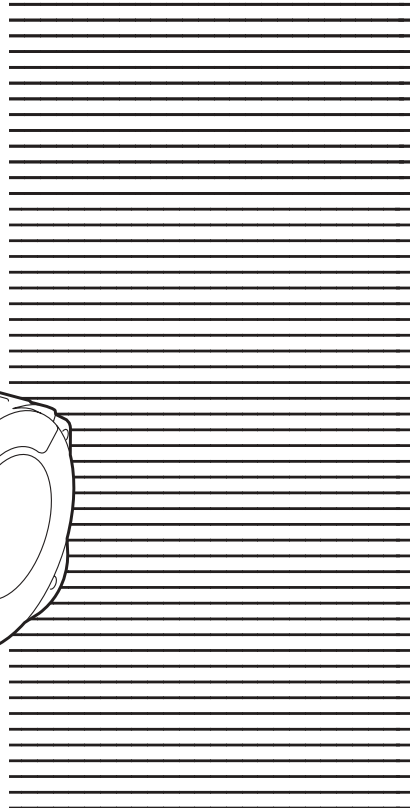
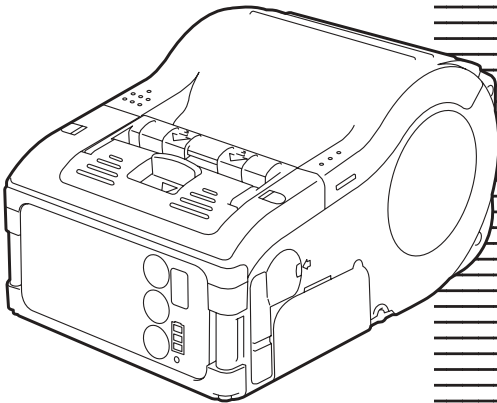


# LP440, LP441

## User's Guide



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LP440/LP441 User's Guide

P/N 59318201, Revision 1.0

## Disclaimer

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Every effort has been made to ensure that the information in this document is complete, accurate, and up-to-date. The manufacturer assumes no responsibility for the results of errors beyond its control. The manufacturer also cannot guarantee that changes in software and equipment made by other manufacturers and referred to in this guide will not affect the applicability of the information in it. Mention of software products manufactured by other companies does not necessarily constitute endorsement by the manufacturer .

While all reasonable efforts have been made to make this document as accurate and helpful as possible, we make no warranty of any kind, expressed or implied, as to the accuracy or completeness of the information contained herein.

The most up-to-date drivers and manuals are available from the web site: <http://www.okiprintingsolutions.com>

## Trademark Information

Oki is a registered trademark of Oki Electric Industry Company Ltd.

Other product names and brand names are registered trademarks or trademarks of their proprietors.

# Safety, Warnings and Cautions

## Safety Precautions

---

As a preventive measure to ensure safe usage of this machine so as to safeguard against damage to yourself, other people or property, there are display diagrams used in this instruction manual and on this machine.

The displays and their meanings are illustrated in the following pages. Please take time to read and understand the content



***If this display and its warning is ignored, any mishandling could result in death or serious injuries.***



***If this display and its warning is ignored, any mishandling could result in serious injuries as well as property damage.***

# Basic Hazard Icons

---



The triangle sign means 'Be careful'. The content within the triangle illustrates specific hazards. In this case, the sign on the below means 'beware of electric shock'.



The circular sign means 'prohibited'. The content within the circle illustrates a specific prohibition. In this case the sign below means 'disassembly prohibited'.



The black circular sign means 'must do'. The content within the sign illustrates specific items that must be carried out. In this case the sign on the left means 'the plug must be unplugged from the socket'. Warnings



# Hazard Warnings

---

## Liquids



- Do not place any liquids or small metallic objects near the printer. Should any of these fall into the printer, immediately turn off the power and contact your nearest dealer or service center. *Continued use increases the risk of fire or electric shocks.*

## Foreign Matter



- Do not insert or drop metallic or flammable objects into the openings of the printer (such as outlets for cables). If this happens, immediately turn off the power and contact your nearest dealer or service center. *Continued use increases the risk of fire or electric shocks.*
- Should the printer be dropped or become damaged, immediately turn off the power and contact your nearest dealer or service center. *Continued use increases the risk of fire or electric shocks.*

## Abnormal Conditions



- *Continued use of the printer while it is emitting smoke or strange odors increases the risk of fire or electric shocks. Immediately turn off the power and contact your nearest dealer or service center. Do not try to service the printer by yourself.*

## Disassembly



- Never try to take the unit apart or modify it in any way. Doing so increases the risk of fire or electric shocks. Contact your nearest dealer or service center for repairs.

## Battery Care



- Never try to take apart the battery pack or modify it in any way.
- Never expose the battery to direct heat or fire, or take any actions that may lead to physical damage.
- When charging the battery pack, be sure to use the printer or the specified battery charger.



## Power Supply Precautions



- Use only the specified voltage and use only the specified battery charger.
- Never use the battery charger with any other battery pack except for the specified type. *Doing so can rupture the battery, or cause leakage, fire or electric shocks.*
- Never cut, damage or modify the power cord. Also, never place heavy objects on the power cord or heat or pull the power cord. Doing so may damage the cord.
- Should the power cord ever become seriously damaged (internal wiring exposed or shorted), contact your nearest dealer or service center for repair.
- Never modify, excessively bend, twist, or pull the power cord.

*Continued use of the printer in any of the above situations can lead to increased risks of fire or electric shocks.*

# Cautions

---

## Location



Do not locate the printer in the area subjected to high humidity or dew. If dew forms inside the printer, immediately turn off the printer and do not use it until all moisture has dried up. ***Continued use creates the danger of electric shock and can damage the printer.***

## Power



Do not use wet hands to operate the power switch, replace the battery pack or unplug the AC adapter or battery charger. Doing so increases the risk of electric shock.

## Hazardous Parts



- The entire thermal head gets very hot after printing. Avoid touching any part of it when replacing paper or cleaning the printer.
- Do not try to replace the thermal head by yourself.
- The cutter contains a blade, so be careful not to get cut by the sharp blade.

## Replacing the Battery Pack



- Use only specified replacement battery packs.
- Make sure to install the pack in the correct direction to avoid the danger of injury or damage to surrounding areas.
- To replace small-size rechargeable (Lithium ion) batteries, seal the old battery pack with tape and ask our sales representative or service center about disposal methods. Do not place the battery pack together with other batteries such as dry batteries.

## Storing the Printer



If you have no plan to use the printer for a long time, remove the battery pack from the printer and unplug the AC adapter from the wall outlet if you were using the AC adapter as the power source.

## Maintenance and Cleaning



For safe maintenance or cleaning of the printer, make sure to remove the battery pack and the AC adapter from the printer if you were using the AC adapter as the power source.

## Other Precautions

---

### **Avoid placement in extreme temperatures.**

- Do not place the printer in highly humid areas or at outside the -15°C to 50°C temperature range.

### **When the printer is being transported...**

- The normal vibration encountered during transportation is acceptable, but avoid dropping the printer or exposing it to extreme vibrations.

### **Do not disassemble or modify the printer**

- The printer has high-precision components inside requiring e adjustments.

### **Use only the specified cables.**

- Special cables are required to connect to external equipment through the external input terminals. Contact your nearest dealer or service center if necessary.

### **Use only specified options.**

- Do not use a device not specified as option.

### **Use the specified paper.**

- Use the specified paper to avoid printing errors and to avoid damaging the print head.

# Overview

This manual is intended to familiarize you with the basic features and operation of your printer in a short time.

Key Features:

- High speed CPU and printing speed
- Long battery life
- Supports Infrared, RS-32C and Bluetooth I/O
- Durable and rugged design
- Supports media up to 2.6 inches (67 mm) in width
- Supports MB200 emulation or SBPL command compatibility

Please read this manual carefully to make full use of this product.

# Notes on Bluetooth/Wireless Communication


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## Compliance Statement

This product has been certified for compliance with the relevant radio interference regulations of your country or region. To ensure continued compliance, do not:

- Disassemble or modify this product
- Remove the certificate label (serial number seal) affixed to this product

**Note:** Use of this product near microwave and/or other wireless LAN equipment, or where static electricity or radio interference is present, may shorten the communication distance, or even disable communication.

 **Bluetooth** "Bluetooth" is a trademark of Bluetooth SIG, Inc., USA., and is used herein under licence.

*Caution!* Before using the wireless LAN interface, make all the security settings of the wireless LAN equipment are configured in accordance with the instructions supplied with the equipment.

# Setup

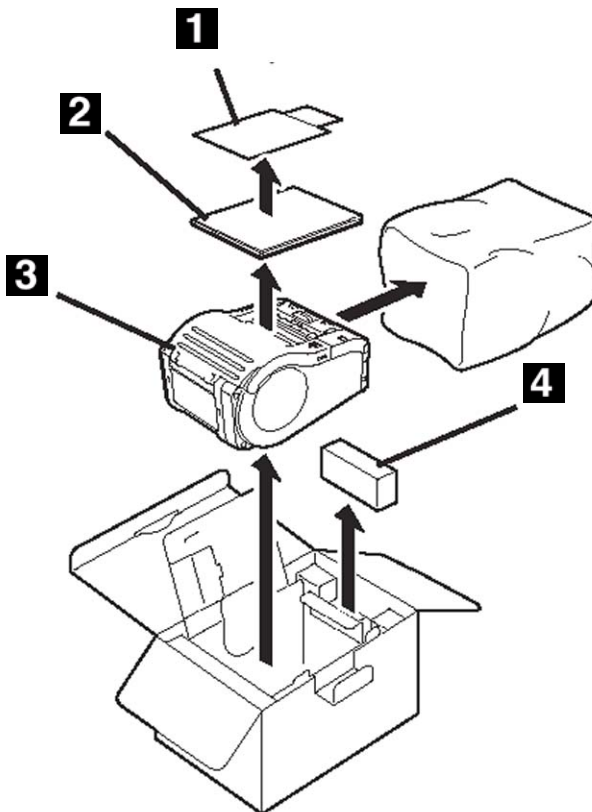
## Unpacking the printer

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If anything here is missing, contact your nearest Oki dealer or service center.

- 1 Safety, Warranty and Regulatory Information
- 2 Quick Guide
- 3 Printer

**Note:** Battery Pack



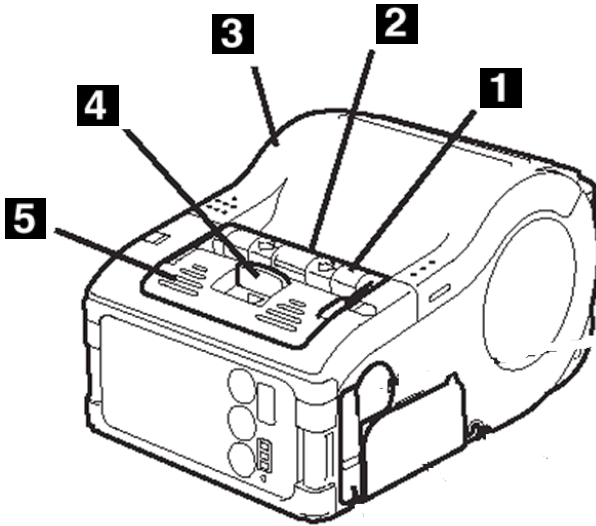
**Note:** An external battery charger is available separately.

# Part Names

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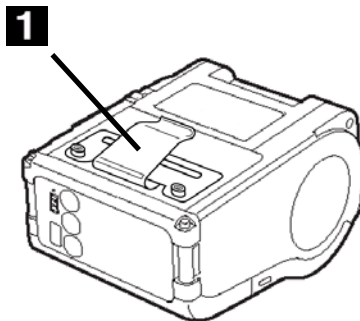
## Top View

- 1 Easy Cutter
- 2 Label Dispenser
- 3 Main Cover
- 4 Cover Release Lever
- 5 Dispenser Unit



## Bottom View

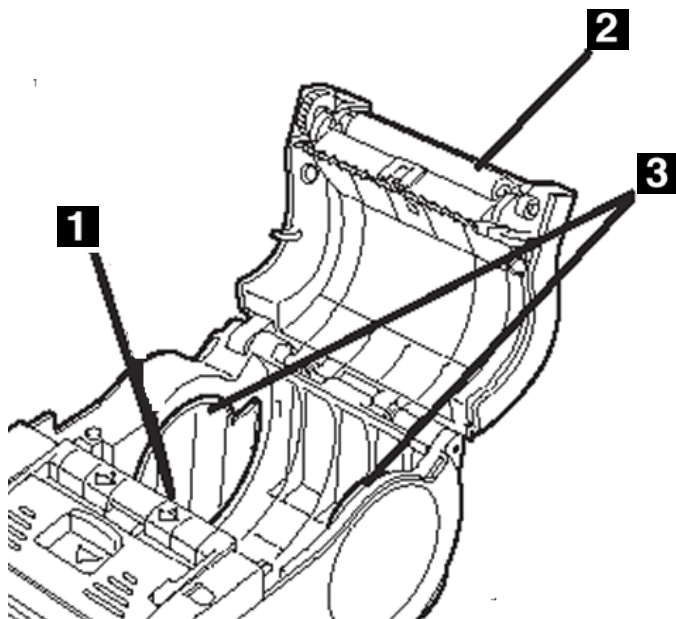
- 1 Belt Clip





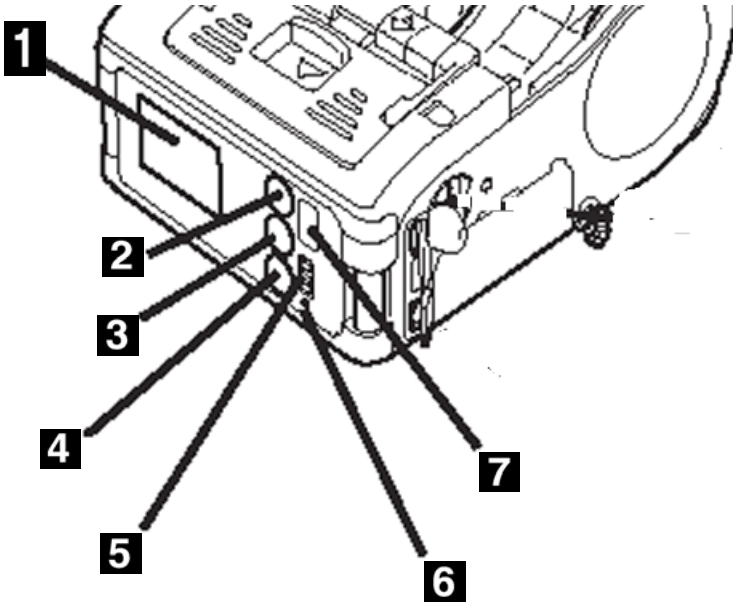
## Interior View

- 1 Label Width Markings
- 2 Platen
- 3 Label Guides



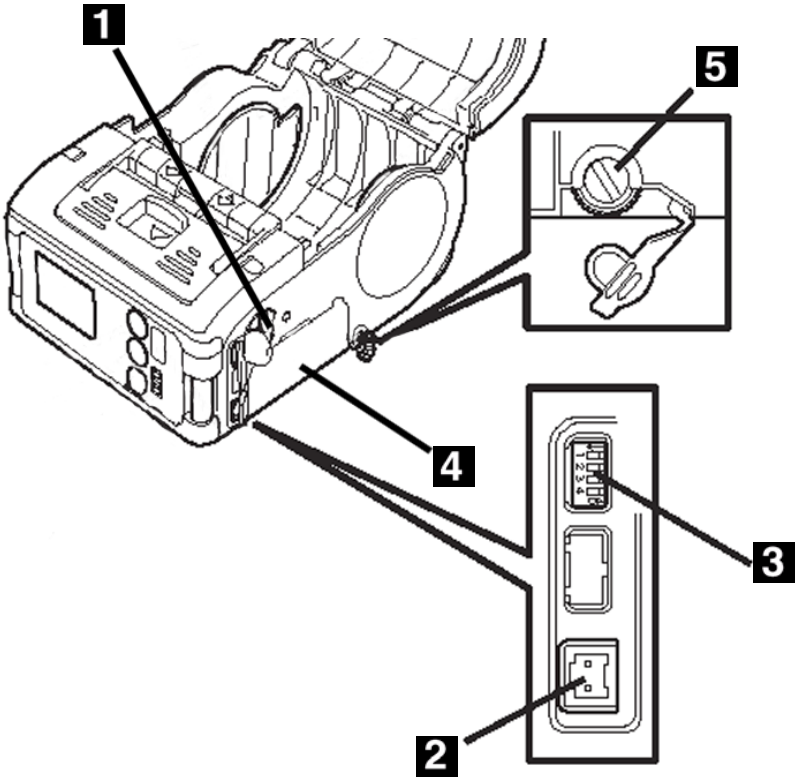
## Control Panel

- 1 LCD Display (WLAN Models only)
- 2 POWER button
- 3 PRINT button
- 4 FEED button
- 5 Battery Indicator (Charge Indicator on WLAN models)
- 6 Status LED
- 7 IrDA filter

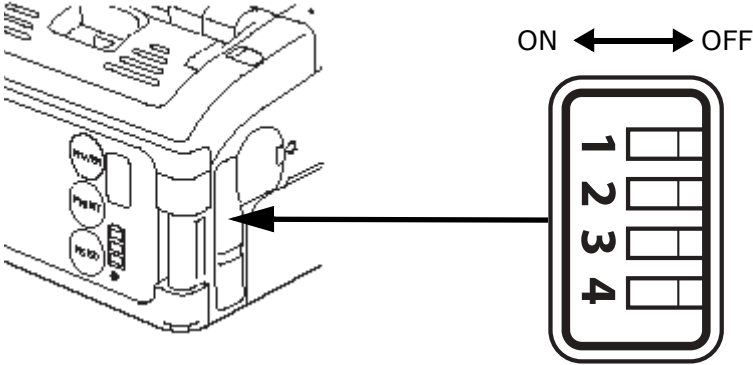


## Side Panel

- 1 RS-232c Port
- 2 DC Input
- 3 DIP Switches
4. Battery Cover
5. Label Guide Adjust Dial



## DIP Switches



## Description of Printer Parts

Part	Function	Part	Function
RS-232C Interface	Allows connection to a computer or hand-held terminal	Label guide	Set to meet the size of the label used
RS-232C cover	Protects the RS-232C connector from dust and damage	Label guide adjust dial	Allows adjustment of the label guide to fit the width of an installed label roll
Cover	Opens up to allow the installation of labels	Cover for Label guide adjust dial	Protects the label guide adjustment dial from dust or damage
Cover Open/Close lever	Enables the user to release the cover, or to lock the cover shut	Label output area	This is the area where the printed label is output
Easy cutter	Cuts printed labels	Label width markings	Indicates the width of label installed or in use.

<b>Part</b>	<b>Function</b>	<b>Part</b>	<b>Function</b>
IrDA filter	Contains the IrDA (infrared) sensor and emitter	DC input jack	Connects to AC adapter which supplies direct current to the printer
DIP switch	Sets the operation mode of the printer. (See page 4-1.)	Cover for DC input jack	Protects the DC input terminal and DIP switch from dust and damage
Dispenser unit	Moved to select Dispense mode	FEED key	Press to feed label
POWER key	Allows the user to turn ON/OFF the printer	PRINT key	Takes the printer Online or Offline
Battery cover	Cover for special battery pack	Status LED	Indicates the status of the printer. (S)
Battery indicator (LED)	Indicates the amount of battery power remaining.	Belt clip	Suspends the printer on a belt. <i>Do not hang the printer on anything but a belt.</i>

# The Battery Pack

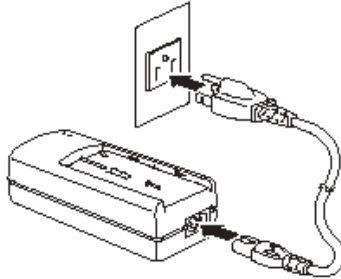
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## Charging the Battery Pack

### Charging with the Optional Charger

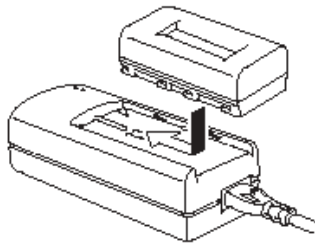
If your printer comes with the optional battery charger, you can use it to charge the supplied battery pack. Follow the steps below:

1. Connect the charger to the wall outlet and turn on the power.



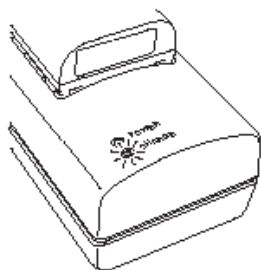
*The POWER lamp lights red.*

2. Align the battery pack with its metal contacts facing front, and slide it forward into the charger.



*The CHARGE lamp lights red when charging starts. It turns off when the battery pack is fully charged. In the case of a five-battery charger, when charging starts, the CHARGE lamp*

*glows red. It then glows green when the battery packs are fully charged.*



3. Slide the battery pack out of the charger.

### **Notes**

- If the POWER lamp does not light when you turn on the power, check the power cord connection.
- If the CHARGE lamp does not light at the start of charging, make sure the battery pack is firmly mounted into the charger. Poor mounting of the battery pack may result in faulty charging.
- When the fully charged battery pack is placed into the battery charger, the CHARGE lamp turns on and then off. In the case of the five-socket charger, the CHARGE lamp lights green.
- When charging a battery pack that has not been used for a long time, the CHARGE lamp may blink for a while. This does not indicate an error. You can continue charging.
- The battery pack can be recharged over about 300 times (when used at normal temperatures). If the battery pack is fully charged but runs out quickly, replace it with a new battery.

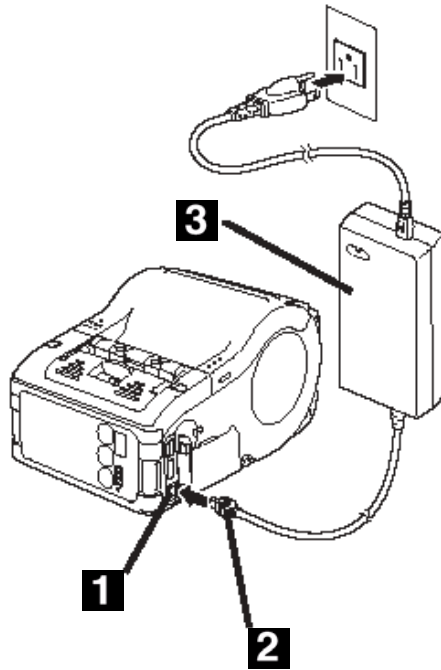
### **Charging Time**

It takes about 2.5 hours for a fully discharged battery pack to return to a fully charged state.

### **Charging with the Optional AC Adapter**

**Note:** These instructions assume that the battery is installed in the printer (see "Installing the Battery Pack" below).

1. Remove the cover of the printer's DC input jack (1) and connect the DC output terminal (2) on the AC adapter (3) to it.



2. Connect the AC adapter to the wall outlet and turn on the power.

*The POWER lamp on the adapter lights green. Charging starts and the battery indicator on the printer lights red.*

*When the battery pack is fully charged, the battery indicator goes off.*

**Note:** In the case of the Wireless LAN interface model, the CHARGE LED on the LCD screen lights red when charging starts, and goes off when charging is complete.

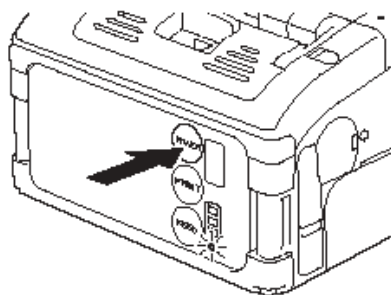
### **Charging Time**

With the AC adapter, it takes about 5 hours for the battery pack to reach full charge from a fully discharged state.

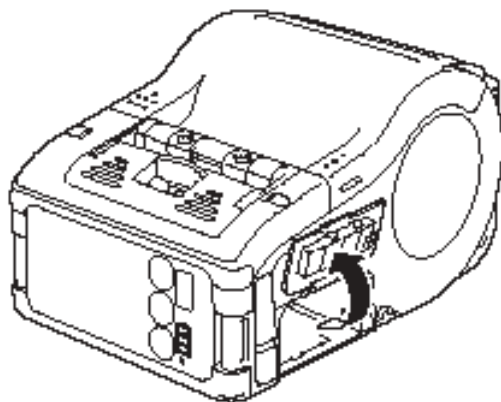


## Installing the Battery Pack

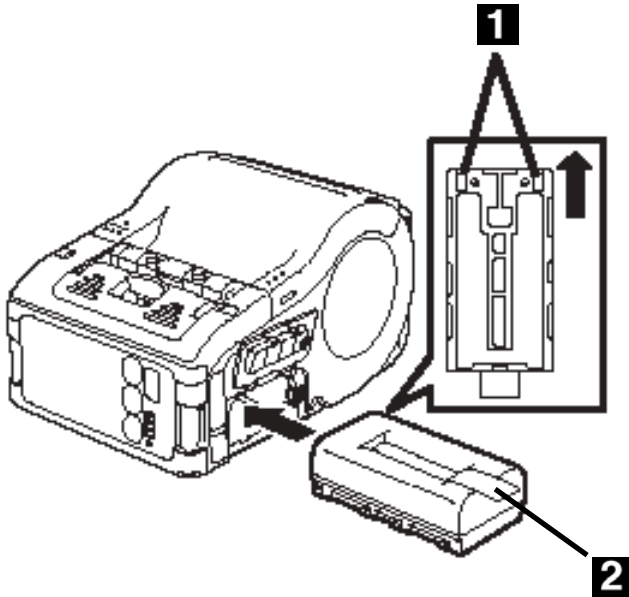
1. Press the POWER button to turn the printer off.



2. Reach under the printer and unlatch the battery compartment cover.



3. Align the battery pack so that its metal terminals (1) are facing the printer and the tab (2) on the battery is up, then insert the battery until it snaps in place.

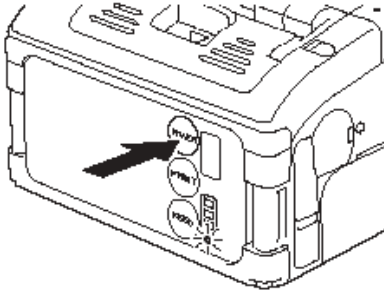


4. Close the battery cover.

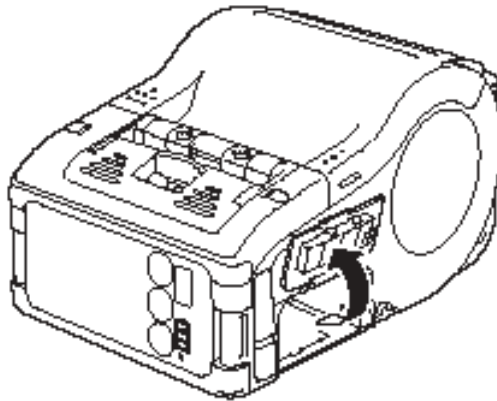
## Removing the Battery Pack

**Important!:** Remove the battery pack only when the printer is turned off. Do not remove the battery while the STATUS LED is on. Otherwise, *the information stored in the printer may not be updated.*

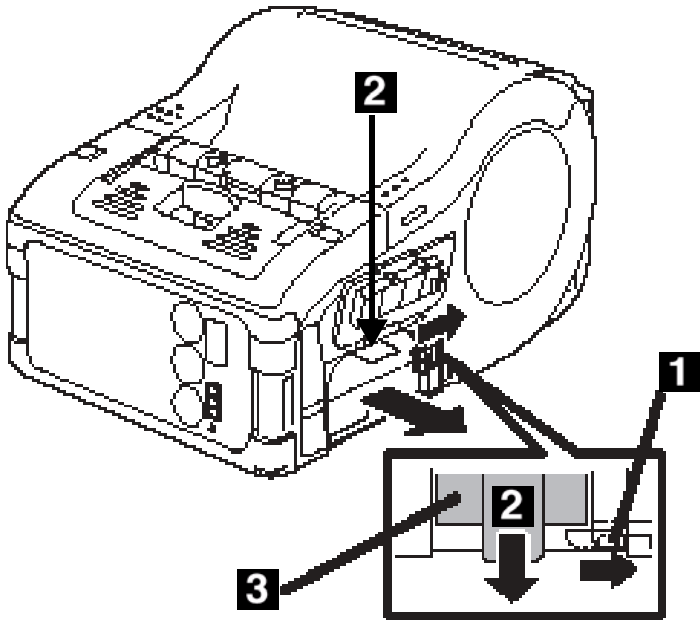
1. Press the POWER button to turn the printer off.



2. Reach under the printer and unlatch the battery compartment cover.



3. Push aside the gray latch (1) in the compartment, grasp the tab (2) on the top of the battery pack (3) and pull it out.



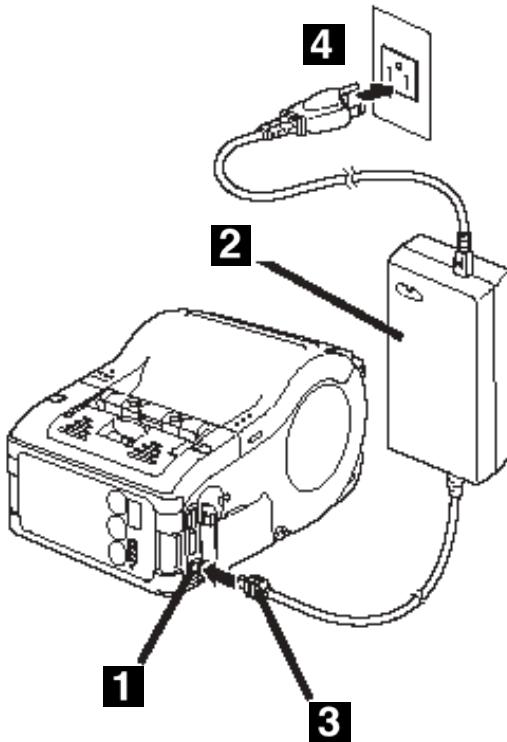
4. Close the battery cover.

## Powering the Printer using the Optional AC Adapter

---

If your printer comes with the optional AC adapter, it can be operated on AC power instead of the supplied battery pack.

1. Remove the cover of the printer's DC input jack (1) and connect the AC adapter's (2) DC output terminal (3) to it.



2. Connect the AC adapter to the wall outlet (4) and turn on the power.

*The POWER lamp on the adapter lights green.*

**Important!:** Be sure to turn the printer power off when removing the DC output terminal of the AC adapter or disconnecting the power source. Otherwise, the information stored in the printer may not be updated.

**Note:** A battery pack is unnecessary when an AC adapter is used. If a battery pack and an AC adapter are being used at the same time, the printer will attempt to charge the battery pack (if it is not already fully charged).

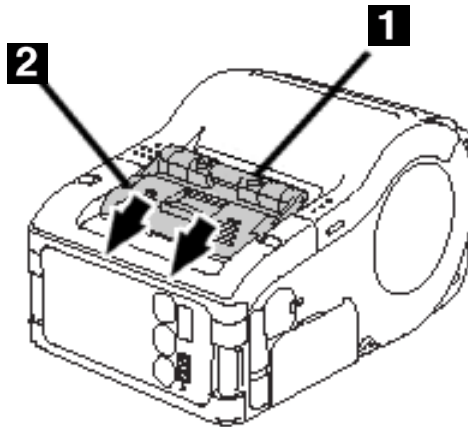
## Loading the Label Roll

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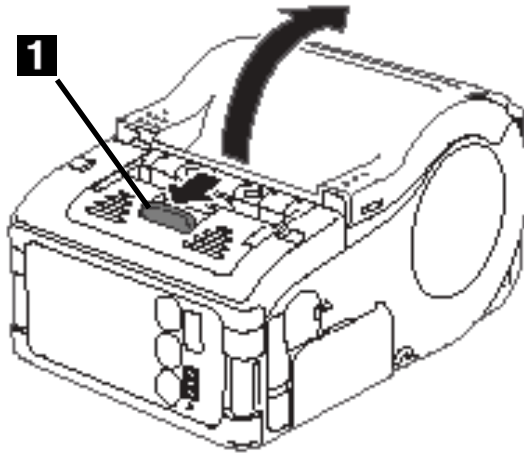
The method of installing label media varies with your choice of print modes: continuous or dispense mode.

### Loading the Label Roll: Continuous Mode

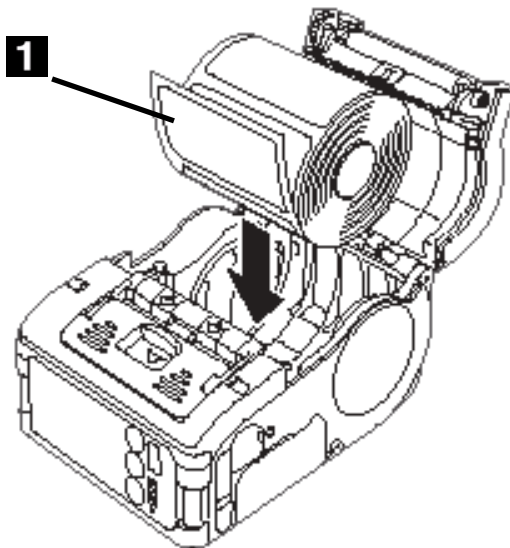
1. Make sure you can see the red platen roller. **If not**, lift the edge (1) of the dispenser unit (2) slightly and slide it toward the front of the printer.



2. Push the black release lever (1) down and toward the front of the printer to open the cover.

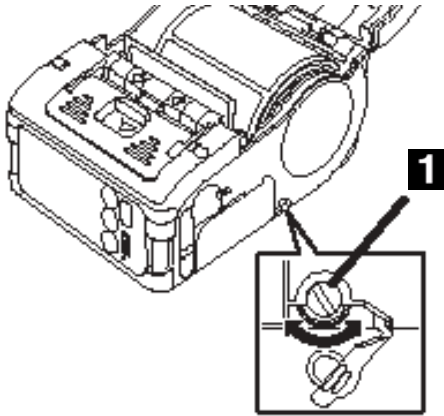


3. Place the label roll in the printer. Make sure it is placed with the leading edge (1) feeding up from the bottom of the roll and not down from the top.

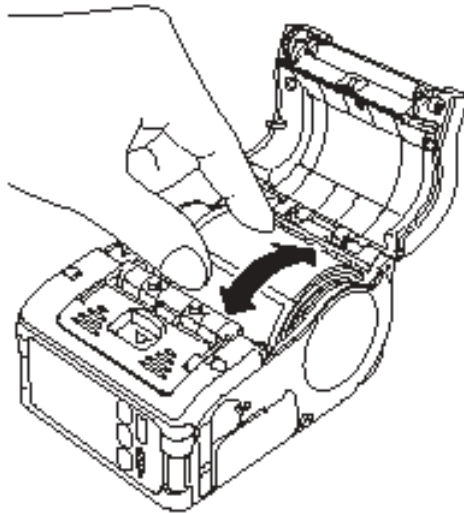


**Note:** When replacing a label roll of the same width as that used previously, adjustment of the label guide is not necessary.

4. Lift up the label guide adjust dial cover and turn the dial (1) until the label guides press loosely against label roll.



5. Turn the label roll lightly by hand and confirm that it rotates smoothly. Otherwise, paper may not be fed correctly during operation.

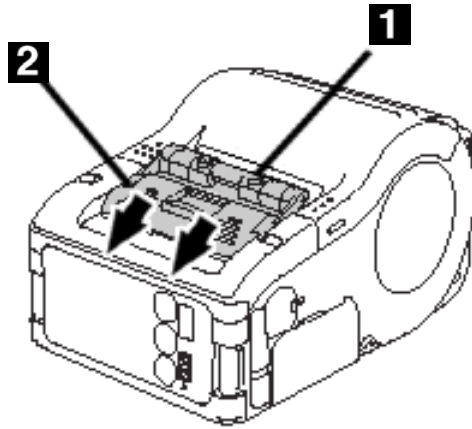


6. Close the label guide adjust dial cover.
7. Close the printer cover after confirming that the leading edge of the label is outside the printer.

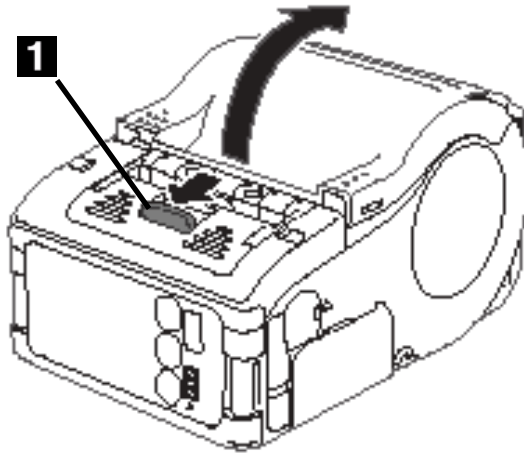


## Loading the Label Roll: Dispense Mode

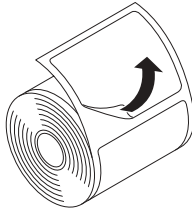
1. Make sure you can see the red platen roller. If not, slide the dispenser unit down, by lifting its top edge upwards at the two arrow marks.



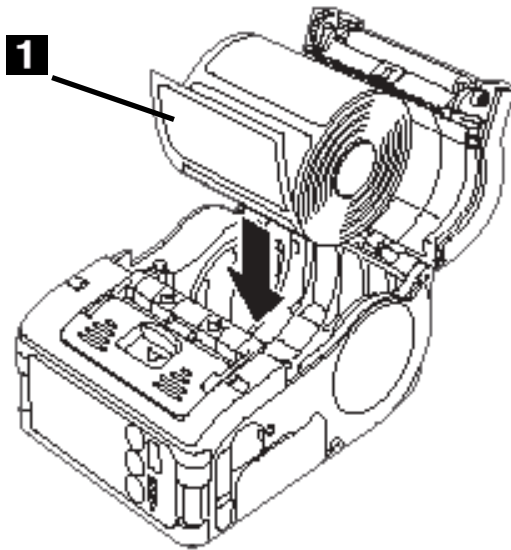
2. Push the black release lever down and toward the front of the printer to open the cover.



3. Peel the first label on the top of the label. *This step is unnecessary when a non-separate label is used.*

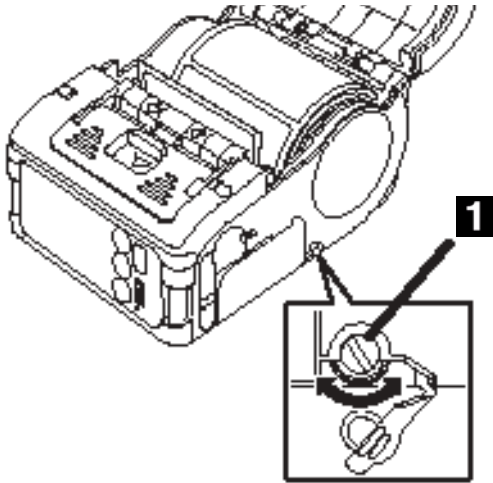


4. Place the label roll in the printer. Make sure it is placed with the leading edge (1) feeding up from the bottom of the roll and not down from the top.

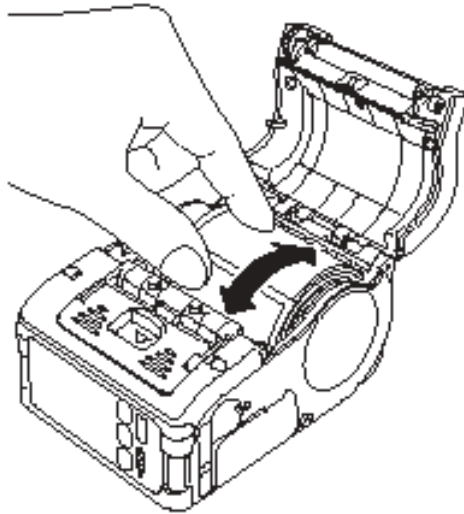


**Note:** When replacing a label roll of the same width as that used previously, The next step (adjustment of the label guide) is not necessary

5. Lift up the label guide adjust dial cover and turn the dial (1) until the label guides press loosely against the label roll.

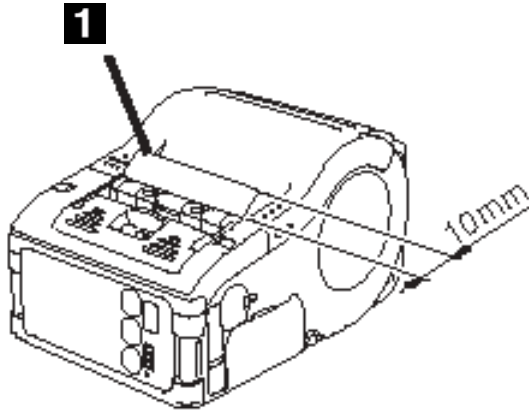


6. Turn the label roll lightly by hand and confirm that it rotates smoothly. Otherwise, paper may not be fed correctly during operation.



7. Close the label guide adjust dial cover.

8. Close the printer cover after confirming that the leading edge (1) of the label is outside the printer by at least 1/2-inch ( 10mm).



**Note:** When using non-separate labels, press the FEED button to feed a piece of label and pull the label upward to cut it along the perforation. If the label becomes jammed, retry the label setting procedure.

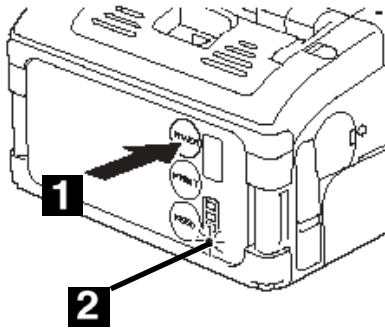
9. Push the dispenser unit forward so that it covers the red platen roller.

# Operation and Configuration

## Turning the printer ON

---

1. Press and hold the POWER button (1).

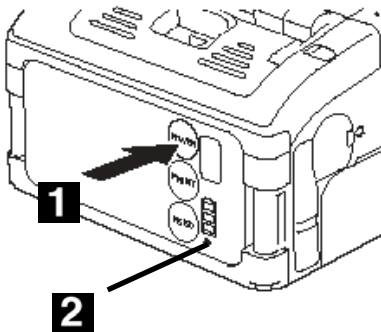


2. When the STATUS LED (2) lights green, release the button

## Turning the printer OFF

---

1. Press and hold the POWER button (1).



2. When the STATUS LED (2) goes off, release the button.

# Performing a Test Print

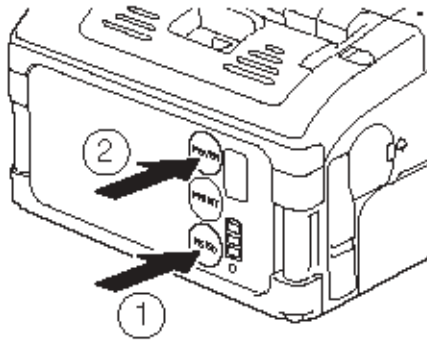
---

**Important!:** Overall print quality is readable and sharp.

**Important!:** A low battery condition may affect the print quality. Make sure the printer is running on AC or on a full battery during a test print.

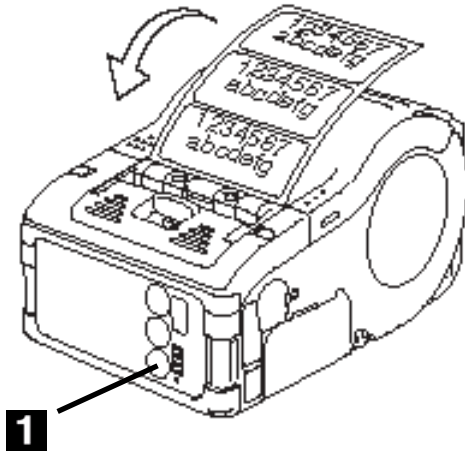
Users can perform test prints to evaluate the print quality and also diagnose problems.

1. Turn the printer off.
2. Press the POWER button (2) while pressing and holding down the FEED button (1).



*The printer powers up in the test mode.*

3. Press the FEED button (1) again to do a test print.



4. Verify the following using the output of the test printing.

- All printed characters are solid black.
- Overall print quality is sharp.

**Note:** If any fault is detected, contact your Oki dealer or service center. Before asking for a repair, please read the Troubleshooting section of this manual.

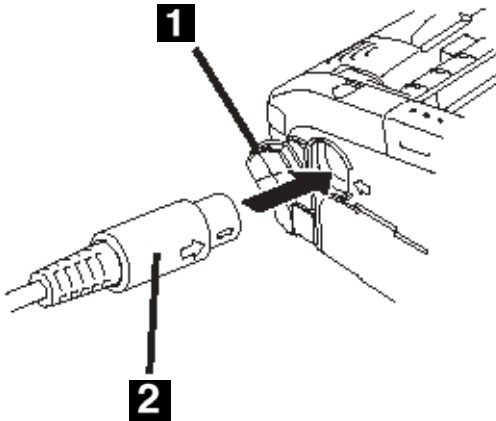
5. Press the POWER button to exit the Test Print Mode and turn the printer off.

# Printing

---

## Printing using the RS-232C Interface

1. Locate the RS-232C interface port cover (1) and lift it up to expose the port.

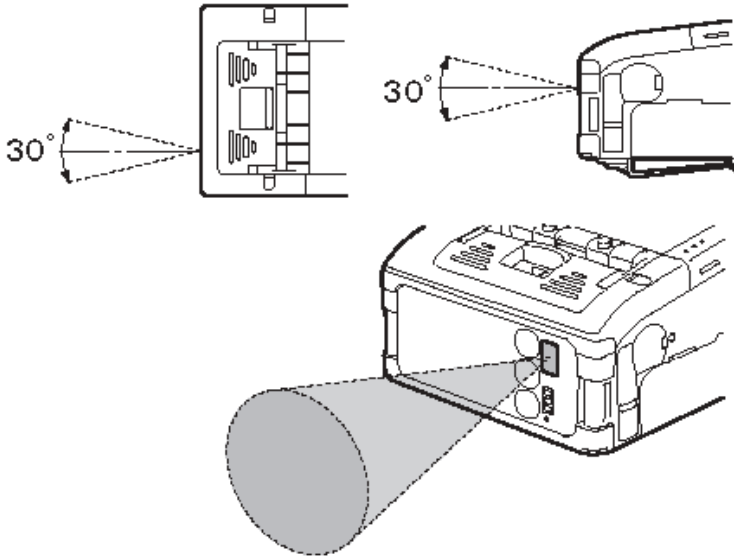


2. Plug one end of the RS-232C cable (2) firmly into the port. Make sure that the arrow mark on the connector of the RS-232C cable matches with the arrow mark by the side of the printer's port.
3. Plug the other end of the RS-232C cable to the corresponding RS-232C connector of the computer or hand-held terminal. For information on the host device RS-232C connector, refer to the relevant instruction manual.



## Printing using the IrDA Interface

1. Place the printer 20 cm away from the IrDA port of the computer or hand-held terminal. Adjust the printer position so that the center of its IrDA filter projects a 30° conical area which contains the IrDA transceiver of the computer or hand-held terminal.



- The IrDA communication range is limited to 5.9 to 7.9 inches (15 to 20 cm).
- The usable range may vary depending on the usage environment, or the capabilities of other IrDA devices.
- Communication is compromised by direct sunlight or ambient light. In such a case, block the strong light from entering the IrDA filter, or reduce the distance between the two IrDA ports.

## Printing using the Wireless LAN Interface

To print using the Wireless LAN model, you need to have a properly configured wireless LAN set up. The next step is to configure the printer to share the same network settings in order to establish communication.

### 1. Check the DIP Switches:

- The printer's DIP switches are factory set for WLAN operation.
- Check that Dip switch 1 is OFF and Dip switch 2 is ON.
- If you need to reset other switches, refer to the full DIP-Switch table in the next chapter, "Interface Specifications."

### 2. Setup a connection to the Wireless Network

- Ensure that your printer is configured with the proper
  - IP address
  - Subnet mask
  - Gateway
  - SSID
  - Channel
  - WLAN mode
  - Security settings
- Refer to your MIS personnel for details of your existing wireless network settings.

**Note:** When printing with the WLAN interface, the usable range between the printer and the host may vary depending on the usage environment and the capabilities of the connected devices.

## Printing using the Bluetooth Interface

To print using the Bluetooth-enabled version of MB200/201i, you need to have a bluetooth-enabled computing device. Two more steps are required.

1. Check the DIP Switches:

- **The printer's DIP switches are factory set for bluetooth operation.** Check that Dip switch 1 is OFF and Dip switch 2 is ON. This is the main setting for Bluetooth operation. In case you need to reset other switches, refer to the full DIP-Switch table in the next chapter, **Interface Specifications**.

2. Synchronize Bluetooth settings

- After setting the DIP-switches, the next step is to ensure that both bluetooth devices are configured to operate with the same **PIN code** and **Authentication mode** settings. Refer to the instruction manual of the computing device for details on how to set these parameters.

**Note:** When printing with the Bluetooth interface, the usable range between the printer and the host may vary depending on the usage environment and the capabilities of the connected devices.

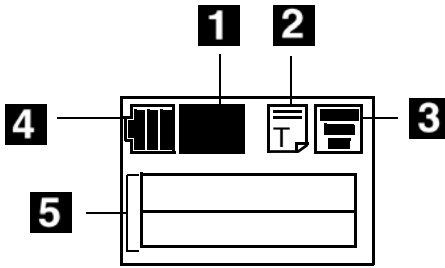
## The LCD screen (Wireless LAN Model Only)

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The Wireless LAN version of the printer has a Liquid Crystal Display (LCD). The screen can display the following information:

- 1 Dispense Mode Status: Manual/Auto
- 2 Test Print
- 3 Signal Strength
- 4 Battery Strength

## 5 Text Display



### Battery strength

Three-segment indicator.

- When all segments are lit, voltage level is greater than 8.0V.
- Two segments indicator a level of between 7.8V and 7.9V.
- One segment indicates a level of between 7.6V and 7.7V.
- When all segments are off (voltage level below 7.5V, printing is not possible.)

### Signal strength

Three-segment indicator to indicate Minimum, Medium and Maximum signal quality. An X indicates no reception.

### Test Print indicator

Appears in Test Print mode.

### Two-line text display

Displays the following:

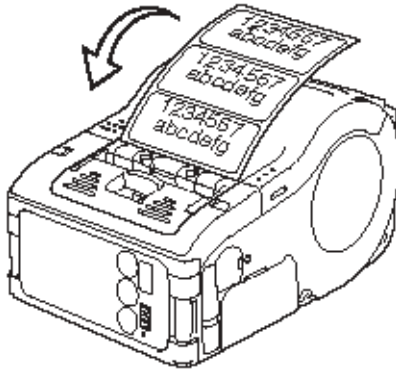
- **Various status messages:** Firmware version, On-line mode, Off-line mode, labels remaining in print queue, Test Print status, Default Setting, Complete, Factory Clear, Press Feed Key, Press Print Key, Hex Dump Mode, Set up Display, Adjust LCD, Exit, Contrast, Back Light On
- **Warning messages:** Cover Open, Paper End, Sensor Error, Buffer Near Full, Head Protect, Head Error, Module Error,

- **WLAN information:** Messages such as Adhoc mode, Infrastructure mode, IP address, subnet mask, default gateway, Socket Port Number.

## General Printing Procedure

After the proper setup and basic configuration procedures, you are ready to print.

1. Make sure the host computer is ready to transmit data, and ensure that the STATUS LED is lit. (Press the PRINT button to take the printer ONLINE).
2. Start the print job from the computer.
3. When printing is finished, pinch either the left or right corner of the printed roll of label(s) and tear it off in the direction of the arrow in the diagram below.



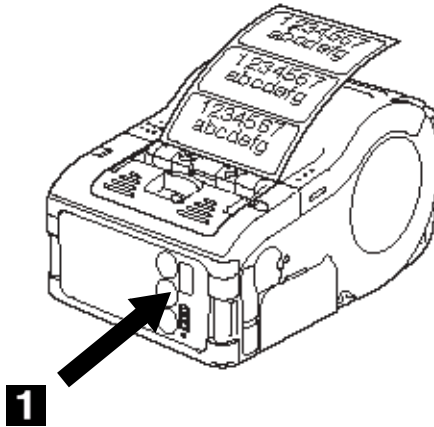
**Note:** The number of sheets you can print is determined by the printer's mode (continuous or peel mode).

When you are printing non-separate labels and you have torn the labels at a wrong place, stop the printing and follow the instructions on the next page to correct the print job.

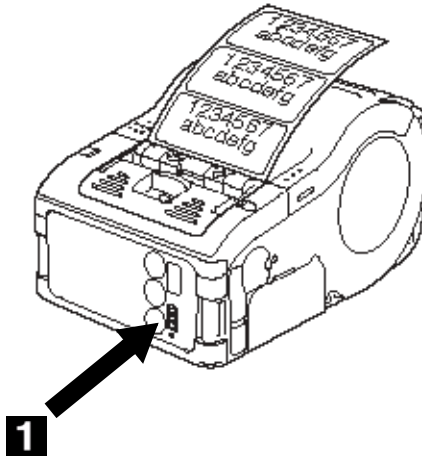
## Adjusting Printing for Non-Separate Labels

When printing on a continuous label roll (non-separate), if you tear off a label at the wrong place, proceed as follows.

1. Interrupt printing on the computer, or by pressing the PRINT key (1) to take the printer OFFLINE. (STATUS LED goes off) .

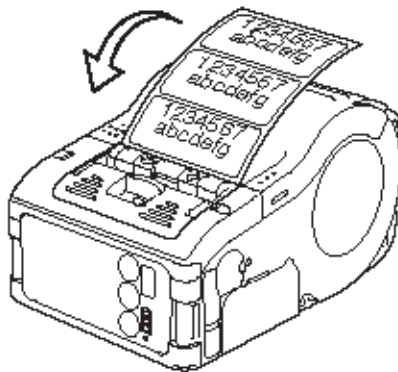


2. Press the FEED button (1) to feed a label.



3. When the feeding stops, tear off the label correctly by pulling the label in the direction of the arrow shown in the

diagram. The label is now aligned properly for printing to resume.



4. Press the PRINT button to return to the on-line state (STATUS LED lights green). You can now resume the print job.



# The Label Dispensing mode

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You can choose to dispense labels in **Continuous Mode** and **Dispense Mode**. In either mode, test printing and online printing are available.

## Configuring Dispense mode

Dispense Mode can be set to Auto Print or Manual Print, as described below.

Type	Description
Auto Print	Prints one label after receiving data and waits for peeling. After the label is peeled off, the printer automatically prints the next label.
Manual Print	Prints one label after receiving data and goes off-line. Press the PRINT key to print the next label. After the specified number of labels are printed, printing terminates. No printing occurs even when the PRINT key is pressed.

To switch between Auto or Manual Print for the Dispense Mode, set the DIP switches and then hold down the PRINT or FEED button when turning the printer ON. The new settings take effect when the printer is next turned ON.

### ***Switching from Manual to Auto Print***

1. Turn the printer off.
2. Make sure DIP switches 1-2-3-4 are set to OFF-OFF-OFF-ON.
3. Open the cover.
4. Press and hold the PRINT button while turning the printer on.
5. Close the cover.

### ***Switching from Auto to Manual Print***

1. Turn the printer off.
2. Make sure DIP switches 1-2-3-4 are set to OFF-OFF-OFF-ON.
3. Open the cover.

4. Press and hold the FEED button while turning the printer on.
5. Close the cover.

When setting the dispense mode, the STATUS LED blinks green, and turns into a steady green signal upon completion of setting. Turn off the printer **ONLY** when the STATUS LED is a steady green light.

## Status LEDs for Printing Modes

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Available modes include **Normal**, **Test Print**, **Head Check Setting** and **Online Command Setting** mode.

### Status LEDs for Normal Mode

Operational State	STATUS LED	LED Action
START OF PRINTING	Orange	Steady
ONLINE	Green	Steady
OFFLINE	OFF	NA
STANDBY (after 5 seconds of inactivity)	Green	Blinks every 4 seconds

**Note:** The Battery indicator (only available on the Bluetooth/WLAN model) remains lit even when the printer is OFFLINE. During the Standby state, the printer resumes normal operational status upon sensing any incoming data or pressing of the buttons.

### Status LEDs for the Test Print Mode

Enter Test Print mode by using the FEED and POWER buttons.

Operational State	STATUS LED	LED Action
ENTERING TEST PRINT MODE	Orange	Steady
START OF TEST PRINT	Green	Blinks
DURING TEST PRINT	Green	Steady
END OF TEST PRINT	OFF	NA

## Status LEDs for the Head Check Setting Mode

Head checking can be applied to one of two areas: the **normal print area** and the **barcode print area**. To specify the area subjected to a head check, follow the settings in the table below (cover must be left open):

H.Check setting	DSW-1	DSW-2	DSW-3	DSW-4	Other keys
Normal Print Area	OFF	ON	OFF	ON	hold down PRINT button
Disable H. Check	OFF	ON	OFF	ON	hold down FEED button
Barcode Print Area	ON	OFF	OFF	ON	hold down PRINT button
Disable H. Check	ON	OFF	OFF	ON	hold down FEED button

You can check the current setting with a test printout as described in "Performing a Test Print" on page 38.

When setting the Head Check options, the STATUS LED blinks green, and turns into a steady green signal upon completion of setting. Turn off the printer **ONLY** when the STATUS LED is a steady green light.

## Status LEDs for the Online Command Compatibility Mode

The printer can be set for compatibility with SBPL commands or with the older MB200 commands.

Compatibility	DSW-1	DSW-2	DSW-3	DSW-4	Other keys
LP440-compatible online commands	ON	ON	ON	ON	hold down PRINT button
SBPL online commands	ON	ON	ON	ON	hold down FEED button

You can check the current setting with a test printout as described in "Performing a Test Print" on page 38.

When setting the online command compatibility options, the STATUS LED blinks green, and turns into a steady green signal upon completion of setting. Turn off the printer **ONLY** when the STATUS LED is a steady green light.

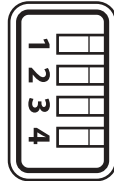
# Interface Specifications

Through a combination of DIP switch settings and turning the printer ON with certain buttons held down, you can enable or disable special functions and features.

**Warning:** Never connect or disconnect interface cables (or use a switch box) with power applied to either the host or the printer. This may cause damage to the interface circuitry in the printer/host and is not covered by the warranty.

## On-line Command Compatibility Settings

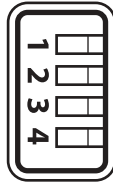
ON  $\longleftrightarrow$  OFF



DIP Switch Settings				Function
1	2	3	4	Procedure
ON	ON	ON	ON	<b>Switch to MB200 emulation command compatibility</b> <hr/> With printer turned off: <ul style="list-style-type: none"> <li>• Open the cover.</li> <li>• Press and hold PRINT button.</li> <li>• Press the POWER button to turn the printer on.</li> </ul>
ON	ON	ON	ON	<b>Switch to SBPL command compatibility</b> <hr/> With printer turned off: <ul style="list-style-type: none"> <li>• Open the cover.</li> <li>• Press and hold FEED button.</li> <li>• Press the POWER button to turn the printer on.</li> </ul>

## RS-232C Settings

ON  $\longleftrightarrow$  OFF



DIP Switch Settings				Function
1	2	3	4	Procedure
OFF	OFF	OFF	OFF	<b>RS-232C Normal mode</b> <hr/> With printer turned off and cover closed: <ul style="list-style-type: none"> <li>• Press and hold the FEED button.</li> <li>• Press the POWER button to turn on the printer in the normal mode.</li> </ul>
OFF	OFF	OFF	OFF	<b>Test Print, RS-232C Mode</b> <hr/> With printer turned off and cover closed: <ul style="list-style-type: none"> <li>• Press and hold the FEED button.</li> <li>• Press the POWER button to turn the printer on in the Test Print mode.</li> </ul>
OFF	OFF	OFF	OFF	<b>RS-232C Default Setting Mode</b> <hr/> With printer turned off: <ul style="list-style-type: none"> <li>• Open the cover.</li> <li>• Press and hold the PRINT button .</li> <li>• Press the POWER button to turn the printer on.</li> </ul>
OFF	OFF	ON	ON	<b>RS-232C Hex Dump Mode</b> <hr/> With the printer turned <i>off</i> and the cover closed: <ul style="list-style-type: none"> <li>• Press the POWER button to turn the printer on with the hex dump mode engaged.</li> </ul> <p><b>Note:</b> A small label may produce a large amount of data when printing a Hex Dump.</p>
OFF	OFF	OFF	ON	<b>RS-232C Font Download</b> <hr/> With the printer turned <i>off</i> and the cover closed: <ul style="list-style-type: none"> <li>• Press the POWER button to turn the printer on</li> </ul>

## RS-232C Settings (cont.)

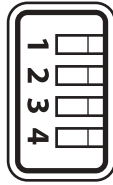
ON  $\longleftrightarrow$  OFF



OFF	OFF	OFF	ON	<b>RS-232C Dispense Mode, Auto print</b> <hr/> With the printer turned off: <ul style="list-style-type: none"> <li>• Open the cover.</li> <li>• Press and hold the PRINT button.</li> <li>• Press the POWER button to turn the printer on in the dispense mode.</li> </ul>
OFF	OFF	OFF	ON	<b>RS-232C Dispense Mode, Manual Print</b> <hr/> With the printer turned off: <ul style="list-style-type: none"> <li>• Open the cover.</li> <li>• Press the POWER button to turn the printer on in the manual print dispense mode.</li> </ul>
OFF	OFF	ON	OFF	<b>RS-232C Program Download</b> <hr/> With the printer turned off: <ul style="list-style-type: none"> <li>• Open the cover.</li> <li>• Press the POWER button to turn the printer on.</li> </ul>

## IrDA Settings

ON  $\longleftrightarrow$  OFF

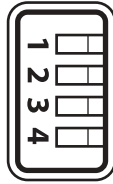


DIP Switch Settings				Function
1	2	3	4	Procedure
ON	OFF	OFF	OFF	<b>IrDA Normal Mode</b> <hr/> With printer turned off: <ul style="list-style-type: none"> <li>• Press the POWER button.</li> </ul>
ON	OFF	OFF	OFF	<b>IrDA User Test Print Mode</b> <hr/> With the printer off: <ul style="list-style-type: none"> <li>• Press and hold the FEED button.</li> <li>• Press the POWER button.</li> </ul>
ON	OFF	ON	ON	<b>IrDA Hex Dump Mode</b> <hr/> With the printer turned off: <ul style="list-style-type: none"> <li>• Change the setting for dips switch 3 to ON.</li> <li>• Press the POWER to turn the printer on.</li> </ul> <b>Note:</b> A small label may produce a large amount of data when printing a Hex Dump.
ON	OFF	OFF	ON	<b>IrDA Head Check, Barcode Print Area</b> <hr/> With the printer turned off: <ul style="list-style-type: none"> <li>• Open the cover.</li> <li>• Press and hold the PRINT button.</li> <li>• Press the POWER button.</li> </ul>
ON	OFF	OFF	ON	<b>Cancel IrDA Head Check</b> <hr/> With the printer turned off: <ul style="list-style-type: none"> <li>• Open the Cover.</li> <li>• Press and hold the FEED button.</li> <li>• Press the POWER button to turn on the printer.</li> </ul>
ON	OFF	ON	OFF	<b>IrDA Reset to Factory Defaults</b> <hr/> With the printer turned off: <ul style="list-style-type: none"> <li>• Open the cover.</li> <li>• Press and hold the PRIONT and FEED buttons.</li> <li>• Press the POWER button to turn on the printer.</li> </ul>



## Bluetooth/WLAN Settings

ON  $\longleftrightarrow$  OFF



<b>DIP Switch Settings</b>				<b>Function</b>
1	2	3	4	Procedure
OFF	ON	OFF	OFF	<b>Bluetooth/WLAN Normal Operation Mode</b> <hr/> With the printer turned off and the cover closed: <ul style="list-style-type: none"> <li>• Press the POWER button to turn the printer on.</li> </ul>
OFF	ON	OFF	ON	<b>Bluetooth/WLAN Test Print Mode</b> <hr/> With the printer turned off and the cover closed: <ul style="list-style-type: none"> <li>• Press and hold the FEED button.</li> <li>• Press the POWER button to turn the printer on.</li> </ul>
OFF	ON	ON	ON	<b>Bluetooth/WLAN Maintenance Mode</b> <hr/> With the printer turned off: <ul style="list-style-type: none"> <li>• Open the cover.</li> <li>• Press and hold the FEED button.</li> <li>• Press the POWER button to turn the printer on.</li> </ul>
OFF	ON	ON	ON	<b>Bluetooth/WLAN HEX Dump Mode</b> <hr/> With the printer turned off: <ul style="list-style-type: none"> <li>• Open the cover.</li> <li>• Press and hold the POWER button to turn the printer on.</li> </ul> <p><b>Note:</b> A small label may produce a large amount of data when printing a Hex Dump.</p>

## Bluetooth/WLAN Settings (cont.)

ON  $\longleftrightarrow$  OFF



OFF	OFF	OFF	ON	<p><b>Bluetooth/WLAN Enable CRC Check</b></p> <hr/> <p>With the printer turned off:</p> <ul style="list-style-type: none"> <li>• Open the cover.</li> <li>• Press and hold the PRINT button.</li> <li>• Press the POWER button to turn the printer on.</li> </ul> <p><b>Bluetooth/WLAN Disable CRC Check</b></p> <hr/> <p>With the printer turned off:</p> <ul style="list-style-type: none"> <li>• Open the cover.</li> <li>• Press and hold the FEED button.</li> <li>• Press the POWER button to turn the printer on.</li> </ul>
OFF	ON	OFF	ON	<p><b>Bluetooth/WLAN Activate Head Check</b></p> <hr/> <p>With the printer turned off:</p> <ul style="list-style-type: none"> <li>• Open the cover.</li> <li>• Press and hold the PRINT button.</li> <li>• Press the POWER button to turn the printer on.</li> </ul> <p><b>Bluetooth/WLAN Deactivate Head Check</b></p> <hr/> <p>With the printer turned off:</p> <ul style="list-style-type: none"> <li>• Open the cover.</li> <li>• Press and hold the FEED button.</li> <li>• Press the POWER button to turn the printer on.</li> </ul>
OFF	ON	ON	OFF	<p><b>Bluetooth/WLAN Factory Clear + Clear Head Counter</b></p> <hr/> <p>With the printer turned off:</p> <ul style="list-style-type: none"> <li>• Open the cover.</li> <li>• Press and hold the PRINT and FEED buttons.</li> <li>• Press the POWER button to turn the printer on.</li> </ul>

Some hosts monitor the Request-To-Send (RTS) signal (pin 4 of 25) to determine if the printer is ready to receive data. Since the printer does not generate this signal, the RTS pin must be connected to the Clear-To-Send (CTS) pin (pin 5 of 25)

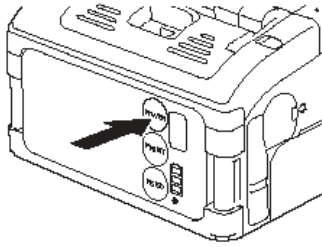
# Cleaning and Maintenance

Cleaning and maintaining the printer regularly will prolong its durability and reliability.

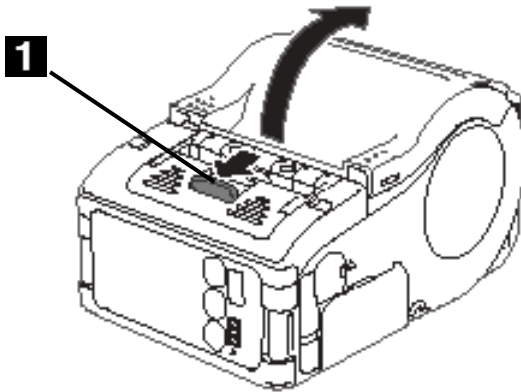
## Cleaning the Print Head

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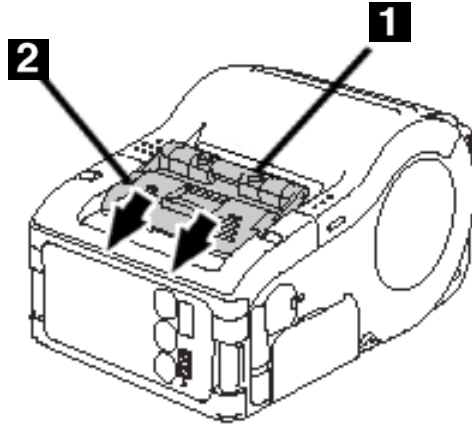
1. Press the POWER button to turn the printer off.



2. Push the black release lever (1) down and toward the front of the printer to open the cover



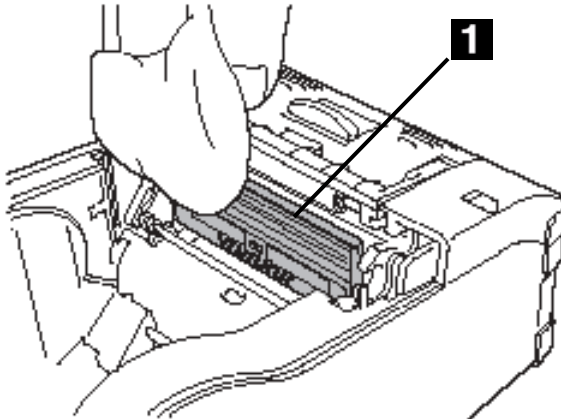
**Note:** If the red roller is not visible (lever cannot be pushed down), lift the edge (1) of the dispenser unit (2) slightly and slide it toward the front of the printer.



3. Wipe off any dirt on the print head (1) using a soft cloth soaked with some rubbing alcohol.

*Caution!* Never use thinner, benzene, or kerosene. These solvents can damage the printer.

**Note:** The illustration below is *viewed from the rear of the printer.*



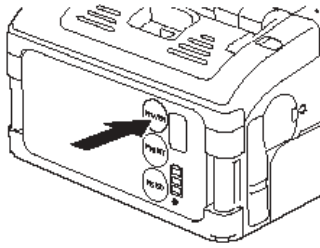
4. Let the print head dry, then reinstall the label roll and close the cover.

## **Cleaning the Platen and Peel Roller**

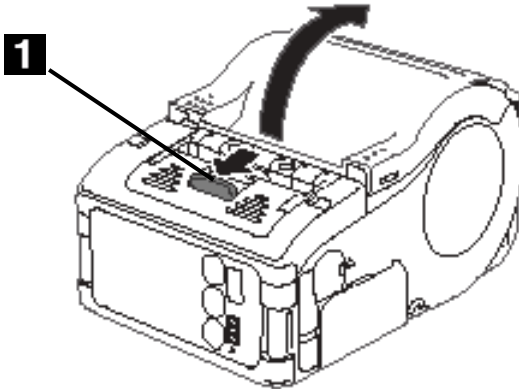
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Users can perform test prints to evaluate the print quality and also diagnose problems.

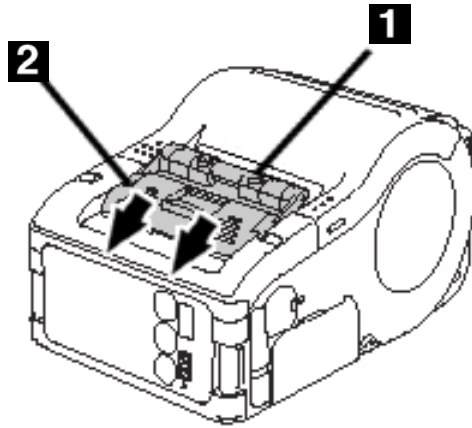
1. Press the POWER button to turn the printer off.



2. Push the black release lever (1) down and toward the front of the printer to open the cover

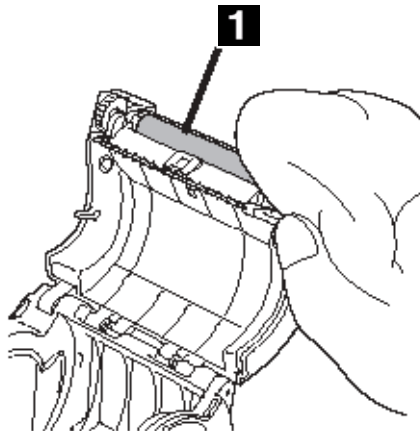


3. If the lever is not accessible, first slide the dispenser unit away by lifting the top edge where the arrow marks are located. (see Step 1 of "Loading the Label Roll" on page 30).



4. Wipe off any dirt on the platen and peel roller (1) using a cloth soaked in alcohol.

*Caution!* Never use thinner, benzene, or kerosene. These solvents can damage the printer.



5. Let the platen and roller dry, then close the cover

# Troubleshooting

Print Fault	Cause	Remedy
Smudged printing	Print head is dirty.	Clean the print head.
	Roller is dirty.	Clean the platen and dispense roller (see page 61).
Vertical streaking in printouts	Print head is dirty.	Clean the print head.
	Print head is faulty.	Replace the print head.
Slanted text characters	Paper guide is positioned incorrectly.	Retry with different label paper. Use only certified media for best print quality and minimal problems.
	Roller is dirty.	Clean the platen and peel roller (see page 61).
No printing	RS-232C cable connection is faulty.	Check the connection of the RS-232C cable connector (see page 40).
	IrDA Interface is faulty.	The printer and IrDA host must be within 5.9 to 7.9 inches (15 or 20 cm) of each other. The host must be located within a 30° conical area from the center of the IrDA filter (com area) on the printer (see "Printing using the IrDA Interface" on page 41 ).
	Bluetooth/WLAN interface is faulty.	Check the communication protocol settings.
	Dip Switch setting is incorrect.	Double-check Dip Switch settings (see "Interface Specifications" on page 53).
	Print head is faulty.	Replace the print head.

## Error Indicators

STATUS (LED)	Mode	Description	Cause	Remedy
Light (Red)	All modes	Low battery	Battery charge level is low.	Recharge the battery.
Blink (Red) every 2s	Online	Error in Bluetooth or WLAN card	Interface module error (Bluetooth, wireless LAN).	Replace the board,.
Light (Red)	After Power On	Program illegal error	Flash ROM read/write error has occurred.	Replace Flash ROM.
		Flashrom-error		Retry downloading program.
Blink GreenĪ Red every 2s	Online	Head error	Head wiring is disconnected.	Replace the head.

**Warning:** Never connect or disconnect interface cables (or use a switch box) with power applied to either the printer or the host. This may cause damage to the interface circuitry and *the damage is not covered by warranty.*



# Specifications

## Basic Specifications

Attribute	Description
<b>Printing system</b>	Direct Thermal printing system
<b>Head density</b>	203 dpi (8 dots/mm)
<b>Maximum print area</b>	1.9 inches (48 mm) wide x 6.3 inches (160 mm) pitch
<b>Print speed</b>	4.1 inches (103 mm) per second max. Note: The speed varies depending on print duty and environment of use.
<b>Dimensions</b>	<i>LP440:</i> 128 mm wide x 88 mm high x 73 mm deep, excluding belt clip  <i>LP441:</i> 119 mm wide x 88 mm high x 64 mm deep, excluding belt clip
<b>Weight, with battery pack</b>	<i>LP440:</i> 14.3 oz. (405 g) <i>LP441:</i> 13.7 oz. (390 g)
<b>Power supply (Battery)</b>	Prints 4 rolls of thermal labels with full charge. (equivalent of 18.9 yards (48 m) Continuous printing is permitted (provided print duty is 16% or less.)
<b>Paper thickness</b>	0.0025 to 0.0075-inch (0.064 to 0.190 mm).
<b>Shape of paper</b>	Roll paper: Wound with surface out Maximum diameter: 2.25 inches (57.5 mm)
<b>Label size (Liner sheet and eye mark pitch)</b>	<i>Width:</i> 1 to 2.2 inches (1.1 to 2.2 inches) 25.4 to 55 mm (28.4 to 57.5 mm) <i>Pitch:</i> 0.5 to 6.3 inches (0.6 to 6.4 inches) 13 to 160 mm (16 to 163 mm)

<b>Media Roll Size, outer diameter</b>	Outer Diameter <i>LP440</i> : 67 mm (2.63") <i>LP441</i> : 8 mm (2.28") outer diameter  Inner Diameter <i>Core</i> : 0.75-inch (19 mm ) <i>Creoles</i> : 0.31-inch (7.9 mm)
<b>Label printing modes</b>	Continuous, Dispense (peel)
<b>Self-diagnosis</b>	Head check/Cover open/Paper end/ Battery check/Test print
<b>Power saving features</b>	<ul style="list-style-type: none"> <li>• Auto power off after non operation for 5 minutes.</li> <li>• With Bluetooth or wireless LAN specifications, default is no auto power off.</li> <li>• Auto power off time can be changed via the printer operation register command &lt;PG&gt;.</li> </ul>
<b>Interfaces</b>	
RS-232C	Mini DIN
Photo coupling	<ul style="list-style-type: none"> <li>• IrDA communication (Complies with IrDA standard Ver. 1.2. communication range: 5.9 to 7.9 inches [15 to 20 cm] max.)</li> <li>• IrOBex/BHT protocol/Ir Comm</li> </ul>
Bluetooth	Bluetooth Specification Ver. 1.1 Class 2
Wireless LAN	<ul style="list-style-type: none"> <li>• Wireless LAN interface (IEEE802.11b) TCP/IP (FTP, LPR, SOCKET)</li> </ul>
<b>Paper sensors</b>	Reflection type (eye mark), Transmission type (gap)
<b>Text Character magnification</b>	1 to 6 times
<b>Character rotation</b>	0°, 90°, 180°, 270°
<b>Character type</b>	Standard font: XU, XS, XM, XL, OCR-A, OCR-B, POP character Kanji: 16 x 16, 22 x 22, 24 x 24 Square Gothic (JIS Level 1, Level 2)

<b>Barcode</b>	JAN8/13, UPC-E/UPC-A, NW-7, CODE39, CODE93, CODE128, INTERLEAVED2of5, POSTNET, RSS-14.  However, barcode shall be used with the following. <ul style="list-style-type: none"> <li>• Parallel barcode: Thin bar width of 2 dots or more</li> <li>• Serial barcode: Thin bar width of 3 dots or more</li> </ul>
<b>Two-dimensional code</b>	Any one of PDF417 (ver 2.4), QR code (ver 8.1 including micro QR), Data matrix code (ECC200) ver 2.0, MAXI code ver 3.0, Composite symbol usable via downloads.
<b>Application standards</b>	FCC 15 ClassB, EN55022, EN55024, UL60950-1, CSA C22.2 No.60950-1-03, GB9243, GB9254, GB4943, GB17625.1, TUV EN60950-1, CE, R&TTE EN30328 v1.4, EN301489 v1.4, IDATSSSS.
<b>Protective feature</b>	<ul style="list-style-type: none"> <li>• Overcharge protection</li> <li>• Head overheat protection</li> <li>• Detection of Low Battery state</li> </ul>
<b>Environmental Condition, including battery pack (Does not apply to label media)</b>	
Operating	Temperature: (15 to 50°C) Humidity: 20 to 80% without condensation
Storage	Temperature: (-25 to 60°C)Humidity: 20 to 80% without condensation

**Note:** Before using a wireless interface with this equipment, make sure that any radio transmission/reception equipment on site, does not share the same frequency range as this product's wireless setup.

## Printer Radio Frequency Characteristics

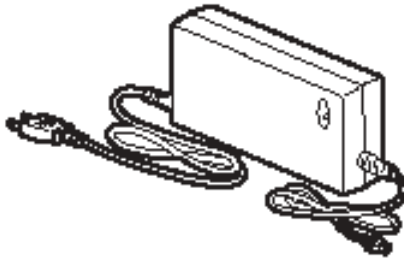
2.4 FH1	Frequency band used	2.4 GHz
	Modulation system	Frequency Hopped - Spread Spectrum system
	Assumed distance of interference	0.4-inch (10 mm) max.
	Availability of frequency change	All area is used and exclusion of the band for equipment for mobile object identification is impossible

# Optional Accessories

## Spare Battery Pack, Oki 70061401



## AC Adapter, Oki 70061301

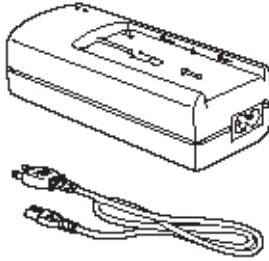


Allows the printer to be operated via an AC outlet, and to charge a battery pack loaded inside the printer.

**Warning:** Use only the specified AC Adapter designed for your printer).

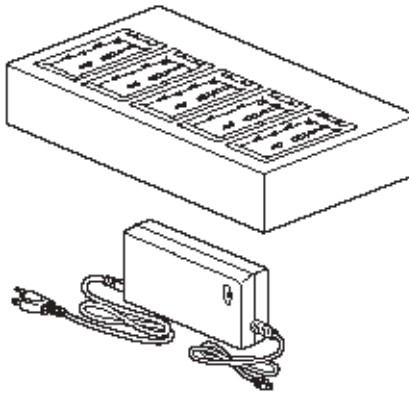
## Battery Chargers

### Single-Slot Battery Charger Oki 70061403



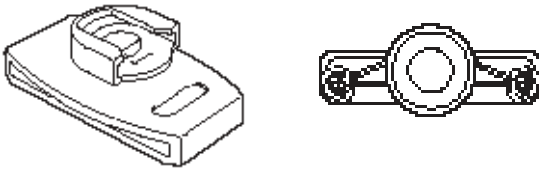
Use to charge battery pack without using the printer connected to an AC outlet.

### Five-Slot Battery Charger, Oki 70061405



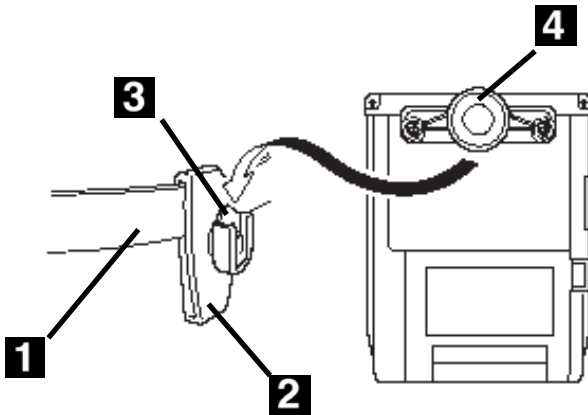
Use this to charge multiple spare battery packs at the same time.

## Belt Holder, Oki 70061204



For hanging the printer on a waist belt.

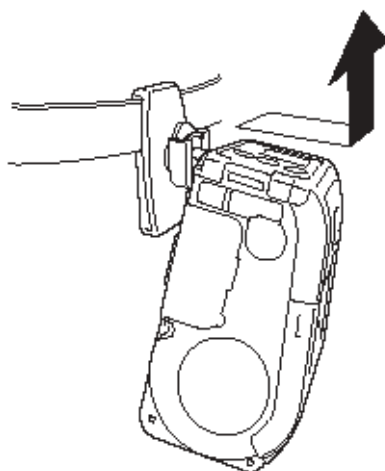
### Installation



1. Thread your belt (1) through the belt holder (2), with the open end (3) of the clip mechanism up..
2. Using a screwdriver, replace the belt clip on the back of the printer with the belt hook (4) included with the holder.
3. Insert the belt hook (4) into the belt holder until it clicks securely into place.

**Caution!** If the belt hook is not inserted properly, the printer may fall off.

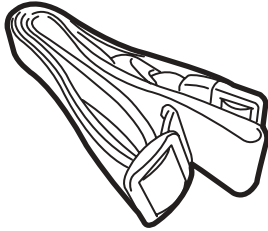
## Detachment



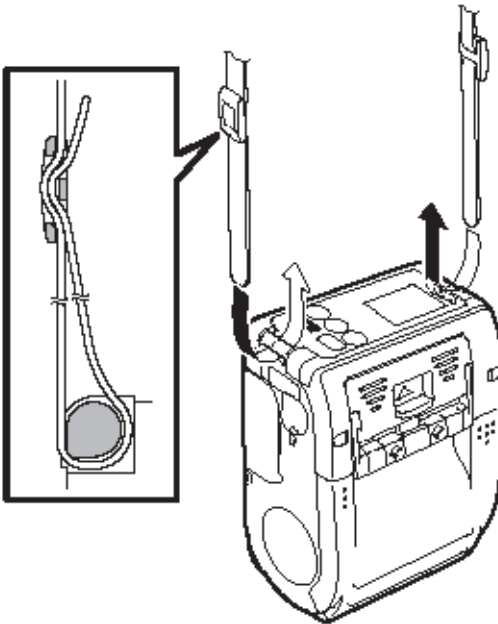
Pull the printer sideways and upwards to remove it from the belt hook.



# Shoulder Strap , Oki 70061201



## Installation



1. Feed one end of the shoulder strap through one of the channels at either side of the front of the printer.
2. Pass the end of the strap through the buckle.
3. Repeat for the other end of the strap.
4. Adjust the length of the strap.

*Caution!* If the shoulder strap is improperly secured, the printer may fall off.

## Rainproof Shoulder Case, Oki 70061202



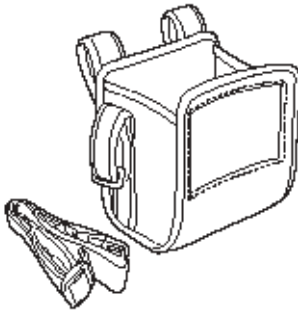
Includes a shoulder strap and cover to protect the printer during wet weather.

### **Installation**

Clip the belt clip on the back of the printer securely to the case.

*Caution!* If the printer is not firmly secured to the case, the printer may fall off.

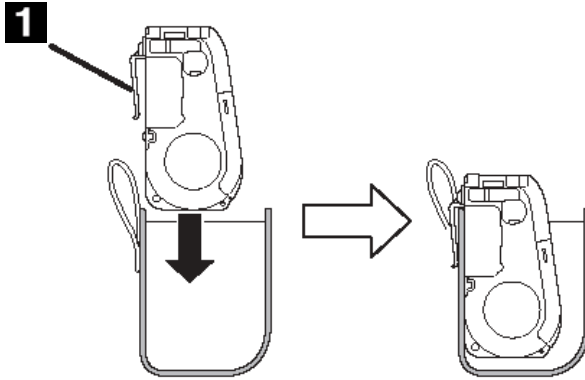
## Waist Case, Oki 70061203



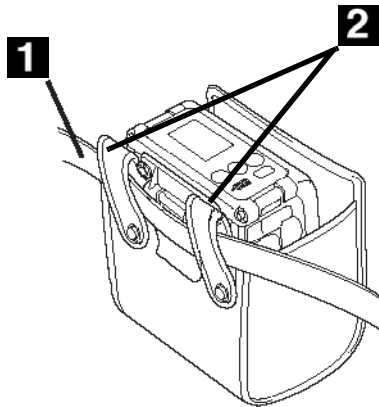
A protective case with a strap for hanging the printer from your waist.

## Installation

1. Attach the belt clip (1) on the back of the printer securely to the back of the case.



2. Feed the strap (1) through the hangers (2) on the case.



3. Attache the strap to your waist.

**Caution!** If the printer is not firmly secured to the case, the printer may fall off.

# RS-232C Cable, Oki 70061101



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