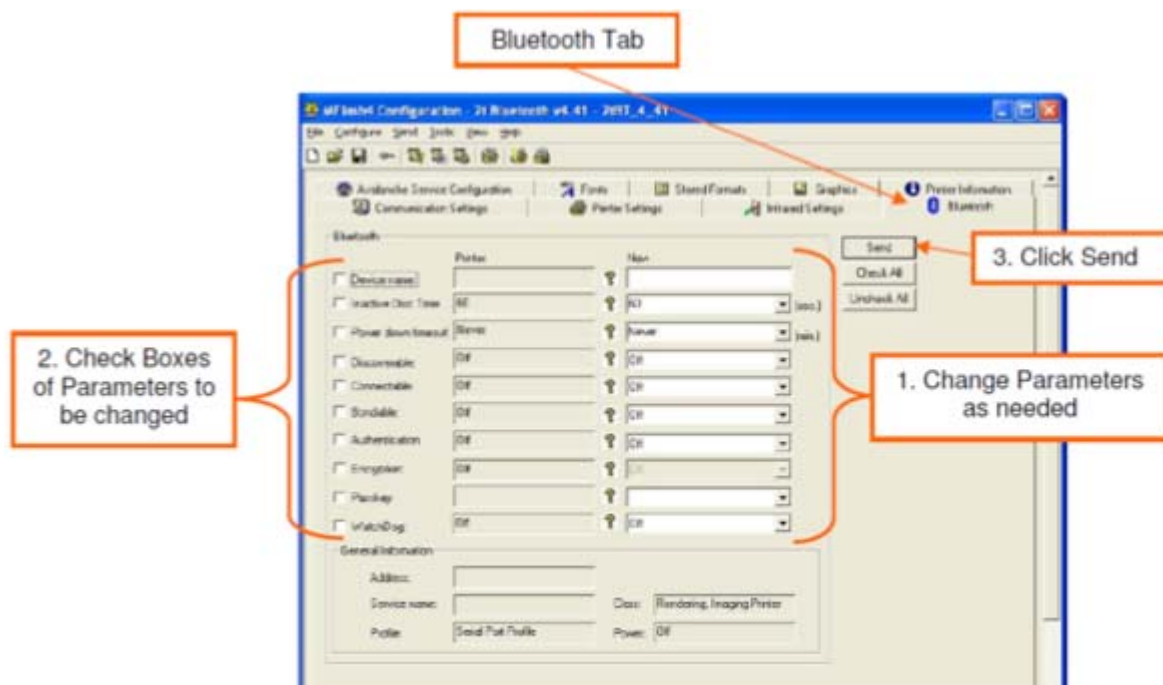
**Note:** The following information applies to printers with Bluetooth capabilities.

Radio printers are configured with the default factory settings. To determine your printer's radio configuration, print a self-test. See "Printing a Self-Test" on page 11. If you have multiple printers, configure them specifically for use in your environment.

For proper system operation, set the following parameters on your printer and host computer.

### Bluetooth Parameters

- Device Name
- Authentication (This must be set to "Yes" for Android devices, and Windows 7 and above host PCs)
- Bondable
- Discoverable
- Connectable
- Encryption



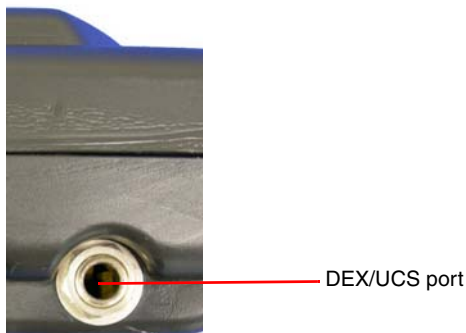
Contact your network administrator to verify the proper radio settings for your environment.

# 4

## Printer Options

Learn to use the optional printer capabilities, including the DEX/UCS port for data transfer, the Magnetic Stripe Card Reader option and the External Charge Contacts option.

## DEX/UCS Port



*DEX/UCS Port: Use this illustration to locate the DEX/UCS port on the printer.*

The direct exchange (DEX)/UCS port can only be used with the Datamax-O'Neil by Honeywell-approved DEX cable (P/N: 210237-xxx).

When the DEX cable is plugged into the data port, the printer automatically turns off to allow data transfer between the mobile computer and the DEX port.

Remove the DEX cable to resume normal connection to the printer.



**Note:** Do not unplug the cable in the middle of the data transfer session. Your application needs to be programmed to communicate in the DEX/UCS language.

# Magnetic Stripe Card Reader



**Note:** The following information applies to printers with the Card Reader option.



*Card Reader in Use*

To wake the Card Reader, insert a card into the Card Reader slot. One short beep indicates the Card Reader and printer are awake.

When using the Magnetic Card Reader, insert a card with the stripe facing away from the printer. The card can be swiped in either direction.

For information on Card Reader LED indicators and audio indicators, see the following table.

### ***Card Reader Indicators – Audio Indicators***

<b>Beeps</b>	<b>Description</b>	<b>Action</b>
1 long	Bad read.	Swipe card again.
2 short	Good read.	None.



## External Charge Contacts



**Note:** The following information applies to printers installed with the external charge capabilities.



*External Charging: External charge-capable printers have two charging contact points located on the back of the printer's case.*

External charge-capable printers can be used with various Datamax-O'Neil by Honeywell accessories, such as the truck mount bracket. When an external charge-capable printer is mounted to one of these accessories, the printer's batteries are automatically charged.

When using with an accessory, verify proper position of printer on external charge contacts. Refer to the status LEDs for proper charging.

For more information, see the instruction sheets included with the accessories.



Warning

**Use of any product not approved by Honeywell for use with their printers could cause damage to the batteries or printer and will void the warranty.**

**Do NOT plug the DC jack power supply into the printer if the printer is being used with an external charging bracket, mount or stand.**

**Failure to observe these instructions or warnings specified in the documentation may result in damage to your printer. Honeywell does not accept liability for resulting damage or injuries.**

# A

## Printer Specifications

# PrintPAD Series

## Technical Specifications: CN70/CN70e/CN51

### Physical Characteristics

Dimensions (H x W x L)	190.5 x 299.7 x 60.9 mm (7.5 x 11.8 x 2.4 in)
Weight	With CN51 handheld: 1.7 kg (60.0 oz) With CN70/70e handheld: 1.9 kg (70.3 oz)
Drop specification	1.8 m (6 ft) tested with handheld

### User Environment

Operating temperature	-20°C to 50°C (-4°F to 122°F)
Storage temperature	-40°C to 70°C (-40° F to 158° F)
Charging temperature	5°C to 40°C (41°F to 104°F)
Relative humidity	10% to 90% non-condensing
ESD protection	8 kV Air, 4 kV contact

### Print Technology

Printerhead	Direct thermal, 8 dots per mm (203 dots per in)
Print width	104.1 mm (4.1 in)
Print mechanism speed	51 mm per second (2 in per second)

### Power Source

Batteries	(2) 7.2V Lithium-ion (Li-ion), 2200 mAh (for a total of 4400 mAh)
DC inputs (for charging only)	External DC jack, 12-15V, built-in spike and surge protection
Endurance	Bluetooth: prints approx. 1,320, 157.5 mm (6.2 in) receipts, or 207.9 mm (8.2 in) receipts on a single battery charge
Printer recharging	7-9 hrs from AC adapter or 12V auto power adapter
Handheld recharging	5 hrs from AC adapter or 12V auto power adapter

### Media

Media type	Direct thermal receipt paper (standard, premium, heavy-duty, long-life, image protect, hi-temp and all-weather), synthetic media, UV-coated media; limited label support
Maximum roll capacity	57.2 mm (2.3 in) O.D.; 10.2 mm (0.4 in) I.D. core
Roll width	112 mm (4.4 in)

### Barcodes/Fonts/Graphics

Memory	2MB RAM / 4MB Flash
Standard Fonts	5.5CPI, 7.2CPI, 10.2 CPI, 10.7CPI, 18.5CPI 20.4CPI, 22.6CPI & 34.0CPI (additional fonts available)
Optional Characters	Arabic, Greek, Hebrew, OCRA, OCRB, Unicode subset, including Latin & Thai; Asian (including Big 5, Simplified Chinese, Korean and Shift JIS) - additional international characters available
Barcodes	Linear: Codabar, Code 39, Code 93, Code 128, EAN-8, EAN13, Interleaved 2 of 5, MSI/Plessey, UCC/EAN-128, UPC-A, UPC-E; 2D symbologies: PDF417, AZTEC, QR, GS1, Datamatrix (available on wireless only)
Graphics	Supports storage of graphics/logos in Flash memory and transient "print once" graphics

**Technical Specifications: CN70/CN70e/CN51****Communication**

Serial	RS-232; up to 460.8 kbps USB: 2.0 (full speed)
Bluetooth	Supported versions: v1.2 (compatible with v1.1 devices)
DEX Port (optional)	DEX/UCS standard

**Software/Firmware**

Protocol	Line Printer Mode, Easy Print®
Drivers	Windows CE and Desktop
Compatible label design software	NiceLabel, BarTender®, DP Designer
Software development kit	C++, Visual Basic, Java, Microsoft Dynamics Configuration Tool





**Honeywell**

[www.honeywellaidc.com](http://www.honeywellaidc.com)

PrintPAD Series CN70/70e &CN51 User Guide

P/N 110287-001