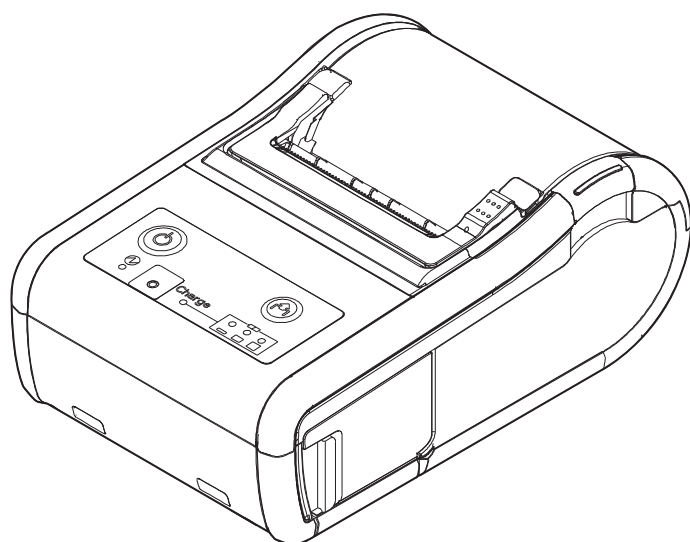


TM-P60II

with Peeler

Technical Reference Guide



Product Overview

Describes features of the product.

Setup

Describes setup and installation of the product.

Advanced Usage

Describes advanced usage methods for the product.

Application Development Information

Describes how to control the printer and necessary information when you develop applications.

Handling

Describes how to handle the product.

Replacement of the TM-P60

Describes information for replacement.

Appendix

Describes general specifications and character code tables.

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For Safety

Key to Symbols

The symbols in this manual are identified by their level of importance, as defined below. Read the following carefully before handling the product.

 DANGER	Dangers must be observed carefully to avoid serious injury or death.
 WARNING	You must follow warnings carefully to avoid serious bodily injury.
 CAUTION	Provides information that must be observed to prevent damage to the equipment or loss of data. <ul style="list-style-type: none">• Possibility of sustaining physical injuries.• Possibility of causing physical damage.• Possibility of causing information loss.
 CAUTION	Provides information that must be observed to avoid damage to your equipment or a malfunction.
 NOTE	Provides important information and useful tips.

Safety Precautions

 WARNING	<p>Shut down your equipment immediately if it produces smoke, a strange odor, or unusual noise. Continued use may lead to fire. Immediately unplug the equipment and contact your dealer or a Seiko Epson service center for advice.</p> <p>Never attempt to repair this product yourself. Improper repair work can be dangerous.</p> <p>Never disassemble or modify this product. Tampering with this product may result in injury or fire.</p> <p>Be sure to use the dedicated AC adapter, Epson PS-11. Connection to an improper power supply may cause fire.</p> <p>Do not allow foreign matter to fall into the equipment. Penetration by foreign objects may lead to fire.</p> <p>If water or other liquid spills into this equipment, do not continue to use it. Continued use may lead to fire. Unplug the equipment immediately and contact your dealer or a Seiko Epson service center for advice.</p>
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Do not connect cables in ways other than those mentioned in this manual. Different connections may cause equipment damage and burning.

When connecting a USB cable, do not stress the connector part. Doing so may damage that part. Be careful not to drop this product. The product may break or cause injury if it is dropped.

Do not use in locations subject to high humidity or dust levels. Excessive humidity and dust may cause equipment damage or fire.

Do not place heavy objects on top of this product. Never stand or lean on this product. Equipment may fall or collapse, causing breakage and possible injury.

To ensure safety, unplug this product before leaving it unused for an extended period.

Before moving the product, unplug it and unplug all cables connected to it.

Take care not to injure your fingers on the manual cutter

- When you remove printed paper
- When you perform other operations such as loading/replacing roll paper

Do not use aerosol sprayers containing flammable gas inside or around this product. Doing so may cause fire.

Safety Precautions on the Rechargeable Battery Pack



If any liquid from the battery gets into your eyes, promptly wash it out with clean water for more than 10 minutes and consult your doctor at once. If you do not, the liquid may cause loss of eyesight.

Never disassemble or modify the battery pack. This may cause fire, explosion, leakage, overheating or damage.

Do not expose the battery to fire or heat it. This may cause fire, explosion, leakage, overheating or damage.



If you notice a strange odor, overheating, discoloration, distortion, or other abnormality of the battery, remove it from the printer or charger, and do not use it. Continued use may cause overheating, fire or explosion.

Immediately move the battery pack away from fire or flame if it produces a strange odor or leakage. Leaked electrolyte may flash off, leading to fire or explosion.

Should any battery liquid get on skin or clothing, promptly wash it off with clean water. If you do not, the liquid may damage your skin.

Do not expose the battery to water. Do not allow water to contact the terminals. This may cause fire, overheating, or electric shock.

Be sure to use and charge the specified battery OT-BY60II. Using a battery other than the one specified may cause fire, explosion, leakage, overheating, or other damage.

Restriction of Use

When this product is used for applications requiring high reliability/safety, such as transportation devices related to aviation, rail, marine, automotive; disaster prevention devices; various safety devices; or functional/precision devices, etc., you should use this product only after giving consideration to including fail-safes and redundancies into your design to maintain safety and total system reliability. Because this product was not intended for use in applications requiring extremely high reliability/safety, such as aerospace equipment, main communication equipment, nuclear power control equipment, or medical equipment related to direct medical care, etc., please make your own judgement on this product's suitability after a full evaluation.

Note about interference

- This product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
- If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
 - Reorient or relocate the receiving antenna for the radio/TV.
 - Increase the separation between the equipment and the radio/TV.
 - Connect the equipment into an outlet on a circuit different from that to which the radio/TV is connected.
 - Consult your dealer or an experienced radio/TV technician for help.
- Never disassemble or modify this product.
- Seiko Epson Corporation shall not be liable for interference to radio/TV resulting from changes or modifications to this product not expressly approved by Seiko Epson Corporation.

About this Manual

Aim of the Manual

This manual was created to provide information on the development, design, and installation of POS systems and the development and design of printer applications for developers.

Manual Content

The manual is made up of the following sections:

Chapter 1	Product Overview
Chapter 2	Setup
Chapter 3	Advanced Usage
Chapter 4	Application Development Information
Chapter 5	Handling
Chapter 6	Replacement of the TM-P60
Appendix	Product Specifications Specifications of Interfaces and Connectors Character Code Tables

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Product Overview

This chapter describes features and specifications of the TM-P60II, a portable thermal printer.

Features

Printing

Maximum printing speed of 100 mm/s is possible.

Printer handling

- The direct connection without Wi-Fi access point brings a simplified configuration procedure of network settings. (SimpleAP mode)
- Easy drop-in paper loading.
- The range of 29.5 mm to 58 mm paper width can be used. A 60 mm paper width can be used by removing the spacer.
- Belt clip for maximum mobility.
- Long battery life.
- Peeler function is installed as the standard. (It is easy to switch between the label peeler issuing mode and the label continuous issuing mode.)

Software

- NFC tag built into the printer unit for printing to a touched printer.
- Printing triggered by bar code scan by smart device camera.
- Utility for iOS/Android provides a user-friendly wizard to simplify the connection for smart devices. (Epson TM Utility for iOS/Android™)
- Command protocol is based on the ESC/POS Proprietary Command System.
- OPOS ADK, JavaPOS ADK, and Windows printer drivers are available.
- Printing various kinds of barcodes, GS1 DataBar, and two-dimensional symbols (PDF417, QR code, Maxi-Code, Composite Symbology, Aztec Code, DataMatrix) are available.
- Various layouts are possible by using page mode.
- Has a maintenance counter function.
- ePOS-print is possible with the Wi-Fi® models.

Interfaces

- Has Wi-Fi (IEEE802.11 a/b/g/n) or Bluetooth® interface.
- USB interface is standard equipment.



Environment

Has a paper-saving function.

Product Configurations

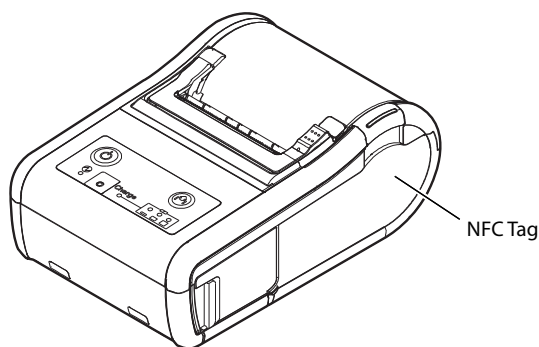
Interfaces

- Wi-Fi (IEEE802.11a/b/g/n) + USB interface model
- *Bluetooth* (Ver. 2.1 + EDR) + USB interface model

NFC Tag

You can perform wireless setup for terminals that support NFC by placing the terminal close to the NFC tag (mark) on the printer.

*There is no Read/Write function.



Buzzer

Model with the internal buzzer function.

Accessories

Included

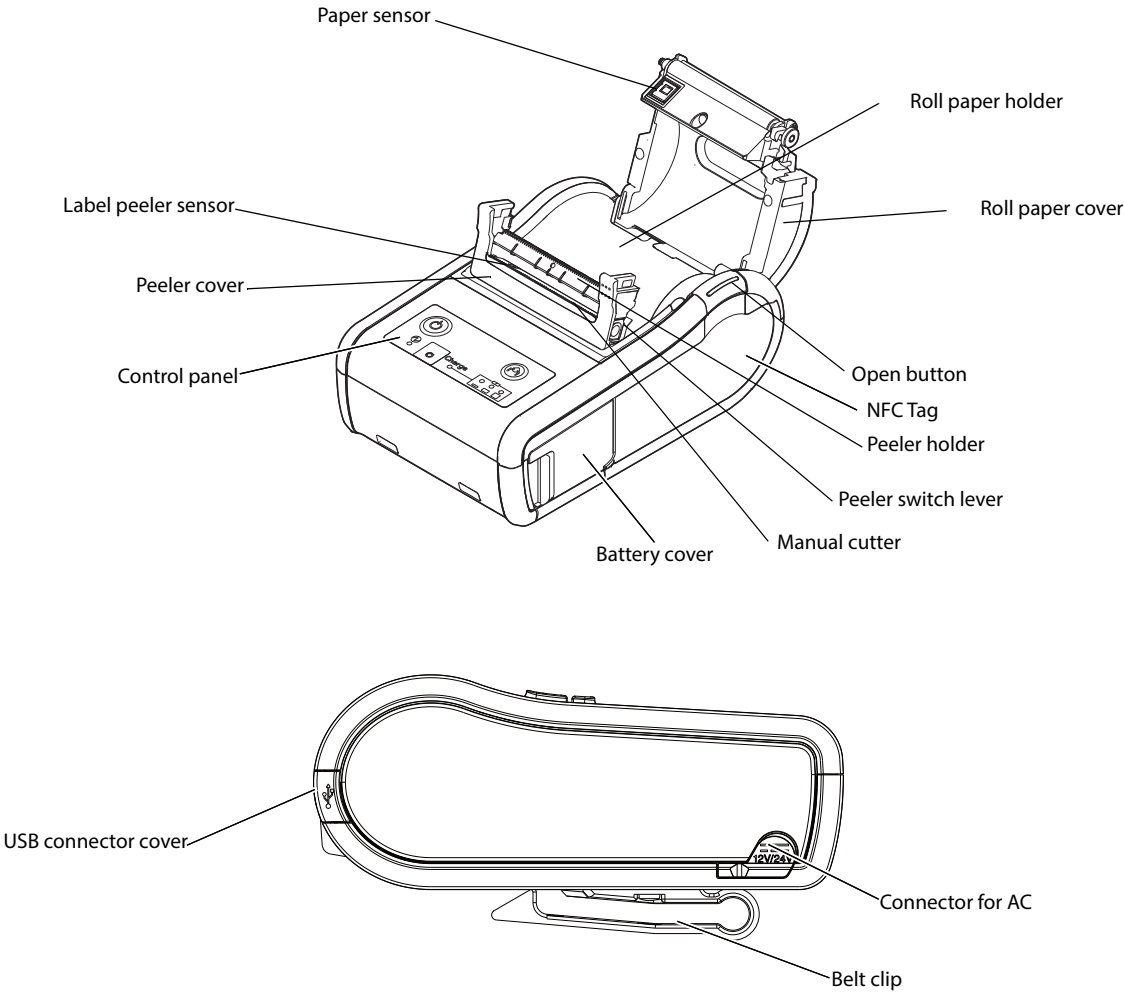
- Thermal roll paper (for operation check)
- Battery pack (OT-BY60II)
- AC adapter (PS-11) ^{*1}
- AC cable ^{*1}
- Wire saddle
- USB cable
- Setup Guide (Wi-Fi / *Bluetooth*)
- User's manual
- Warranty certificate ^{*1}

^{*1} May not be included, depending on the model.

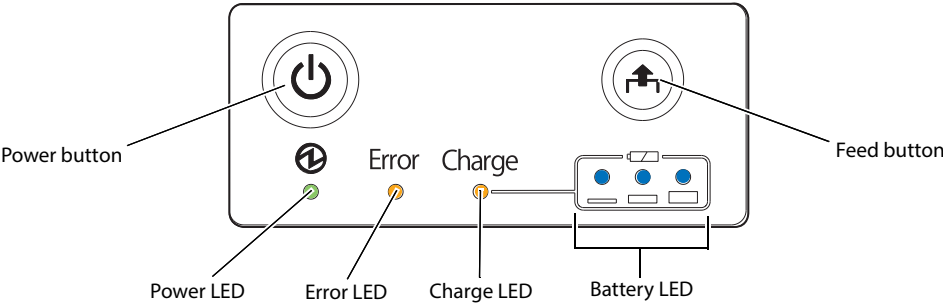
Options

- Battery pack (OT-BY60II)
- AC adapter (PS-11)
- Battery charger (OT-CH60II)

Part Names and Functions



Control Panel



Buttons

Power Button

Press this button to turn the printer on. Press this button for 2 seconds or more to turn the printer off.

CAUTION

- After the power button is pressed, it takes the following time before the printer is initialized. Time to establish the communication is not included.
 - * IEEE802.11a/b/g/n: Approx. 10 sec. after the Power LED comes on.
 - * *Bluetooth*: Approx. 2 sec. after the Power LED comes on.
- The printer does not operate and the LEDs go out when the battery is not installed in the printer even if the printer is connected to the AC adapter.
- It is recommended to turn off the printer after executing the power-off sequence command. The latest values of the maintenance counter are automatically stored in the NV memory (the values of the maintenance counter are normally stored every 2 minutes.) For detailed information about ESC/POS commands, see the ESC/POS Command Reference.
- If the battery is removed from the printer without executing the power-off sequence command, the values of the maintenance counter are not updated correctly.
- To turn the printer on immediately after turning the printer off, press the Power button after the LED lights go off.

Feed button

- When receipt paper is selected for the layout setting, pressing this button once feeds paper by one line. Holding this button down feeds paper continuously.
- When paper other than receipt paper is selected for the layout setting, pressing this button feeds paper to the print starting position on the next label.
- If the printer is used in a situation in which strong light, such as direct sunlight or strong light from illumination strikes the label peeler sensor, even when a label is removed, the label removal status may not be canceled. In this case, pressing this button for approximately 1 second or more cancels the label removal status and feeds paper to the print starting position on the next label.

NOTE

Enabling/disabling of the Feed button can be selected by a command. If the command is set to disable the button, it does not function. For detailed information about ESC/POS commands, see the ESC/POS Command Reference.

LEDs

CAUTION

The printer does not operate and the LEDs go out when the battery is not installed in the printer even if the printer is connected to the AC adapter.

① Power LED (Green)

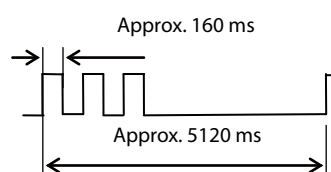
- Lights when the power is on.
- Goes out when the power supply is turned off.
- Flashes when the printer is powering-off or while the Feed button is being pressed in the software setting mode. With the Wi-Fi models, it flashes also when the printer is being initialized after the power is turned on.

Error LED (Orange)

Lights or flashes when the printer is offline.

- Lights after the power is turned on or after a reset (offline). Automatically goes out when the printer is ready.
- Lights when the remaining battery charge is at E level or zero (no remaining battery charge). (For details about battery charge levels, see ["Operation Mode When Battery is Low" on page 21.](#))
- Lights when the printer is offline. (For details about offline, see ["Offline" on page 17.](#))
- Flashes when an error occurs. (For details about the flash codes, see ["Error Status" on page 23.](#))
- Flashes when the printer is in the following label removal waiting status.
 - When the label peeler sensor detects the label after the label is fed to the label removal position.
 - When the label peeler sensor detects the label after the power is turned on (initialization) or the peeler cover is closed.

Flashing pattern



- Goes out during normal operation (online).

Charge LED (Orange)

- Lights when the battery is being charged.
- Off when the battery is fully charged.
- Flashes when there is abnormality in battery charging.

Battery LED (Blue)

The remaining battery charge is indicated by three LEDs only when the battery is installed in the printer. For details, see ["Operation Mode When Battery is Low" on page 21.](#)

Online and Offline

Online

The printer is online and ready for normal printing unless there is a reason to go offline.

Offline

The printer automatically goes offline under the following conditions:

- During power on until the printer is ready
- When the cover is open
- When paper is out
- When the remaining battery charge is at level E or zero (no remaining battery charge)
- When an error has occurred



NOTE

- The Error LED lights during offline. However, it flashes when an error has occurred.
- For details about the battery charge levels and operation modes, see ["Operation Mode When Battery is Low" on page 21](#).
- The buzzer beeps five times when there is no more paper or an error has occurred. You can disable the buzzer with the memory switches. For details on the memory switch settings, see ["Software Settings" on page 48](#).

Switching Issuing Mode

With the roll paper cover and peeler cover open, you can switch the issuing mode between the label continuous issuing mode and the label peeler issuing mode by folding the peeler holder under the peeler cover or using the peeler switch lever.

Label peeler issuing mode: the label is peeled off from the liner when the paper is fed.

NOTE

The printer operates in the label peeler issuing mode immediately after closing the peeler cover or turning on the power. When the specified amount of paper is fed, if a label is not detected by the label peeler sensor, the printer operates in the label continuous issuing mode. When the cover is opened or the power is turned off, the mode setting is returned to the default (the label peeler issuing mode).

Power Functions

You can customize the printer using the power functions, the auto-power off function and battery charge mode function to save the battery power or minimize the battery deterioration.

Auto-Power Off

The printer turns off the power automatically after the specified amount of time elapses in the power saving status.

The initial setting of the auto-power off function differs depending on the models as follows:

For European models: Enabled (The auto-power off time is set to 60.)

For North America models: Disabled (The auto-power off time is set to 0.)

NOTE

- The auto-power off time is selectable with the customized value. To set the customized value, see ["Software Settings" on page 48](#).
- To disable this function, set the auto-power off time to 0.
- When using a USB, even if the set time is defined, the auto-power off function is disabled.

Battery Charge Modes

The printer acts differently when connected to the AC adapter depending on the battery charge mode.

The printer has two modes and is initially set to the mode 1.

NOTE

The battery charge mode is selectable with the customized value. To set the customized value, see ["Software Settings" on page 48](#).

Mode 1

In the mode 1, the printer charges the battery even if the battery is fully charged.

Mode 2

In the mode 2, the printer charges the battery when the remaining battery charge is less than fully charged.

Operation Mode When Battery is Low

The printer acts differently depending on the remaining battery charge and the operation mode when battery is low.

The printer has two modes and is initially set to the mode 1.

NOTE

- It is recommended to replace or charge the battery when the remaining battery charge goes down to the level L.
- Replace or charge the battery when the remaining battery charge goes down to the levels S or E.
- The buzzer beeps five times when the remaining battery charge goes down to the levels L or S. You can disable the buzzer with the memory switches. To set the memory switches, see ["Software Settings" on page 48](#).
- The operation mode when battery is low is selectable with the customized value. To set the customized value, see ["Software Settings" on page 48](#).
- The remaining battery charge is detected before printing starts and the displayed amount is then updated. The Battery LED does not indicate the remaining battery charge detected in real time.

Mode 1

: On

: Flash

: Off

*: Printing may stop in the middle.

Mode 2

● ● : On

● : Flash

○ : Off

	Battery LED	Error LED	Remaining battery charge	Printing	Communication
Level H	● ● ●	○	Approx. 60 ~ 100%	Possible	Possible
Level M	● ● ○	○	Approx. 40 ~ 60%	Possible	Possible
Level L	● ○ ○	○	Approx. 20 ~ 40%	Possible	Possible
Level S	● ○ ○	○	Approx. 10 ~ 20%	Possible	Possible
Level E	○ ○ ○	●	Approx. below 10%	Impossible	Impossible




Error Status

When an error occurs, the printer stops operating, goes offline, and the Error LED flashes.

There are three possible error types: automatically recoverable errors, recoverable errors, and unrecoverable errors.



Automatically Recoverable Errors

Printing is no longer possible when automatically recoverable errors occur. They can recover easily, as described below.

Error	Error description	Error LED flash code 	Recovery measure
Paper error	The basic position on the label cannot be detected.	LED ON →  LED OFF →	Recovers automatically when the cover is opened.
Temperature error	The temperature of the print head, motor driver IC, or battery is high.	LED ON →  LED OFF →	Recovers automatically when the temperature goes down.

Recoverable Errors

Printing is no longer possible when recoverable errors occur. They can be recovered easily by sending an error recovery command after eliminating the cause of the error.

Error	Error description	Error LED flash code 	Recovery measure
Paper layout error	The paper layout differs from the actual paper. Paper jam occurs.	LED ON →  LED OFF →	Recovers by sending an error recovery command.

CAUTION

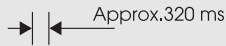







The error recovery command is valid only if a recoverable error (excluding automatically recoverable errors) occurs.

Unrecoverable Errors

Printing is no longer possible when unrecoverable errors occur. If the same error occurs again even after turning the power back on, contact your dealer or a Epson service center.



Immediately turn off the power and remove the battery when unrecoverable errors occur.

Error	Error description	Error LED flash code 
R/W error in memory	After R/W checking, the printer does not work correctly.	LED ON →  LED OFF →
High voltage error	The power supply voltage is high.	LED ON →  LED OFF →
Overload error	The temperature of the print head or battery is extremely high or low.	LED ON →  LED OFF →
CPU execution error	The CPU is executing an incorrect address.	LED ON →  LED OFF →
Wireless communication unit error	Wireless communication does not work correctly or the wireless communication unit is disconnected.	LED ON →  LED OFF →
Internal circuit error	Internal circuits are not connected correctly.	LED ON →  LED OFF → 

NV Memory (Non-Volatile Memory)

The printer's NV memory stores data even after the printer power is turned off. NV memory contains the following memory areas for the user:

- NV graphics memory
- User NV memory
- Customized values and memory switches
- User-defined page
- Maintenance counter

CAUTION

As a guide when you program applications, NV memory should be rewritten 10 or fewer times a day.

NV Graphics Memory

Graphics, such as shop logos to be printed on receipts, can be stored. Even if communication speed is low, high speed graphic printing is possible.

Use the TM-P60II Utility to register graphics. You can also print and confirm the registered graphics in the TM-P60II Utility or NV graphics memory print mode.

CAUTION

The NV graphics memory print mode can be executed in the label continuous issuing mode. If it is executed in the label peeler issuing mode, a paper layout error occurs when paper is detected by the label peeler sensor.

NOTE

- For detailed information about the TM-P60II Utility, see the TM-P60II Utility User's Manual.
- To use the NV graphics memory print mode, see ["NV graphics information print mode" on page 57](#).

User NV Memory

You can store and read text data for multiple purposes, such as for storing a note including customizing or maintenance information of the printer.

Use ESC/POS commands to store and read the text data.

NOTE

For detailed information about ESC/POS commands, see the ESC/POS Command Reference.

Customized Values and Memory Switches

With the customized values and memory switches, which are software switches for the printer, you can configure various settings of the printer.

To set the customized values and memory switches, see ["Software Settings" on page 48](#).

User-defined Page

You can store character data in the user-defined page (character code table: page 255) so that you can also print characters not resident in the printer.

Maintenance Counter

With this function, printer information, such as the number of lines fed and printer operation time after the printer starts working, is automatically stored in NV memory. You can read or reset the information with TM-P60II Utility, the Status API of the APD, or OPOS ADK to use it for periodical checks or part replacement.

NOTE

Maintenance counter values can also be checked with TM-P60II Utility or by executing a self-test. Maintenance counter values are usually saved every two minutes except in the power saving status. However, if the printer power is turned off by removing the battery or using up the battery charge, the latest maintenance counter will not be saved. For detailed information about ESC/POS commands, see the ESC/POS Command Reference.

Useful Functions for Smart Devices

You can easily connect this product to the network by using the NFC tag built-in to the printer or the QR code printed on the status sheet.

NFC Tag

Bring a smart device that supports NFC close to the NFC tag to acquire the printer information (information for specifying the device).

Specify the target printer using the acquired information to connect to the network.

QR Code

Capture the QR code printed on the status sheet with the camera on your smart device to acquire the printer information (information for specifying the device).

Specify the target printer using the acquired information to connect to the network.

NOTE

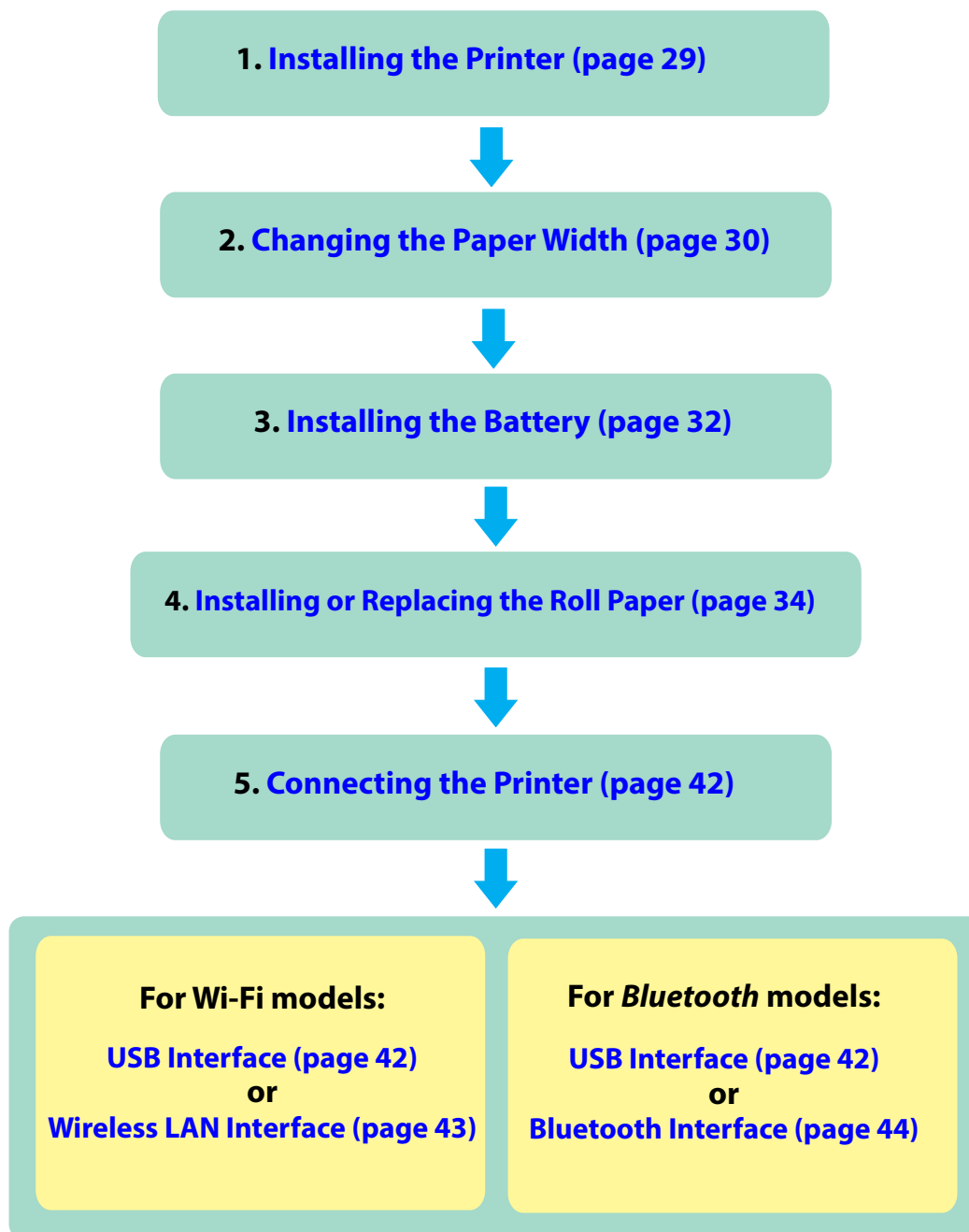
- Programming using Epson ePOS SDK is required to use these functions. These functions are created by combining NFC touch and QR code capturing operations and the target printer specifications using Printer Easy Select API.
See the "Epson ePOS SDK for Android/iOS User's Manual" and the Epson ePOS SDK sample program for more details. The sample program also contains a sample implementation method for reading an NFC tag and capturing a QR code.
- You can try a demo of these functions by using Epson TM Utility for iOS/Android.

Setup

This chapter describes setup and installation of the product and peripherals.

Flow of Setup

This chapter consists of the following sections, along with the setup flow of the product.

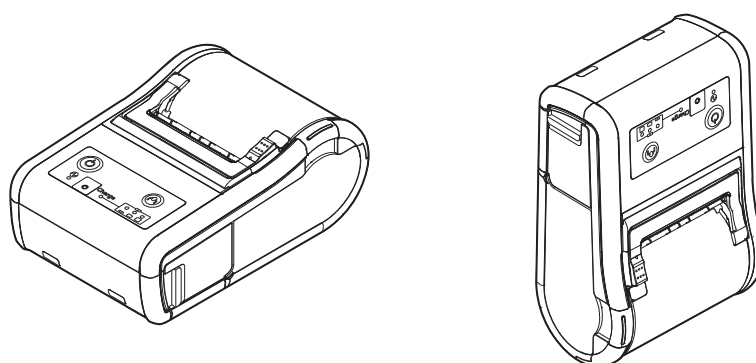


Installing the Printer

You can install the printer horizontally or vertically. You can also carry it using the belt clip on the back of the printer to hang the printer on your belt.

CAUTION

- When you install the printer vertically, only the orientation shown below is available. Do not install the printer upside down.
- When you install the printer horizontally, it is recommended to remove the belt clip. Remove the two screws fixing the clip to remove it.



Notes on Using the Wi-Fi Models

- Keep the printer away from the devices, such as kitchen microwaves, that may cause radio wave interference.
- Use channels that are away from the frequency bands that may cause radio wave influence.
- Place shields between the printer and the devices that may cause radio wave interference.
- Select either 2.4 GHz or 5 GHz, whichever is free from radio wave interference.
- In auto channel setting for the access point, do not select a channel in which the printer may cause radio wave interference.

Changing the Paper Width

The printer is initially set to print on 58 mm {2.28"} width paper. When using 29.5 mm {1.16"}, 36 mm {1.82"}, 42 mm {1.65"}, 48.5 mm {1.91"}, 55 mm {2.17"}, or 58 mm {2.28"} width paper, adjust the spacer to the position matching the width of your paper by following the steps below. If you use 60 mm {2.36"} width paper, remove the spacer installed in the printer.

CAUTION

- When changing the paper width, after adjusting the spacer position, set the paper layout with ESC/POS commands. If the changed settings are not stored in the NV memory, change the settings with the "Paper layout setting" command. If the changed settings are stored in the NV memory, change the settings with the "Paper layout setting" command and store the settings with the "Save the setting values from the work area into the storage area" command. For detailed information about ESC/POS commands, see the ESC/POS Command Reference.
- Do not increase the paper width after you have used a narrower width because if the printer has ever been used with narrow paper, part of the head contacts the platen. Therefore, when a wider setting is used, part of the head may be worn out.

- 1** Make sure that the printer is turned off.
- 2** Press the open button to open the roll paper cover and the peeler cover.
- 3** Remove the roll paper if there is one in the roll paper holder.
- 4** Insert your finger into the hole of the spacer and lift it upward to undo the top part that is fixed in one of the slots.



- 5** Move the spacer to the position matching the width of the paper you are using.



- 6** Insert the top of the spacer and press it down until it clicks.

Installing the Battery

The printer does not operate without a charged battery installed.

Follow the steps below to install the battery.



Be sure to use the battery OT-BY60II.

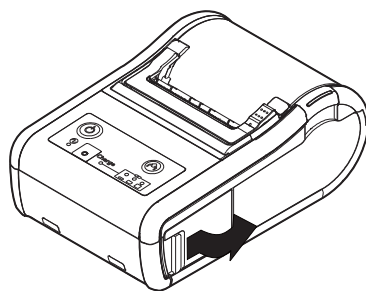
Using a battery other than the one specified may cause fire, explosion, leakage, overheating or other damage.

CAUTION

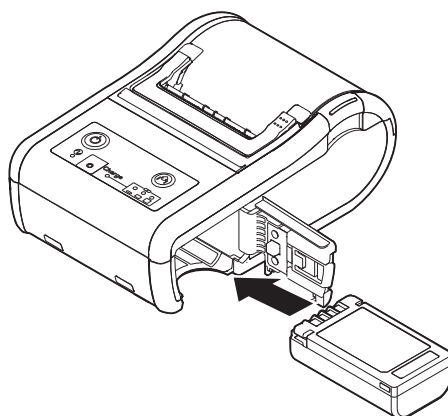
- When removing or installing the battery, be sure to turn off the power before doing so.
- Dispose of used batteries according to the instructions.

1 Make sure that the printer is turned off.

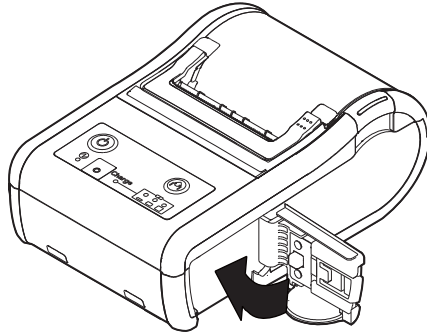
2 Open the battery cover.



3 Install the battery.



4 Close the battery cover.

**NOTE**

To charge the battery, see ["Charging Battery" on page 78](#).

Installing or Replacing the Roll Paper

Follow the steps below to install or replace the roll paper.



When installing or replacing the roll paper, take care not to injure your fingers on the manual cutter.

CAUTION

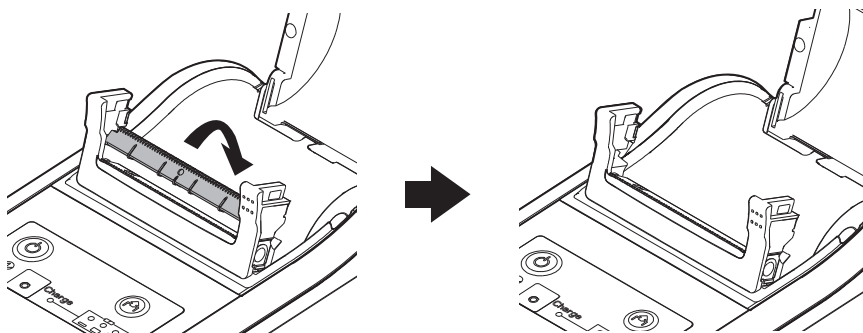
Use paper that meets the printer specifications. For details about paper specifications, see ["Paper Specifications" on page 88](#).

NOTE

Do not use the roll paper that have the paper glued to the core.

When Using the Label Continuous Issuing Mode

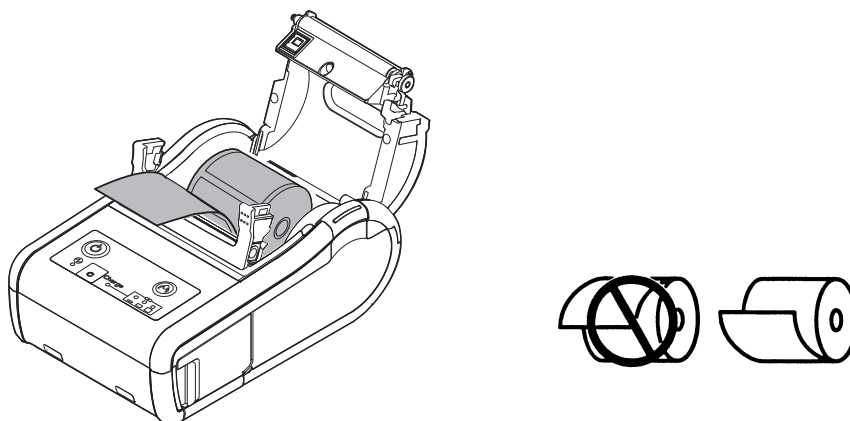
- 1** Press the open button to open the roll paper cover and the peeler cover.
- 2** Remove the used roll paper core if there is one.
- 3** Fold the peeler holder under the peeler cover. This covers the label peeler sensor.



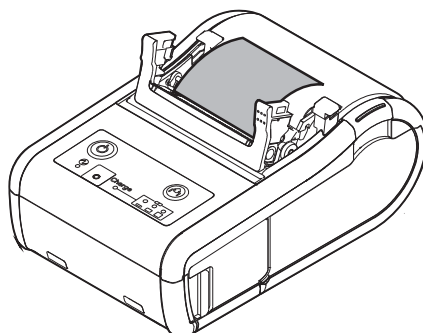
If you hang the printer vertically on a belt using a belt clip on the back of the printer, see ["When installing the printer vertically" on page 36](#).

When installing the printer horizontally

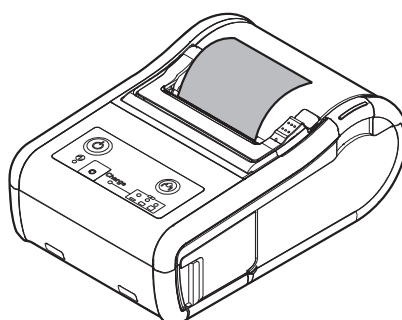
- 4** Set a new roll of paper in the correct direction inside the roll paper holder, and pull the leading edge of the roll paper.



- 5** Close the roll paper cover.

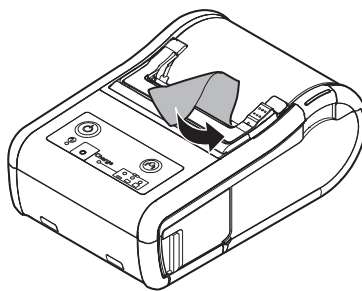


- 6** Close the peeler cover.
When closing the peeler cover, make sure to close it firmly, pressing both ends.



NOTE

When using the label continuous issuing mode, you can tear off the paper.

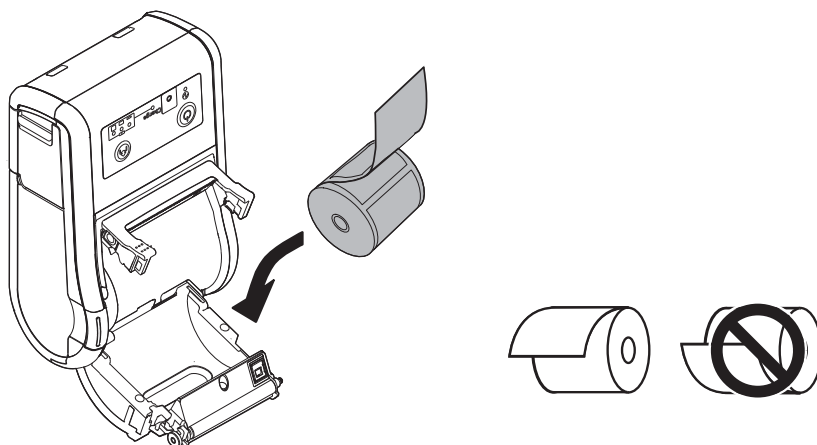


When installing the printer vertically

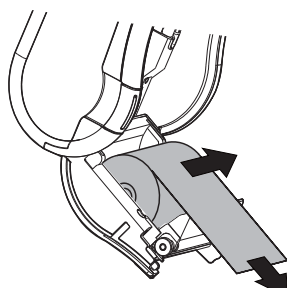
- 4** Set a new roll of paper in the correct direction inside the roll paper cover.

CAUTION

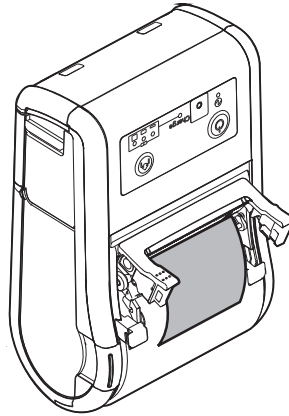
Be sure that roll paper side is at the bottom when you install the printer vertically.



- 5** Pull the leading edge of the roll paper, and align the left edge of the roll paper with the edge of the cover.

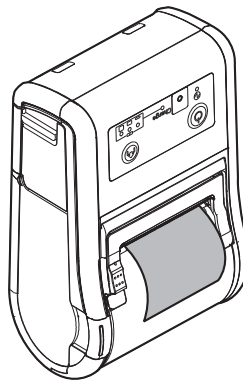


6 Close the roll paper cover.



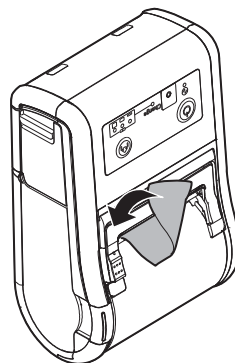
7 Close the peeler cover.

When closing the peeler cover, make sure to close it firmly, pressing both ends



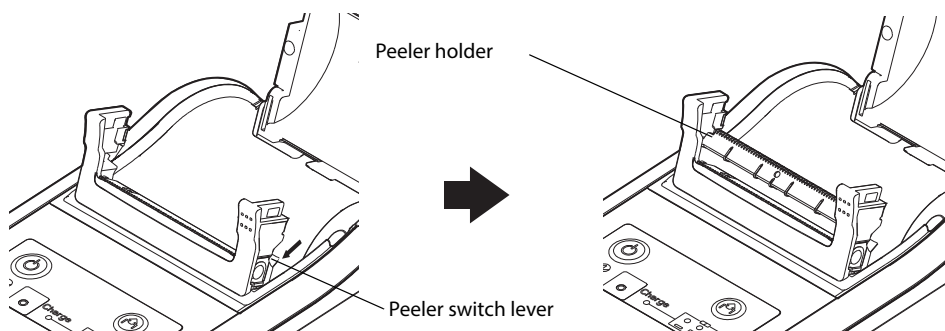
NOTE

When using the label continuous issuing mode, you can tear off the paper.



When Using the Label Peeler Issuing Mode

- 1** Press the open button to open the roll paper cover and the peeler cover.
- 2** Remove the used roll paper core if there is one.
- 3** Press the peeler switch lever to lift the peeler holder.



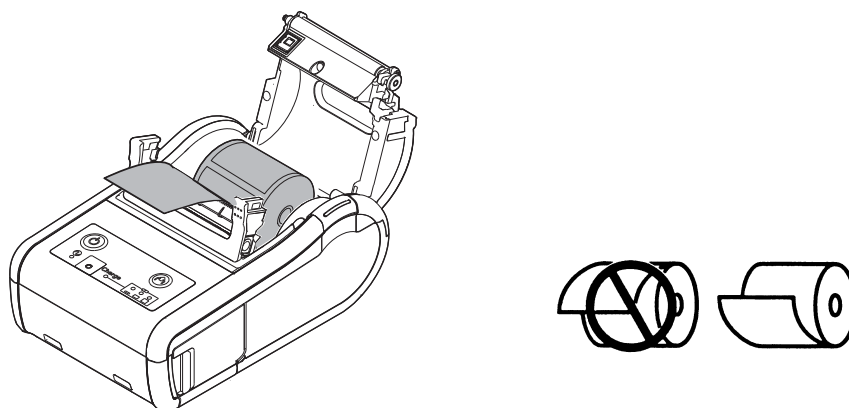
If you hang the printer vertically on a belt using a belt clip on the back of the printer, see ["When installing the printer vertically" on page 40](#).

When installing the printer horizontally

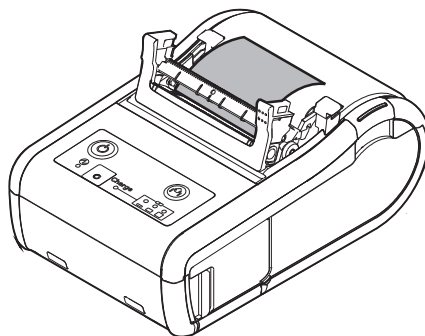
- 4** Set a new roll of paper in the correct direction inside the roll paper holder. Remove the first label off, and pull the label paper so you can set the backing paper in the peeler holder.

CAUTION

If the first label is not removed when using the label peeler issuing mode, the thickness of the label and the backing paper overloads the peeler holder, possibly stopping the paper feed motor.

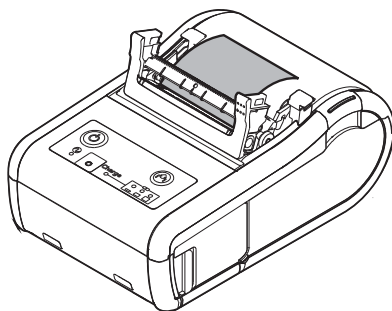


5 Close the roll paper cover.



6 Close the peeler cover.

When closing the peeler cover, make sure to close it firmly, pressing both ends.

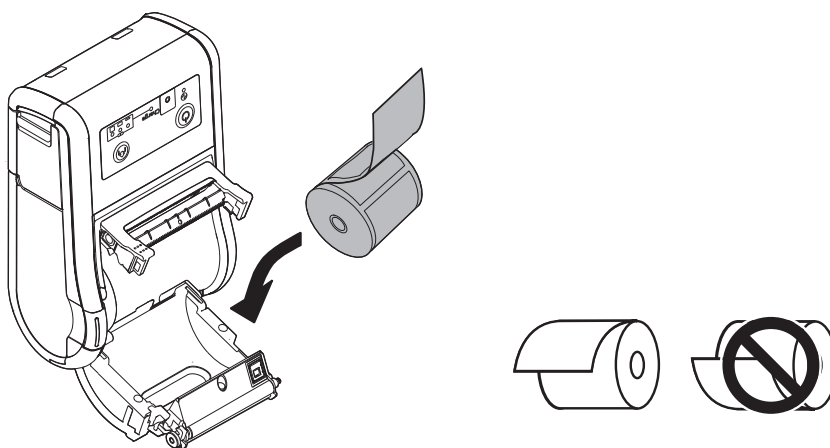


When installing the printer vertically

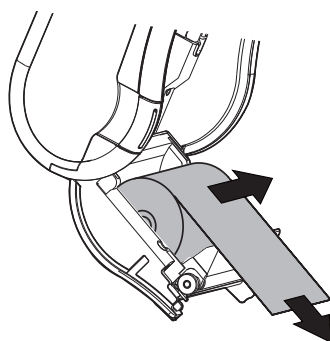
- 4** Set a new roll of paper in the correct direction inside the roll paper cover. Remove the first label off.

CAUTION

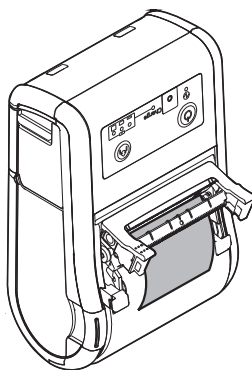
- If the first label is not removed when using the label peeler issuing mode, the thickness of the label and the backing paper overloads the peeler holder, possibly stopping the paper feed motor.
- Be sure that roll paper side is at the bottom when you install the printer vertically.



- 5** Pull the label paper so you can set the backing paper in the peeler holder, and align the left edge of the roll paper with the edge of the cover.

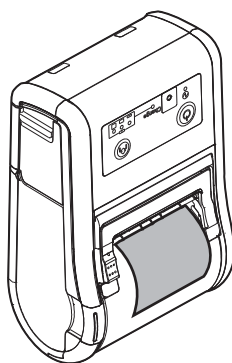


6 Close the roll paper cover.



7 Close the peeler cover.

When closing the peeler cover, make sure to close it firmly, pressing both ends.



CAUTION

When the label peeler sensor detects the label at power on, the printer goes in the label removal waiting state and the Error LED flashes. Be sure to remove the label before powering off the printer. Otherwise, the printer goes into the label removal waiting state when it is powered on again.

NOTE

- When the label is completely fed to the peeling position, the printer goes in the label removal waiting state, so remove the label.
- Removing the issued label enables the label peeler sensor to detect a paper end and the printer is ready to print the next label.

Connecting the Printer

The TM-P60II has dual interfaces: a built-in USB interface and another interface selected by the customer, wireless LAN or *Bluetooth* interface. See the corresponding section for the interface you selected.

- Wi-Fi models: ["USB Interface" on page 42](#) or ["Wireless LAN Interface" on page 43](#)
- *Bluetooth* models: ["USB Interface" on page 42](#) or ["Bluetooth Interface" on page 44](#)

CAUTION

- Before connecting the printer, confirm the current interface mode. The printer is initially set to the Automatic selection mode. To change the interface mode, see ["Software Settings" on page 48](#).
- **Automatic selection:**
When the USB cable is connected with a host PC, the USB interface is preferentially selected. However, if the printer is turned on before turning on a host PC, the wireless LAN/*Bluetooth* interface is selected. When the USB cable is not connected with a host PC, the wireless LAN/*Bluetooth* interface is selected.

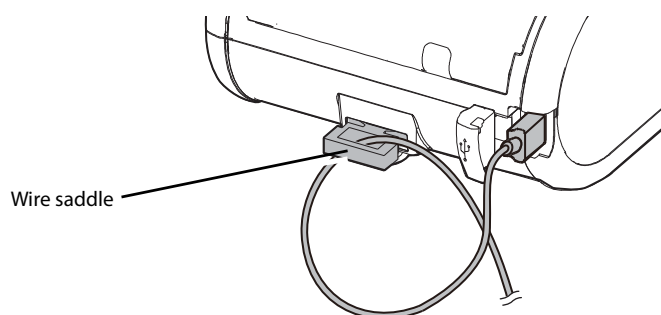
USB Interface

When communicating with a host PC via the USB cable, connect the USB cable to the printer, turn on the PC, and then turn on the printer. For Windows, you can change the printer settings with the TM-P60II Utility. For details on the TM-P60II Utility, see ["Software Settings" on page 48](#).

CAUTION

- Putting the USB cable through the wire saddle prevents the cable from coming unplugged.
- Do not place any weight or stress on the cable when using. Doing so could damage the cable and connectors.
- When communicating with a host PC via the USB interface, connect the USB cable to the printer before turning on the printer.

- 1 Attach the enclosed wire saddle to the printer as shown in the illustration below.
- 2 Put the USB cable through the wire saddle.



- 3 Connect the USB cable from the host computer to the USB connector.
- 4 Connect the other end of the interface cable to the host computer.

Wireless LAN Interface

Using Epson TM Utility, you can easily connect the printer to the network from an iOS or Android devices. We also recommend connecting using a USB cable from a Windows computer, and setting up the wireless LAN using the network setup tool (EpsonNet Config).

CAUTION

- Examine the radio wave situation in the surrounding area before use.
- Avoid using the same channel that is used in the neighboring shops where wireless LAN is used.
- In the infrastructure mode, W53 and W56 channels are not available to connect to a stealth SSID access point.

NOTE

- For detailed information about EpsonNet Config, see the EpsonNet Config manual (operation guide) or the EpsonNet Config online help.
- If you configure the wireless LAN setting without using EpsonNet Config, use the network parameters printed on the dynamic status sheet. To print dynamic status sheet, see "[Dynamic Status Sheet Print Mode](#)" on page 66.
- To initialize the wireless LAN setting, see "[Wireless module setup mode](#)" on page 61.

Setting up from a Smart Device

Necessary Items

Prepare the following items.

- Printer: TM-P60II
- Device for setting: iOS or Android device
- Utility for setting: Epson TM Utility for iOS/Android

Running Epson TM Utility for iOS/Android

- 1 Run the Epson TM Utility for iOS/Android.



- 2 Set from "Wi-Fi® Setup Wizard" in the menu.

Setup and Operation Work flow

1. Select the network you want to connect to.
2. Enter the passkey.
3. Perform a test print.

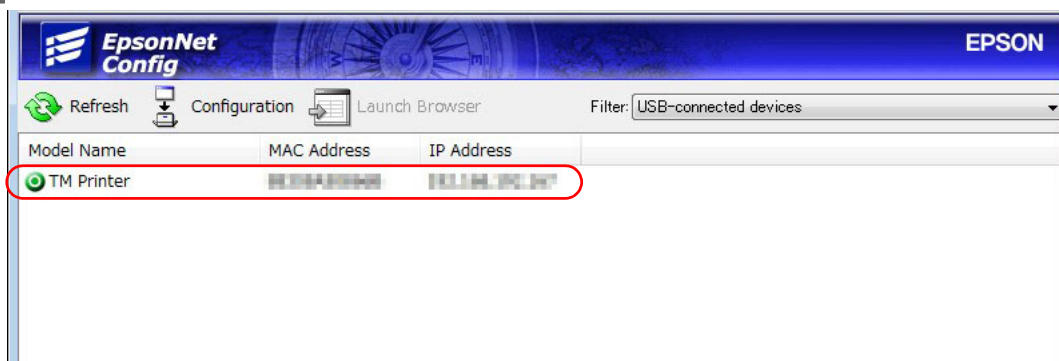
Setting up from a Windows Computer

1 Connect the printer to a PC via the USB cable.
See ["USB Interface" on page 42](#).

2 Turn on the printer.

3 Start up EpsonNet Config.

4 Double-click on the printer.



5 Configure the [Network] settings and the [TCP/IP] settings.

6 Disconnect the USB cable, turn off the printer, and then turn it back on.

CAUTION

Be sure to disconnect the USB cable, turn off the printer, and then turn it back on after using EpsonNet Config via the USB interface.

NOTE

If you need to configure other settings, use EpsonNet Config (web version). For information about EpsonNet Config (web version), see ["EpsonNet Config \(Web Version\)" on page 68](#).

Bluetooth Interface

Use a tool, such as a built-in *Bluetooth* connection tool of your device to establish the connection with the printer. If your device is a Windows computer, use EPSON TM *Bluetooth*® Connector, which is a utility to easily pair a terminal and the printer.

CAUTION

- If the host computer and the printer are not connected on a continuous basis but rather connected every time the printer starts printing, some time may be needed for the printer to actually start printing after the host computer commands printing. This pause is the time required for processing the connection between the host computer and the printer, and it depends on the conditions of the environment where used.
- If data transfer from an application of the host computer has already been completed, data might remain in the *Bluetooth* module internal buffer. As such data remaining in the buffer might be lost when the connection is cut off, use the status or similar functions to check that transmitted data has been completely printed before cutting off the wireless connection.

NOTE

- The device name and passkey are initially set as follows:
 - * Device name: TM-P60II_XXXXXX*
*XXXXXX refers to the last 6 digits of the serial number labeled on the back of your printer.
 - * Passkey: 0000
- For detailed information about EPSON TM *Bluetooth*® Connector, see the TM *Bluetooth*® Connector User's Manual.
- The device name and passkey are editable with the TM-P60II Utility.

Setting up from a Smart Device

Necessary Items

Prepare the following items.

- Printer: TM-P60II
- Device for setting: iOS or Android device
- Utility for setting: Epson TM Utility for iOS/Android

Running Epson TM Utility for iOS/Android

1 Run the Epson TM Utility for iOS/Android.



2 Set from "Bluetooth® Setup Wizard" in the menu.

Setup and Operation Work flow

1. Select the printer you want to connect to.
2. Enter the passkey.
3. Perform a test print.

Setting up from a Windows Computer

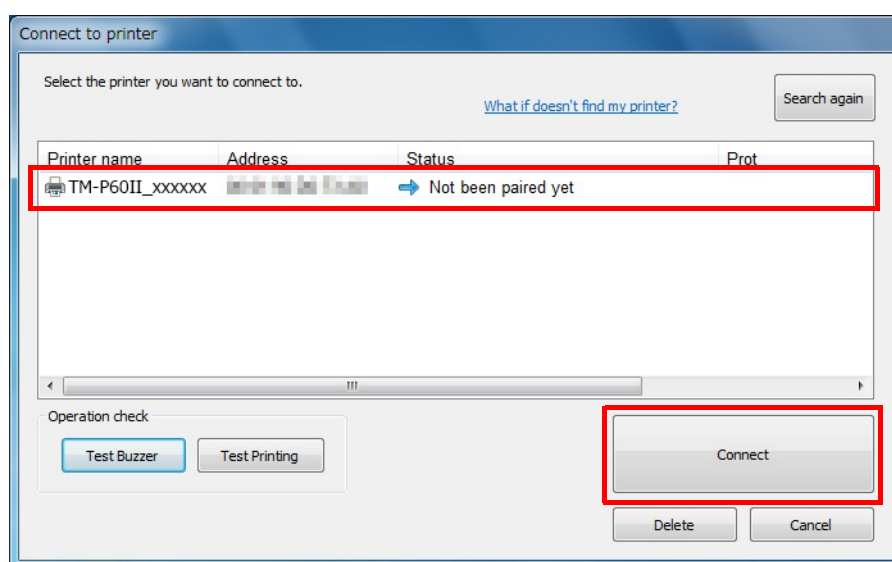
Follow the procedure below and make the settings.

1 Have a *Bluetooth* wireless technology compatible computer ready. Make sure you have installed TM *Bluetooth*® Connector.

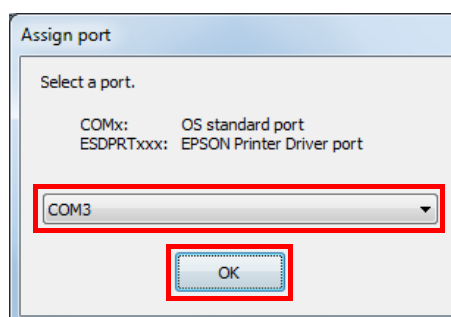
- 2 Turn on the printer.
- 3 Start TM Bluetooth® Connector.
- 4 Select [Search all printers around this computer], and then click [Search].



- 5 Select the printer to be paired (➡ Not been paired yet), and then click [Connect].



- 6 If the window to enter a passkey appears, enter a passkey and click [OK].
- 7 Select the port to be used from the pull-down list, and then click [OK].



Printing method	Port name
APD print queue	ESDPRTxxx (TM-P60II: <i>Queue name</i>)
UPOS	ESDPRTxxx (UPOS for TM-P60II)
ESC/POS command	Displayed virtual COM port (e.g. COM4)

- 8 The “Connection complete” window appears. Click [Test Buzzer] or [Test Printing] to check operation.
- 9 Click [Back to Main screen] to return to the main window.
- 10 Click the “x” button of TM *Bluetooth*® Connector to exit.

NOTE

- If “Error” is displayed when you click the [Search] on the TM *Bluetooth*® Connector, check whether:
 - The *Bluetooth* adapter is installed to the computer.
 - *Bluetooth* is ON in the Windows settings.
- If the device is not displayed on the TM *Bluetooth*® Connector or the TM *Bluetooth*® Connector Status shows “✖” after pairing.
Check whether:
 - The printer is not turned on.
Turn on the printer. Confirm that the battery is properly loaded in the printer.
 - The printer is 10 m or further away from the computer.
 - Confirm that there is no other wireless device, such as a microwave oven and cordless telephone, that can interfere with the *Bluetooth* printer.
 - If the printer and the computer are placed in different rooms separated by a wall, move the printer and/or the computer in the same room.
 - The printer may not be detected when the search time is short. Try search again with longer search time.
 - While a computer and printer are communicating, the printer cannot be detected by other computers. Confirm that the printer to be detected is not communicating with any computer.

Advanced Usage

Software Settings

With the customized values and memory switches, which are software settings for this printer, you can set the various functions. For an outline of those functions, see the following section.

Use TM-P60II Utility, Software setting mode, or ESC/POS commands, to set the customized values and memory switches.

		TM Utility for iOS, for Android	TM-P60II Utility	Software setting mode	ESC/POS commands
Customized values	User NV memory capacity				✓
	NV graphics memory capacity			✓	✓
	Print density	✓	✓	✓	✓
	Print speed	✓	✓	✓	✓
	Interface mode		✓	✓	✓
	Command execution during offline	✓	✓	✓	✓
	Automatic paper reduction		✓	✓	✓
	Automatic power off time	✓	✓	✓	✓
	Battery charge mode	✓	✓		✓
	Offline response				✓
	Operation mode when battery is low	✓	✓		✓
	Battery status levels				✓
	Adjusted value for movement distance of label peeling position				✓
	Allocation of paper position immediately after the memory switch 8 specific state		✓		✓
Memory switches	Transmission of status notice	✓	✓	✓	✓
	Buzzer Settings	✓	✓	✓	✓
	Paper position immediately after the specific state	✓		✓	✓
USB Class			✓	✓	✓
Bluetooth interface			✓		✓

NOTE

- For detailed information about TM-P60II Utility, see the TM-P60II Utility User's Manual.
- For information about how to use the Software setting mode, see ["Software settings mode" on page 58](#).
- For detailed information about ESC/POS commands, see the ESC/POS Command Reference.

User NV memory capacity

- 1 KB (initial setting)
- 64 KB
- 128 KB
- 192 KB

NV graphics memory capacity

- None
- 64 KB
- 128 KB
- 192 KB
- 256 KB
- 320 KB
- 384 KB (initial setting)

Print density

Selectable from 70% to 130% (initial setting: 100%)

Depending on the paper type, it is recommended to set the print density as shown in the table below for the best print quality.

Roll Paper Type	Original Paper Type	Density Level
Die-cut label	DTM9502	130%
Receipt paper	P31023, P35024	100%
	P30023	110%

CAUTION

- If the print density is set to a darker level, printing speed may be reduced.
- If the print density is set to a darker level, paper dust accumulates on the print head and print may be faint. For information about how to clean the thermal head, see "[Cleaning the Thermal Head](#)" on page 79.

Print speed

Selectable from levels 1 to 10 (Slow ~ Fast) (initial setting: level 10)

NOTE

- The printing speed changes automatically depending on power supply voltage and the condition of the head temperature.
- Printing speed may be slower, depending on the data transmission speed and the combination of control commands.

Interface mode

Selectable from: automatic selection, fixed to wireless LAN/*Bluetooth* interface, or fixed to built-in USB.

NOTE

- The TM-P60II has dual interfaces: a built-in USB interface and another interface selected by the customer, wireless LAN or *Bluetooth*. The tables below describe the modes you can set for the printer to control the dual interfaces.
- **Automatic selection:**
When the USB cable is connected with a host PC, the USB interface is preferentially selected. However, if the printer is turned on before turning on a host PC, the wireless LAN/*Bluetooth* interface is selected. When the USB cable is not connected with a host PC, the wireless LAN/*Bluetooth* interface is selected.

For Wi-Fi models

Interface mode	Wireless LAN	Built-in USB
Automatic selection (initial setting)	Available	Available
Fixed to Wireless LAN	Available	Not available
Fixed to built-in USB	Not available	Available

For *Bluetooth* models

Interface mode	Bluetooth	Built-in USB
Automatic selection (initial setting)	Available	Available
Fixed to Bluetooth	Available	Not available
Fixed to built-in USB	Not available	Available

Command execution during offline

When this function is enabled, you can execute specified commands even if the printer is offline due to specified causes.

- Enabled (initial setting)
- Disabled

Automatic paper reduction

- Extra upper space reduction: disabled (initial setting) or enabled
- Extra lower space reduction: disabled (initial setting) or enabled
- Line space reduction rate: not reduced (initial setting), 25%, 50%, or 75%
- Line feed reduction rate: not reduced (initial setting), 25%, 50%, or 75%
- Barcode height reduction rate: not reduced (initial setting), 25%, 50%, or 75%

CAUTION

- Paper reduction is not performed for space dot lines of graphics printing data.
- When reducing barcode height, be sure to check reading a barcode with your barcode reader in advance.

Automatic power off time

Selectable from 0 to 60 minutes. The initial setting of the auto-power off function differs depending on the models as follows:

For European models: Enabled (The auto-power off time is set to 60.)

For North America models: Disabled (The auto-power off time is set to 0.)

CAUTION

When using the USB interface, this functions is disabled even if the time is set.

NOTE

For detailed information, see ["Auto-Power Off" on page 20](#).

Adjusted value for movement distance of label peeling position

Selectable from - 32 dots to 32 dots. (initial setting: 0 dots)

Battery charge mode

- Mode 1 (initial setting)
- Mode 2

NOTE

For detailed information about the battery charge mode, see ["Battery Charge Modes" on page 20](#).

Offline response

Select "offline response for the TM-P60," if you replace a TM-P60 with a TM-P60II.

- Offline response for the TM-P60II (initial setting)
- Offline response for the TM-P60

NOTE

While the offline response for the TM-P60II includes the offline cause, that for the TM-P60 does not include the offline cause.

Operation mode when battery is low

- Mode 1 (initial setting)
- Mode 2

NOTE

For detailed information about the operation mode when battery is low, see ["Operation Mode When Battery is Low" on page 21](#).

Allocation of paper position immediately after the memory switch 8 specific state

- Memory switch 8-7 (initial setting)
- Memory switch 8-6 (TM-P60 compatible)

Battery status levels

Select "battery status levels for the TM-P60," if you replace a TM-P60 with a TM-P60II.

- Battery status levels for the TM-P60II (initial setting)
- Battery status levels for the TM-P60

NOTE

While the battery status for the TM-P60II has 6 levels, that for the TM-P60 has 4 levels.

Transmission of Status notice

- Transmits (initial setting)
- Does not transmit

Buzzer settings

- Buzzer sounds for low battery warning: disabled or enabled (initial setting)
- Buzzer sounds for roll paper end warning: disabled or enabled (initial setting)
- Buzzer sounds for error occurrence warning: disabled or enabled (initial setting)

Paper position immediately after the specific state

- Not specified as “Start of printing” (initial setting)
- Specified as “Start of printing”

NOTE

To enable this function, select the memory switch 8-7 with the customized value “Allocation of paper position immediately after the memory switch specific state.”

USB class

- Printer Class
- Vendor Class (initial setting)

Bluetooth interface

- Passkey (initial setting: 0000)
- Device name (initial setting: TM-P60II_XXXXXX)
- Security (initial setting: Low)
- Auto Re-Connect with iOS device (initial setting: Enabled)

NOTE

- The device name is initially set to TM-P60II_XXXXXX.
(XXXXXX refers to the last 6 digits of the serial number labeled on the back of your printer.)
- When the firmware version is 6.14 ESC/POS or later, you can change the Bluetooth security settings. (iOS Bluetooth model only)

Paper Layout Setting

Before printing, it is necessary to set the layout information for paper type and size in the printer. Doing paper feeding or printing without this layout setting may result in a paper out (no paper left) or an error. In all of the following cases, therefore, make layout settings before use.

- When using label paper for the first time (except when replacing label paper of the same type)
- When changing the paper type (receipt paper (with/without black mark), die-cut label paper (with/without black mark))
- When changing the size of the label paper

The paper layout can be set with ESC/POS commands. If the changed settings are not stored in the NV memory, change the settings with the “Paper layout setting” command. If the changed settings are stored in the NV memory, change the settings with the “Paper layout setting” command and store the settings with the “Save the setting values from the work area into the storage area” command. For detailed information about ESC/POS commands, see the ESC/POS Command Reference.

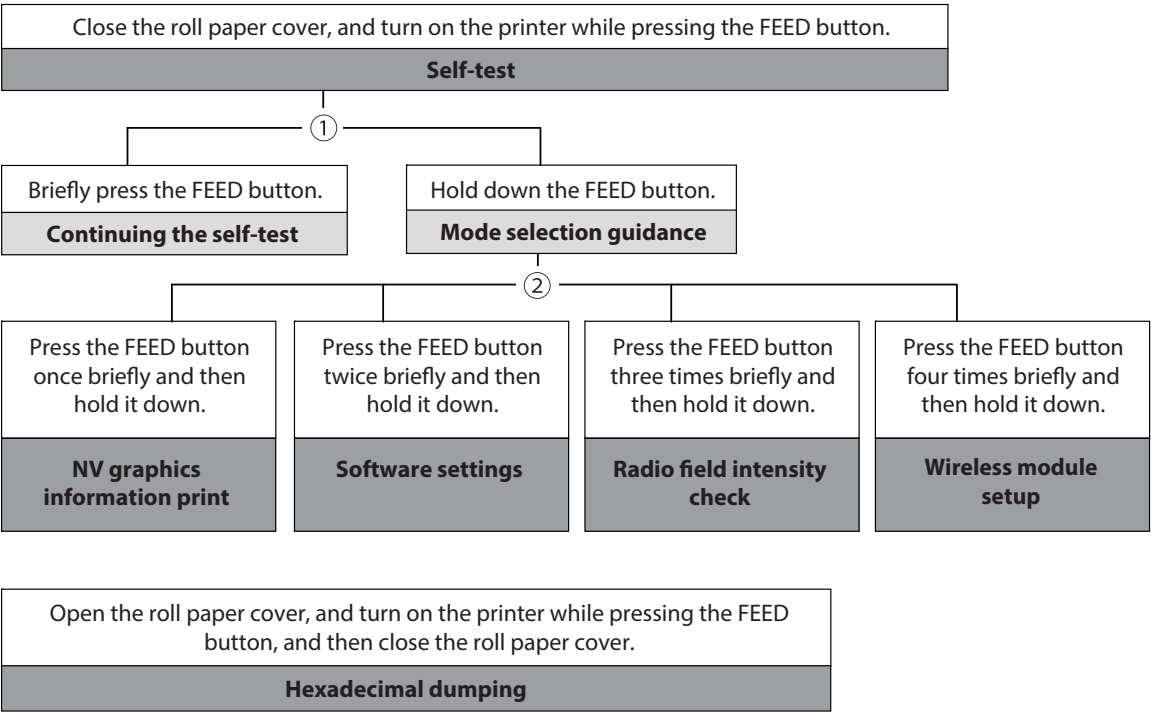
Settings/Check Mode

As well as print mode, the following modes are also provided for making various printer settings and checking items.

- Self-test mode
- NV graphics information print mode
- Software settings mode
- Radio field intensity check mode (Wi-Fi model only)
- Wireless module setup mode
- Hexadecimal dumping mode
- Dynamic status sheet print mode

The self-test mode or hexadecimal dumping mode is selected depending on the operation performed when the power is turned on.

NV graphic information print mode, Software settings mode, Radio field intensity check mode, and the Wireless module setup mode are selected depending on the FEED button operation performed during a self-test.



In 1 and 2, the following guidances are printed, the  Power LED flashes, and instructs the user's operations.

1. Continuing self-test guidance

Select Modes by pressing Feed Button.
Continue SELF-TEST: Less than 1 second
Mode Selection : 1 second or more

2. Mode selection guidance

Mode Selection

Modes
0: Exit and Reboot Printer
1: NV Graphics Information
2: Customize Value Settings
3: Radio Field Intensity Check
4: Wireless Module Setup
5 or more: None

Select Modes by executing following procedure.
step 1. Press the Feed button less than 1 second as many times as the selected mode number.
step 2. Press Feed button for 1 second or more.

Self-test mode


You can check the following items using the self-test.

- Firmware version
- Interface information
- Loaded font
- Maintenance information (head mileage)

CAUTION

The Self-test mode can only be executed in the label continuous issuing mode. If it is executed in the label peeler issuing mode, a paper layout error occurs when paper is detected by the label peeler sensor.

Follow the steps below.

- 1 Close the roll paper cover.**
- 2 While pressing the FEED button, turn on the printer. (Hold down the FEED button until printing starts.)**
After printing the current print status, a Continuing self-test guidance is printed, and the  Power LED flashes.
- 3 Briefly press the FEED button (less than one second) to continue the self-test.**
The printer prints a rolling pattern on the roll paper, using the built-in character set.
After "***" completed "***" is printed, the printer initializes and switches to standard mode.

NV graphics information print mode

Prints the following NV graphic information registered to the printers.

- NV graphics capacity
- NV graphics usage capacity
- NV graphics free capacity
- NV graphics registration
- Key code for each data, number of X direction dots, number of Y direction dots
- NV graphics data

CAUTION

The NV graphics information print mode can only be executed in the label continuous issuing mode. If it is executed in the label peeler issuing mode, a paper layout error occurs when paper is detected by the label peeler sensor.

NOTE

For details on NV graphics, see ["NV Graphics Memory" on page 25](#).

Follow the steps below.

- 1 After running a self test, hold down the FEED button for at least one second, and then select the Mode selection.**
The Mode selection guidance is printed, and the ① Power LED flashes.
- 2 After briefly (less than one second) pressing the FEED button once, hold it down for at least one second, to print the NV graphics information.**
After information printing, the Mode selection guidance is printed again.
- 3 To finish, turn off the power, or select "Exit and Reboot Printer".**

Software settings mode

Set the printer's memory switch (customized value).

- Print density
- Automatic paper reduction
- Interface selection
- USB communications settings
- Print speed
- NV memory capacity
- Command execution during offline
- Transmission of status notice
- Buzzer control
- Automatic power off setting
- Paper position immediately after specific state

CAUTION

The software setting mode can only be executed in the label continuous issuing mode. If it is executed in the label peeler issuing mode, a paper layout error occurs when paper is detected by the label peeler sensor.

NOTE


For details on the memory switch (customized value), see ["Software Settings" on page 48](#).

Follow the steps below.

1 After running a self test, hold down the FEED button for at least one second, and then select the Mode selection.

The Mode selection guidance is printed, and the  Power LED flashes.

2 Briefly press the FEED button twice (less than one second), hold it down for at least one second, and then select the Software settings mode (Customized value setting).

The Software setting mode guidance is printed, and the  Power LED flashes.

Customize value Settings

Modes

- 0: Exit
- 1: Print Current Settings
- 2: Print Density
- 3: Automatic Paper Reduction
- 4: Interface Selection
- 5: USB Interface Settings
- 6: Printing Speed
- 7: NV Capacity
- 8: Command Execution (Offline)
- 9: Transmission of status information
- 10: Buzzer sounds
- 11: Auto power off
- 12: Paper Position at Power On

Select Modes by executing following procedure.

- Step 1. Press the Feed button less than 1 second as many times as the selected mode number.
- Step 2. Press Feed button for 1 second or more.


3 After briefly pressing the FEED button (less than one second) for the number of times shown in the print result, hold down the button for more than one second, and then select the setting items.

The setting selected as the setting item, the current settings and initial settings are printed.

Depending on the setting item, you may need to continue selecting the setting item before the settings are printed.

For details on setting items, see ["Software Settings" on page 48](#).

4 Select a setting by briefly pressing the FEED button (less than one second) for the number of times applicable to the setting, and then hold down the button for more than one second to confirm your selection.

After saving the settings, the Software setting mode guidance is printed, and the  Power LED flashes.

5 To close Software setting mode, turn off the printer, or select "Exit" to return to Mode selection guidance, and then select "Exit and Reboot Printer".

NOTE

- To select 0 as the item number, hold down the FEED button until printing starts.
- If the button is pressed a number of times that is not displayed by the Setup guidance, the operation is invalid and the same guidance is printed.

Radio field intensity check mode

Information on the strength of the wireless LAN radio field is printed. (Wi-Fi model only)

CAUTION

The radio field intensity check mode can only be executed in the label continuous issuing mode. If it is executed in the label peeler issuing mode, a paper layout error occurs when paper is detected by the label peeler sensor.

Follow the steps below.

- 1 After running a self test, hold down the FEED button for at least one second, and then select the Mode selection.**

Prints the Mode selection guidance, and the ① Power LED flashes.

- 2 After briefly (less than one second) pressing the FEED button for three times, hold it down for at least one second to select the Radio field intensity check.**

The operation guidance is printed, and the ① Power LED flashes.

```
Radio Field Intensity Check

To start radio field intensity check :
  Press the FEED button 1 second or more.

To end mode :
  Press the POWER button 2 second or more.
```

- 3 Press the FEED button (approximately one second) until the buzzer sounds once.**
Continue this operation when repeating the Radio field intensity check.

```
SSID:ENTest

AP 1
MAC Address    XX-XX-XX-XX-XX-XX
Channel        11
WEP            Disable
Signal Level   -xxdbm
Noise Level    -xxdbm
```

Print image for radio field intensity information

- 4 Turn the power off to finish.**

Wireless module setup mode

You can change settings or reset the wireless communication settings. For Wi-Fi models, you can change or reset the wireless LAN settings, and for *Bluetooth* models, you can change or reset the *Bluetooth* settings. For USB connections, the settings are not reset.


CAUTION

The Wireless module setup mode can only be executed in the label continuous issuing mode. If it is executed in the label peeler issuing mode, a paper layout error occurs when paper is detected by the label peeler sensor.


Follow the steps below.

- 1

After running a self test, hold down the FEED button for at least one second, and then select the Mode selection.

Prints the Mode selection guidance, and the  Power LED flashes.
- 2

After briefly (less than one second) pressing the FEED button for four times, hold it down for at least one second to select the Wireless module setup mode.

The operation guidance is printed, and the  Power LED flashes.

Wi-Fi model	Bluetooth model
<div>wireless Module Setup</div> <div>Setup items</div> <div>0: Exit</div> <div>1: Initialize</div> <div>2: SimpleAP</div>	<div>wireless Module Setup</div> <div>Setup items</div> <div>0: Exit</div> <div>1: Initialize</div> <div>2: Bluetooth</div>

- 3

Perform one of the following operations according to the printed operation guidance.

Initialize

Select 1: Initialize to initialize the wireless communication settings (network parameters). The printer is reset and restarted.

<Procedure>

After briefly (less than one second) pressing the FEED button once, hold it down until the following message is printed.

Initialization was selected. Please release the Feed button.

SimpleAP mode (SimpleAP)

In Wi-Fi model, select 2: SimpleAP to start in SimpleAP mode (the same as the factory default setting).
Select this to use Quick connection for Wi-Fi model.

NOTE

For information on the Quick connection function, see ["Useful Functions for Smart Devices" on page 27](#).

Auto re-connect to iOS device (Bluetooth)

In *Bluetooth* model, select 2: Bluetooth and set in 1: Auto Re-Connect iOS, you can select whether to enable or disable auto reconnection to iOS devices. (iOS *Bluetooth* model only)

NOTE

For information on the Auto re-connect feature, see ["Auto Reconnect Feature \(iOS Bluetooth model\)" on page 104](#).

When the firmware version is 6.12 ESC/POS or later:

- 1 After selecting the setting value, press the Feed button again.**
(Keep pressing the button until the printer starts printing.)
The selected setting value (Enable/Disable) is printed.
- 2 The printer starts printing Wireless Module Setup instructions.**
Changing the settings is complete. You can turn off the printer.

When the firmware version is 6.11 ESC/POS or earlier:

- 1 After selecting the setting value, press the Feed button again.**
(Keep pressing the button until the following message is printed.)
"Please release the Feed button."
- 2 The printer restarts.**

iAP2 Protocol Settings (Bluetooth)

When the firmware version is 6.14 ESC/POS or later, you can change the accessory protocol (iAP2) settings used to connect with the device. (iOS *Bluetooth* model only)

In iOS *Bluetooth* model, select 2: Bluetooth, and then select 2: iAP2, and you can change the settings.

Setting	Explanation
Enable (default)	iAP2 is used to connect to the device. This setting should normally be used.
Disable	iAP1 is used to connect to the device. Use when there is a problem connecting to the device using iAP2.

Bluetooth Security Settings (Bluetooth)

When the firmware version is 6.14 ESC/POS or later, you can change the *Bluetooth* security settings. (iOS *Bluetooth* model only)

CAUTION

When the security settings are changed, the link key (pairing information) is removed.

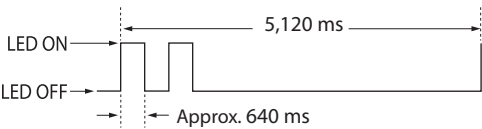
NOTE

You can also change the settings using the printer Utility and TM Utility for iOS/Android.

In *Bluetooth* model, select 2: Bluetooth, and then select 3: Security, and you can change the security settings.

Security	Pairing Mode	Pairing Method
Low	Pairing is always possible	Just Works
Middle	Pairing is possible for one minute after printing the status sheet	Just Works
High	Pairing is possible for one minute after printing the status sheet	Numeric Comparison/Passkey Entry

* When Middle or High is selected, the power LED flashes in the following pattern while pairing is possible.



Pairing method when the security is set to Middle/High (from the printer)

When the security is set to Middle or High and the printer is ready to be paired, perform the following procedure.

- 1 Load paper in the printer, and then turn it on.

NOTE

Make sure no errors have occurred and that the printer is not off-line.

- 2 Open the roll paper cover, hold down the FEED button (two seconds), and when the buzzer sounds, close the roll paper cover.
- 3 A status sheet is printed, and the power LED flashes a pattern indicating that pairing is now possible.

NOTE

Pairing is possible for one minute after printing the status sheet.

Pairing method when the security is set to High (from the host)

When the security is set to High and the printer is ready to be paired, perform the following procedure.

- 1** Search for the printer on the *Bluetooth* settings screen on the host device.
- 2** Select the printer you want to pair with.
The printer prints the Passkey.
- 3** Check that the printed Passkey and the Passkey displayed on the host device match, and then select "Pairing" on the host device.

Hexadecimal dumping mode

In hexadecimal dumping mode, data from the host computer is printed in hexadecimal numbers and characters. By comparing the print outs and the program, you can check whether or not data is being sent to the printer correctly.

NOTE

- The hexadecimal dumping mode can only be executed in the label continuous issuing mode. If executed in the label peeler issuing mode, a paper layout error occurs when paper is detected by the label peeler sensor.
- When there are no characters that correspond to the print data, " ." is printed.
- If you press the FEED button when there is less than one line of print data, one line is printed.
- During hexadecimal dumping mode, applications that check the printer status may not operate correctly. The printer only returns the status for the "Real-time transmission status" command.

Follow the steps below.

- 1 Open the roll paper cover.**
- 2 While pressing the FEED button, turn on the printer. (Hold down the FEED button until the Error LED turns on.)**
- 3 Close the roll paper cover.**
From this point, all data received by the printer is printed in the corresponding hexadecimal numbers and ASCII characters.

Example of printing in hexadecimal dumping mode

```
Hexadecimal Dump
To terminate hexadecimal dump,
press Feed button three times.

1B 21 00 1B 26 02 40 40 1B 69 . ! . . & . @ @ . i
1B 25 01 1B 63 34 00 1B 30 31 . % . . c 4 . . 0 1
41 42 43 44 45 46 47 48 49 4A A B C D E F G H I J

*** completed ***
```

- 4 To close hexadecimal dumping mode, turn off the printer after printing is complete, or press the FEED button for three times.**

Dynamic Status Sheet Print Mode

Wi-Fi Model

In the dynamic status sheet print mode, the printer prints the dynamic status sheet indicating the wireless LAN settings.

CAUTION

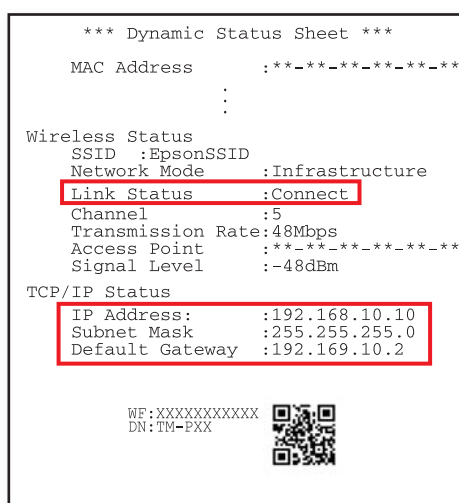
Do not run this mode while communicating with the wireless LAN interface. Otherwise, printing might not be performed normally.

NOTE

- Dynamic status sheet cannot be printed in SimpleAP mode (factory default status).
- Dynamic status sheet cannot be printed when USB cable is connected.
- QR codes can be printed when the firmware version is 6.14 ESC/POS or later.

Follow the steps below.

- 1 Make sure the printer is turned on.**
- 2 Open the roll paper cover.**
- 3 Install the roll paper.**
- 4 With the roll paper cover open, keep pressing the Feed button until the buzzer sounds.**
- 5 Close the roll paper cover.**
The printer starts printing the dynamic status sheet.
- 6 Confirm that “Link Status” value is “Connect” and that “TCP/IP Status” is properly set.**



After printing, the printer returns to the normal mode.

Bluetooth Model

In the dynamic status sheet print mode, the printer prints the dynamic status sheet indicating the *Bluetooth* settings.

NOTE

Dynamic status sheet can be printed when the firmware version is 6.14 ESC/POS or later.

- 1 **Make sure the printer is turned on.**
- 2 **Open the roll paper cover.**
- 3 **Install the roll paper.**
- 4 **With the roll paper cover open, keep pressing the Feed button until the buzzer sounds.**
- 5 **Close the roll paper cover.**
The printer starts printing the status sheet.



After printing, the printer returns to the normal mode.

EpsonNet Config (Web Version)

EpsonNet Config (Web version) is a utility to configure the network and other settings on a web browser.

Starting EpsonNet Config (Web Version)

Follow the steps below to start up EpsonNet Config (web version).

- 1 Start up a PC connected to the network.
- 2 Start up the web browser and input the printer's IP address (<http://printer's IP address>) in the address bar as shown below.

<http://xxx.xxx.xxx.xxx>

NOTE

- You can check the printer's IP address from the dynamic status sheet or in self-test mode. For details on printing the dynamic status sheet, see "[Dynamic Status Sheet Print Mode](#)" on page 66. For details on the self-test mode, see "[Software Settings](#)" on page 48.
- A user name and a password will be required on the authentication screen. Enter "epson" for both the user name and the password. You can change the password with [Password] in the Optional configuration menu.
- In the initial setting, a warning message for authentication may appear when you access EpsonNet Config (web version) from a browser.

EpsonNet Config starts.

The screenshot displays the EpsonNet Config web interface. The top navigation bar includes 'Home', 'Help', and 'About' links. The left sidebar contains a tree view with categories: 'Information' (Network), 'Configuration' (Network, Wireless, Security, SSL/TLS, Authentication, Certificate List, Certificate Import, TCP/IP, Bonjour, Time Server, Timeout, ePOS-Print), and 'Optional' (Administrator Information, Reset, Password). The main content area is titled 'Information - Network' and 'Basic Information'. It contains a table of network settings:

Administrator Name	
Location	
Interface Card Model Name	IF_WiFi0
MAC Address	88:50:1A:30:00:4B
Hardware Version	04.00
Software Version	01.00
Model Name	TM-P60II
Communication Standard	802.11b/g/n
Network Mode	Infrastructure
SSID	EPSON_XXXXXX
Channel	8
Transmission Rate	72.0Mbps
Access Point MAC Address	88:50:1A:30:00:4B
Signal Condition	Excellent
Printer Status	Online

At the bottom of the main content area, there is a 'Refresh' button.

Settings

Select from the menu list on the left to check or configure the settings.

CAUTION

Enable the time server when using a certificate. Otherwise, the printer's Stored Date/Time may not be set correctly and the wireless LAN may be unavailable. If this happens, enable the time server, or initialize the Stored Date/Time from one of the following:

- EpsonNet Config
- EpsonNet Config (Web Version)
- Wireless module setup mode

You can check the printer's Stored Date/Time from the dynamic status sheet.

Information menu

You can check the settings as shown in the table below.

Menu		Settings
Basic Information		Administrator Name, Location, interface Card Model Name, MAC Address, Hardware Version, Software Version, Model Name, Communication Standard, Network Mode, SSID, Channel, Transmission Rate, Access Point MAC Address, Signal Condition, Printer Status
TCP/IP	IPv4 Address	IP Address Settings (Acquiring the IP Address, IP Address, Subnet Mask, Default Gateway) Set Using Automatic Private IP Addressing (APIPA)
	DNS/DDNS	DNS Server Addresses (IPv4) Settings (Acquire DNS Server Address Automatically, DNS Server Addresses) Domain Name Setting (Acquire Domain Name Automatically, Fully Qualified Domain Name, Register the Network Interface's Address to DNS Server)
SNMP		Community (Read Only, Wellknown Community Name) IP Trap (Trap1/2, Address, Community)
Bonjour		Bonjour (Disable/Enable) Bonjour Name, Bonjour Printer Name, Location
Time Setting		Use Time Server Time Server Address, Update Interval, Time Server Status
Timeout		Print (LPR, RAW (Port9100))
ePOS-Print		Version, ePOS-Print (Disable/Enable), Device ID

Configuration menu

You can configure the settings as shown in the table below.

Menu		Settings
Wireless		Wireless Settings (Communication Standard, Network Mode, SSID, Channel, Encryption Type) WPA Pre-Shared Key, Default WEP Key, WEP Key 1/2/3/4, Authentication Algorithm Power Save Roaming AP Density
Security	SSL/TLS	Server Certificate, Encryption Strength, Automatic Redirect HTTP to HTTPS
Authentication	Certificate List	Self-Signed Certificate (Status, Subject) CA-Signed Certificate 1~3 (Status, Subject) CA Certificate 1~10 (Status, Subject)
	Certificate Import	Certificate Import (File Type, File Name, Password)
TCP/IP	IPv4 Address	IP Address Settings (Acquiring the IP Address, IP Address, Subnet Mask, Default Gateway) Set Using Automatic Private IP Addressing (APIPA)
	DNS/DDNS	DNS Server Addresses (IPv4) Settings (Acquire DNS Server Address Automatically, DNS Server Addresses) Host Name and Domain Name Setting (Acquire Host Name and Domain Name Automatically, Host Name, Domain Name, Register the Network Interface's Address to DNS Server)
SNMP		Community (Read/Write, Wellknown Community Name) IP Trap (Trap1/2, Address, Community)
Bonjour		Bonjour (Disable/Enable) Bonjour Name, Bonjour Printer Name, Location
Time Setting		Use Time Server Time Server Address, Update Interval
Timeout		Print (LPR, RAW (Port9100))
ePOS-Print		Version, ePOS-Print (Disable/Enable), Device ID

NOTE

- [Roaming] and [AP Density] in the [Wireless] menu can be set only when the Wi-Fi model's firmware is version 1.17 or later.
- [Wellknown Community Name] in the [SNMP] menu can be set only when the Wi-Fi model's firmware is version 1.19 or later.

The initial value is enabled.

If you disable this setting, there are the following restrictions.

- * **TM drivers**

The battery status cannot be acquired.

Port opening is extended by approximately 2 seconds.

- * **Deployment Tool**

The model name cannot be acquired.

- * **EpsonNet Config/Monitoring Tool**

The model name, status, and setting information cannot be acquired.

The setting cannot be changed.

- You can also select the following functions from the optional configuration menu.
 - * **Administrator Information:** Use to register administrator name and the printer location.
 - * **Reset:** Use to reset the interface card or restore the default settings.
 - * **Password:** Use to change the password.



Application Development Information

This chapter describes how to control the printer and gives information useful for printer application development.

Controlling the Printer

The printer supports the following command systems:

- ePOS-Print XML (Wi-Fi model only)
- ESC/POS

Users can control the printer by using the aforementioned commands, or the following development kits or drivers.

- ePOS-Print SDK
- OPOS ADK
- OPOS ADK for .NET
- JavaPOS ADK
- EPSON Advanced Printer Driver (APD)

ePOS-Print XML

ePOS-Print XML is the Epson original control command system for POS printers defined in XML. With ePOS-Print XML commands, you can print in environments where http communication is available and from OS applications.

For detailed information about ePOS-Print XML, see the ePOS-Print XML User's Manual.

On this printer, ePOS-Print XML is only supported by a Wi-Fi model.

CAUTION

To use ePOS-Print XML or SDK for JavaScript, set ePOS-Print to Enable in EpsonNet Config (Web Version) beforehand.

For details about EpsonNet Config (Web Version), see "[EpsonNet Config \(Web Version\)](#)" on page 68.

ESC/POS

ESC/POS is the Epson original printer command system for POS printers and customer display. With ESC/POS commands, you can directly control all the TM-P60II printer functions, but detailed knowledge of printer specifications or combination of commands is required, compared to using drivers and applications.

For detailed information about ESC/POS commands, see the ESC/POS Command Reference.

Software and Manuals

The following software and manuals are provided for application development.

Development Kits

Software	Description	Target model
ePOS-Print SDK	This development kit is for controlling the printer from Web applications and native applications of smart devices. It includes libraries, manuals, and sample programs.	
for iOS		Bluetooth model, Wi-Fi model
for Android		Bluetooth model, Wi-Fi model
for Windows Store Apps		Bluetooth model, Wi-Fi model
for JavaScript		Wi-Fi model only
EPSON OPOS ADK	This OCX driver can control POS peripherals using OLE technology. ^{*1} Because controlling POS peripherals with original commands is not required on the application side, efficient system development is possible.	Bluetooth model, Wi-Fi model
EPSON OPOS ADK for .NET	The OPOS ADK for .NET is a POS industry standard printer driver compatible with Microsoft POS for .NET. It allows you to develop applications that are compatible with the UPOS (Unified POS) specification. When developing applications, use a separate development environment such as Microsoft Visual Studio .NET.	Bluetooth model, Wi-Fi model
EPSON JavaPOS ADK	JavaPOS is the standard specification which defines an architecture and device interface (API) to access various POS devices from a Java based system. Using JavaPOS standard API allows control with Javabased applications of functions inherent to each device. A flexible design with Java language and JavaPOS enables many different types of computer systems, such as stand alone or network configuration, to use a same application. You can use JavaPOS to build applications and drivers independently of platforms. This allows flexible configurations using thin clients to meet the system requirements.	Bluetooth model, Wi-Fi model

*1: OLE technology developed by Microsoft divides software into part blocks. The OPOS driver is presupposed to be used with a development environment, such as Visual Basic, unlike ordinary Windows printer drivers. It is not a driver to be used for printing from commercial applications.

You can acquire documents regarding the UnifiedPOS from the following link.

<https://nrf.com/resources/retail-technology-standards/unifiedpos>

Drivers

Software	Description	Operating environment
EPSON Advanced Printer Driver (APD)	In addition to ordinary Windows printer driver functions, this driver has controls specific to POS. The Status API (Epson original DLL) that monitors printer status and sends ESC/POS commands is also attached to this driver.	Windows
EPSON TM Virtual Port Driver	This is a serial/parallel-USB/LAN conversion driver to make an Epson TM/BA/EU printer connected via USB or LAN accessible from a POS application through a virtual serial or parallel port. It allows you to directly control devices connected via USB or LAN with ESC/POS commands without making changes in the POS application that controls devices connected via a serial or parallel interface.	Windows

Utilities

Software	Description	Operating environment
TM-P60II Utility	A utility for checking and changing various printer settings. Use this utility to: <ul style="list-style-type: none"> • Check the current settings • Test operation • Store logos • Set paper saving • Set printing control • Set communication interfaces • Save/restore settings 	Windows
Epson TM Utility	A utility that can be downloaded from App Store or Google Play. Use this to perform wireless connection setup and change settings on the printer from iOS and Android devices. This utility also comes with the following sample printing functions: <ul style="list-style-type: none"> • Sample receipt printing • Customized receipt printing • Printer status display • Quick pairing by NFC/QR code • Easy print by NFC/QR code 	iOS, Android
EpsonNet Config	A network setting tool for Epson network products. In the case of this printer, you can use this tool to check and/or set network parameters by connecting the Wi-Fi model to a computer for setup via the USB interface.	Windows, Mac

TM Bluetooth® Connector	Use to pair a <i>Bluetooth</i> printer and associate the generated <i>Bluetooth</i> port with that used by the driver and applications.	Windows
Deployment Tool	Use to make network and printer settings simultaneously, via USB. Allows you to make settings efficiently at the time of introducing TM printers for the first time, or when configuring multiple TM printers at the same time.	Windows
Monitoring Tool	Use to check a list of status for the Epson printers connected to the network. You can also update certificates for multiple printers used for WPA-Enterprise in a batch.	Windows

Others

Manual	Description
ePOS-Print XML User's Manual	Describes ePOS-Print XML statements. This manual comes with sample programs.
ESC/POS Command Reference	Web contents including detailed description of ESC/POS commands, character code tables, and sample programs. This manual is accessible from the following URL: https://reference.epson-biz.com/pos/reference/

Download

You can obtain software and manuals from one of the following URLs.

For customers in North America, go to the following web site and follow the on-screen instructions.

<http://www.epsonexpert.com/>

For customers in other countries, go to the following web site:

<http://download.epson-biz.com/?service=pos>

iOS Application Development and Distribution

If registering an application that uses *Bluetooth* in the App Store, Epson must submit an application to Apple in advance. Please apply for each application you want to register in the App Store from the URL below.

<https://c4b.epson-biz.com/ais/E/>

Handling

This chapter describes basic handling of the printer.

Charging Battery

Follow the steps below to charge the battery. You can charge the battery using the printer itself with the AC adapter (PS-11) or using the optional multi-charger (OT-CH60II).



Be sure to use the battery OT-BY60II.

Using a battery other than the one specified may cause fire, explosion, leakage, overheating or other damage.

CAUTION

- The battery can be charged only when the temperature is 0 ~ 40°C {32 ~ 104°F}.
- Dispose of used batteries according to the instructions.
- Do not remove the battery during charging.

NOTE

- Fully charging a battery that is fully discharged while the printer is turned off will take approximately 2.5 hours.
- Charging the battery at 35°C {95°F} or higher may require a longer charging time than the specified one.
- You can use the printer during the battery charging; however, do not disconnect the AC adapter during printing.
- For information on the AC adapter (PS-11), see its User's Manual.
- For information on the optional multi-charger (OT-CH60II), see its User's Manual.

1

Install the battery.

See ["Installing the Battery" on page 32.](#)

2

Connect the AC adapter to the connector for the AC adapter.

Charging starts. The Charge LED flashes while charging the battery.

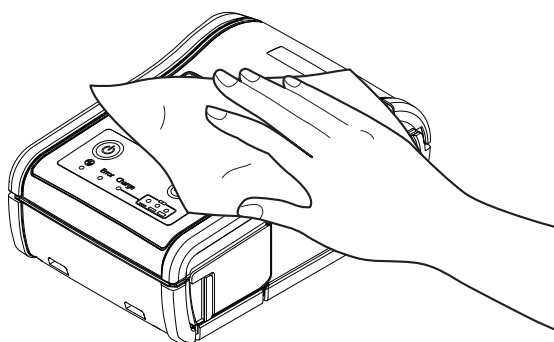
Cleaning the Printer

Cleaning the Printer Case

Be sure to unplug the AC cable from the wall socket, remove the battery, and turn off the printer before cleaning. Wipe the dirt off the printer case with a dry cloth or a damp cloth.

CAUTION

Never clean the product with alcohol, benzene, thinner, or other such solvents. Doing so may damage or break the parts made of plastic and rubber.



Cleaning the Thermal Head

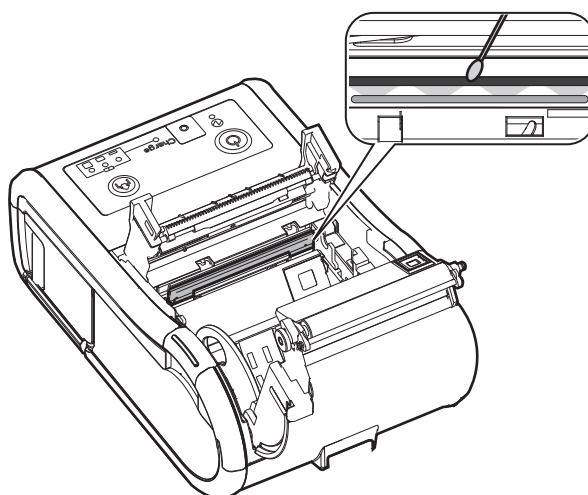
Epson recommends cleaning the thermal head periodically (generally every 3 months) to maintain receipt print quality.



CAUTION

- After printing, the thermal head can be very hot. Do not touch it and let it cool before you clean it.
- Do not damage the thermal head by touching it with your fingers or any hard object.

Turn off the printer, open the roll paper cover and the peeler cover, and clean the thermal elements of the thermal head with a cotton swab moistened with an alcohol solvent (ethanol or IPA).



Cleaning the Platen Roller/Paper Sensor

When paper dust accumulates on the platen roller or the paper sensor, follow the steps below to clean them. To maintain good functional capabilities, clean them regularly (generally every 3 months).

- 1** Turn off the printer, and open the roll paper cover and the peeler cover.
- 2** Clean the platen roller and the paper sensor with a cotton swab lightly moistened with water.



- 3** Close the covers after the water has dried.

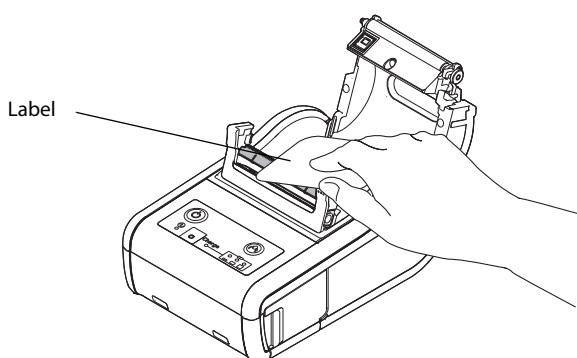
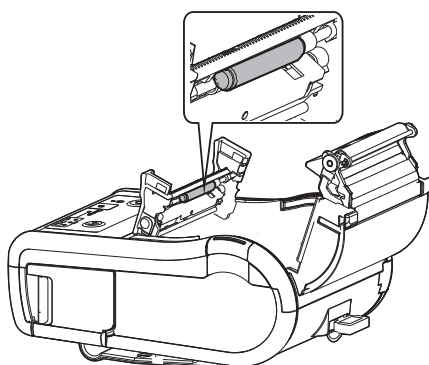
Cleaning the Peeler Unit

After the peeler is used for a prolonged period of time, the glue from the labels accumulates on the roller or the peeler holder of the peeler unit. If you leave the roller or the peeler holder in such a condition, the glue may stick to issued labels, or a paper jam may occur. To prevent malfunctions and maintain good print quality, clean them regularly (generally every 20,000 labels).

CAUTION

Do not use any alcohol based solvents for cleaning. Such solvents may enter the roller shaft and cause a malfunction of the peeler.

- 1 Turn off the printer, and open the roll paper cover and the peeler cover.**
- 2 Remove the glue with a wasted label.**



- 3 Close the covers.**

Replacement of the TM-P60

The TM-P60II is designed so that it can smoothly replace the TM-P60. This chapter describes useful information for the replacement.

Compatibility

		TM-P60	TM-P60II
Paper width		Changeable (29.5 mm {1.16"}, 36 mm {1.82"}, 42 mm {1.65"}, 48.5 mm {1.91"}, 55 mm {2.17"}, 58 mm {2.28"}, 60 mm {2.36"})	
Density		203 × 203 dpi	
Paper type		Receipt (with/without black mark) Die-cut label paper (with/without black mark)	
Internal buffer for NV area		384 KB	
External Dimensions		65 × 103 × 159 mm	
Case color		EDG (Epson Dark Grey)	EBCK (Epson Black)
Belt clip		Attached	
Shoulder strap		Optional	Not available
Reliability	Printer mechanism	10 million lines printing	
	Thermal head	100 million pulses (for each element)	
	MTBF	120,000 hours	
	MCBF	16 million lines	
Power supply		From the battery or AC adapter	Only from the battery
Environmental Conditions	For operation	Without AC adapter and with battery: 0 to 50°C, 10 to 90% RH With AC adapter and without battery: 0 to 45°C, 10 to 90% RH With AC adapter and battery: 0 to 40°C, 10 to 90% RH	Without AC adapter and with battery: 0 to 45°C, 10 to 90% RH With AC adapter and battery: 0 to 40°C, 10 to 90% RH
	For print quality	5 to 45°C, 10 to 90% RH	Without AC adapter and with battery: 5 to 45°C, 10 to 90% RH With AC adapter and battery: 5 to 40°C, 10 to 90% RH

		TM-P60	TM-P60II
Roll paper	Width	29.5 mm, 36 mm, 42 mm, 48.5 mm, 55 mm, 58 mm, 60 mm	
	Original paper type	TF50KS-E, P300, P310, P350, ETLA series	TF50KS-E, P30023, P31023, P35024, V9NS5, DTM9502
	Roll diameter	Up to 51 mm	
LEDs	Error LED	Red LED	Orange LED
	Battery LED	Red LED	3 Blue LEDs
Dip switches		Dip switches 1-2, 1-3, 1-4 assigned for serial interface settings	Dip switches are not available.
Memory switches		Memory switches 8-1~8-8	Same as the TM-P60 except Memory switches 8-3, 8-6, and 8-7.
Offline response (See "Software Settings" on page 48.)		Offline response excluding offline cause	Offline response including offline cause
Battery status levels (See "Software Settings" on page 48.)		4 levels	6 levels
Interface	Serial	RS-232	Not available
	USB	Not available	USB 2.0
	Bluetooth (Factory option)	Ver. 1.1	Ver. 2.1 (EDR supported)
	Wi-Fi (Factory option)	802.11b (2.4 GHz)	802.11b/g/n (2.4GHz) 802.11a/n (5GHz)
Wi-Fi default mode		Ad-hoc	Infrastructure
Wi-Fi security		WEP	WEP, WPA, WPA2-Personal/Enterprise
ePOS-Print		Not available	Available with the Wi-Fi models
Startup time		Approx. 2 sec.	Wi-Fi models: Approx. 10 sec. Bluetooth models: Approx. 2 sec.
ESC/POS commands		You can control a TM-P60II with the ESC/POS commands that you used for a TM-P60.	
Drivers	APD	Available	Available
	OPOS ADK	Available	Available
	OPOS ADK for .NET	Available	Available
	JavaPOS ADK (Windows)	Available	Available
	JavaPOS ADK (Linux)	Available	Not available
Power supply unit		PS-10	PS-11

	TM-P60	TM-P60II
Battery	LIP-2500	OT-BY60II
Time for battery charging by printer	Approx. 4 hours	Approx. 2.5 hours

dpi: dots per inch

cpl: Characters per line

Additional Functions and Functional Improvements

		TM-P60	TM-P60II
Print Speed		MAX. 80 mm/s (receipt printing)	MAX. 100 mm/s (receipt printing)
Extended graphics (including user-defined page)		128 × 10 pages	128 × 43 pages
International characters		16 sets	18 sets
Battery life (<i>Bluetooth</i> models)		Approx. 20 hours	Approx. 56 hours
Mass (including the battery)		Approx. 640 g	Approx. 613 g
Battery charge LED		Not available	Orange LED
EPSON TM Virtual Port Driver		Not available	Available
Utilities	TM-P60II Utility	Not available	Available
	EpsonNet Config	Not available	Available
	Monitoring Tool	Not available	Available
	TM-P60II Remote Configuration Tool	Not available	Available
	TM <i>Bluetooth</i> ® Connector	Not available	Available
Barcode printing	1D	UPC-A, UPC-E, JAN13/EAN13, JAN8/EAN8, CODE39, ITF, CODABAR, CODE93, CODE128, GS1-128, GS1 DataBar Omnidirectional, GS1 DataBar Truncated, GS1 DataBar Limited, GS1 DataBar Expanded	
	2D	PDF417, MaxiCode, QR Code, Composite Symbolology, Two-dimensional GS1 DataBar	PDF417, MaxiCode, QR Code, Composite Symbolology, Two-dimensional GS1 DataBar, Aztec Code, DataMatrix
Automatic reduction of paper		Not available	Available

Appendix

Product Specifications

Printing Specifications

Printing method	Thermal line printing
Dot density	203 × 203 dpi
Feeding method	Friction feed
Paper width* ¹	29.5 mm {1.16"}, 36 mm {1.82"}, 42 mm {1.65"}, 48.5 mm {1.91"}, 55 mm {2.17"}, 58 mm {2.28"} (default), 60 mm {2.36"}
Printing width	54.0 mm {2.13"} maximum, 432 dots (when the paper width is 60 mm) 48.5 mm {1.91"} dots, 388 dots (when the label width is 54 mm and the paper width of the backing paper (liner) is 58 mm)
Characters per line	Font A: 36 Font B: 43 Font C: 54 Kanji font* ² : 18
Maximum print speed* ³	100 mm/s {3.94"/s} (receipt printing) 80 mm/s {3.15"/s} (label continuous issuing mode) 40 mm/s {1.57"/s} (label peeler issuing mode) 40 mm/s {1.57"/s} (ladder bar code and 2-dimensional symbols printing)
Paper feed speed* ⁴	100 mm/s {3.94"/s} (receipt printing) 80 mm/s {3.15"/s} (label continuous issuing mode) 40 mm/s {1.57"/s} (label peeler issuing mode)
Line spacing* ⁵	3.75 mm {0.15"}

dpi: dots per inch

*1: Receipt paper with a width of 58 mm or 60 mm can be used.

*2: Only for Traditional Chinese Model.

*3: The printing speed listed above are the values when using a new battery fully charged, the print density is 100%, and at normal temperature. The printing speed changes automatically depending on power supply voltage and the condition of the head temperature. Receipt and label printing can be changed by setting the paper layout.

*4: With label printing, peeler issuing and continuous issuing modes change automatically depending on the peeler use conditions.

*5: Initial setting. Programmable by commands.

CAUTION

- For changing the paper width, see ["Changing the Paper Width" on page 30](#).
- Printing speed may be slower, depending on the data transmission speed and the combination of control commands.

Character Specifications

Number of characters		Alphanumeric characters: 95 Extended graphics: 128 × 43 pages (including user-defined page) International characters: 18 sets Traditional Chinese* ¹ : Big5 13,535
Character structure		Font A: 12 × 24 Font B: 10 × 24 (Initial setting) Font C: 8 × 16 Kanji font* ¹ : 24 × 24
Character size (Standard/ Double-height/ Double-width/)	W × H (mm)* ²	Font A: 1.5 × 3.0/1.5 × 6.0/3.0 × 3.0 Font B: 1.25 × 3.0/1.25 × 6.0/2.5 × 3.0 Font C: 1.0 × 2.0/1.0 × 4.0/2.0 × 2.0 Kanji font* ¹ : 3.0 × 3.0/3.0 × 6.0/6.0 × 3.0
	cpl* ³	Font A: 36/36/18 Font B: 43/43/21 Font C: 54/54/27 Kanji font* ¹ : 18/18/9

*1: Only for Traditional Chinese Model.

*2: The actual print character may be smaller than the size shown in the table above because the above size includes spaces in the font.

*3: The "characters per line" shows the value of receipt printing when the paper width is 60 mm {2.36"}.

cpl: Characters per line

Paper Specifications

Type	Thermal paper: Die-cut label paper (without black mark) Die-cut label paper (with black mark) Receipt paper (without black mark) Receipt paper (with black mark)
Form	Roll paper
Size Width* ¹	29.5 mm paper width: 29.0 ± 0.5 mm {1.14 ± 0.02"} 36.0 mm paper width: 35.5 ± 0.5 mm {1.40 ± 0.02"} 42.0 mm paper width: 41.5 ± 0.5 mm {1.63 ± 0.02"} 48.5 mm paper width: 48.0 ± 0.5 mm {1.90 ± 0.02"} 55.0 mm paper width: 54.5 ± 0.5 mm {2.15 ± 0.02"} 58.0 mm paper width: 57.5 ± 0.5 mm {2.26 ± 0.02"} 60.0 mm paper width: 59.5 ± 0.5 mm {2.34 ± 0.02"}
Outside diameter	51.0 mm {2.01"} maximum
Roll width when taken up	29.5 mm paper width: 29.5 + 0/-1.0 mm {1.16 + 0/- 0.04"} 36.0 mm paper width: 36.0 + 0/-1.0 mm {1.82 + 0/- 0.04"} 42.0 mm paper width: 42.0 + 0/-1.0 mm {1.65 + 0/- 0.04"} 48.5 mm paper width: 48.5 + 0/-1.0 mm {1.91 + 0/- 0.04"} 55.0 mm paper width: 55.0 + 0/-1.0 mm {2.17 + 0/- 0.04"} 58.0 mm paper width: 58.0 + 0/-1.0 mm {2.28 + 0/- 0.04"} 60.0 mm paper width: 60.0 + 0/-1.0 mm {2.36 + 0/- 0.04"}
Roll paper core	Outside diameter (die-cut label): 31.4 mm {1.24"} or more Outside diameter (receipt): 18 mm {0.71"} or more

*1: Receipt paper with a width of 58 mm or 60 mm can be used.

Specified original paper type

Paper type	Paper type no.	Manufacturer
Die-cut label	DTM9502 (label paper: KL370 or KIP37032)	MACTac (Kanzaki Specialty Papers (USA))
Receipt	P30023, P31023, P35024	Kanzaki Specialty Papers (USA)

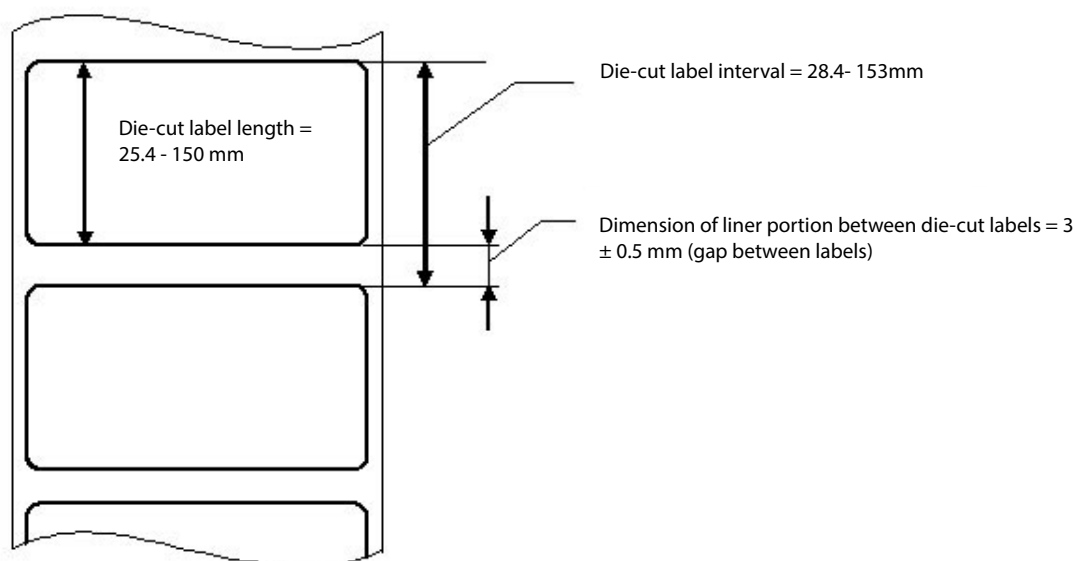
CAUTION

- Paper must not be pasted to the roll paper spool.
- For the best print quality for each paper type, it is recommended to set the print density. The print density can be set with the customized value. To set customized value, See ["Software Settings" on page 48](#).
- Be sure to use the specified paper.

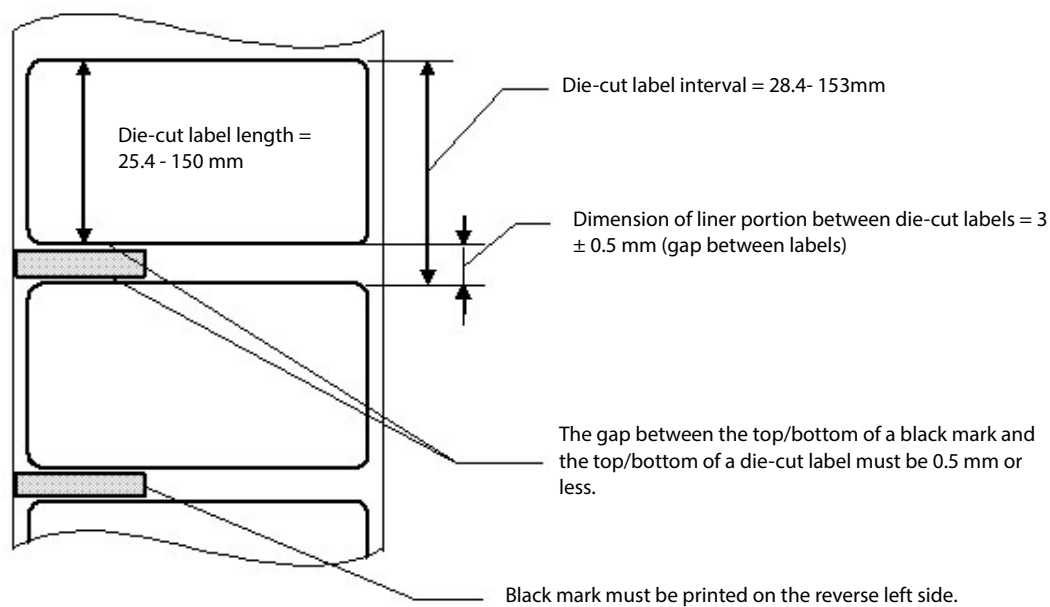
NOTE

A red line that indicates the paper end is recommended to be preprinted on the end of the roll paper.

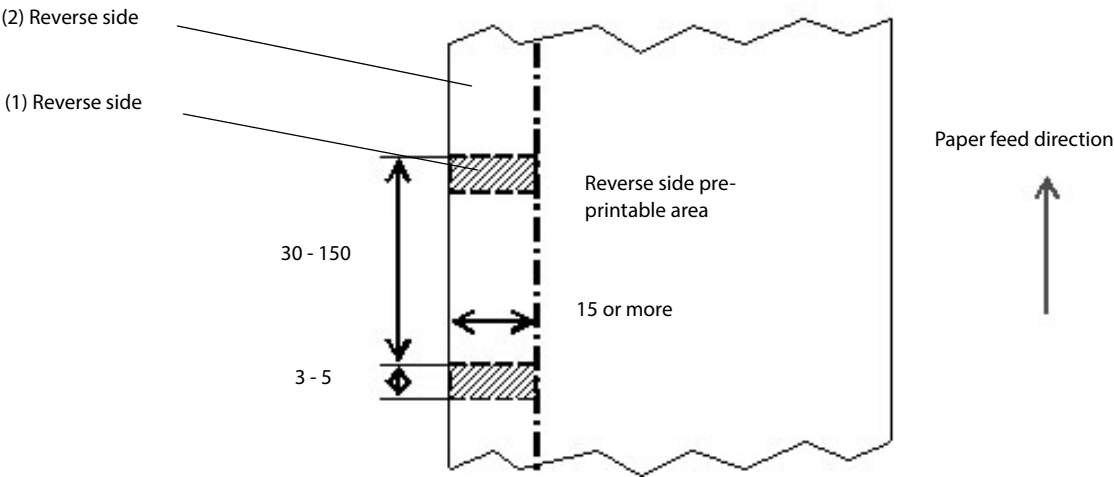
Requirement for die-cut label (without black mark)



Requirement for die-cut label (with black mark)



Requirement for black mark printing



[Units: mm]

The allowable relation between the reflecting rate in the black mark portion (1) and the non black mark portion (2) must be as shown in the table below:

	Allowable combination of the reflecting rate [units: %]					
Black mark portion (1)	17	16	15	14	13	or less
Black mark portion (2)	90	85	80	75	70	or more

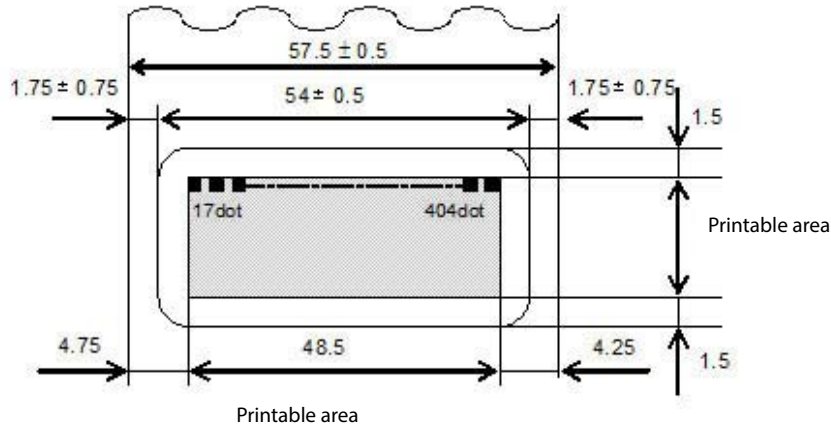
NOTE

The reflecting rate means the value which is measured with a Macbeth density meter (PCMII) D filter.

Printable Area

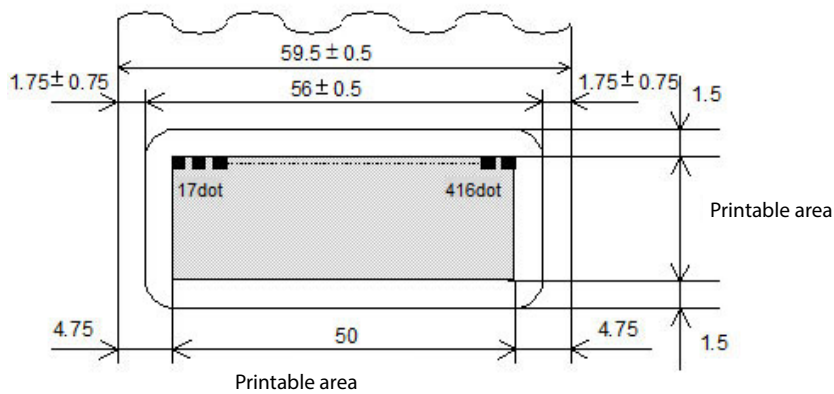
Die-cut label paper

Example: Liner width: 57.5 mm/Label width: 54 mm



[Units: mm]

Example: Liner width: 59.5 mm/Label width: 56 mm



[Units: mm]

NOTE

The printable area may be out of alignment by 2.8 mm {0.11"} maximum (left or right), due to the paper position or tolerance of parts. To make the margin for both sides safely, it is recommended to set a margin of 2.8 mm {0.11"} or more.

Liner width and printable area (recommended)

Liner width (mm)		60	58	55	48.5	42	36	29.5
Liner width (design value) (mm)		59.5 ± 0.5	57.5 ± 0.5	54.5 ± 0.5	48.0 ± 0.5	41.5 ± 0.5	35.5 ± 0.5	29.0 ± 0.5
Label width (mm)		56	54	51	44.5	38	32	25.5
Printable area (mm)		50	48.5	45	39	32	26	20
Liner paper edge - label edge (left)		1.75	1.75	1.75	1.75	1.75	1.75	1.75
Liner paper edge - label edge (right)		1.75	1.75	1.75	1.75	1.75	1.75	1.75
Left margin (mm)		3	3	3	3	3	3	3
Right margin (mm)		3	2.5	3	2.5	3	3	2.5
Positioning dot number		17 to 416	17 to 404	17 to 376	17 to 328	17 to 272	17 to 224	17 to 176
Characters per line	Font A	33	32	30	26	21	17	13
	Font B	40	38	36	31	25	20	16
	Font C	50	48	45	39	32	26	20

It is assumed that the label is placed on the center of the liner exactly. Numeric values used here are average values for designing.

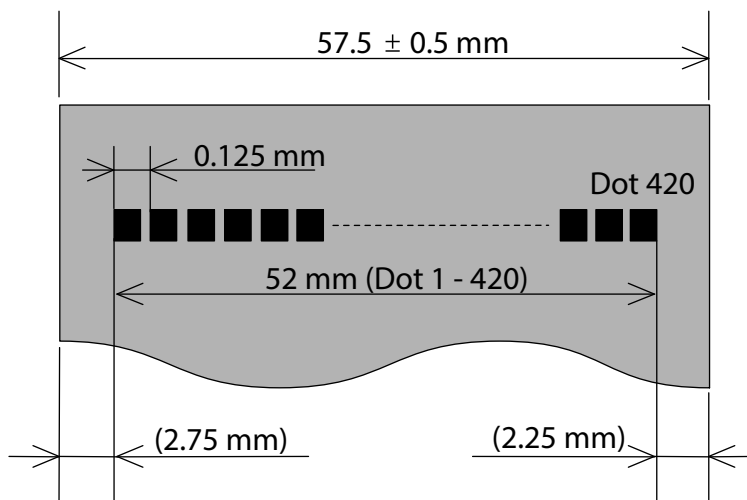
Receipt paper

CAUTION

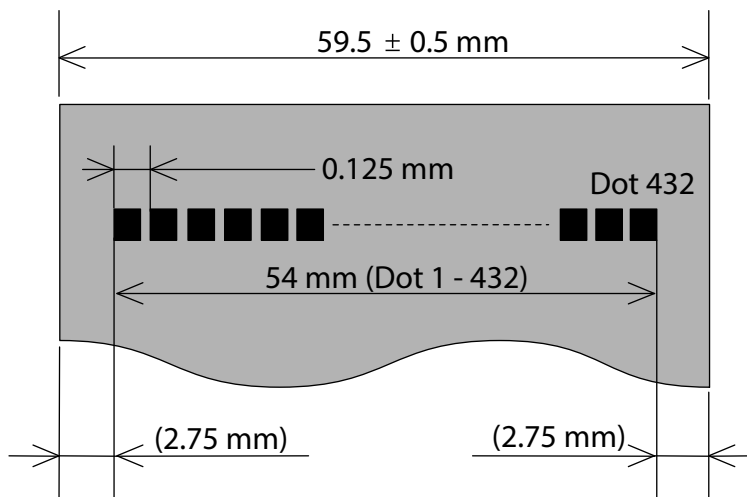
Printing is automatically performed in one to four-part energization depending on the printing conditions. During printing with two to four-part energization, a maximum misalignment (horizontal ruled line shift) of 1/4 to 1/2 dot might occur in the paper feeding direction due to segmented printing.



58 mm width paper printing



60 mm width paper printing

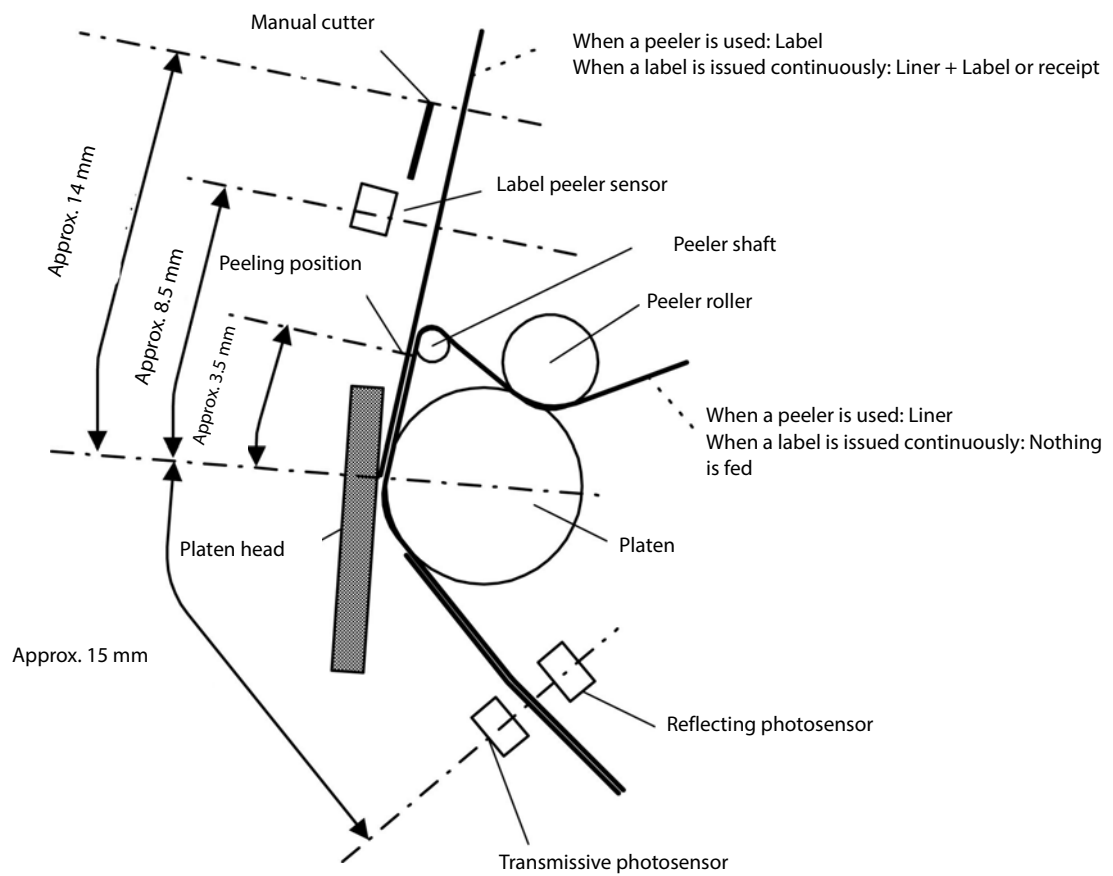


Paper width and printable area

Paper width (mm)		60	58
Paper width (design value) (mm)		59.5 ± 0.5	57.5 ± 0.5
Printable area (mm)		54	52.5
Left margin (mm)		2.75	2.75
Right margin (mm)		2.75	2.25
Positioning dot number		1 to 432	1 to 420
Total number of dots		432	420
Characters per line	Font A	36	35
	Font B	43	42
	Font C	54	52

Numeric values used here are average values for designing.

Printing and Cutting Positions



CAUTION

Numeric values used here are typical values. The values above may vary slightly as a result of paper slack or variations in the paper. Take this into account when setting the manual cutting position.

Electrical Characteristics

CAUTION

- Be sure to install the battery in the printer. The printer does not operate with the AC adapter only.
- Be sure to use the optional PS-11 as the AC adapter.

Dedicated battery (OT-BY60II)	Model: D141A	Rated voltage: DC 7.4 V Capacity: 2000 mAh
	Model: D161A	Rated voltage: DC 7.2 V Capacity: Typ. 1950 mAh, Min. 1850 mAh
Power supply		Input: DC24 V/Max. 1.5 A or DC12 V/Max. 1.0 A*
Dedicated AC adapter (PS-11)		Output: DC 24 V/Max. 1.5 A Input: AC 100 V to 240 V
Consumption		During standby: 0.3 W/230 V, when using PS-11 During charging: 15 W/230 V, when using PS-11
Continuous operating time	Wi-Fi models	Power save mode enabled: approx. 34 hours Power save mode disabled: approx. 15 hours
	Bluetooth models	Approx. 56 hours

*: This is the input voltage required to charge the battery with the printer.

NOTE

Above continuous operating times will vary depending on changes in the use environment or condition.

Reliability

Life* ¹	Printer mechanism	When printing labels: 500,000 labels issued (When the length of the label in the paper feeding direction is 25.4 mm {1"} through 100 mm {3.94"}). The value above corresponds to approximately 14 km to 50 km {8.71 to 31.1 miles} of running length. When printing labels whose length exceeds 100 mm, the label-issuing life is 50 km {31.1 miles} of running length. When printing receipts: 10,000,000 lines printed (3.75 mm {0.15"} for one line) (When the value above is calculated, the printer uses 26-line feeding and 20-line printing repeatedly. This corresponds to approximately 50 km of running length.)
	Thermal head	100 million pulses (for each element)
MTBF (Mean Time Between Failure)* ²		120,000 hours
MCBF (Mean Cycle Between Failure)* ³		16 million lines

NOTE

Depending on the paper condition, paper or glue may stick to the thermal head, platen, or peeler holder. The reliability values listed above are given for the condition of performing cleaning after every 20,000 label issued (label length: 25.4 mm).

*1: End of life is defined as the point at which the printer reaches the beginning of the wear out period.

*2: Failure is defined as a random failure occurring at the time of the random failure period.

*3: This is an average failure interval based on failures related to wear out and random failures up to the life of 10 million lines.)

Environmental Conditions

Temperature and humidity

For operation	When using only battery for power supply	Temperature: 0 to 45°C {32 to 113°F} (except for print quality) Humidity: 10 to 90% RH (except for paper)
	When using battery and AC adapter for power supply	Temperature: 0 to 40°C {32 to 104°F} (except for print quality) Humidity: 10 to 90% RH (except for paper)
For print quality	When using only battery for power supply	Temperature: 5 to 45°C {41 to 113°F} Humidity: 10 to 90% RH
	When using battery and AC adapter for power supply	Temperature: 5 to 40°C {41 to 104°F} Humidity: 10 to 90% RH
For battery charging		Temperature: 0 to 40°C {32 to 104°F} Humidity: 10 to 90% RH
Storage at high temperature and high humidity		Temperature: 45°C {113°F} Humidity: 90% RH Storage time: 120 hours
Storage at high temperature		Temperature: 70°C {158°F} Storage time: 120 hours
Storage at low temperature		Temperature: -25°C {-13°F} Storage time: 120 hours

Acoustic noise

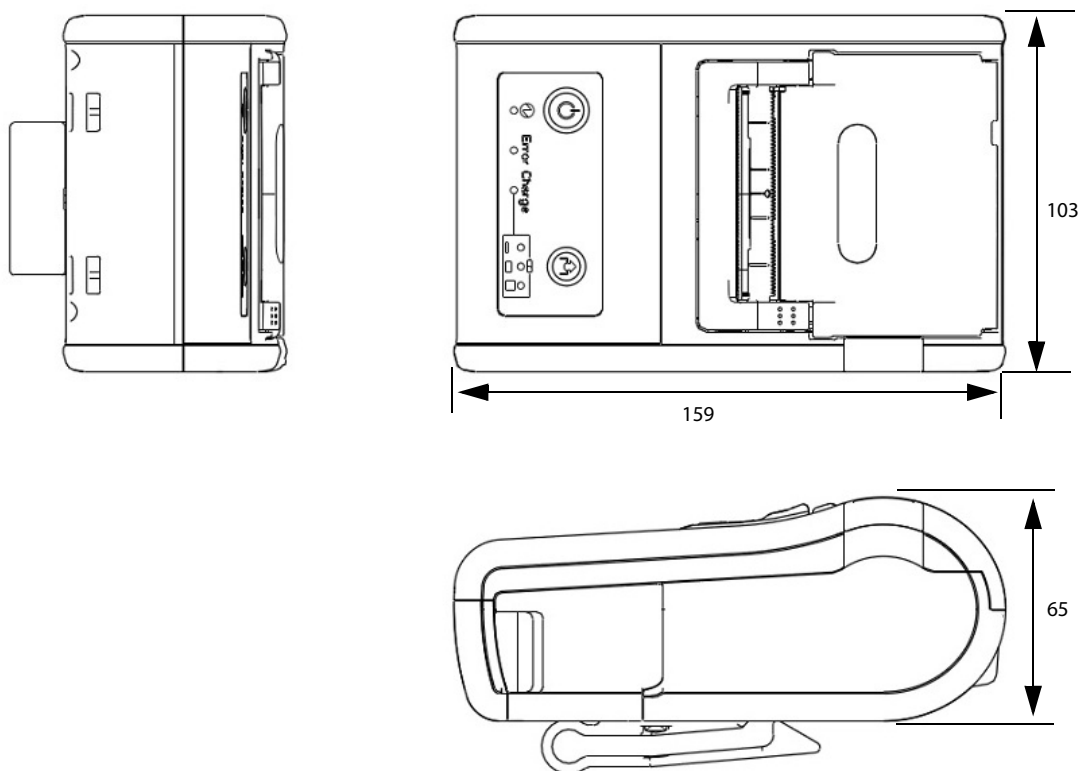
During operation	Approximately 50 dB (bystander position) Note: The values above are measured in the Epson evaluation condition. Acoustic noise differs depending on the paper used, printing contents, and the setting values, such as print speed or print density.
------------------	---

NOTE

If the printer is not used for a long time with paper installed, some part of the printing may be light due to the deformation of the paper. If the printer is not used for a long time with paper installed, be sure to feed paper approximately 30 mm {1.18"} before printing.

External Dimensions and Mass

- Width: Approximately 103 mm {4.06"}
- Depth: Approximately 159 mm {6.26"}
- Height: Approximately 65 mm {2.56"} (the belt clip excluded)
- Mass: Approximately 613 g {1.35 lb} (the battery and belt clip included; roll paper excluded)



[Units: mm]

Colors

EBCK (Epson Black)

Specifications of Interfaces and Connectors

USB Interface

USB interface connector

Has a USB connector (mini USB type-B connector)

USB transmission specifications

USB function

Overall specifications	According to USB 2.0 specifications
Transmission speed	USB Full-Speed (12 Mbps)
Transmission method	USB bulk transmission method
Power supply specifications	USB self power supply function
Current consumed by USB bus	2 mA
USB packet size (with full-speed connection)	
USB bulk OUT (TM)	64 bytes
USB bulk IN (TM)	64 bytes
USB device class	Both USB vendor-defined class and USB printer class are supported.

NOTE

To set the USB device class, see ["Software Settings" on page 48](#).

USB descriptor

		USB vendor-defined class	USB printer class
Vendor ID		04B8h	04B8h
Product ID		0202h	0E0Eh
String Descriptor	Manufacturer	EPSON	EPSON
	Product	TM-P60IIPeeler Wi-Fi TM-P60IIPeeler Bluetooth	TM-P60IIPeeler Wi-Fi TM-P60IIPeeler Bluetooth
	Serial number	Character string based on the product serial number	Character string based on the product serial number

Wireless LAN Interface

CAUTION

Countries where Wireless LAN can be used are limited. Since notes are provided for each country, check the sheet supplied with the product.

Specification

- IEEE802.11a/b/g/n (2.4 GHz band or 5 GHz band) compliant wireless LAN communication compatible
- Infrastructure mode and 802.11 Ad-hoc mode are supported

Communication standard

- IEEE802.11a (5 GHz)
- IEEE802.11b (2.4 GHz)
- IEEE802.11g (2.4 GHz)
- IEEE802.11n (2.4 GHz)
- IEEE802.11n (5 GHz)

Security

Security can be selected from among the following:

- none
- WEP-64bit (40bit)
- WEP-128bit (104bit)
- WPA-PSK(TKIP)
- WPA-PSK(AES)*
- WPA-Enterprise (TKIP)
- WPA-Enterprise (AES)*

* WPA and WPA2 are both supported.

Initial settings

Parameter	Setting value
Communication standard	802.11b/g/n
Network mode	Infrastructure mode
SSID	EPSON_Printer
Encryption type	WPA2-Personal
Passphrase	EpsonNet
IP Address	Automatically acquired by DHCP
Subnet Mask	255.255.255.0

* You can connect to a WPA2-PSK (AES) access point using the settings above.

Settings in SimpleAP mode (Factory default settings)

Parameter	Setting value
SSID	EPSON_Printer
Passphrase	12345678
IP Address	192.168.192.168
Subnet mask	255.255.255.0

Printing communication protocol

- LP, LPR: Transfers printing data
- TCP Socket Port: Transfers printing data and printer status via bidirectional direct socket communication.

LP, LPR

- Max. simultaneous connections: 2
- Number of connections for which printing is available: 1 (Other users need to wait until printing is completed.)
- Time out: 1 min. (changeable)
- Job cancel: Not available
- Banner printing: Not available

Socket communication

- Port type: TCP communication port for direct printing
- Port number: 9100
- Port communication direction: bidirectional
- Max. simultaneous connections: 2
- Number of connections for which printing is available: 1 (Other users need to wait until printing is completed.)
- Time out: 1 min. (changeable)

Setting/Monitoring function

- Displays settings such as wireless and network parameters, and operation by using an Internet browser.
- Displays settings such as wireless and network parameters, and operation by using a specialized utility.
- Support the IP address automatic acquisition function (DHCP, APIPA).

Notes on Wireless LAN connection

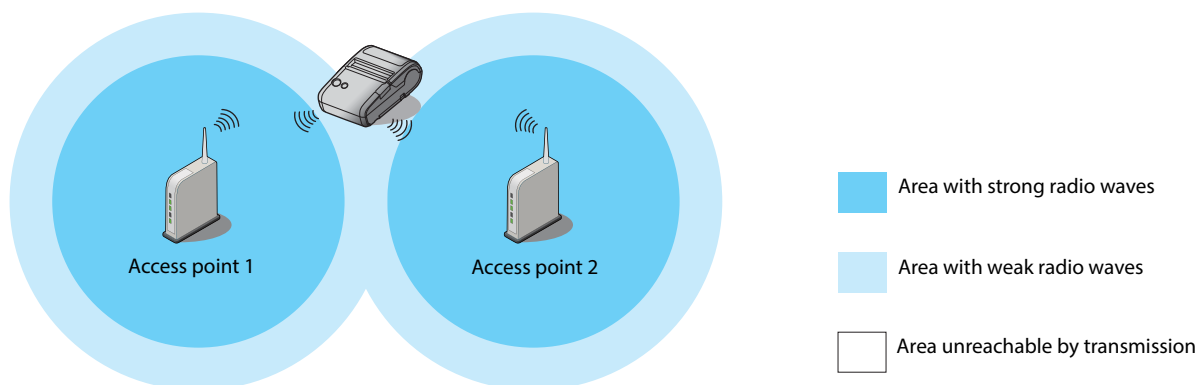
Because not all the combinations of the printer and wireless LAN devices have been checked for operation, the operation of the printer in combination with all the wireless LAN devices is not guaranteed. Especially in the ad-hoc mode, the printer may not operate normally, depending on the combination of the device to connect with. Be sure to carry out evaluation of the operation before use.

Notes on use

- When you initialize or change the printer settings, the printer is reset to reflect the settings. It may take about 1 minute depending on the network settings or environment. Also, your application may indicate power off during the time waiting for reset. In that case, wait for about 1 minute, and then reconnect to the printer.
- Where wireless LAN communication is in heavy traffic, your application may falsely recognize that the communication is disconnected and indicate power off due to response delay. In that case, disable Power Save to improve the trouble.

Notes on using the roaming function

When the roaming function is enabled, if you continue to use the printer in an area where the radio waves for the access point that is connected to are weak, the printer will continue to search for an access point with stronger radio waves, thus shortening the battery life.



Bluetooth Wireless Interface

CAUTION

Countries where *Bluetooth* can be used are limited. Since notes are provided for each country, check the sheet supplied with the product.

Specification

- *Bluetooth* 2.1 (EDR supported)
- *Bluetooth* Power Class 2
- Built-in antenna
- Pass key setting is possible
- Device name setting is possible

Initial *Bluetooth* Settings

Setting Contents	Setting Items	Initial Settings
Bluetooth communication settings	Bluetooth passkey	"0000"
	Bluetooth device name	"TM-P60II_xxxxxx" (Where xxxxxx is the last six digits in the serial number)
	Bundle Seed ID*	"TXAEAV5RN4"
	Enable/Disable auto reconnect to iOS device * ¹	"1" (Enable)
	Bluetooth Security * ²	Low

* 1: iOS *Bluetooth* model only

* 2: Only when the firmware version is 6.14 ESC/POS or later. (iOS *Bluetooth* model only)

Auto Reconnect Feature (iOS *Bluetooth* model)

The auto reconnect feature allows the printer to automatically restore a connection in the following situations if the *Bluetooth* connection to the iOS device is lost.

- When the printer is turned on
- When the signal is dropped and then restored

The following shows the printer operations and connection methods when the auto reconnect feature is enabled or disabled.

Auto Reconnect Feature	Enabled	Disabled
Printer operations when <i>Bluetooth</i> is disconnected	<p>Perform the following reconnection sequence.</p> <p>[Reconnection sequence]</p> <ol style="list-style-type: none"> 1. The printer tries to connect to the iOS device to which it was last connected. 2. When step 1 fails, the printer waits for connections from other devices. 3. If connection is not established in step 2, the printer tries again to connect to the iOS device to which it last connected. <p>Steps 1 and 2 are repeated until a connection is established.</p>	Wait for a connection from the <i>Bluetooth</i> device.
Reconnecting to iOS device	Reconnect automatically.	Make settings on the <i>Bluetooth</i> settings screen on the iOS device.
Switch to connection from other device	<p>Method 1:</p> <p>After disabling the <i>Bluetooth</i> feature of the connected iOS device, make connection settings on the <i>Bluetooth</i> device that you want to connect.</p> <p>(When the auto reconnect feature is enabled, it may take some time to connect.)</p>	
	<p>Method 2:</p> <p>(Only when the firmware version is 6.14 ESC/POS or later)</p> <p>After disconnecting from the connected iOS device using applications with the TM Utility or ePOS-Print SDK disconnection feature, make settings on the <i>Bluetooth</i> device you want to connect.</p>	

* In the following situations, even if the feature is enabled, the same operations are performed as when it is disabled.

- When pairing is canceled from the connected iOS device.
- When the last *Bluetooth* device connected was not an iOS device.
- When wireless communication settings are initialized from the printer.

* Disable this feature when using the printer from devices that are not running iOS. Otherwise, it may take some time to connect.

* See ["Wireless module setup mode" on page 61](#) for settings for the auto reconnect feature.

Notes on use

Time required until printing starts

If the host computer and the printer are not connected on a continuous basis but rather connected every time the printer starts printing, some time may be needed for the printer to actually start printing after the host computer commands printing. This pause is the time required for processing the connection between the host computer and the printer, and it depends on the conditions of the environment where used.

Timing to shut the connection off

If a connection between the host computer and the printer is shut off while the printer is offline, it may not be re-established. In this case, first clear the printer offline causes, and then try to re-establish the connection.

Notes when communicating with Android devices

- The printer cannot connect to Android 2.3 and 2.3.2.
- When communicating with Android 2.3.3 or later versions, communicate through an insecure connection.

Notes when communicating with iOS devices

Print data deletion and *Bluetooth* disconnections occur

Situation

Depending on the specifications of the iOS device, print data sent to the printer may be deleted. When this occurs, the *Bluetooth* connection between the printer and the iOS device is disconnected.

Conditions

This occurs when the printer is not ready to print, and 64 KB or more of print data is sent to the printer.

<Status in which the printer cannot print>

- When the roll paper cover is open
- When the paper is out
- When waiting for printed labels to detach

Solution

Do not send data to the printer if the printer is not ready to print.

For developers using the SDK from Epson, see the SDK's User's Manual - Chapter 3 Programming Guide - "Printing After Checking the Printer Status".

Since *Bluetooth* is disconnected when this occurs, if the auto reconnect feature is not enabled, you need to reconnect from the *Bluetooth* settings screen on the iOS device.

When using the SDK from Epson, this connection process is not necessary.

The iOS application receives the same data from the printer multiple times

Situation

Although the printer only sends data (such as the status) once to the iOS device, the application on the iOS device may receive the data multiple times.

Conditions

If no data is sent between the printer and the iOS device for at least 30 seconds during *Bluetooth* connection, the iOS device switches to power-saving mode. This problem occurs if the printer sends data to the iOS device while it is in power-saving mode.

The following are examples of when this occurs.

- When the printer performs status communication with a command (DLE EOT, GS I, and so on)
- When the printer sends an ASB

In the following situations, this does not occur.

- When the iOS device sends data to the printer
- When data is sent to the iOS device before it switches to power-saving mode (less than approx. 30 seconds) after the printer has received data from the iOS device
- When using the SDK from Epson (however, this may occur when receiving data from a printer using a command transmission/reception API)

Solution

If no data is sent between the printer and the iOS device for at least 30 seconds, use the following steps to send data.

- 1) Before sending data, send 100 bytes of dummy data to the printer. As long as it is not related to printing or commands, anything can be used as the dummy data, however we recommend using 00h.
- 2) Set a waiting time of 100 milliseconds.
- 3) Send the data.

The iOS application cannot receive the data sent from the printer

Situation

Although the printer sends data to the iOS device and the data is received by the iOS device, depending on the combination of the iOS version and the iOS device, the iOS application may not be able to receive the data.

Conditions

This may occur in combinations of the following conditions.

- iOS version: 7.1, 7.1.1
- iOS device: iPhone 5s, iPhone 5c, iPhone 5, iPad Air, iPad mini with Retina display, iPad (4th generation), iPad mini, iPod touch (5th generation), iPhone 4s, iPhone 4, iPad (3rd generation), iPad 2
- Printer firmware version: 6.11 ESC/POS or earlier
- Application processing: If the *Bluetooth* port is closed and then reopened while the application is running.

Solution

The solution differs depending on the iOS device being used. See the following table.

iOS Device	Solution
iPhone 5s iPhone 5c iPhone 5 iPad Air iPad mini with Retina display iPad (4th generation) iPad mini iPod touch (5th generation)	This situation can be avoided by using one of the following methods. <ul style="list-style-type: none">• Use a product with the following firmware. 6.12 ESC/POS or later• Use the ePOS-Print SDK for iOS which is included in the ePOS-Print SDK Release 14.06.30E or later package.
iPhone 4s iPhone 4 iPad (3rd generation) iPad 2	This situation can be avoided by using the ePOS-Print SDK for iOS which is included in the ePOS-Print SDK Release 14.06.30E or later package.

NFC Tag

Transmission standard	ISO14443 A
Frequency	13.56 MHz
Memory	144 byte
Transmission distance	Approximately 10 mm from the NFC installation location.

NOTE

- The transmission distance is an estimate that depends on our experiment conditions and is not a guaranteed value.
- It varies based on the installation environment and target device.

Character Code Tables

Refer to the following URL regarding the character code table.

<http://www.epson-biz.com/pos/reference/charcode/>