Intermec

Quick Start Guide

PB41
4-Inch Belt Printer

Intermec Technologies Corporation

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There are U.S. and foreign patents pending.

Packing List

Check to ensure that you receive these items:

- Intermec® PB41A0B240 (4-inch thermal belt) Printer with Bluetooth radio

OR

- Intermec® PB41A27040 or PB41A27042 (4-inch thermal belt) Printer with 802.11b radio

- One roll of paper (in printer)

- Two Battery Packs (installed)

- Compliance Statement

- Warranty Card

- 802.11b Radio Card (802.11b printer only). Card is packed in a bag taped to the inside of the printer box.
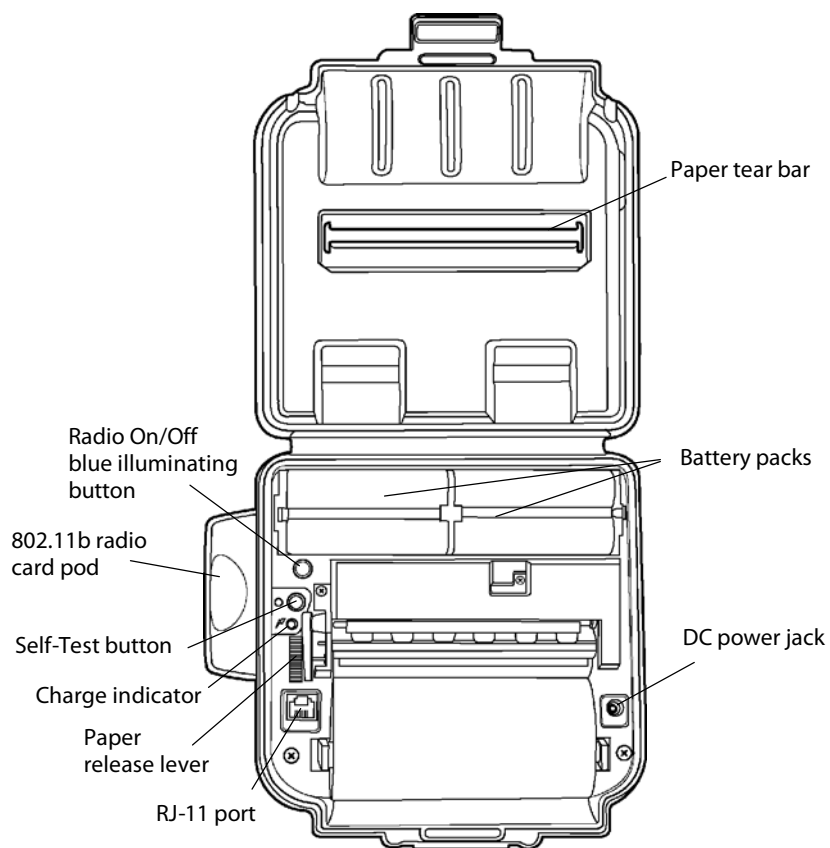
*Bluetooth is a trademark of Bluetooth SIG, Inc., U.S.A.
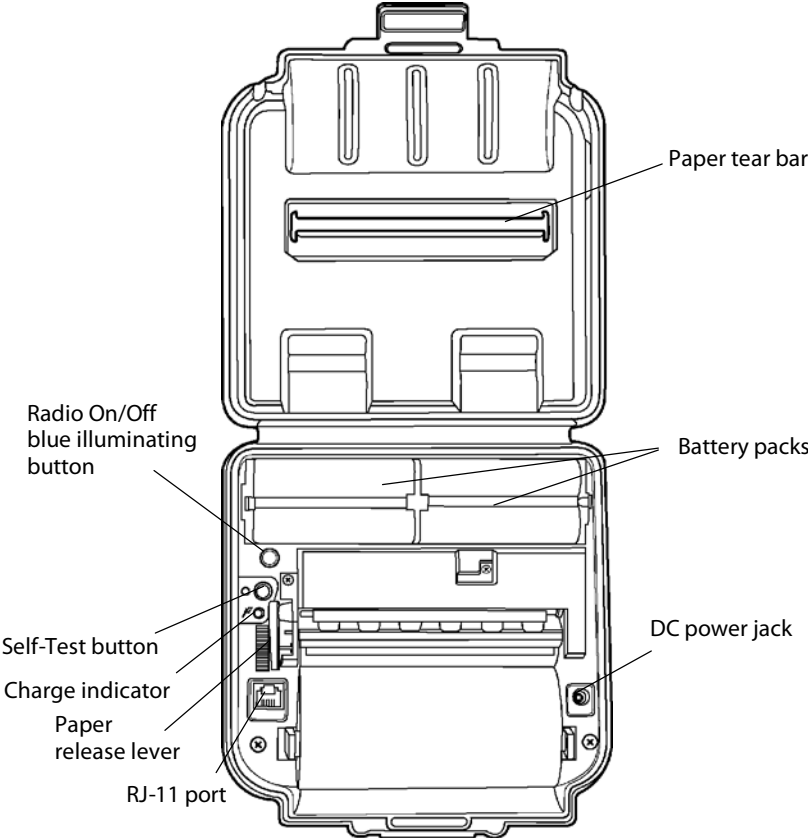
Common Accessories List

Cable	Part Number
Data Cable (Hirose to RJ-11)	321-578-001
Power Adapters	**Part Number**
U.S. AC Adapter, 12 volt DC	320-066-042
English AC Adapter, 12 volt DC	320-066-043
European AC Adapter, 12 volt DC	320-066-044
Australian AC Adapter, 12 volt DC	320-066-045
Cigarette Lighter Adapter, 12 volt	320-066-033
Supplies	**Part Number**
Replacement Li-Ion 7.2V 2200 mAh Battery	320-088-101
Battery Eliminator	851-074-001
Thermal paper 130'/roll, 50/case	320-081-011
4-Inch Cleaning Cards (100 per pack)	320-070-013
Individual Cleaning Card	320-066-013

Getting Familiar with Your PB41 Printer

PB41 Printer with 802.11b Radio Pod

Paper tear bar

Radio On/Off
blue illuminating
button

Battery packs

802.11b radio
card pod

Self-Test button

DC power jack

Charge indicator

Paper
release lever

RJ-11 port

PB41 Printer with Bluetooth Module

Paper tear bar

Radio On/Off
blue illuminating
button

Battery packs

Self-Test button

DC power jack

Charge indicator

Paper
release lever

RJ-11 port

Installing 802.11b Radio Card (if applicable)

Note: This information applies only if you have a PB41 Printer with an 802.11b Radio.

Caution

Before installing the 802.11b Radio Card ensure that the protective battery tab strips are in place or remove the batteries before installing the radio card.

Your PB41 Printer with an 802.11b radio has been configured at the factory. FCC mandates that the radio card not be installed for shipment. The following information guides you through the process of installing the radio card.

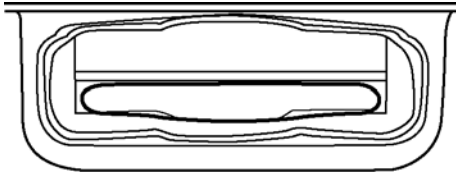The radio card is packed separately in an anti-static plastic bag taped to the inside of the printer box.

1 Remove the radio card cap.
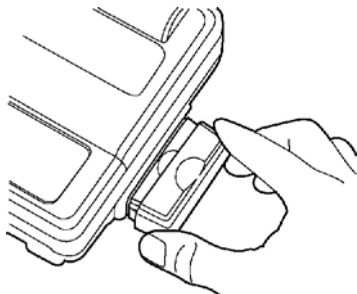
2 With the logo facing down, insert the radio card between the foam and the radio card strap.
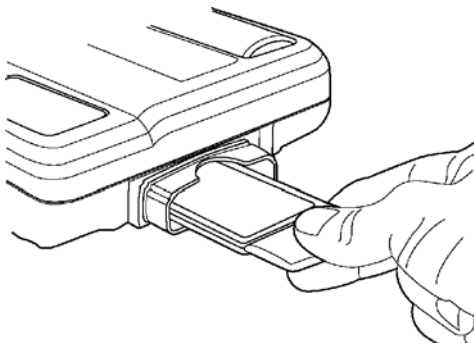
3 Carefully push the card into the connector until it is fully seated.
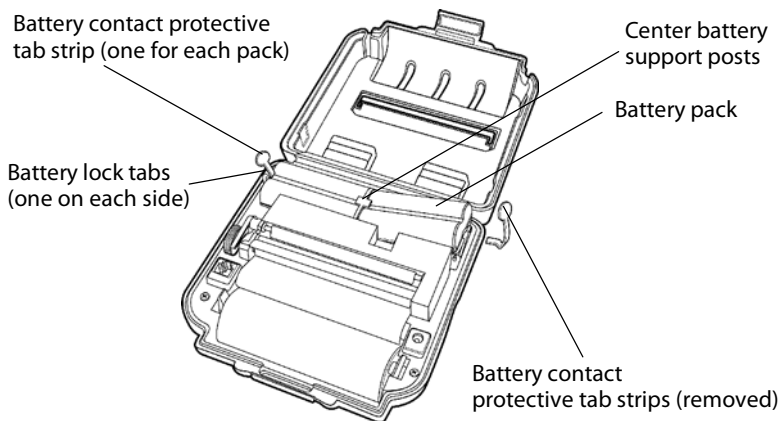

4 Replace the radio card cap.

Before Using Your Printer For The First Time

Remove the protective tab strips underneath the batteries. They are placed there to keep your printer from discharging during shipment.

5 Push against the battery lock tab and lift the battery up before pulling on the protective tab strips. These tabs prevent the battery contacts from touching and therefore, no charging occurs.

6 If your printer won't charge after removing the protective tabs, check for and remove any residue in the battery pin area.

Battery contact protective tab strip (one for each pack)

Center battery support posts

Battery pack

Battery lock tabs (one on each side)

Battery contact protective tab strips (removed)

Charging the Lithium Ion Batteries

- The printer battery charges in about three hours.

LED Battery Indicators

LED	State of Charge	Action
Solid Red	In Progress	Waiting for green LED
Green	Complete	Remove Charger
Slow Red Flashing	Low Temperature or battery is disconnected	Change environment or connect battery
Fast Red Flashing	High Temperature	Change environment
Slow Red and Orange Flashing	Low Voltage	Wait for solid red
Fast Red and Orange Flashing	High Voltage	Wait for solid red
Slow Orange Flashing	Timeout	Restart charge
Fast Orange Flashing	Internal Error	Remove battery to power down completely and reconnect. Or unplug from charging source, wait 15-20 seconds, and reconnect.

Beep Indicator

Number of Beeps	Indicates
One	Printer has come out of sleep mode
Two	Printer is out of paper
Three	Battery is low
One long beep	No program in printer, only boot code
Double beep (chirping sound)	Radio is turning Off
1 short beep	RF power is On (when blue radio button is pressed and power turned Off).
2 short beeps	RF power is off (when blue radio button is pressed and power turned On).
1 long beep	Boot code is starting or restarting (when downloading new firmware).
5 short beeps	Communication error from application. Reset application.

| Number of Beeps	Indicates
8 short beeps	CRC error in firmware. Redownload firmware.
10 short beeps	Error writing to communication controller firmware. Redownload firmware.

Determining Current Battery Power

To determine the current charge on each battery pack, print out a self-test by pressing and holding the red self-test button for four seconds. If the battery is good, you will see the abbreviation for the word "GOOD" next to the Battery voltage (Batt1 or Batt2) print out.

This printer has a built in low battery detector. When the printer's battery voltage is low, the printer beeps three times, indicating a Low Battery Warning. This only happens if the printer is awake.

Printer Self-Test

Push the red button and hold for about four seconds to print a self-test.

Self-Test button
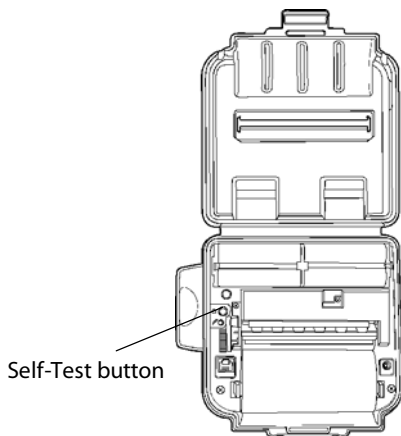
The following is an explanation of the Self-Test print-out.

802.11b Self-Test Print-out Explanation

Test Item	Description
F/W Ver	The internal software version (6.46 or greater)
Timeout	The seconds between printing and sleep mode
RF Timeout	Never
Baud Rate	The speed at which the printer receives data
Parity	Odd, Even, or None
Data Bits	Matches with computer sending data to printer
Handshake	The way the printer handles flow control from host
Burn Adj	Amount of heat used to print on the thermal paper
Beeper	May be turned On or Off
Chrg Beep	May be turned On or Off
Batt1 Volt	Current voltage of the first battery pack
Batt2 Volt	Current voltage of the second battery pack
Printhd Tmp	Temperature of the printer head (between 0 and 50 degrees)
Flash/RAM	1 Mb or 4 Mb Flash/1 Mb or 4 Mb RAM
Boot Ver	Boot sector firmware
ComCtl Ver	Communication Controller Version
802.11b Config	Bar code shows MAC address for 802.11b device; Network Type Ad hoc (opting not to communicate through an access point but instead communicating through other ad hoc printers; Station Name is the specific name for your printer (i.e. serial number); DHCP (Dynamic Host Configuration Protocol) if On this is the only way to determine IP address; IP Ad=> bar code and human readable IP address also shows Subnet Mask, Gateway, and Port addresses; Encryption (open is unsecured, 40-bit or 128-bit encryption enabled) if enabled then Key Selected; Key Selected 1-4 equivalent to a password for your device.
Available Fonts	LOC shows whether a font is Resident (R) or Downloaded (D); CPI shows characters per inch; DESCRIPTION describes the font; Version and DATE of font loads; NAMES give the "Easy Print" name, the Line Printer name, and the hexadecimal equivalent of that name.

802.11b Self-Test Print-out Explanation (continued)

Test Item	Description
Available Graphics	LOC shows whether a font is Resident (R) or Downloaded (D); DESCRIPTION describes the graphic; Version and DATA of graphic program load;NAMES give the "Easy Print" name, the Line Printer name, and the hexadecimal equivalent of that name.
Available Bar Codes	All supported barcodes are displayed. "DE-SCRIPTION" describes the graphic. "NAMES" give the "Easy Print" name, the Line Printer name, and the hexadecimal equivalent of that name.

Bluetooth Self-Test Print-out Explanation

Test Item	Description
F/W Ver	The internal software version (6.46 or greater)
Timeout	The seconds between printing and sleep mode
RF Timeout	Never
Baud Rate	The speed at which the printer receives data
Parity	Odd, Even, or None
Data Bits	Matches with computer sending data to printer
Handshake	The way the printer handles flow control from host
Burn Adj	Amount of heat used to print on the thermal paper
Beeper	May be turned On or Off
Chrg Beep	May be turned On or Off
Batt1 Volt	Current voltage of the first battery pack
Batt2 Volt	Current voltage of the second battery pack
Printhd Tmp	Temperature of the printer head (between 0 and 50 degrees)
Flash/RAM	1 Mb or 4 Mb Flash/1 Mb or 4 Mb RAM
Boot Ver	Boot sector firmware
ComCtl Ver	Communication Controller Version
Bluetooth RF Config	Bar code shows MAC address for Bluetooth device; BT Device Name; BT Service Name; BT Profile; Class of Device; Discoverable; Connectable; Bond-able; Authentication; Encryption; Passkey

Test Item	Description
Available Fonts	LOC shows whether a font is Resident (R) or Downloaded (D); CPI shows characters per inch; DESCRIPTION describes the font; Version and DATE of font loads; NAMES give the "Easy Print" name, the Line Printer name, and the hexadecimal equivalent of that name.
Available Graphics	LOC shows whether a font is Resident (R) or Downloaded (D); DESCRIPTION describes the graphic; Version and DATA of graphic program load;NAMES give the "Easy Print" name, the Line Printer name, and the hexadecimal equivalent of that name.
Available Bar Codes	All supported barcodes are displayed. "DESCRIPTION" describes the graphic. "NAMES" give the "Easy Print" name, the Line Printer name, and the hexadecimal equivalent of that name.

Paper Loading

Out of Paper

The PB41 Printer sounds two quick beeps when it runs out of paper. If the printer is out of paper, the printer suspends operation until paper is present and the lever is down. The printer continues to communicate with the mobile computer as long as it does not "time out." Once the printer restarts, it finishes the rest of the print job from where it left off.

Removing Paper Core from your PB41 Printer
1 Unsnap the latch and lift up the cover.

2 Wrap your index finger around the empty paper core and pull up. The paper rod will snap out.

3 Remove the empty paper core and discard.

Paper Loading

Standard Paper
If you are using standard paper, you can load the paper automatically or manually. Experiment to find out which method is best for you.

Liner'ed Labels

If you are using liner'ed paper, it is best to use the manual paper loading method.

Automatic Paper Loading

1 Press the red self-test button to wake the printer.

2 With the loose, clean edge of the paper coming from the bottom of the roll, insert the edge of the paper between the roller and the platen.

3 Pushing the button again while the printer is awake causes the mechanism to feed about one inch of paper.

4 Insert the paper into the paper well with it resting on the paper rod clips.

Manual Paper Loading

1 Lift up the paper release lever. This takes the pressure off the platen. Make sure you have a clean edge on the new paper roll.

2 Take the edge of the paper and fold it 45 degrees.

3 Insert the tip of the paper between the roller and the platen.

4 Push on the paper until the tip is peeking out the other side. (If it seems too tight to insert the tip, lift up the paper release lever and turn the gear to advance the paper).

**5** Grab the tip and pull it through until the paper is straight.
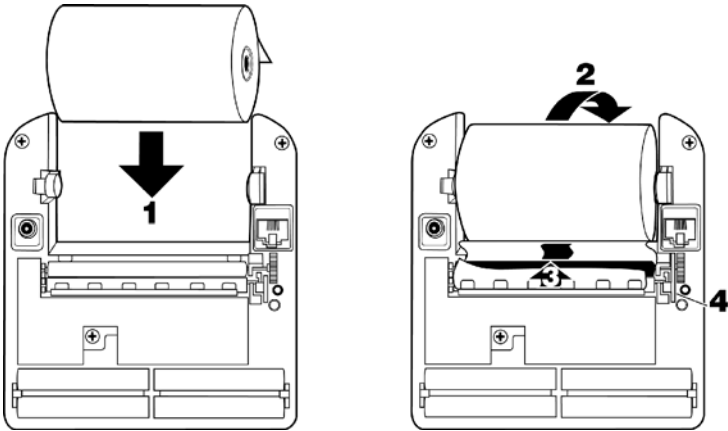
6 Push down the paper release lever and insert the paper into the paper well with it resting in the paper rod clips.

7 Press the red button while the printer is on and it will feed paper. You will need about two inches of paper coming out of the mechanism.

8 Lower the cover while placing the extra paper though the tear bar.

9 Close Latch Cover and tear off extra paper.

Turning the Radio ON and OFF

1 To turn the radio on, push the blue illuminating button, or plug the serial cable into the printer.

• You can tell the radio is on when the light is ON and the radio is off when the light is OFF.

• The blue illuminating button does a slow flash or blink when the radio is ON and the printer controller is asleep.

• The blue illuminating button flashes or blinks at a faster rate when the radio is ON and the printer controller is awake. You may hear a single beep when the printer is ready to print.

Note: Once the radio is turned ON, the radio stays "ON" and also always stays in the "listen" mode. When the radio is turned "OFF", the radio shuts down and the printer becomes a serial printer.

Radio On/Off blue illuminating button
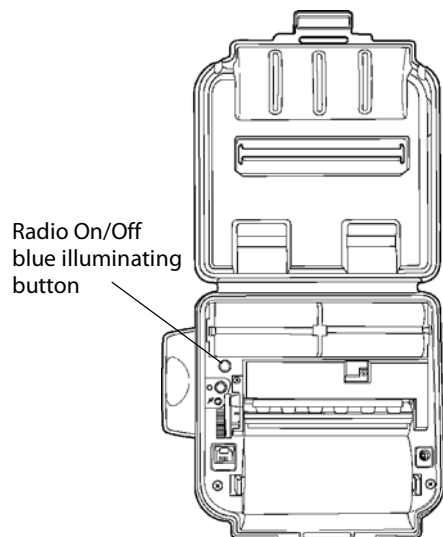
2 To turn the radio off push the blue illuminating button again.

• Pressing the blue illuminating button to turn the radio off you will hear a double beep (sounds like a chirp).

Replacing A Battery Pack

⚠️ **Caution** **Use only the battery pack designed for your PB41 Printer. Use only the Intermec 2200 mAh Li-Ion battery p/n 320-088-101. Using any other battery may present a risk of fire or explosion. The battery used in your PB41 Printer may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 212°F (100°C), or incinerate.**

1 Open the cover and push the battery lock tabs away while lifting up the battery. The battery pack fits very tightly so it takes some effort to remove them.

2 Insert the new battery by putting the non contact area of the battery in first towards the center.

3 Push down on the battery near the battery lock tabs. Ensure that the battery is completely seated and tab fits over the top of the battery.

4 Charge the new battery.

5 Properly dispose of the old battery and keep batteries away from children.

Battery lock tabs (one on each side)

Center battery support posts
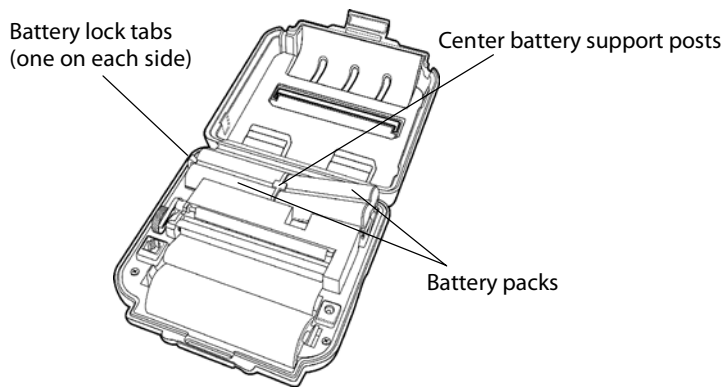
Battery packs

PB41 Battery Eliminator

The PB41 Battery Eliminator was designed exclusively for the PB41 Printer. This device removes the need to have the battery packs in your printer. The Battery Eliminator allows the PB41 to accept power from either an AC or DC source.

A typical installation would have the PB41 Printer mounted in a vehicle and the Battery Eliminator receiving power from the vehicle battery.

In scenarios where portability is not required, the Battery Eliminator saves you from purchasing printer batteries. The Battery Eliminator removes temperature concerns when charging or using your printer with battery packs.

Installing the Battery Eliminator

1 Remove the battery packs from your printer.

2 Install the Battery Eliminator into one of the battery pack slots.

3 Connect the Battery Eliminator cable to the In-line Adapter cable (p/n: 852-052-102).

4 Connect the In-line Adapter to the Truck Power Cable (p/n: 206-875-xxx). The Truck Power Cable installs to your vehicle battery and is routed into the cab of your vehicle.

In-line Adapter

Connects to truck power cable

Battery Eliminator
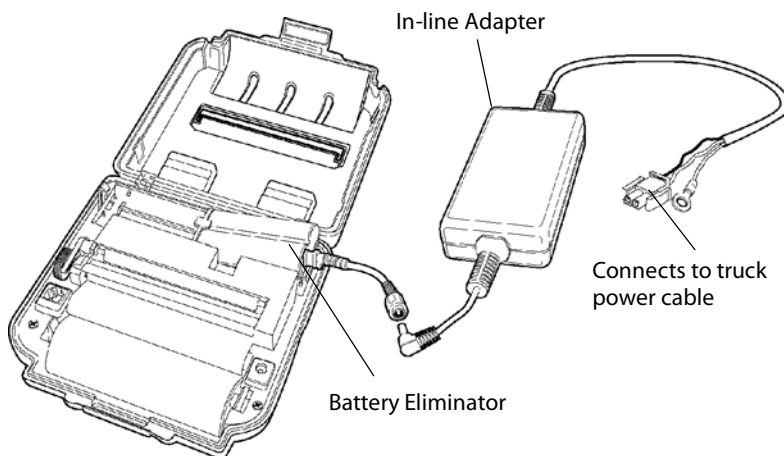
Using Your Printer with Serial Connection

1 Attach the Mobile Computer to Printer cable.

2 As you use the printer the power comes from the battery in the printer. When the printer battery runs down the printer will not operate until the battery is recharged.

PB41 Printer using Wireless Printing

Serial/Wireless Mode

Your printer comes to you as a serial mode printer. To switch the mode to Wireless Printing it is necessary to press the blue illuminating button on the printer.

Printer Self-Test

1 Press the **Paper Advance** (red) button for at least five seconds to run a Self-Test. Verify that the RF Module Power is On.

- This means you will be holding it long enough to hear the beep and complete a paper advance.

- The self-test indicates the current state (802.11 or Bluetooth) for your printer.

> **Note:** When shipping your printer via air freight, turn the wireless printing mode off and set to serial so that the radio is not enabled.

Mobile Computer Preparation

Refer to the Bluetooth setup instructions included in your mobile computer documentation.

Maintenance and Troubleshooting

Cleaning the Interior

Dirt, adhesive, and residue collect on the print head of the printer and need to be removed. Clean your printer once a month if you use it frequently, or once every three months if used infrequently.

Cleaning the Exterior

When the outside of your portable printer needs cleaning, use a soft cloth and mild cleanser if necessary. Do not use abrasive

cleanser, chemicals or scrubbing pads, as your printer's finish could become marked.

Troubleshooting

Paper Loading Problems

If the paper feed mechanism does not feed correctly on the first part of a new paper roll, remove two to three feet of paper from the outside of the roll. The length of paper rolls can vary by as much as five feet, making the roll too thick for the printer to accommodate.

If the printer is out of paper (or the paper release lever is in the up position) this condition interrupts a batch of receipts, and the printer suspends operation until the condition is fixed. The printer continues to communicate with the mobile computer as long as it does not "time out."

Once the printer is operational, the suspended print batch (if any) continues to print, ensuring that all receipts are properly printed.

Not Printing

1 Print a self-test. If the self-test will not print, check battery voltage by plugging the printer into a wall outlet using the AC adapter. Repeat the self-test, and check the Battery Voltage print out. Charge battery if necessary or replace.

> **Note**: If the battery is depleted, it may take 5-10 minutes of charging before the printer can print a self-test.

2 Make sure the paper is properly installed (with lever closed).

3 Turn the print head knob to ensure that paper is not jammed.

4 Check cable connections. Make sure the modular connector is inserted and clipped in.

5 Check to see if your cable has been damaged by excessive pulling. A cable may also be damaged if it is bent at sharp angles.

6 Use only the recommended battery pack for the printer.

7 Printer will not print on wrong side of paper. Re-load if necessary.

Print Roller Appears Dirty

Extended use in dirty environments and linered label printing can cause the print head to become dirty or sticky. We offer two cleaning options, a roller cleaning kit or individual cleaning cards. These are available through our Supply Sales department (1-800-255-6292).

Print is too Light

If you are not getting satisfactory darkness, connect your printer to the personal computer containing your Configuration Program and click on the **Paper Options** button. Adjust the Darkness setting to a higher percentage until the print is dark and crisp. Refer to the *Intermec Portable Printers Technical Reference Manual* (p/n: 978-018-001) *Section 4* for more details.

Charging Problems

Using an AC Adapter

If the printer does not respond when it is connected to an AC adapter, there could be a problem with the adapter or with the wall outlet.

> **Note:** If the battery is depleted, it may take 5-10 minutes of charging before the printer can print a self-test.

Using a Cigarette Lighter Adapter

If the printer does not respond when it is connected to a cigarette lighter adapter, it is possible that the fuse may be blown. To check, remove the cigarette lighter adapter from all power supplies and unscrew the cover over the pin. Pull out the fuse. If the elements in the fuse appear broken, replace the fuse.

Specifications

Printer Specifications

Item	Spec Detail
Dimension	7.12 x 6.60 x 3.25 in. 167 x 172 x 85.5 mm)
Weight	22.88 oz.(652 g) with battery and paper. 33.88 oz (969 g)with two batteries and paper
Print Method	Direct Thermal
Paper Medium	Thermal paper
Paper Width	4.4 inch (112 mm)
Operating Temperature	-4°F to +122°F (-20°C to +50°C)
Interface	RS-232C, 6-pin modular data jack Flash re-programmable configurable settings. Downloadable fonts and barcodes
Characters	Full IBM and international character sets
Protocol	Easy Print Protocol for Bar Codes, Stored Graphics, Rotated Fonts.
Power	2200 mAh Li Ion cell pack
Bluetooth	Infineon Bluetooth, internal antenna, Class II, ROK104
802.11b	Cisco Aironent 350 Series
Warranty	One year, includes print head. Extended warranty available.

Global Services and Support

Warranty Information

To understand the warranty for your Intermec product, visit the Intermec web site at http://www.intermec.com and click **Service & Support**. The Intermec Global Sales & Service page appears. From the **Service & Support** menu, move your pointer over **Support**, and then click **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 web site at http://www.intermec.com to download our current manuals in PDF format. To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

Visit the Intermec technical knowledge base (Knowledge Central) at http://intermec.custhelp.com to review technical information or to request technical support for your Intermec product.

Telephone Support

These services are available from Intermec Technologies Corporation.

Service	Description	In the U.S.A. and Canada call 1-800-755-5505 and choose this option
Factory Repair and On-site Repair	Request a return authorization number for authorized service center repair, or request an on-site repair technician.	1
Technical Support	Get technical support on your Intermec product.	2
Service Contract Status	Inquire about an existing contract, renew a contract, or ask invoicing questions.	3
Schedule Site Surveys or Installations	Schedule a site survey, or request a product or system installation.	4
Ordering Products	Talk to sales administration, place an order, or check the status of your order.	5

Outside the U.S.A. and Canada, contact your local Intermec representative. To search for your local representative, from the Intermec web site, click **Contact**.

Wi Fi™
CERTIFIED   This product with an IEEE 802.11b radio installed is Wi-Fi certified for interoperability with other 802.11b wireless LAN devices.

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