

# PW50

## Workboard Printer



User Guide

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## Document Change Record

This page records changes to this document. The document was originally released as Revision 001.

Version Number	Date	Description of Change
006	4/2013	Added the CN4 and CN4e mobile computers. Updated the card reader topic. Added a warning to the procedure to upgrade firmware. Updated media specifications in Appendix A.
005	6/2012	Added information about the Lexan Cover, an adhesive fanfold media cover.
004	12/2011	Added information for the CN70 and CN70e mobile computers.
003	5/2011	Added information on the testfeed and testprint functions, cleaning pen and cleaning swab accessories, and default error conditions.
002	7/2009	Added information about using the PW50 smart card reader with the CN3 or CK61 mobile computer.



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# Before You Begin

This section provides you with safety information, technical support information, and sources for additional product information.

## Safety Information

Your safety is extremely important. Read and follow all warnings and cautions in this document before handling and operating Intermec equipment. You can be seriously injured, and equipment and data can be damaged if you do not follow the safety warnings and cautions.

This section explains how to identify and understand warnings, cautions, and notes that are in this document.



Warning

**A warning alerts you of an operating procedure, practice, condition, or statement that must be strictly observed to avoid death or serious injury to the persons working on the equipment.**



Caution

**A caution alerts you to an operating procedure, practice, condition, or statement that must be strictly observed to prevent equipment damage or destruction, or corruption or loss of data.**



**Note:** Notes either provide extra information about a topic or contain special instructions for handling a particular condition or set of circumstances.

## **Safety Precautions**

Read and review all warnings and cautions in this manual before connecting the printer.



**Warning**

**Moving parts are exposed when the cover is open. Make sure the cover is closed before you operate the printer.**

**Do not put your fingers inside the print mechanism when the power is on.**

**Ensure that dangerous conditions cannot occur under any circumstances, even for a brief period of time.**

**Observe all safety and accident prevention regulations applicable to your specific region and application.**

**Carefully read the warning text on the envelope before using a cleaning card.**



**Caution**

**Do not spray the printer with water. If you are using a hose to clean the premises in an industrial environment, remove the printer or protect it carefully from spray and moisture.**

**You must implement both hardware and software safety precautions to prevent the possibility of undefined system states.**

**Risk of explosion if battery is replaced by an incorrect type. Use of another battery may present a risk of fire or explosion.**

**The battery may present a fire or chemical burn hazard if mistreated. Do not disassemble the battery, heat above 100 °C (212 °F), or incinerate.**

**Dispose of any used batteries according to the instructions.**



## **Global Services and Support**

### **Warranty Information**

To understand the warranty for your Intermec product, visit the Intermec website at [www.intermec.com](http://www.intermec.com) and click **Support > Returns and Repairs > Warranty**.

Disclaimer of warranties: The sample code included in this document is presented for reference only. The code does not necessarily represent complete, tested programs. The code is provided “as is with all faults.” All warranties are expressly disclaimed, including the implied warranties of merchantability and fitness for a particular purpose.

### **Web Support**

Visit the Intermec website at [www.intermec.com](http://www.intermec.com) to download our current manuals (in PDF).

Visit the Intermec technical knowledge base (Knowledge Central) at [www.intermec.com](http://www.intermec.com) and click **Support > Knowledge Central** to review technical information or to request technical support for your Intermec product.

### **Send Feedback**

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

### **Telephone Support**

In the U.S.A. and Canada, call **1-800-755-5505**.

Outside the U.S.A. and Canada, contact your local Intermec representative. To search for your local representative, from the Intermec website, click **About Us > Contact Us**.

### **Service Location Support**

For the most current listing of service locations, click **Support > Returns and Repairs > Repair Locations**.

## Who Should Read This Manual

This user guide is for the person who is responsible for installing, configuring, and maintaining the PW50 Workboard Printer.

This user guide provides you with information about the features of the PW50, and how to configure, operate, maintain, and troubleshoot the printer.

Before you work with the PW50, you should be familiar with your network and general networking terms, such as IP address.

## Related Documents

The Intermec website at [www.intermec.com](http://www.intermec.com) contains our documents (as .pdf files) that you can download for free.

### To download documents

- 1 Visit the Intermec website at [www.intermec.com](http://www.intermec.com).
- 2 Click the **Products** tab.
- 3 Using the **Products** menu, navigate to your product page. For example, to find the PW50 printer product page, click **Printers and Media** > **Mobile Printers** > **PW50**.
- 4 Click the **Manuals** tab.

If your product does not have its own product page, click **Support** > **Manuals**. Use the **Product Category**, the **Product Family**, and the **Product** to find your documentation.

# 1

## Using the PW50 Workboard Printer

Use this chapter to familiarize yourself with the PW50 Workboard Printer. This chapter contains these sections:

- **Learning About the PW50 Workboard Printer**
- **Using the Batteries**
- **Loading Media**
- **Printing a Testprint**
- **Inserting a Mobile Computer**
- **Using the Card Reader**

# Learning About the PW50 Workboard Printer

The PW50 is a rugged direct thermal receipt printer that is designed for use with these Intermec mobile computers:

- CN3 and CN3e
- CN4 and CN4e
- CK61 and CK61ex
- CN70 and CN70e

The PW50 provides:

- print resolution of 203 dpi.
- print speeds of up to 100 mm per second (4 ips).
- a Bluetooth radio.

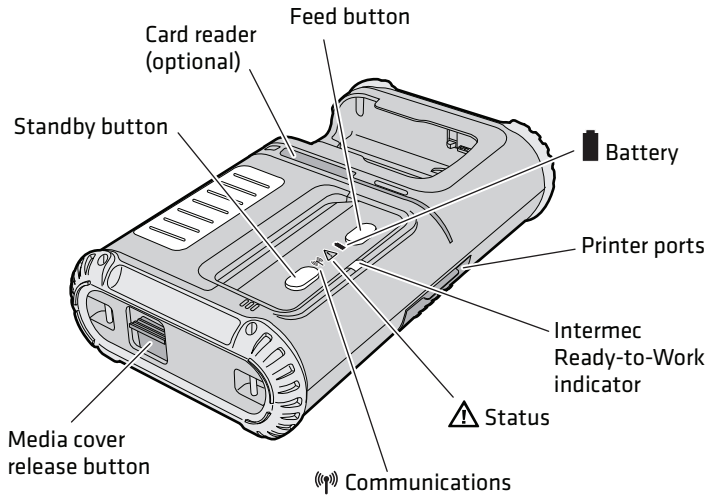
## What's New

This version of the user guide includes these changes:

- Added the CN4 and CN4e mobile computers.
- Updated the section about the optional card reader. See **“Using the Card Reader” on page 14.**
- Added a warning to the firmware upgrade procedure. See **“Upgrading the Firmware” on page 22.**
- Updated the media specifications. See **“Specifications” on page 35.**

## Identifying the Parts of the Printer

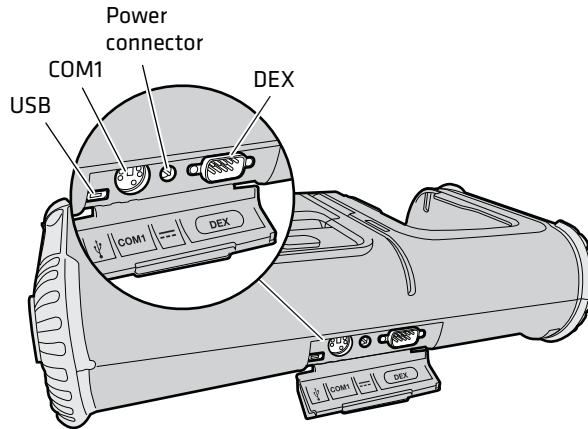
Use this illustration to familiarize yourself with some of the features of the PW50.



**PW50 Printer:** This illustration shows the important features of the PW50 printer. A weather-resistant flap protects the communications ports and the external power connector.


## Understanding the Ports and Optional Card Reader

The PW50 ports are located on the bottom of the printer.



**PW50 Ports:** Use this illustration to familiarize yourself with the PW50 ports.

### PW50 Port Descriptions

Port	Description
USB	Allows USB devices to connect to the PW50.  <b>Note:</b> USB communications are not currently enabled on the PW50. For more information, contact your Intermec sales representative.
COM1	Allows RS-232 devices, such as PCs, to connect to the PW50.
Power connector	Connects the PW50 to an AC power supply.
DEX	Provides support for DEX/UCS (Direct Exchange/Uniform Communication Standard). The DEX port allows two-way electronic transfer of invoice information between a vendor's mobile computer inserted in the PW50 and a store's inventory system.
Card reader (optional)	Reads magnetic stripe cards and smart cards. For more information, see <b>“Using the Card Reader” on page 14.</b>



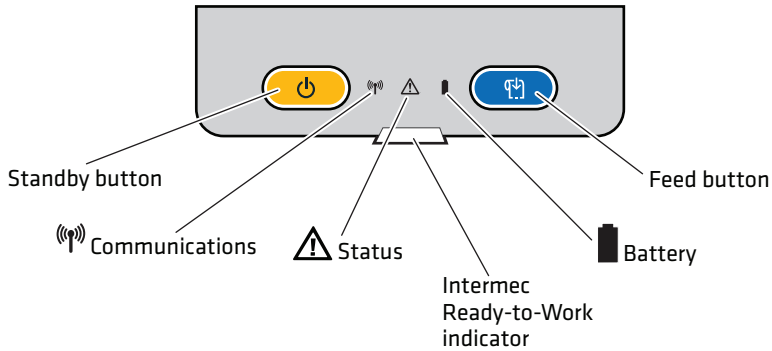
**Note:** To use the DEX port or the card reader, you must insert a mobile computer into the PW50.

## Understanding the Control Panel

The PW50 control panel contains two buttons and four LED indicators. Use the two buttons to perform functions on the PW50 printer.




**Note:** The Intermec Ready-to-Work™ indicator and the Status LED also indicate the status of the printer modes. For more information, see [“Understanding the Printer Modes” on page 23](#).




**PW50 Control Panel:** Use this illustration to familiarize yourself with the buttons and LEDs on the PW50.

### Understanding How to Use the PW50 Buttons

Button	Name	Functions
	Standby (Power)	<p>Press to put the printer in Standby mode. In Standby mode, power to the radio and all communications ports (USB, COM1, and Bluetooth) are turned off.</p> <p>Press to turn the printer back on and put the printer in Ready mode.</p> <p>Press and hold for more than 2 seconds to enable or disable Bluetooth communications.</p>

### Understanding How to Use the PW50 Buttons (continued)

Button	Name	Functions
	Feed	<p>Press to advance receipt paper. The amount of media that feeds depends on the type of media you are using. Media advances by 5 mm (0.2 in) or feeds a configured length of media based on your media and settings.</p> <p>If the printer is printing, pressing this button pauses printing. Press the button again to resume printing.</p> <p>Press and hold the Feed button for 3 seconds to perform a testfeed and register new media.</p>

## Understanding the Printer Sounds

The PW50 plays sounds in response to several actions that you can take with the printer. Use the following table to understand when the sounds occur and what they mean.

### Understanding the Printer Sounds

Sound	Occurs When:
Power	<ul style="list-style-type: none"><li>You insert a battery in the printer.</li><li>The PW50 starts charging the battery.</li><li>You plug in the AC adapter.</li></ul>
Hardware	You open the media door, close the media door, or insert a cable.
Button	You press one of the PW50 buttons.
Error	<ul style="list-style-type: none"><li>The printer cannot feed paper or print a job because of a hardware issue such as the media door open, a paper jam, or there is no media.</li><li>An error occurs such as a paper jam, a print error, or the printer is out of range.</li></ul>

## Using the Batteries

The PW50 uses a rechargeable 2200 mAh lithium-ion battery (Model AB13) for power. You must fully charge the battery before you can use the PW50. When the printer is in Standby mode, a fully charged battery can last up to one week without recharging.





Use only Intermec battery pack Model AB13. Use of incorrect battery may present a risk of fire or explosion. Promptly dispose of used battery pack according to the instructions.



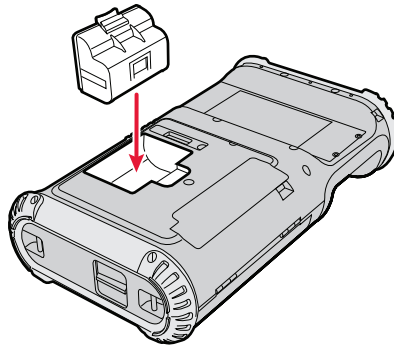
The Model AB13 battery may ignite, create a chemical burn hazard, explode, or release toxic materials if mistreated. Do not incinerate, disassemble, or heat above 100 °C (212 °F). Do not short circuit; may cause burns. Keep away from children.

## Installing the Battery

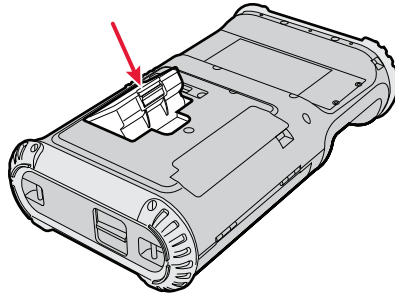
Make sure you fully charge the battery before you use your PW50. You can charge the battery before or after you install it in the PW50.

### To install the battery

- 1 Lay the PW50 upside down on a flat surface.
- 2 Insert the battery with the tab facing away from the front control panel.



- 3 Insert the edge of the battery under the lip of the PW50 and then push down until you hear the battery latch click.



## **Charging the Batteries**

There are two ways to charge the PW50 battery:

- Connect power to the printer while the battery is installed.
- Use the AC18 4-bay battery charger.

For information on charging your battery in the 4-bay battery charger, see the [\*AC18 4-Bay Battery Charger Instructions\*](#).

It takes approximately 6 hours to charge the battery while it is installed in the PW50 printer. To charge the battery inside the PW50, you need these items:

- Intermec 12 VDC power supply (Model AE19)
- AC power cord

### **To charge the battery inside the PW50**

- 1 Install the battery in the PW50. For help, see the previous section, [\*\*“Installing the Battery.”\*\*](#)
- 2 Connect the power supply to the power connector on the printer.
- 3 Connect one end of the power cord to the power supply, and then plug the other end into an AC outlet.

## Extending Battery Life

Here are some tips for extending the overall life of your battery:

- Never expose the battery to direct sunlight or temperatures over 40 °C (104 °F).
- Only charge the battery inside the PW50 using a power supply or in the 4-bay battery charger (Model AC18).

Here are some tips for extending the life of your battery between charges:

- Press the **Standby** button to put the printer in Standby mode.
- Remove the battery from the printer if you are not going to use it for three or more days.
- Do not operate the PW50 in extremely cold temperatures. Using the PW50 in temperatures below freezing reduces the overall battery life.

Remember that any rechargeable battery loses its ability to maintain a charge over time. You can only recharge it a finite number of times before you must replace it.

## Loading Media

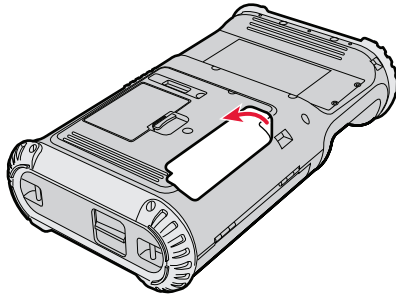
You can use roll or fanfold receipt media with the PW50 printer. The PW50 ships with a small amount of media loaded and a test page printed to verify that the printer works. For information on media specifications, see **“Specifications” on page 36**.



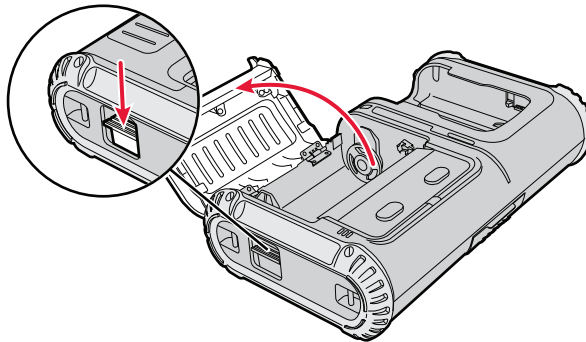
**Note:** The printer ships with an adhesive cover installed over the fanfold media slot. If you are using fanfold media, remove the cover before printing. To return to roll media printing, reinstall or replace the Lexan Cover (P/N PW504-9-067-03).

**To load media**

- 1** If you are using fanfold media:
  - a** On the bottom of the printer, remove the adhesive cover from the fanfold media slot.

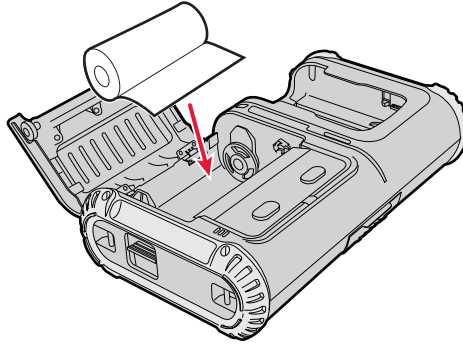


- b** Turn the printer over.
- 2** Press the blue media cover release button to open the cover.

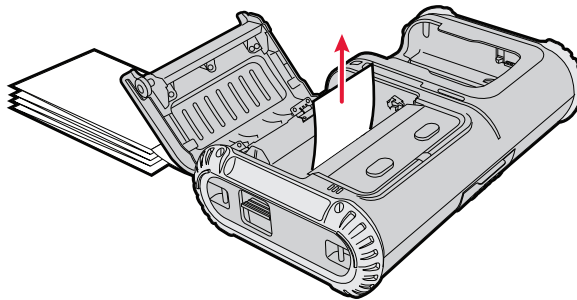


**3** Insert the media.

- If you are using roll media, make sure you load the media counter-clockwise so that it pulls off the core from the bottom of the printer.



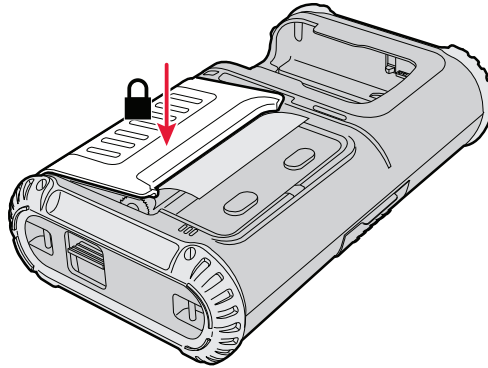
- If you are using fanfold media, feed the media through the fanfold media slot on the bottom of the printer.



**4** Pull out approximately 8 cm (3 in) of the media.

**5** Close the media cover.

- 6 Press down on the cover until it latches. The printer emits the hardware sound to tell you that the media door closed correctly.



- 7 Press the **Feed** button to advance the media.

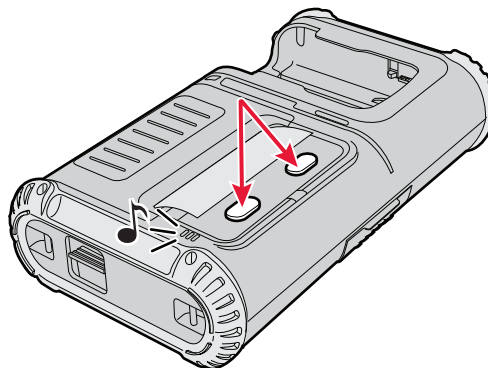
## Printing a Testprint

Before you can use a new printer, or a printer that you reset to factory default settings, you must perform a testfeed. After you load media in the printer, you are ready to print a testprint.

If you cannot get the testprint information to print, see Chapter 3, [“Troubleshooting and Maintaining the PW50.”](#)

### To print a testprint

- 1 Make sure the PW50 is in Standby mode and is loaded with media.
- 2 Press and hold the **Standby** and **Feed** buttons until the PW50 beeps.



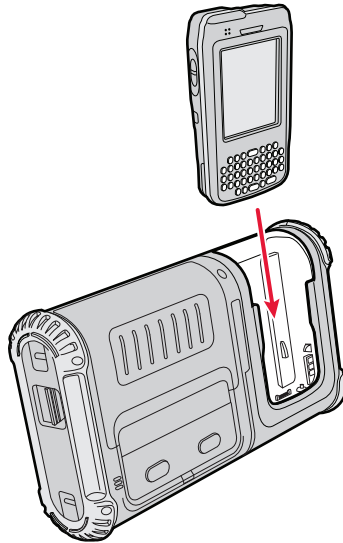
- 3** Release the buttons.
- 4** The PW50 prints a testprint and starts Test Mode. For more information, see **“Understanding Test Mode” on page 24.**

## **Inserting a Mobile Computer**

The PW50 is designed for use with the CN3, CN3e, CN4, CN4e, CK61, CK61ex, CN70, and CN70e mobile computers.

### **To insert a mobile computer**

- Slide the computer into the slot on the PW50 until the computer snaps into place.



***Inserting a CN3 into the PW50***

## Using the Card Reader

The optional card reader reads magnetic stripe cards and smart cards when a CN3, CN4, or CK61 mobile computer is inserted in the PW50. Before you can use the card reader, you need to:

- upgrade the CN3, CN4, or CK61 Windows Operating System (OS) and SmartSystems Platform Bundle (SSPB) to the latest versions.
- take the necessary precautions to ensure PCI (Payment Card Industry) compliance and protect cardholder information. For help, see the next procedure.

### To ensure PCI compliance

- 1 Enable encryption in the data collection application.



**Note:** The applications used to read card information must be certified. Work with a third-party partner to create a certified application. Or, download one of the Intermec Developer Library Resource Kits from [www.intermec.com/idl](http://www.intermec.com/idl), and then visit [www.intermec.com/support/developers\\_forum](http://www.intermec.com/support/developers_forum) to search for topics and information about how to develop a certified application.

- 2 Change the Bluetooth pin from the default value before pairing.
- 3 Make the Bluetooth printer undiscoverable.

## Using the Magnetic Stripe Reader

You can use the magnetic stripe reader to send information encoded on a credit card or driver's license from your printer to your mobile computer.

### To use the magnetic stripe reader

- 1 Insert a CN3, CN4, or CK61 mobile computer in the PW50.
- 2 On your mobile computer, start an application that can read magnetic stripe data.
- 3 Place the readable end of the card against the reader, facing the media compartment.
- 4 Swipe the card through the magnetic stripe reader.



## **Using the Smart Card Reader**

You can use the smart card reader to read cards embedded with a smart card chip. Before you can use the smart card reader, you need to create a custom application that uses Microsoft APIs (application programming interface) to provide low-level interface calls to the reader.

The PW50 smart card reader supports these Microsoft APIs:

- SCardEstablishContext
- SCardLists
- SCardConnect
- SCardTransmit
- SCardDisconnect
- SCardReleaseContext

### **To use the smart card reader**

- 1** Insert a CN3, CN4, or CK61 mobile computer in the PW50.
- 2** On your mobile computer, start an application that can read smart card information.
- 3** Orient the smart card with the chip facing the printer.
- 4** Insert the card into the smart card reader.



# 2

## Configuring the PW50

This chapter describes how to configure the PW50 and contains these sections:

- **Configuring the PW50**
- **Establishing Communications With a Host**
- **Downloading Fonts and Graphics**
- **Upgrading the Firmware**
- **Understanding the Printer Modes**

# Configuring the PW50

To change the PW50 configuration settings, you must send commands from a host PC directly to the PW50 using a communications application and a serial connection.

## To configure the PW50

- 1 Set up serial communications between the PW50 and your host PC. For help, see [“Setting Up Serial Communications” on page 20](#).
- 2 On your host PC, open a communications application, such as HyperTerminal.
- 3 Send ESC/P commands from your host PC to the PW50.

For more information on how to change configuration settings, see the *ESC/P Programmer’s Reference Manual*.

# Establishing Communications With a Host

The PW50 must establish communications with a host that sends the data for the printer to print. The PW50 can communicate with a host using one of these methods:

- Bluetooth radio communications with a CN3, CN3e, CN4, CN4e, CK61, CK61ex, CN70, or CN70e mobile computer inserted in the PW50
- Serial communications through a serial cable

## Setting Up Bluetooth Communications

The PW50 contains a Bluetooth radio that allows wireless communications with a remote device from distances up to 100 meters (approximately 328 feet) depending on the Bluetooth range capabilities of the remote device, environmental conditions, and obstructions. For the Bluetooth-enabled devices to exchange data, both devices must establish a connection. Bluetooth software is always running in the background.



**Note:** To quickly enable or disable Bluetooth communications, press and hold the **Standby** button for more than 2 seconds.

The PW50 cannot initiate a Bluetooth connection. One of the devices, such as a CN3 mobile computer, must request a connection with the printer. The PW50 then accepts or rejects the connection. Use Intermec Settings on the mobile computer to enable the Bluetooth settings on the PW50.

The PW50 can also connect to Bluetooth scanners such as the SF51 and the SR61. You can create the bar code labels you need to connect the printer to a Bluetooth scanner using EasySet software. To create the bar code labels using EasySet, you need the Bluetooth Device Address and the PIN of the PW50. EasySet is a free software available from the Intermec website at [www.intermec.com](http://www.intermec.com).

Each PW50 equipped with a Bluetooth radio has a unique Bluetooth Device Address (BDA) loaded into its module when manufactured. You can find the BDA on the certification label located on the bottom of the printer.

### **To set up Bluetooth communications with a mobile computer**

- 1** Make sure that the PW50 is not connected to a serial cable.
- 2** Follow the procedure to discover and connect to Bluetooth devices in your mobile computer user manual.



**Note:** The default passcode for the PW50 is “1234.” For maximum security, you need to configure a Bluetooth passcode for the PW50. For help, see the previous section, “**Configuring the PW50**” on page 18.

**To set up Bluetooth communications with a scanner**

- 1** Make sure that the PW50 is not connected to a serial cable.
- 2** Download and install EasySet on your host PC.
- 3** Create the following bar code labels using EasySet:
  - Administrator reset factory defaults
  - Bluetooth parameters - security - not active
  - Bluetooth parameters - connect/disconnect - compose BT address
  - Bluetooth parameters - security - compose PIN
- 4** Scan the bar code labels with the Bluetooth scanner.

## **Setting Up Serial Communications**

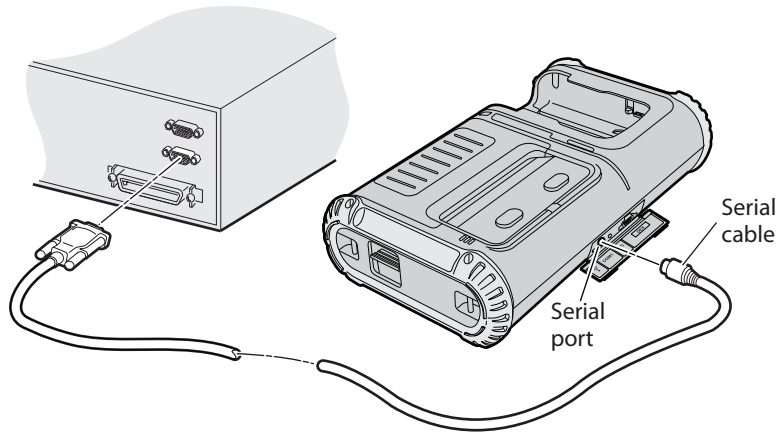
Before you can establish a serial connection, you need to make sure that the settings on the PC match the settings on the PW50.

***Serial Port Default Settings on the PW50***

<b>Parameter</b>	<b>Default Setting</b>
Baud rate	115200
Data bits	8
Parity	None
Stop bits	1
Flow control	Hardware

### To connect the PW50 to a PC

- 1 Connect the 8-pin circular DIN connector on the serial cable (P/N 075497-001) to the serial port on the PW50.
- 2 Connect the other end of the serial cable to a serial port on the back of your PC.



## Downloading Fonts and Graphics

You can download fonts and graphics:

- using PrintSet. You can download PrintSet from the downloads page for the PW50 printer on the Intermec website at [www.intermec.com](http://www.intermec.com). Follow the procedures in the PrintSet online help to download fonts and graphics.
- using ESC/P commands to send files to the printer. For help with commands and information, see the *ESC/P Programmer's Reference Manual*.
- from your mobile computer using files available from the Intermec website. You download a self-extracting cabinet file (.cab) to copy onto your mobile computer. When you double-click the .cab file, the mobile computer sends the files down to the PW50.

### To download fonts and graphics using the .cab file

- 1 Download the PW50 font, graphics, or firmware upgrade .zip file from the Intermec website to your PC.
- 2 Unzip the file on your PC.
- 3 Use an application, such as ActiveSync™ to copy the .cab file onto the root directory of your mobile computer.
- 4 Double-click the .cab file on your mobile computer.

## Upgrading the Firmware

You can download firmware to your PW50 from a host PC using a serial connection. To upgrade your firmware, you need to send a .upg file to the PW50 that follows this format:

```
PW50fxxxx_mmdddy.upg
```

where:

xxxx is the firmware version number.

mm is the month of the firmware release.

dd is the day of the firmware release.

yy is the last two digits of the year of the firmware release.



**When upgrading your firmware, make sure the battery in the printer is fully charged. If the printer loses power during the upgrade, the printer may be permanently damaged.**

### To upgrade your printer using a serial connection

- 1 Establish a serial connection between your PW50 and host PC. For help, see **“Setting Up Serial Communications” on page 20**.
- 2 Use ESC/P commands to send the upgrade file to the printer. For help with ESC/P commands, see the *ESC/P Programmer’s Reference Manual*.

The PW50 starts the upgrade process. During the firmware upgrade, the Intermec Ready-to-Work indicator and the green status LED blink. The PW50 beeps when it is done with the upgrade.



- 3 Print a testprint to verify that your firmware was upgraded correctly. For help, see **“Printing a Testprint” on page 12.**
- 4 Cold boot the PW50. For help, see **“Cold Booting the PW50” on page 31.**

## Understanding the Printer Modes

The PW50 has five modes to help you effectively interact with the printer: Ready, Pause, Error, Test, and Upgrade. Use the following sections to understand the different printer modes.

### Understanding Ready Mode

The printer is in Ready mode when the printer is on and ready to print.

### Understanding Pause Mode

Use Pause mode to momentarily stop printing or to cancel a current print job. Use the **Feed** button to both pause and resume printing.

#### To enter Pause mode

- Press the **Feed** button while the printer is printing.

#### To resume printing

- Press the **Feed** button while the printer is paused.

#### To cancel a print job

- 1 Press the **Feed** button to pause printing.
- 2 Press and hold the **Feed** button to cancel the print job.

### Understanding Error Mode

The printer enters Error mode when it detects an error condition such as a low battery or a paper fault. When the printer is in Error mode, the status LED blinks red.

## Understanding Test Mode

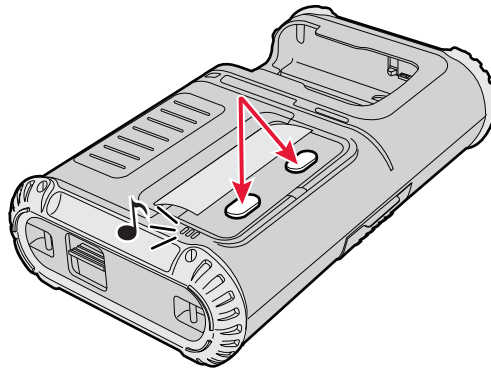
Use Test mode to verify printer settings, print testprints, restore factory default settings, or enter Dump mode for troubleshooting purposes. Two test modes are available: Test mode and Extended Test mode.

### Using Test Mode

Test mode consists of a sequence of events that requires very little interaction. Extended Test mode requires more interaction and lets you choose which actions you want the printer to perform.

#### To enter Test mode

- 1 Make sure the PW50 is in Standby mode and is loaded with media.
- 2 Press and hold the **Standby** and **Feed** buttons until the PW50 beeps.



- 3 Release the buttons. These Test mode events occur.

### Test Mode Events

Event	Indicator
1 The printer performs a test feed (sensor calibration). Media is continuously fed as a series of testprints are printed.	Status LED is steady red
2 The indicator blinks once for each testprint printed.	Intermec Ready-to-Work indicator blinks
3 The printer enters Dump mode. While the printer is in Dump mode, it scans the communication ports. Any characters received on the communication ports are printed.	Intermec Ready-to-Work indicator is on and status LED is steady red

- 4 Press **Feed** to exit Dump mode. When you exit Dump mode, the printer returns to Ready mode.

## Using Extended Test Mode

Use Extended Test mode to run additional diagnostic tests, including printing specific testprints, entering Dump mode, and resetting to factory defaults.

### To enter Extended Test mode

- 1 Make sure that the printer is loaded with media.
- 2 Press the media cover release button to open the media cover.
- 3 Press the **Standby** button to turn the printer off.
- 4 Press and hold the **Standby** and **Feed** buttons until the PW50 beeps.
- 5 Close the media cover. The printer is in Extended Test mode.
- 6 Press the **Standby** button to cycle through the Extended Test mode options.

While the PW50 is in Extended Test mode, the Intermec Ready-to-Work indicator and the Status LED indicate the Extended Test mode option.

### Extended Test Mode Options

Option	Indicator	Description
Test Prints	Intermec Ready-to-Work indicator is on	Allows you to print testprints one at a time. Press the <b>Feed</b> button to print the next testprint.
Dump Mode	Intermec Ready-to-Work indicator is on and status LED is steady red	Enters Dump mode. While the printer is in Dump mode, it scans the communication ports. Any characters received on the communication ports are printed. Press the <b>Feed</b> button to enter Dump mode, and press the <b>Feed</b> button again to exit Dump mode.
Factory Default	Status LED is steady green	Restores the factory default settings.
Exit	Intermec Ready-to-Work indicator is on, status LED is steady red, and status LED is steady green	Exits Extended Test mode. Press the <b>Feed</b> button to exit Extended Test mode.

### To restore the factory default settings

- 1 Press the **Feed** button to enter Factory Default mode.  
The status LED is steady red.
- 2 Press the blue media cover release button to open the media cover.
- 3 Confirm you want to restore the factory default settings.  
The LED is steady green, the factory default settings are restored, and the PW50 reboots.
- 4 Close the media cover.
- 5 Perform a testfeed by holding down the Feed button until the PW50 beeps.

## Understanding Upgrade Mode

The PW50 is in Upgrade mode while it is upgrading firmware. While the PW50 is in Upgrade mode, the Intermec Ready-to-Work indicator and the green status LED blink. For more information about upgrading firmware, see [“Upgrading the Firmware” on page 22](#).

# 3

## Troubleshooting and Maintaining the PW50

This chapter contains information to help you solve problems you may encounter while using the PW50 and contains these sections:

- **Troubleshooting the PW50**
- **Cold Booting the PW50**
- **Cleaning the PW50**

## Troubleshooting the PW50

You may have printer operation, print quality, or printer communication problems at some time during the life of the PW50 printer. It is easy to fix most of the problems and you will find solutions in “**Troubleshooting Printer Problems and Finding Solutions**” on page 29. If you cannot find the answer to your problem, you may need to contact Product Support.

### Contacting Product Support

Before you call Intermec Product Support, you may want to visit the Intermec technical knowledge base (Knowledge Central) at [intermec.custhelp.com](http://intermec.custhelp.com) to review technical information or to request technical support. If you still need help after visiting Knowledge Central, you may need to call Product Support.

To talk to an Intermec Product Support representative in the U.S.A. or Canada, call:

**1-800-755-5505**

Outside the U.S.A. and Canada, go to [www.intermec.com](http://www.intermec.com) and click Contact to find your local Intermec representative.

Before you call Intermec Product Support, make sure you have the following information ready:

- Printer serial number
- Firmware type and version
- Bluetooth or serial port settings

You can find all of the information listed above on a testprint page. For help, see “**Printing a Testprint**” on page 12.

## Understanding Error Messages

Use the following tables to troubleshoot common errors. To receive error messages, you need to turn on the Allow Messages From Printer command. For help, see the *ESC/P Programmer's Reference Manual*.

### **PW50 Error Message Descriptions**

Error Message	Description
Lid_Open	The media cover is open. Close the media cover and press down until it latches. If Lid_Open=Y, the printer detected an error condition and canceled any pending print jobs.
Paper_Out	The printer is out of media. Load a new roll of media. If Lid_Open=Y, the printer detected an error condition and canceled any pending print jobs.
Voltage	This message indicates the power status of the printer: <ul style="list-style-type: none"> <li>• If Voltage=H, the printer is fully powered by either an external power supply or a fully charged battery.</li> <li>• If Voltage=L, the printer has detected a low voltage condition. Connect the printer to external power, or insert a fully charged battery.</li> </ul>

## Troubleshooting Printer Problems and Finding Solutions

Use the following tables to troubleshoot some common problems you may encounter with the PW50 printer.

### **Printer Problems and Possible Solutions**

Problem	Possible Solution
Printer does not turn on when you press <b>Standby</b> .	<ul style="list-style-type: none"> <li>• Replace the battery with a charged battery.</li> <li>• Connect external power to make sure the printer works correctly and to charge the battery.</li> </ul>
Intermec Ready-to-Work™ indicator is blinking.	<ul style="list-style-type: none"> <li>• Make sure that media is loaded, that you have performed a testfeed, and that the media cover is closed. For more information, see <b>“Loading Media” on page 9</b>.</li> <li>• There is a printing error.</li> <li>• The printer is paused. The printer is canceling a print job.</li> </ul>

**Printer Problems and Possible Solutions (continued)**

Problem	Possible Solution
You press the <b>Standby</b> button, but the printer does not enter Standby mode and the Intermec Ready-to-Work indicator starts blinking.	The printhead may be too hot. Wait until the printhead cools down and try again.
You press and hold the <b>Standby</b> button for more than 2 seconds to enable Bluetooth communications, but Bluetooth is not enabled.	The printhead may be too hot. Wait until the printhead cools down and try again.
Printer keeps printing or feeding when it should stop.	Check media settings.
The printout is not in the desired position.	Check for errors in the software application.
The printer is not printing with a Bluetooth connection.	<ul style="list-style-type: none"> <li>• Re-establish a Bluetooth connection with the mobile computer or scanner. For help, see <b>“Setting Up Bluetooth Communications” on page 18</b>, or see your mobile computer user manual.</li> <li>• Make sure the mobile computer can print to a known good printer.</li> <li>• Print a Bluetooth testprint page to make sure that the mobile printer discovered your printer. For help, see <b>“Printing a Testprint” on page 12</b>.</li> <li>• Make sure the printer is in Ready mode.</li> </ul>
When printing, the printer is skipping.	Perform a testfeed by pressing the <b>Feed</b> button until the PW50 beeps.
Printout is faded or weak.	<ul style="list-style-type: none"> <li>• Modify the Set Media Sensitivity command or the Set Dark Adjust command. For help, see the <i>ESC/P Programmer’s Reference Manual</i>.</li> <li>• Check to see if the printhead needs cleaning. For help, see <b>“Cleaning the PW50” on page 32</b>.</li> </ul>



### Printer Problems and Possible Solutions (continued)

Problem	Possible Solution
The battery charge is not lasting as long as it should.	<ul style="list-style-type: none"><li>• Check the battery date. If the battery is a few years old, the shortened life may be due to normal aging.</li><li>• Replace the battery.</li></ul>
The test pages do not print.	<ul style="list-style-type: none"><li>• Make sure that the Intermec Ready-to-Work indicator is not blinking. If it is, make sure your printer has media and that the media cover is closed.</li><li>• Make sure that you can advance media by pressing the <b>Feed</b> button.</li></ul>
Print quality is poor.	<ul style="list-style-type: none"><li>• Clean the printhead. For help, see <a href="#">“Cleaning the PW50” on page 32</a>.</li><li>• Check the battery and charge or replace as necessary. For help, see <a href="#">“Charging the Batteries” on page 8</a>.</li><li>• Check the quality of the media. Use only Intermec media to ensure superior print quality and product performance.</li><li>• Check that the printer is configured to the appropriate Set Media Sensitivity value for the media you are using.</li></ul>

## Troubleshooting Communication Problems

Use Test mode to verify that the printer is receiving data from the host correctly. For help, see [“Understanding Test Mode” on page 24](#).

## Cold Booting the PW50

You rarely need to cold boot the PW50 printer, unless you are upgrading the firmware. If your printer occasionally locks up, you should cold boot it. A cold boot clears the working memory.



**Note:** Performing a cold boot does not change the Setup menu. Your printer retains all of your configuration settings after the printer powers back up.

### To cold boot the PW50

- 1 Disconnect the PW50 from power if externally powered.
- 2 Remove the battery from the PW50 for at least one second.
- 3 Insert the battery back into the PW50.
- 4 Reconnect external power if your PW50 is externally powered.

## Cleaning the PW50

To properly maintain your PW50, you should clean it at the recommended intervals.



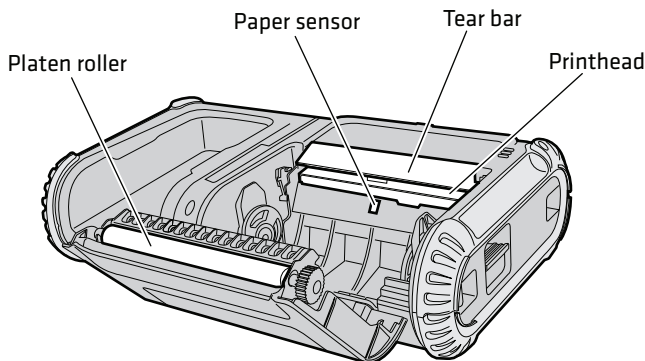
Warning

**To avoid possible personal injury or damage to the printer, never insert any pointed or sharp objects into the printer.**



Caution

**Use only the cleaning tools specified in this section. Intermec is not responsible for damage caused by any other cleaning materials used on this printer.**



**PW50 Workboard Printer:** Identifying the parts of the PW50 to clean regularly.

***Cleaning the PW50 Printer***

<b>Printer Part</b>	<b>Cleaning Method</b>	<b>Cleaning Interval</b>
Platen roller	Rotate the platen roller and clean it thoroughly using a cleaning swab (P/N AE26034).	After every five rolls of media, or more often if necessary.
Paper sensor	Remove buildup and clean thoroughly using a cleaning swab.	After every five rolls of media, or more often if necessary.
Tear bar	Clean thoroughly using a cleaning swab.	As needed.
Printhead	Use the cleaning pen (P/N 757150) or a cleaning swab (P/N AE26034) to remove buildup.	After every five rolls of media, or more often if necessary.
Exterior	Clean with a soft, water-dampened cloth. Abrasive chemicals or materials may damage the exterior.	As needed.
Interior	Brush or air blow. Make sure the paper sensor is free of dust.	After every five rolls of media, or more often if necessary.



# A

## Specifications

# Specifications

## ***Physical Dimensions***

<b>Dimension</b>	<b>Value</b>
Length	32.5 cm (12.8 in)
Width	18.9 cm (7.4 in)
Depth	8.1 cm (3.2 in)
Weight (not including battery and media)	1,465 g (3.2 lb)

## ***Power Specifications***

<b>Specification</b>	<b>Value</b>
AC power adapter voltage	100 to 240 V
Printer voltage	100 V to 240 V and 50 Hz to 60 Hz
Operating power	Rechargeable 16.8 V 2200 mAh lithium-ion battery

## ***Temperature and Humidity Specifications***

<b>Specification</b>	<b>Value</b>
Operating temperature	-20 °C to 50 °C (-4 °F to 122 °F)
Storage temperature	-30 °C to 70 °C (-22 °F to 158 °F)
Charging temperature	0 °C to 45 °C (32 °F to 113 °F)
Relative humidity	0 to 95% non-condensing

## ***Memory***

<b>Memory</b>	<b>Value</b>
RAM	16 MB
Flash	64 MB

***Print Speed and Resolution***

<b>Specification</b>	<b>Value</b>
Print speed	4 ips (100 mm/s)
Resolution	203 dpi (8 dots/mm)

***Print Technology***

<b>Technology</b>	<b>Description</b>
Printhead	Direct thermal
Maximum print width	108 mm (4.25 in)

***Media Specifications***

<b>Media</b>	<b>Value</b>
Core inside diameter, standard	19 mm (0.75 in)
Core inside diameter, with adapter	10.2 mm (0.4 in)
Maximum roll outside diameter	67.3 mm (2.65 in)
Media width, receipt	111.5 mm (4.4 in)
Media length, receipt	Continuous
Media caliper, receipt	0.05 mm (0.002 in) to 0.165 mm (0.0065 in)

When you order printer media, keep these points in mind:

- You can use higher caliper media in the printer, but print quality will be reduced.
- Receipt roll stock media is supplied as a continuous roll and has an end of roll indicator. The end of roll indicator is a red marking (on last 3 feet of roll) on the thermally sensitive side of the paper.

### External Fanfold Media Specifications

Specification	Value
Stack height	70 mm (2.75 in)
Page length	152 mm (6 in) to 305 mm (12 in)



**Note:** A 6-inch page length is supplied in 12-inch long stacks (two 6-inch stacks of equal height with the bottom page linked).

Specialty media is required for unique customer environments, including printer operating temperature extremes. Intermec recommends that you test the media in your application.

### Supported Media

The PW50 printer supports direct thermal receipt media. Receipt media is supported in both a top coated and an uncoated paper in continuous roll stock only.

The default media sensitivity number is 401.

Use the following table as a guide when setting sensitivity numbers for North American receipt media.

### Recommended Media Sensitivity, Constant, Factor, and Print Speed

Sensitivity	Constant	Factor	Description	Max Print Speed
401	45	40	Duratherm TC	4 ips
102	32	40	Duratherm NTC - 2	4 ips
101	30	40	Duratherm NTC	2 ips



# Accessories for the PW50

You can use these accessories (sold and ordered separately) with the PW50 printer. To order accessories, contact your local Intermec sales representative.

## **AB13 Battery**

The AB13 (P/N 318-026-xxx) is a lithium-ion 2200 mAh battery. Use the battery to provide power to the printer.

## **AC18 4-Bay Battery Charger**

Use the AC18 (P/N 852-915-xxx) to charge up to four batteries at a time. The battery charger is designed to sense when a battery is fully charged and not overcharge it, ensuring long and consistent battery life.

## **PW50 Vehicle Mount (Model AV11)**

Use the vehicle mount to attach the PW50 to a truck. There are five versions of the vehicle mount available depending on the mobile computer you are using with the PW50:

- PW50 vehicle mount for the CK61 (P/N 225-767-xxx)
- PW50 vehicle mount for the CN3 or CN4 (P/N 225-756-xxx)
- PW50 vehicle mount for the CN3e or CN4e (P/N 225-766-xxx)
- PW50 vehicle mount for the CN70 (P/N 225-777-xxx)
- PW50 vehicle mount for the CN70e (P/N 225-778-xxx)



**Note:** The PW50 vehicle mount is not recommended for use with the CK61ex.

## **Power Supply (Model 073573)**

Power supply Model 073573 (P/N 851-082-xxx) provides power to the PW50 and the 4-bay battery charger (Model AC18).

## **Power Supply (Model AE19)**

Power supply Model AE19 (P/N 852-082-xxx) provides power to the PW50, the PW50 vehicle mount (Model AV11), and the 4-bay battery charger (Model AC18).

### **Serial Cable**

The serial cable (P/N 075497-001) is an 8-pin DIN to DB9 connector that connects the printer to your desktop PC.

### **USB Cable**

The USB cable (P/N 321-611-102) is a USB-A to USB-Mini B connector that connects the printer to your desktop PC.

### **Handstrap**

Use the handstrap (P/N 825-196-xxx) to conveniently carry your PW50.

### **Shoulder Strap**

Use the shoulder strap (P/N 074788-xxx) to easily carry the PW50 printer. The wide padded strap makes it comfortable to wear the printer for long periods of time.

### **Cleaning Swab**

Use cleaning swabs (P/N AE26034) to clean the platen roller, paper sensor, tear bar, and printhead.

### **Cleaning Pen**

Use the cleaning pen (P/N 757150) to clean the printhead.

### **Lexan Cover**

Use the fanfold media slot cover (P/N PW504-9-067-03) to protect the printer when you are not using fanfold media.





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## PW50 Workboard Printer User Guide



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