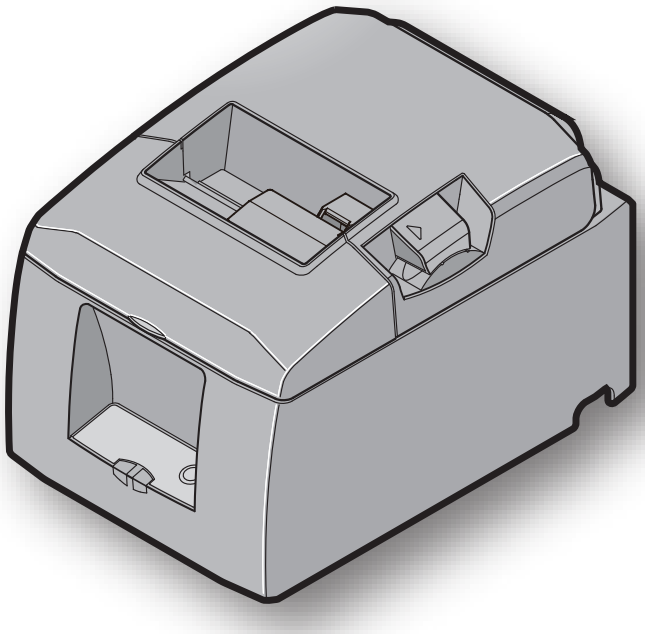
# THERMAL PRINTER

# TSP650II SK SERIES

## Hardware Manual



## FCC/IC Statement

This device complies with Part 15 of FCC Rules and Industry Canada licence-exempt RSS standard(s).
Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference, including interference that may cause undesired operation of this device.

Le présent appareil est conforme aux la partie 15 des règles de la FCC et CNR d"Industrie Canada applicables aux appareils radio exempts de licence.
L"exploitation est autorisée aux deux conditions suivantes :
(1) l"appareil ne doit pas produire de brouillage, et
(2) l"utilisateur de l"appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d"en compromettre le fonctionnement.

## Modifications

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## Cables & Ferrite

For compliance with the Federal Noise Interference Standard, this equipment requires a shielded cable.
RF interference suppression, if a ferrite core is provided with this device, affix it to the interface cable.

## Note

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment 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. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
CAN ICES-3 (A) / NMB-3 (A)

## FCC/IC Radiation Exposure Statement

This device must not be co-located or operating in conjunction with any other antenna or transmitter.
This equipment complies with FCC/IC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65 and RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment should be installed and operated keeping the radiator at least 20cm or more away from person's body (excluding extremities: hands,wrists,feet and ankles).

Cet appareil ne doit pas être situé à proximité ou fonctionner en conjonction avec une autre antenne ou un autre émetteur.
Cet équipement est conforme aux limites d"exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles les radioélectriques (RF) de la FCC lignes directrices d'exposition dans le Supplément C à OET65 et d"exposition aux fréquences radioélectriques (RF) CNR-102 de l"IC. Cet équipement doit être installé et utilisé en gardant une distance de 20 cm ou plus entre le dispositif rayonnant et le corps (à l"exception des extrémités : mains, poignets, pieds et chevilles).

Italia: l'uso pubblico è soggetto ad autorizzazione generale da parte del rispettivo provider di servizi.

Noorwegen: dit sublid geldt niet voor het geografische gebied binnen een straal van 20 km vanaf het centrum van Ny-Alesund

This statement will be applied only for the printers marketed in Europe.

**LA OPERACIÓN DE ESTE DISPOSITIVO ESTA SUJETA A LAS SIGUIENTES CONDICIONES:**

a) Es posible que este equipo o dispositivo no cause interferencia perjudicial.
b) Este equipo o dispositivo debe aceptar cualquier tipo de interferencia, incluyendo la que pueda causar su operación no deseada.

**Radio Equipment Information:**

**Informations relatives à l'équipement radioélectrique :**

**Radiogeräteinformationen:**

**Informatie over de radioapparatuur:**

**Informazioni sulle apparecchiature radio:**

**Información sobre equipos de radio:**

**Informações de equipamento de rádio:**

**Radyo Ekipmanı Bilgileri:**

**Πληροφορίες περί ραδιοεξοπλισμού:**

**Informacije o radijski opremi:**

**Informacije o radijskoj opremi:**

**Information vedr. radioudstyr:**

**Radioaaltoja lähettävän laitteen tiedot:**

**Informasjon om radioutstyr:**

**Information om radioutrustning:**

**Informacja o urządzeniach radiowych:**

**Informace o rádiovém vyzařování přístroje:**

**Rádióhullám-kibocsátási adatok:**

**Informácie o rádiovom zariadení:**

**Informații privind echipamentele radio:**

**Informācija par radio iekārtu:**

**Radijo ryšio įrangos informacija:**

**Raadioseadme teave:**

**Informazzjoni tat-Tagħmir tar-Radju:**

**Eolas faoi Threalamh Raidió:**

| | |
|---|---|
| **2402 - 2480 MHz** | **max. 20 dBm (E.I.R.P.)** |

**Declaration of Conformity**

**Konformitätserklärung**

**Déclaration de conformité**

**Declaración de conformidad**

**Dichiarazione di conformità**

**Verklaring van conformiteit**

**Izjava o sukladnosti**

**Izjava o skladnosti**

**Prohlášení o shodě**

**Uyumluluk Beyanı**

**Megfelelőségi nyilatkozat**

**Overensstemmelseserklæring**

**Försäkran om överensstämmelse**

**Vaatimuksenmukaisuusvakuutus**

**Konformitetserklæring**

**Declaração de Conformidade**

**Δήλωση συμμόρφωσης**

**Deklaracja zgodności**

**Vyhlásenie o zhode**

**Vastavusdeklaratsioon**

**Atbilstības deklarācija**

**Atitikties deklaracija**

**Dikjarazzjoni ta' Konformità**

**Declarație de conformitate**

**Декларация за съответствие**

**Dearbhú Comhréireachta**

***http://www.starmicronics.com/support/mannualfolder/TSP650_CE_DoC_Newest.pdf***

## 國家通訊傳播委員會(NCC)警告

根據「低功率電波輻射性電機管理辦法」第十條

製造、輸入或販賣低功率射頻電機者，應於低功率射頻電機使用說明書內加印第十二條及第十四條之規定內容。

「低功率電波輻射性電機管理辦法」第十二條

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

「低功率電波輻射性電機管理辦法」第十四條

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。

低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

## Handling of wireless communication functions

This product is equipped with Bluetooth® communication functions. (Bluetooth models only)
Due to the radio laws and regulations regarding Bluetooth communication in each country, there may be limitations on its usage. Please check the radio laws and standards for the country the product is being used in, and the radio laws and regulations based on which the product has been certified.

- For the latest information on radio laws and regulations based on which this product has been certified, see here.
- This product has received technical standards conformity certification as a radio station for low-power data communication system based on radio laws and regulations. Therefore a radio station license is not required when using this product. However disassembling/modifying this product may be subject to punishment under applicable laws. Therefore do not disassemble or modify this product.
- The frequency used in this product is used in a number of other devices such as microwave ovens. Before use, make sure there are no effects from radio waves emitted from these devices.
- A distance of at least 20 cm {7.87"} must be maintained at all times between the antenna of this product and people in the vicinity.
  May exert electromagnetic interference on, and cause malfunction of, cardiac pacemakers.
- The use of wireless devices may be restricted or prohibited in medical institutions and on aircraft.
  Follow the instructions provided by each medical institution or airline company.
- If radio interference occurs in other devices while this product is in use, discontinue use of this product.

## Precaution related to compatibility

- Company and product names listed in this document are trademarks/registered trademarks of their respective owners.
- The contents of this manual may be changed without notice for the purpose of functional improvements.
- Reprinting the contents of this manual, in part or in whole, without advance permission is prohibited.
- Be aware that STAR MICRONICS bears no liability of any kind for damages resulting from the effects of failing to operate this model as prescribed in the manual, or from mistakes in its operation.
- Every effort was made to ensure the completeness and correctness of this manual at the time it was created.
  If you find any points which are not comprehensible, errors, omissions, or other issues, please notify our company.

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  The "iPhone" trademark is used based on a license from Aiphone Co. Ltd.
- Android is a trademark of Google Inc.
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# Warning Symbols

These symbols are located near the thermal print head.
Because the thermal print head is hot immediately after printing, do not touch it. Static electricity can damage the thermal print head. To protect the thermal print head from static electricity, do not touch it.

This symbol is near the cutter.
Never touch the cutter blade, as you could injure your fingers.

This symbol is near the external device drive connector.
Do not connect a telephone line to this connector.

# Safety Information

This section contains safety information for preventing harm to users of this product and to third parties, and damage to property.

Carefully read before using this product and use the product properly.

We are not liable for any damage that occurs as a result of incorrect use of the product, meaning any use other than those detailed in the safety information or in the product manual, or for any damage that occurs due to repairs/changes made by a third party who is not part of our company or specified by our company.

■ The severity of the hazard or damage resulting when contents of the manual are ignored and the device is used incorrectly is categorized using the following symbols as explained below.

| |
|---|
| **⚠ Warning**<br>**This indicates contents where there is the risk of death or serious injury.** |
| **⚠ Caution**<br>**This indicates contents where there is the risk of injury or property damage.** |

## Information about installation of the product

**⚠ Warning**

■ Do not install in the following locations.

There is the risk of electric shock or fire.

- Locations where there is danger of electricity or water leakage.
- Locations that are in the vicinity of fire, that are subject to direct sunlight, or where heat may be trapped.

**⚠ Caution**

■ Do not install in the following locations.

Installation in the following locations may cause malfunction.

- Locations where there is static electricity or where a strong magnetic field is generated
- Locations where ventilation is poor or dusty locations
- This product uses DC motors and switches which include electric contacts. Avoid using it in locations where silicone gas or flammable gas is volatilized.
- Locations where temperature and humidity exceed the usage environment conditions, or where condensation occurs
- Locations which are not flat, or where vibrations occur

  The product may topple over or fall, and may cause injury or malfunction.
- Do not use the same electrical outlet where a photocopier, refrigerator, or other equipment that generates noise is connected.
- Location at a distance from the electrical outlet

  Install in a location that is near the electrical outlet so that the power plug can be immediately pulled out if an abnormality occurs.

## Handling of the product

### ⚠ Warning

- Immediately turn the power off and pull the power plug out of the electrical outlet if the product emits heat, smoke, abnormal smells, or abnormal sounds. Then contact the dealer where you purchased the product.
  Continued use of the product may result in fire or electric shock.
- Do not dissemble, repair, or modify the product.
  Doing so may result in fire, electric shock, or injury.
- If the product was dropped or subjected to other strong impact, immediately turn off the power switch and unplug the power plug from the electrical outlet. Then contact the dealer where you purchased the product.
  Continued use may result in a short circuit, fire, electric shock, or injury.
- Do not use with a power source other than the specified power source.
  If a power source other than that specified is used, it may result in electric shock or fire.
- When unplugging the power plug, always pull the plug and not the cable.
  Otherwise, the power cable may be damaged, and a short circuit, fire, or electric shock may occur.
- Do not cut, modify, forcefully bend, pull, twist, put a heavy object on, or pinch the power cable.
  Otherwise, the power cable may be damaged, and a short circuit, fire, or electric shock may occur.
- Do not use a damaged power cable or power plug, or a loose electrical outlet.
  Doing so may cause a short circuit, fire, or electric shock.
- Do not touch the power plug with wet hands.
  Doing so may result in electric shock.
- Do not touch the cutter blade. Doing so may cause injury.
  - There is a cutter inside the paper exit. Never touch the blade even when it is not operating.
  - The printer cover will be opened when exchanging the paper roll but since there is a cutter inside the printer cover, do not bring your face or hands close to the cutter blade when the printer cover is opened.
- If foreign matter such as liquids or metal fragments gets inside the main unit, immediately turn off the power switch and pull out the power plug from the electrical outlet. Then contact the dealer where you purchased the product.
  Continued use of the product may result in fire or electric shock.
- Turn the power off, and pull the power plug out of the electrical outlet before installing or removing accessories or consumable supplies, or before carrying out maintenance.
  Doing so may result in electric shock or injury.

## ⚠ Caution

- If the product will not be used for a long period of time, pull the power plug out of the electrical outlet to ensure safety.
- Before connecting or disconnecting a cable, unplug the power plugs of both this product and the host computer from the electrical outlet to ensure safety.
- When disconnecting a connector, be sure to grasp the connector part, and make sure that no excessive force is applied to the connector on the printer side.
- Do not connect a telephone line to the external device drive connector.
  To ensure safety, avoid wiring connections that may apply excessive voltage to the external device drive connector.
  Such connections may result in malfunction.
- Do not open the cover during printing or when the cutter is operating.
- Do not pull out the paper while the printer cover is closed.
- Be careful not to pinch your hands when opening or closing the cover.
  There is the risk of injury.
- The print head, motor, and surrounding parts will be hot during and immediately after printing. Do not touch them.
  There is the risk of burns.
- The heating element in the thermal printer head and the driver IC part can be easily damaged. Do not allow them to contact metals, sandpaper or similar materials.
- Be careful of static electricity may damage the driver IC and other components of the thermal print head.
- Do not touch the heating element of the thermal print head with a hand. Doing so can make it dirty, which will result in reduced printing quality.
- Do not operate the printer if there is condensation or other moisture on the surface of the print head.
- Printing quality and the lifetime of the thermal printer head may not be guaranteed when thermal paper other than the recommended paper is used. Especially when the thermal paper contains a large amount of [Na+, K+, Cl-], then the lifetime of the thermal printer head may be significantly shortened. We recommend using products with ion concentrations of no more than Na+ 500 ppm, K+ 150 ppm, and Cl- 300 ppm.
- Use within the range indicated in the environmental specifications. Even when the environmental temperature and humidity are within the specifications, avoid sudden changes in the environmental conditions. The environment suitable for using this product is as follows.
  Operational temperature: 5 - 45° C
- When disposing of this product, be sure to follow local ordinances and regulations.

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# 1. Product Overview

## 1-1. Product Information

☆ High speed printing is possible up to 180 mm/sec

☆ Simple drop-in design for setting paper

☆ Supports 80 mm, 58 mm, and 40 mm wide paper.
(Deticated paper roll guides to change paper width are included.)

☆ Equipped as standard with a hold print sensor.
The hold print sensor can help prevent paper jams and other problems.

☆ Wide range of interfaces
USB, serial, LAN, and Bluetooth are supported.

☆ No layout restrictions - can be used standing, mounted on a wall, or changed as needed.
Use the accessories and install using a layout that suits your purpose.

☆ Includes a notification function that prevents problems caused by forgetting to remove the paper.
By connecting the product to the optional buzzer, this function can prevent the user from forgetting to remove the paper.

☆ Supports printing of text and graphics.

☆ Able to print logos.
By using the special logo registration tool, it is possible to print the bit image which is registered in the printer.

☆ Multiple language fonts included.
Supports Japanese, Chinese (traditional and simplified), and Korean.

☆ Can connect to iOS, Android, Windows, Mac, and Linux.

☆ StarwebPRNT support (webPRNT interface model[*1)], Bluetooth interface model[*2)])

*1) With the webPRNT interface model, use IFBD-HI01X or IFBD-HE07X.

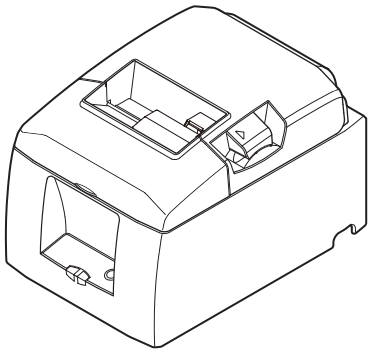
*2) With the Bluetooth interface model, use the StarwebPRNT browser.

☆ Star CloudPRNT support (CloudPRNT interface model)

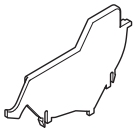
The specifications of this product can be checked here .

## 1-2. Check Accessories

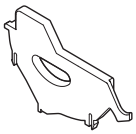
Check to make sure all the accessories are included.
Please contact the seller if there are any missing or damaged accessories.



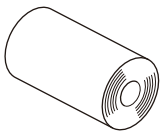
Printer main unit



Paper roll guide
(for 40/58 mm paper)

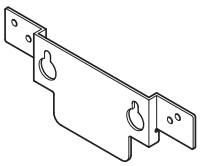


Paper roll guide
(For 40 mm paper)



Paper roll

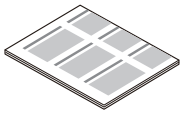
Four rubber feet



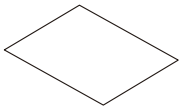
Wall mounting plate

Two screws
(for wall mounting plate)

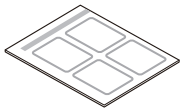
Switch cover



Safety guide



Flyer
(color)



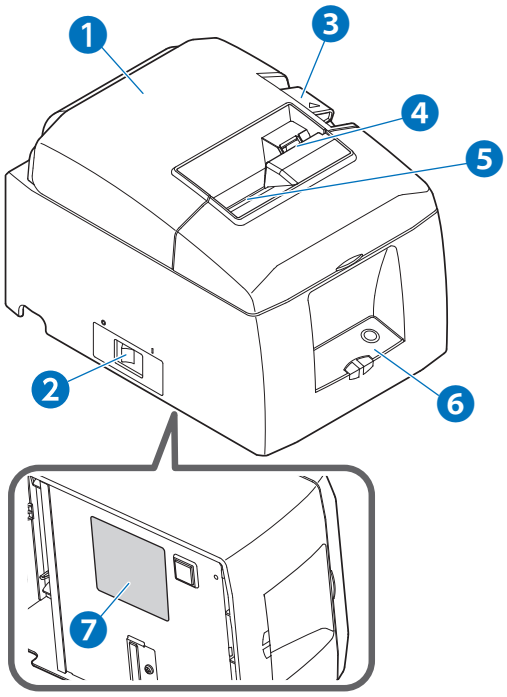
Setup Guide

### <Items to be prepared by the customer>

Printer cables are not included in the package. Prepare a cable that matches the specifications in advance.
Because the cable is different depending on the system that you are connecting the printer to, contact the dealer where you purchased the product if you are unsure about what cable to use.

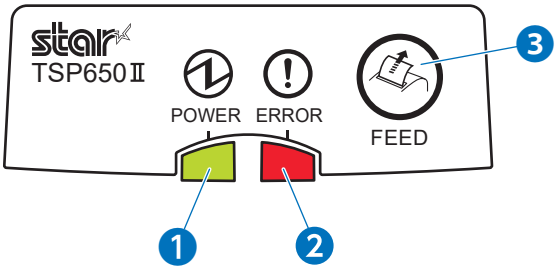
# 1-3. Part Names and Functions

## 1-3-1. Main Unit Exterior




| | |
|---|---|
| 1 | **Printer cover** |
| | Open and close it when setting the paper.<br>Do not open the printer cover during printing. |
| 2 | **Power switch** |
| | Turns the printer power ON/OFF. |
| 3 | **Cover opening lever** |
| | Press this lever in the △ direction to open the printer cover when setting the paper. |
| 4 | **Hold print sensor** |
| | This sensor detects the status of the paper ejected from the paper exit and prevents paper jams or other problems from occurring. |
| 5 | **Paper exit** |
| | The printed paper is ejected from here. |
| 6 | **Operation panel** |
| | Includes 2 lamps that indicate the printer status and a button for operating the printer. |
| 7 | **Nameplate** |
| | The model and ratings can be checked from the nameplate on the bottom of the printer. |

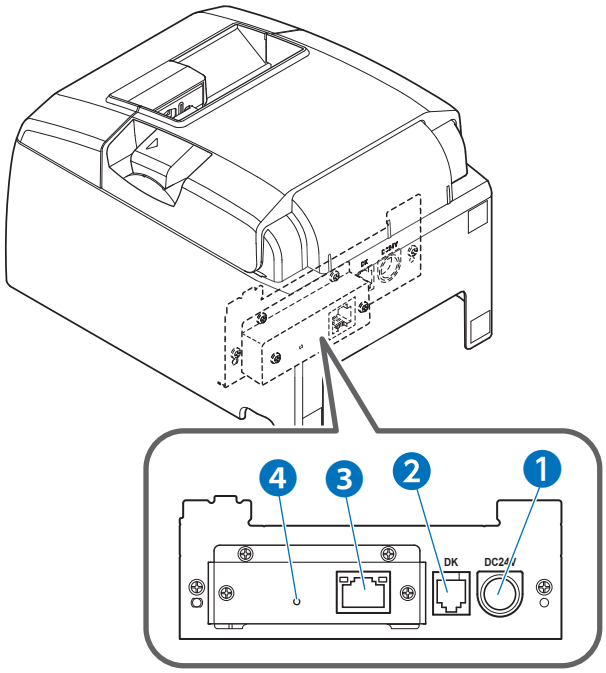
## 1-3-2. Operation Panel




| | |
|---|---|
| 1 | **POWER lamp (green)** |
| | Lights up when the printer is online.<br>This lamp also indicates error contents in combination with the ERROR lamp. |
| 2 | **ERROR lamp (red)** |
| | This lamp indicates error contents in combination with the POWER lamp. |
| 3 | **FEED button** |
| | When the printer is online, pressing this button feeds the paper roll.<br>It is also used when performing self-printing and when enabling or disabling the hold print sensor. |

For the hold print sensor, refer to "5-1. Use Hold Print Sensor"
For the self-printing procedure, refer to "5-2. Check Settings by Self-Printing"
For how to check errors, refer to "7-1. Error Indicators"

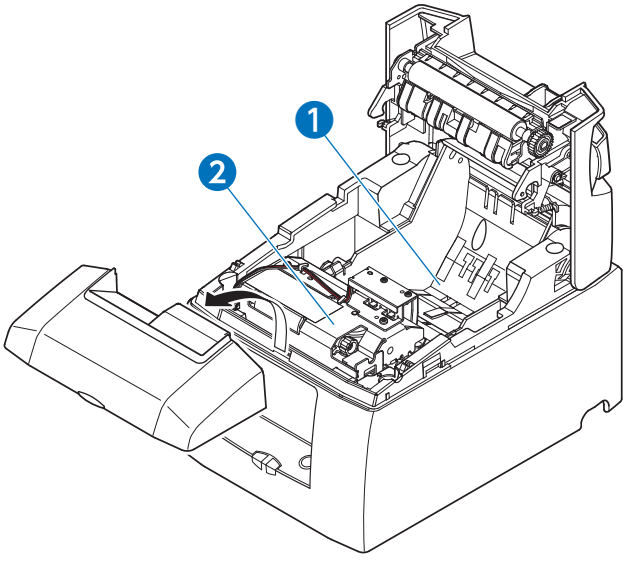
## 1-3-3. Connectors (Back of Main Unit)




| | |
|---|---|
| 1 | **Power connector** |
| | Connects the power cable.<br>Note: The power cable is not included with the product. |
| 2 | **External device drive connector** |
| | Connects to external devices such as a buzzer.<br>Caution: Do not connect a telephone line to this connector. |
| 3 | **Interface connector**[*1)] |
| | Connects to the host device. |
| 4 | **Push switch (IFBD-HE07/Hi01X only)** |
| | Used to initialize the printer. |

*1) The interface illustration is an example.

## 1-3-4. Inside of Main Unit




| | |
|---|---|
| 1 | **Paper roll holder** |
| | Sets the paper roll. |
| 2 | **Cutter** |
| | Cuts the paper. |

# 2. Install Printer

## 2-1. Connect Power Cable

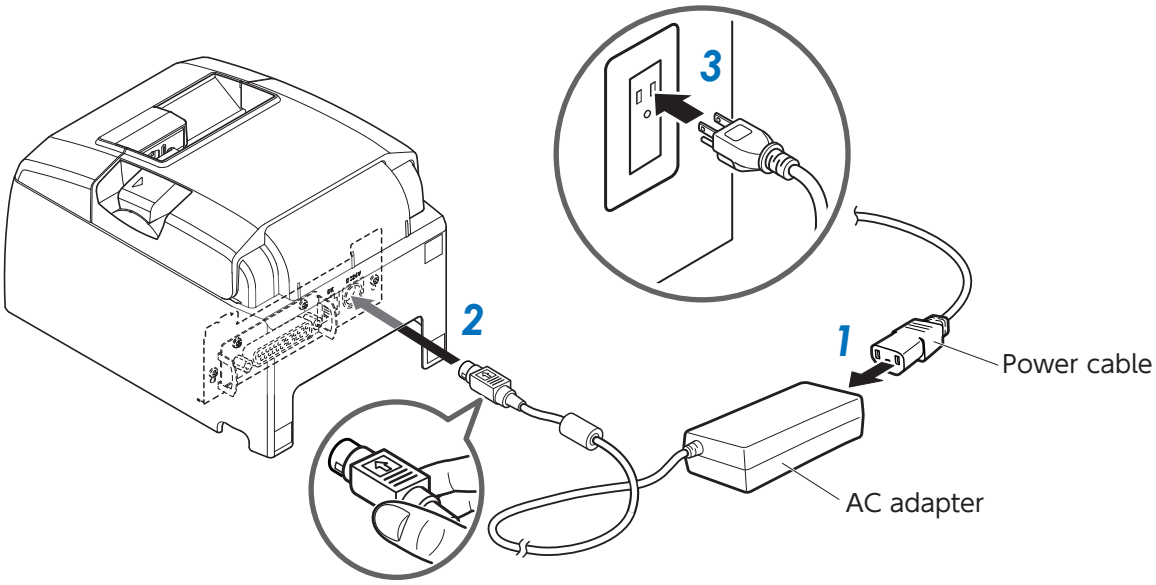
Recommended AC adapter: PS60A-24 (option)

1. Securely plug the power cable (for the AC adapter) fully into the AC adapter inlet .
2. Connect the AC adapter plug to the power connector of the printer. Be sure that it is oriented (top/bottom) correctly.
3. Connect the ground wire to the ground terminal (or a metal part connected to nearby ground).
4. nsert the power cable plug into the electrical outlet.

**⚠ Warning**

**Be sure to connect the ground wire.**
Connecting and disconnecting the ground wire must be done with the power plug removed from the electrical outlet.

**Do not connect the ground wire to a gas tube.**
Doing so may cause gas explosion or fire.



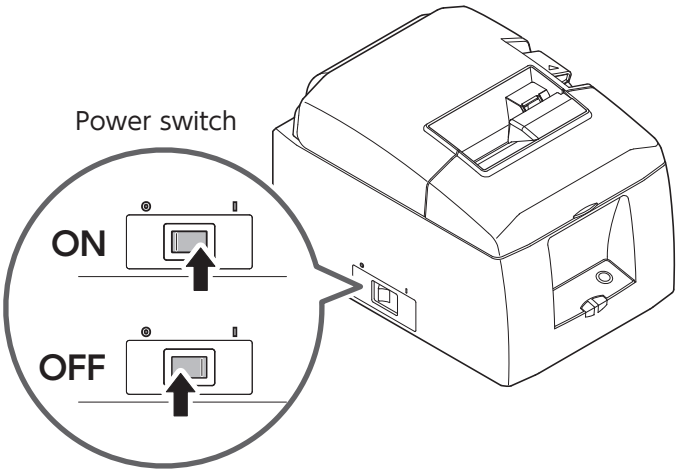

When disconnecting the AC adapter, grasp the plug and pull it out. The lock will be released and the plug can be easily disconnected. Pulling forcefully on the cable may damage the plug.

[Note] Use of the designated standard AC adapter and power cable (options) is recommended.
When a power source other than the recommended options is used, pay attention to the following points.

- Use a power supply that is 24 ± 10% VDC and 2.0A or more.
  (Select a power supply with current capacity that is appropriate for the actual printing ratio.)
- Use a power supply that is SELV output and conforms to either LPS (Limited Power Source) or Class 2.
- Take into consideration the noise in the environment that the printer is installed in, and take appropriate measures to protect the printer from static electricity, AC line noise and other noise. Also, be sure to perform complete verification of operation before using.

## 2-2. Turn Power ON/OFF

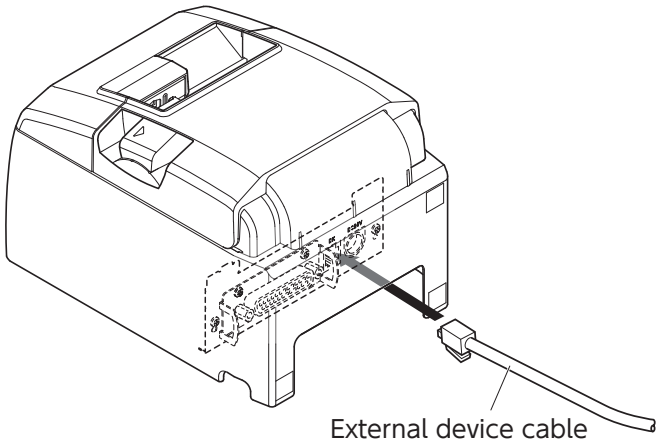
1. Connect the power cable using the procedure in “2-1 Connect Power Cable” .
2. Use the power switch on the side of the printer to turn the power ON/OFF.
   When the power is ON, the POWER lamp (green) on the operation panel illuminates.




## 2-3. Connect External Devices

When the optional buzzer is connected, the buzzer can be set to sound when the printer operates. Follow the procedure below when connecting a device to the printer.

1. Turn the printer power OFF, and unplug the power plug from the electrical outlet.
2. Connect the connector on one end of the cable to the buzzer or other external device.
   Connect the connector on the opposite end of the cable to the external device drive connector on the back of the printer.

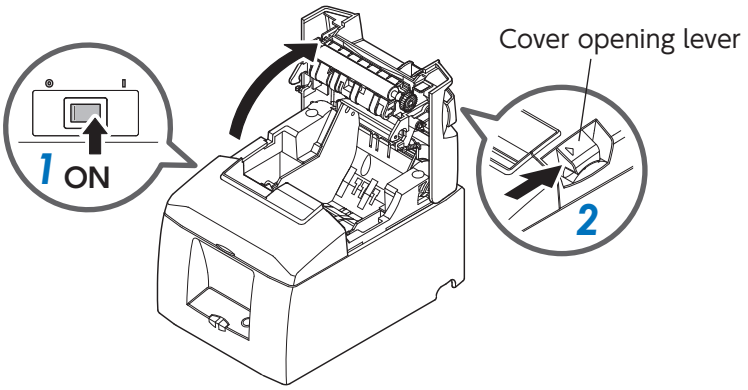



**[⚠Caution] Do not connect a telephone line to the external device drive connector.**
**Doing so may cause printer malfunction.**
**To ensure safety, avoid using wiring connections that may apply excessive voltage to the external device drive connector.**

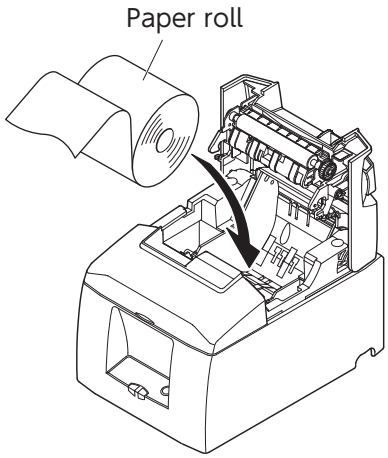
## 2-4. Installing the Paper Roll

Use paper that meets the specifications of the printer. ( “2-4-1. Supported Paper Specifications” )

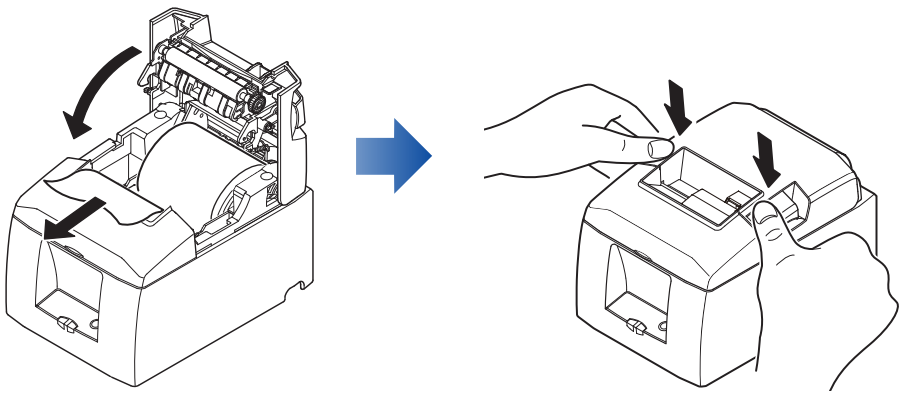
1. Turn ON the printer power.
   * Set paper with the power turned ON to automatically feed and cue the paper.
2. Press the cover opening lever to open the printer cover.




3. Set the paper in the direction shown in the illustration.




4. After pulling the end of the paper out straight, press both sides of the printer cover and close the printer cover.
   The paper is cut automatically. Remove the paper that was cut off to complete paper setting.



[Note] ● Be careful not to get your fingers caught when opening or closing the printer cover.

● Be careful not to pull the paper out at an angle, because doing so may cause the paper to jam or skew.

● When closing the printer cover, make sure that the cover is pressed closed on both sides.

● After the printer cover is closed, the printer performs the initial operations (from paper feeding to paper cutting).
Do not open the printer cover until the initial operations are complete.

## 2-4-1. Supported Paper Specifications

| | |
|---|---|
| Type | Linerless label roll paper |
| Paper thickness | 86 μ m |
| Paper width | 79.5 ± 0.5 mm / 57.5 ± 0.5 mm / 39.0 ± 0.5 mm |
| External dimensions<br>• Roll diameter<br>• Width (roll width) | <br>Maximum roll diameter 83 mm<br>80+0.6,-1 mm / 58+0.5,-1 mm / 39.5+0.5,-1 mm |
| Core external diameter | Maximum Φ 25.4 mm |
| Printed surface | Roll exterior |

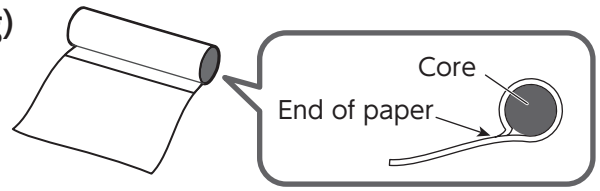
[Note] ● For details on the recommended thermal paper, see the website below.
http://www.starmicronics.com/support/mannualfolder/recommendedpaper_en.pdf

● Do not glue or tape the paper roll and core together.

● Do not use roll paper where the glue surface on the end of the paper roll is attached to the paper ahead of it which is wrapped onto the core. (Refer to the illustration below.)

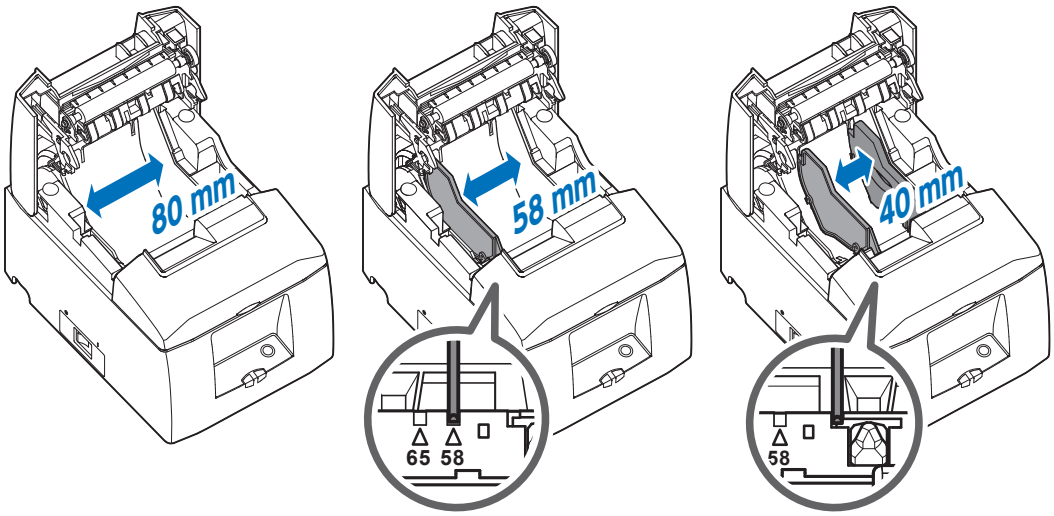
**(Right)**

**(Wrong)**



## 2-4-2. Change the Paper Width

Supports 80 mm, 58 mm, and 40 mm wide paper.



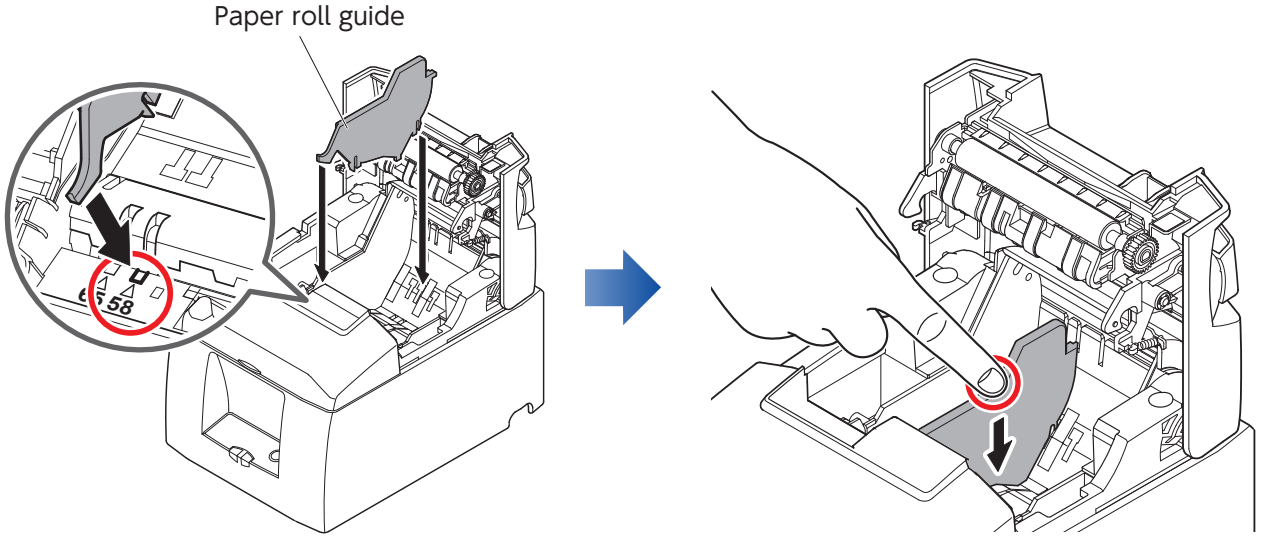

The initial set paper width is 80 mm.
When using 58 mm or 40 mm width paper, attach the provided paper roll guide(s) to the printer.
Change the print area by changing the printer utility memory switch setting. For details about how to change the setting, refer to the printer utility help.

[Note] ● Do not insert the paper roll guide into the groove that is marked "△ 65" .
Doing so may cause problems with operation.

● Do not change the paper width after starting to use the product.
The wear conditions of the head, rubber rollers, and cutters varies depending on the paper width, and this may cause problems with the printing or cutting operations.

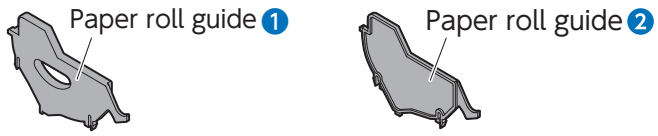
### ◆ When using 58 mm width paper

1. Use 1 of the paper roll guides that were provided with the product. (Refer to the illustration below.)
   Insert the paper roll guide aligned with the groove marked " △ 58" in the printer.
2. Press the paper roll guide securely in place until a click sound is heard.

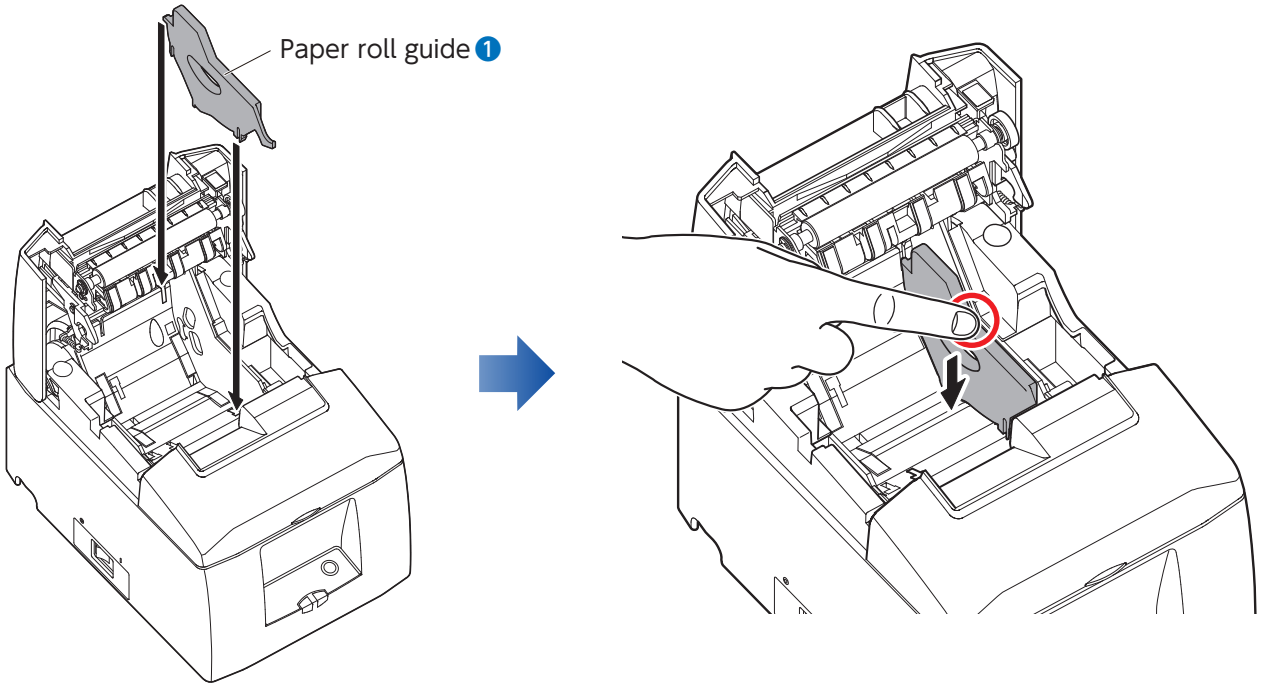


## ◆ When using 40.0 mm width paper

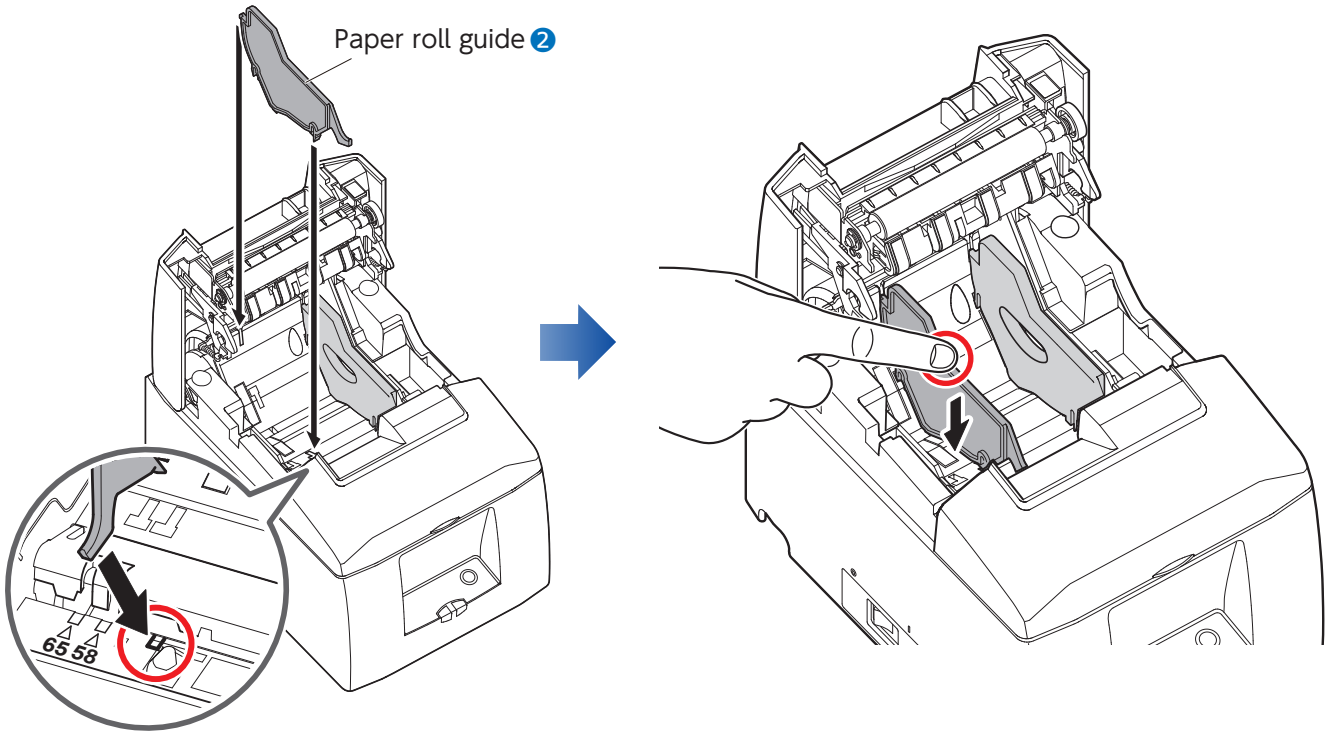
1. Use 2 of the paper roll guides that were provided with the product.




2. Of the 2 paper roll guides, insert guide 1 into the groove at the position shown in the illustration below. Press the paper roll guide securely in place until a click sound is heard.



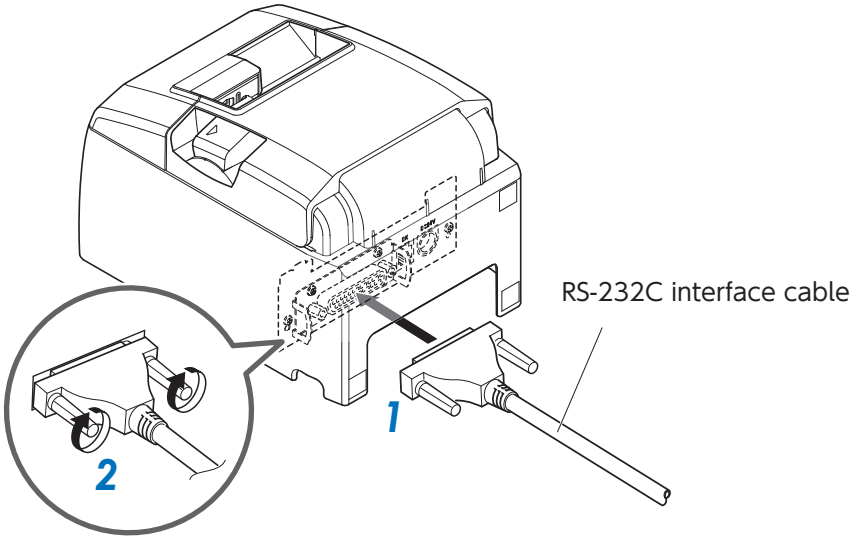

3. Then, insert paper roll guide 2 into the position shown in the illustration below. Press it until it clicks into place to install it securely.



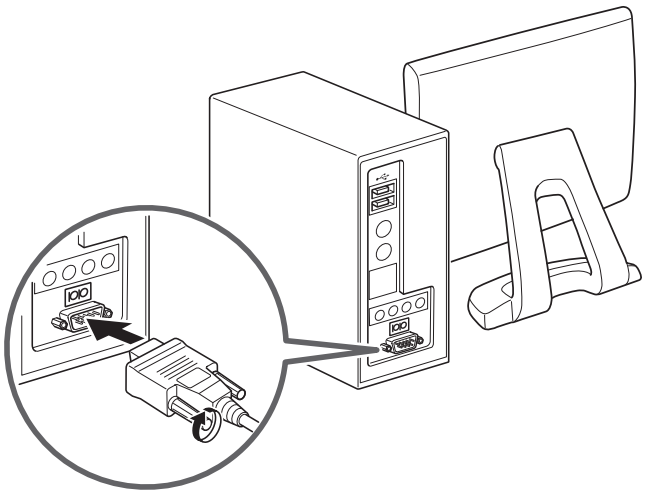
# 3. Connect Tablet/PC

## 3-1. RS-232C Interface

1. Turn OFF the printer power.
2. Connect the RS-232C interface cable plug to the printer.
3. Tighten the screws on the left and right sides of the plug.



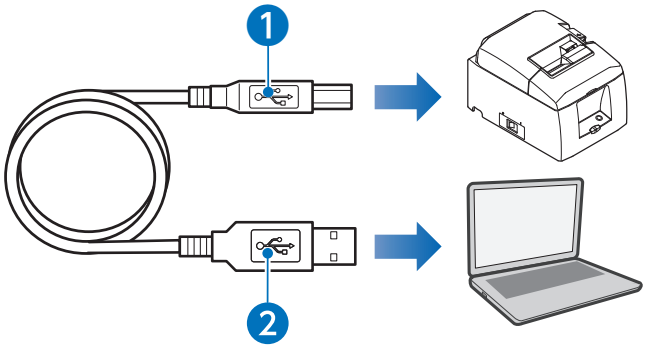

4. Connect the plug on the other end to the RS-232C port on the host computer, and tighten the screws on the left and right sides of the plug.



# 3-2. USB Interface

## 3-2-1. When Using Windows

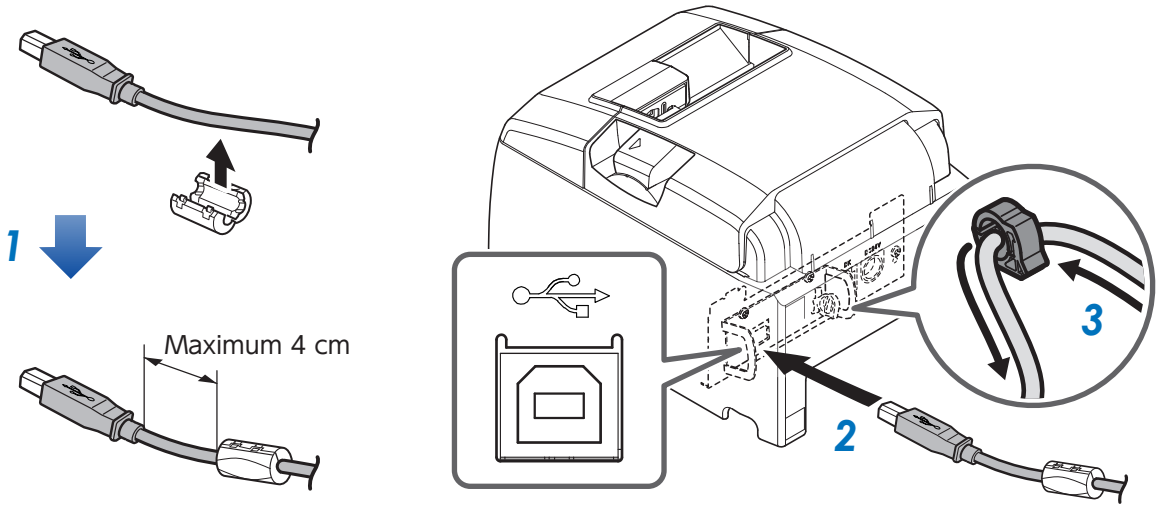
Use the following cable. Turn OFF the printer power before connecting.



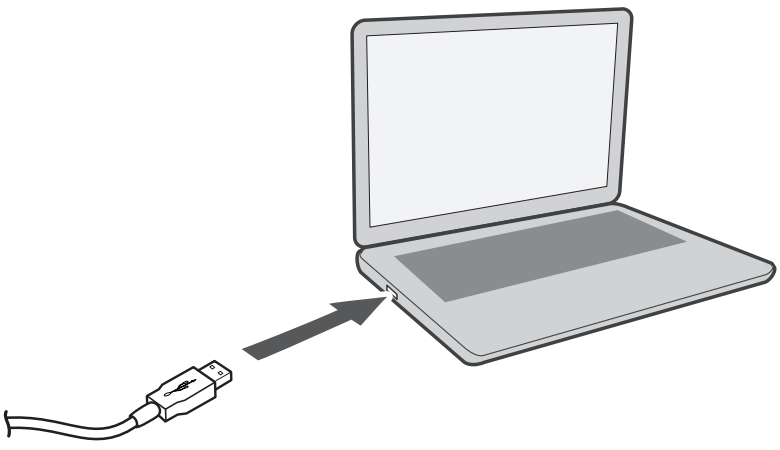

1 Printer-side plug: USB Type-B

2 Device-side plug: USB Type-A

1. Install the ferrite core that was provided with the interface board onto the USB cable.
2. Connect the USB cable plug to the printer.
3. Fasten the cable with the cable hook as shown in the illustration.




4. Connect the plug on the other end to the PC or tablet.



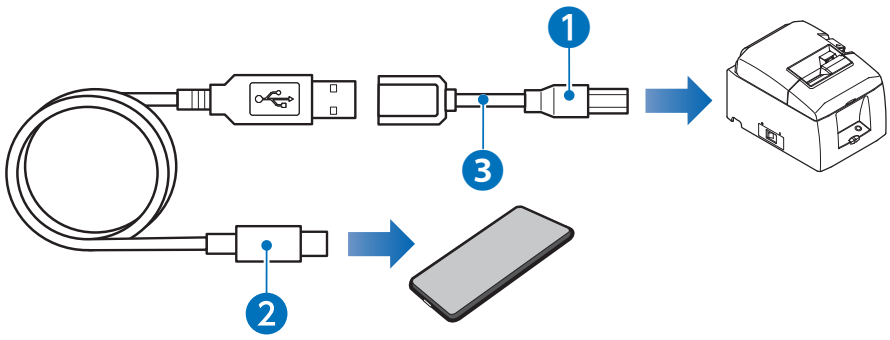
### 3-2-2. When Using Android

Prepare a USB cable, USB conversion adapter, and other necessary items according to the connector shape of the smartphone/tablet that you use.
Some devices may not support the use of a USB conversion adapter. Be sure to fully check operation before starting actual use.

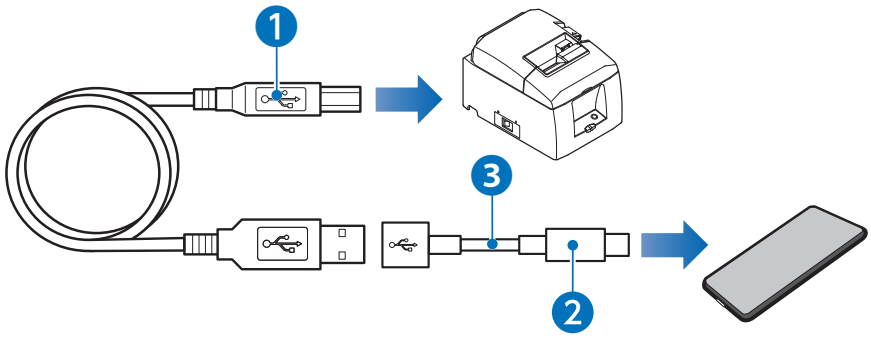
The following is an example of the connection. Turn OFF the printer power before connecting.

1. Printer-side plug: USB Type-B
2. Device-side plug: Standard that matches the device you are using
3. USB conversion adapter: Use when necessary.

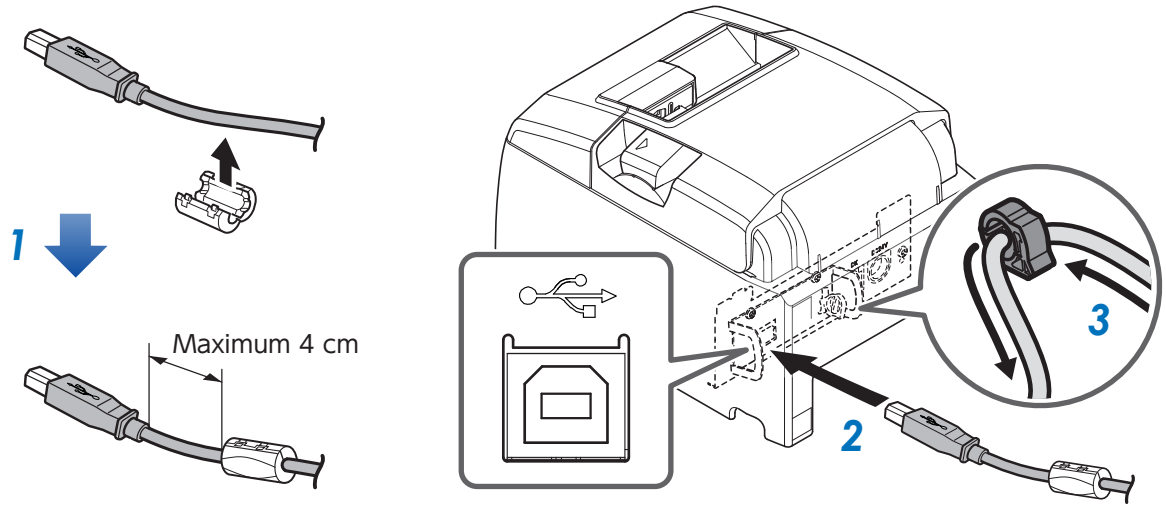
◆ When using a commercially available USB cable or cable that came with the smartphone or tablet



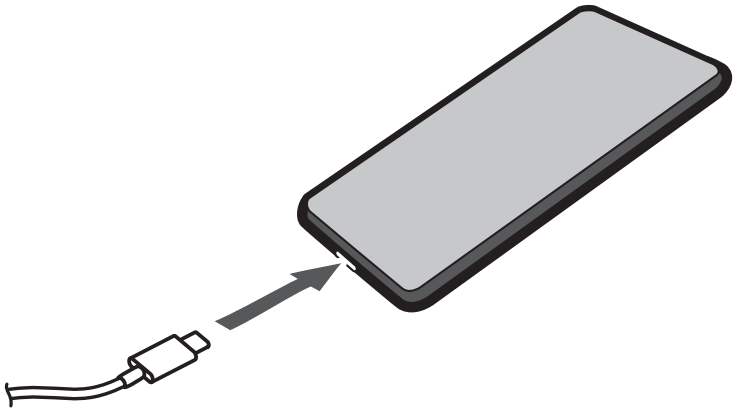

◆ When using a USB Type-A - USB Type-B USB cable



1. Install the ferrite core that was provided with the interface board onto the USB cable.
2. Connect the USB cable plug to the printer.
3. Fasten the cable with the cable hook as shown in the illustration.

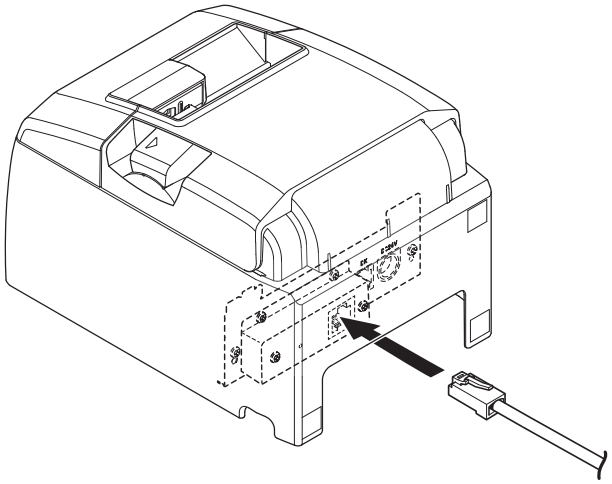



4. Connect the plug on the other end of the cable to the smartphone or tablet.

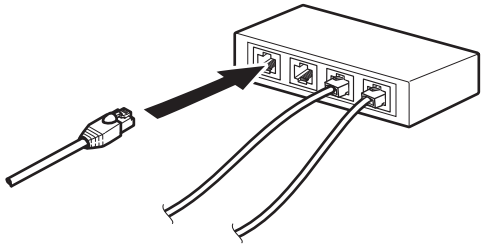


## 3-3. Ethernet Interface

1. Turn OFF the printer power.
2. Connect the LAN cable to the printer LAN connector.



3. Connect the other end of the LAN cable to the Ethernet port on the router, hub, or other device.

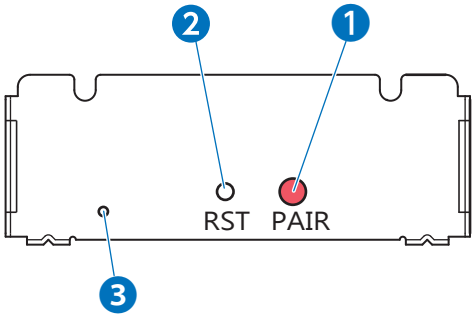


Broken link detection function

The Ethernet interface includes a broken link detection function.
When the printer power was turned ON without connecting the LAN cable, the POWER lamp (green) and ERROR lamp (red) flash simultaneously at intervals of 4 seconds to indicate a broken link.
After connecting the LAN cable to the PC or hub and the printer, turn the printer power ON again.
If the IP address is not correctly recognized, the POWER lamp (green) and ERROR lamp (red) flash simultaneously at intervals of 0.25 seconds to indicate a broken link. After setting the correct IP address, turn the printer ON again.

# 3-4. Bluetooth (Bluetooth Models Only)

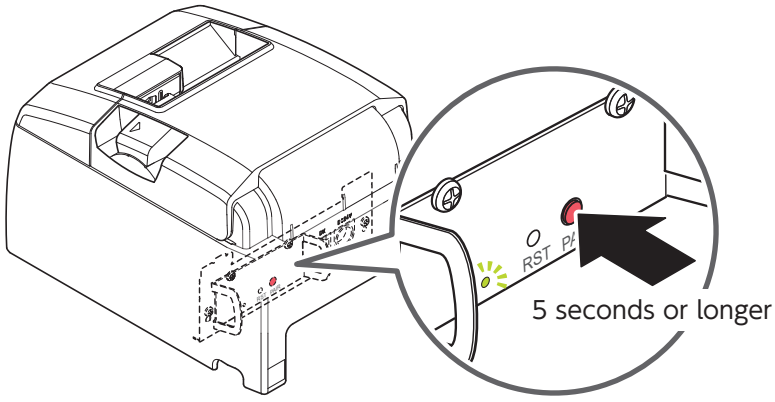
## 3-4-1. Description of Each Part




| | |
|---|---|
| 1 | **PAIR button** |
| | Used when connecting to the host device. |
| 2 | **RST button** |
| | Used when initializing and when changing the Auto Connection setting. |
| 3 | **LED** |
| | Indicates the Bluetooth interface status.<br>Lit green → Not connected<br>Flashing green → Waiting for pairing<br>Lit blue → Connected<br>Flashing purple → Auto Connection is enabled. |

## 3-4-2. Connect by SSP (Simple Secure Pairing)

1. Set the paper then turn ON the printer power.
2. Press and hold the PAIR button on the back of the printer for 5 seconds or longer. When the LED (green) begins flashing, release the button.

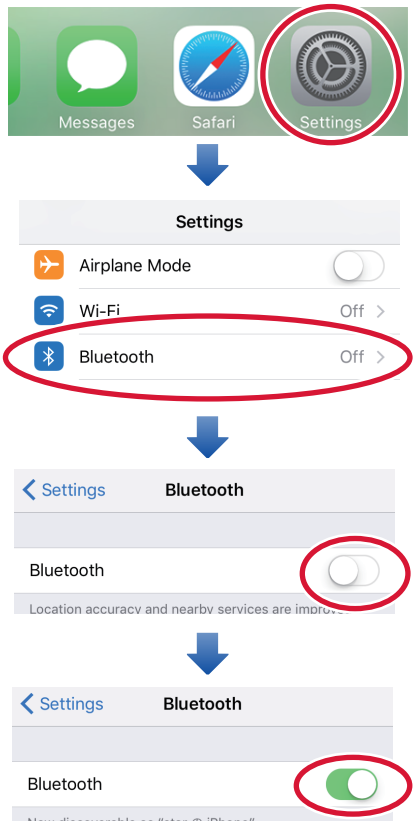



Pairing is possible for 60 seconds after the LED (green) begins flashing.

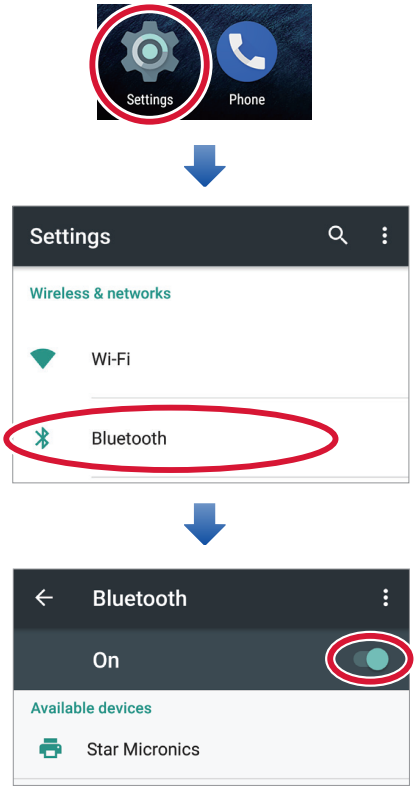
Perform steps 3 - 5 on the next page during that time.

3. Select [Settings] on the host device and set [Bluetooth] to ON.

**[Connect from an iOS device]**

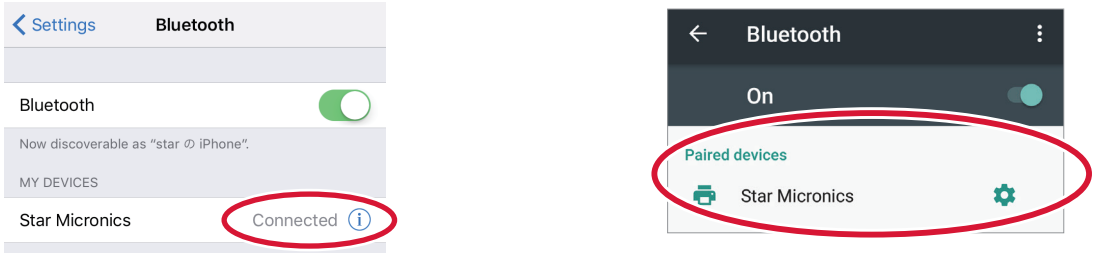



**[Connect from an Android device]**




4. Select " Star Micronics " from the device, .

5. When the following is displayed, the connection is completed.




With iOS, the flashing LED on the back of the printer automatically changes to blue at this time, indicating the connected status.

With Android, the LED changes to blue only when data is being sent.

[Note] Internal processing is performed immediately after connecting to or disconnecting from a host device. As a general guideline, wait around 0.1 seconds before starting communication when connecting, and wait around 0.5 seconds when reconnecting after a disconnection.

**[Connect from an Windows device]**

Download the StarPRNT Intelligence Software from the following website.

After installing, configure the various settings.

http://www.starmicronics.com/support/

## 3-4-3. Connect Using PIN Code

If the host device does not support SSP or in other cases when necessary, enter the following information into the host device.

PIN code: 1234 (default)

Device name: Star Micronics (default)

For security reasons, it is recommended that you change the PIN.

For details about how to change the PIN code, refer to the separate manual “Software Manual - Star Bluetooth Utility” .

## 3-4-4. Use Auto Connection Function (iOS Only)

### ■ About Auto connection function

This function requests that the printer connect automatically to the iOS device which it was most recently connected to.

When this function is used, it saves the trouble of returning to the iOS Bluetooth setting screen and reconnecting each time when the Bluetooth connection with the iOS device is disconnected.

When the iOS and printer are used in a 1:1 arrangement, this will also prevent devices other than the set iOS device from connecting to the printer.

Following are examples of the conditions when the Auto Connection function is ON and OFF.

| | When Auto Connection is OFF (default) | When Auto Connection is ON |
|---|---|---|
| Examples of recommended use | • When using the printer with multiple iOS devices<br>• When connecting and using a device other than an iOS device | When the iOS device and printer will be used in a 1:1 arrangement at all times |
| Use without changing the iOS device | After the printer power is turned ON, select the printer on the iOS device Bluetooth setting screen and connect to it. (Refer to 3-4-2 or 3-4-3.) | When the printer power is turned ON, it automatically connects to the iOS device that it was most recently connected to. |
| Use with changing the iOS device | After the printer power is turned ON, refer to 3-4-2. or 3-4-3. and select and connect to the device that will be used. | In cases such as when the connected device power is turned OFF, after the Bluetooth connection is disconnected, refer to 3-4-2. or 3-4-3. and select and connect to the device that will be used. |

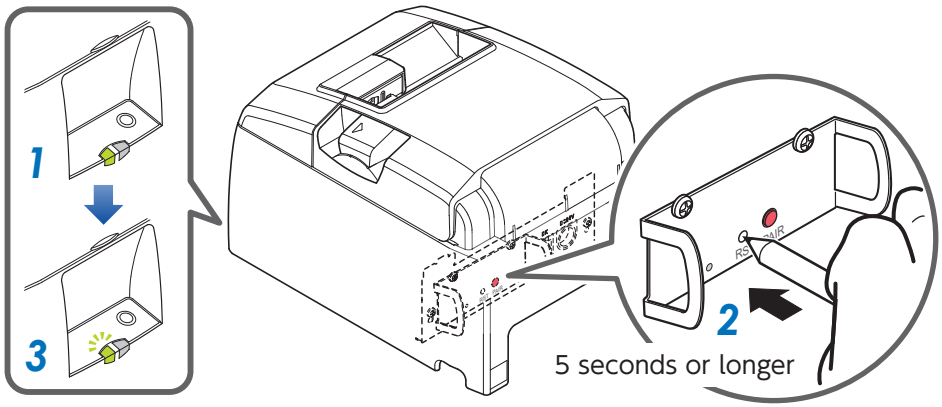
## ■ ON/OFF selection procedure

[Note] When using an Android, Windows, or other non-iOS device, be sure to set the "Auto Connection Function" to OFF before using the printer.
If the "Auto Connection Function" is ON when using a non-iOS device, the Bluetooth connection may fail.

### ◆ Using the printer to select ON/OFF

This selection work must be performed with the printer placed horizontal.

1. Set the paper then turn ON the printer power. Check that the POWER lamp (green) on the front of the printer is illuminated.
2. Use a pen with a narrow tip or other tool to press and hold the RST button on the back of the printer for 5 seconds or longer. The printer performs the same initial operations as when the printer power was turned ON, and the POWER lamp (green) on the front of the printer flashes.




3. Next the setting contents are printed.

```
< Current Setting >
 Auto Connection : ON

To enable this setting, turn
Printer Power OFF and turn ON.
```

After checking, in order to enable the "Auto Connection Function" ON setting, turn the printer power OFF and then back ON to complete the selection.

Follow the same procedure when turning the "Auto Connection Function" OFF.

### ◆ Using software to select ON/OFF

After connecting the device that will be used and the printer, use the software provided by STAR MICRONICS and select the “Auto Connection Function” setting.

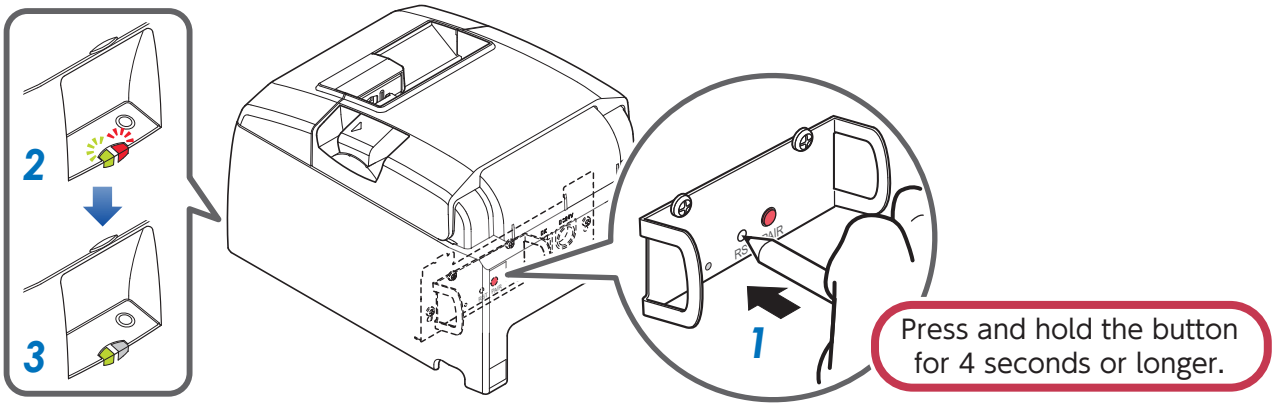
- iOS: Download “Star Setting Utility” from the following website and use it.
  http://www.star-m.jp/prjump/000003.html
- Android: Download “Star Setting Utility” from the following website and use it.
  http://www.star-m.jp/prjump/000004.html
- Windows: Download “Star Bluetooth Utility” from the following website and use it.
  http://www.starmicronics.com/support/

## 3-4-5. Initialize Bluetooth Settings

The Bluetooth settings can be initialized by following the procedure below.

[Note] Do not turn the printer OFF while initializing is in progress. The initialization process will not finish correctly.

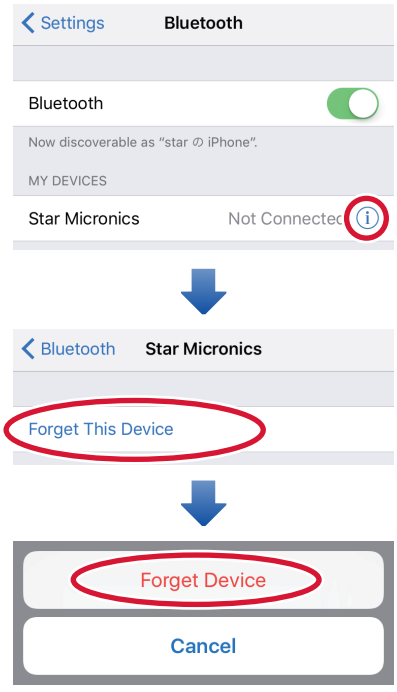
1. Use a pen with a narrow tip or other tool to hold the RST button on the back of the printer depressed while turning ON the printer power.
   The POWER lamp (green) and ERROR lamp (red) on the front of the printer begin flashing.
2. Then keep the RST button depressed for 4 seconds or longer before releasing it.
   The initialization process will not finish correctly if the button is released too soon.



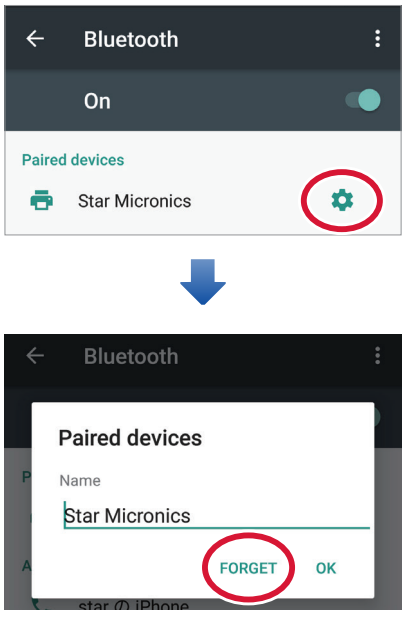

3. Check the following operations.
   - Within 12 seconds after the RST button was released, both lamps stop flashing and the POWER lamp (green) changes to continuously lit.

     → Complete initialization, then perform step 4. If the lamps continue to flash, perform the procedure again starting from step 1.
4. Turn OFF the printer power.
5. Follow the procedure below to delete the “Connection setting” at the host device.

**[Connect from an iOS device]**




**[Connect from an Android device]**

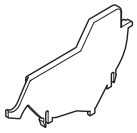


# 4. Use Accessories

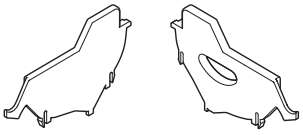
## 4-1. Paper Roll Guide

When using 58.0 mm or 40.0 mm width paper, the following paper roll guide(s) are required.

When using 58.0 mm width paper (1 guide)

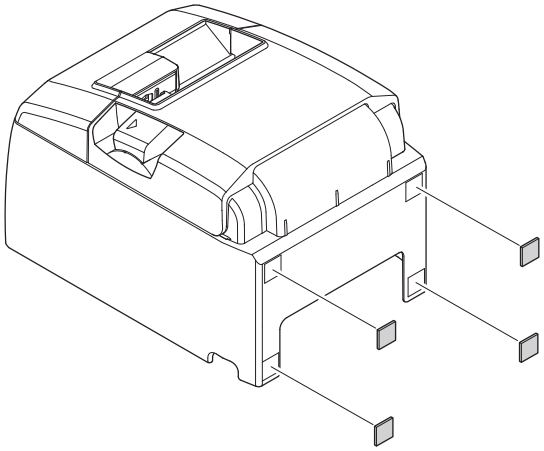


When using 40.0 mm width paper (2 guides)



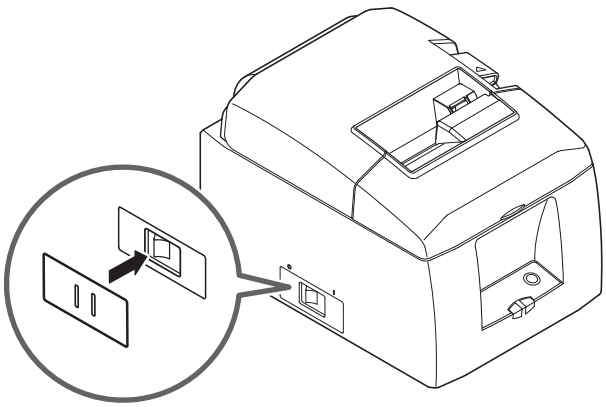
## 4-2. Rubber Feet

These are used when the printer is used standing vertical.
In advance, clean off any dirt from the places where the rubber feet will be applied, then apply the rubber feet in the positions shown in the illustration.



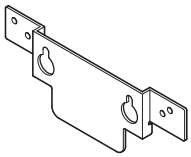
## 4-3. Switch Cover

This is used to prevent accidental operation of the power switch and prevent its operation by a third party.
Install it in the position shown in the illustration.
After installing, the power can be switched ON/OFF by inserting a pen or other tool with a small tip into the hole in the switch cover.



## 4-4. Wall Mounting Plate

This is used when the printer is used mounted on a wall.



Wall mounting plate

Screws

<Items to be prepared by the customer>

**Wall mount screws**

Use screws that are suitable for the wall material (wood, steel, concrete, etc.). Check the following and select commercially available screws that can fully support the weight.

**Printer weight: 1.8 kg (including paper roll)**

2 screws that can withstand a 12 kgf (118 N) or higher load for both shear strength*1) and tensile strength (recommended screw diameter: 4 mm)

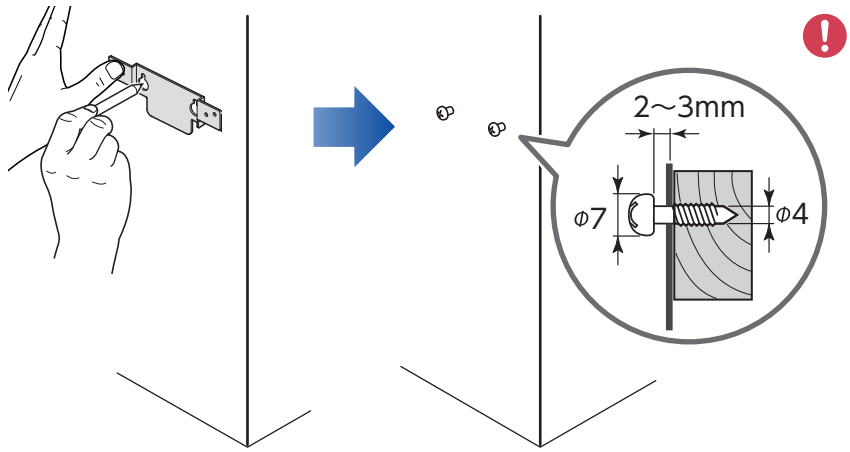
*1) When a pair of forces is applied in opposite directions parallel to the cross-section of an object, slip failure occurs in the object along that plane. This is the maximum value of the force that resists this slip failure.

### ⚠ Important safety instructions

- To ensure safety, be sure to turn OFF the power switch of the printer and all devices connected to the printer, and disconnect all power plugs from the electric outlet, before beginning installation.
- When mounting to a wall, be sure to ask a contractor specialized in this type of design, building, and construction to perform the work. Check that the wall where the product will be mounted has sufficient strength.
  When installing in a high place, use particular caution and ensure that the product is securely fixed to the wall.
  If the strength of the wall or mounting is not sufficient, there is the risk that the printer may fall, causing injury or damage to the printer.
- Depending on the conditions of the mounting surface and the screws used for mounting, sufficient mounting strength may not be attained.
  In order to prevent the product from falling due to the weight of devices and cables, ensure that it is securely and properly mounted.
  There is the risk of injury and damage to the printer.
- Do not install in a location where there is much vibration or shocks, or in an unstable location.
  There is the risk that the printer fall may cause injury or printer malfunction.
- Be aware that STAR MICRONICS shall bear no liability for any accidents or damage resulting from falls caused by insufficient mounting strength or other mounting problem, or from incorrect handling or use.

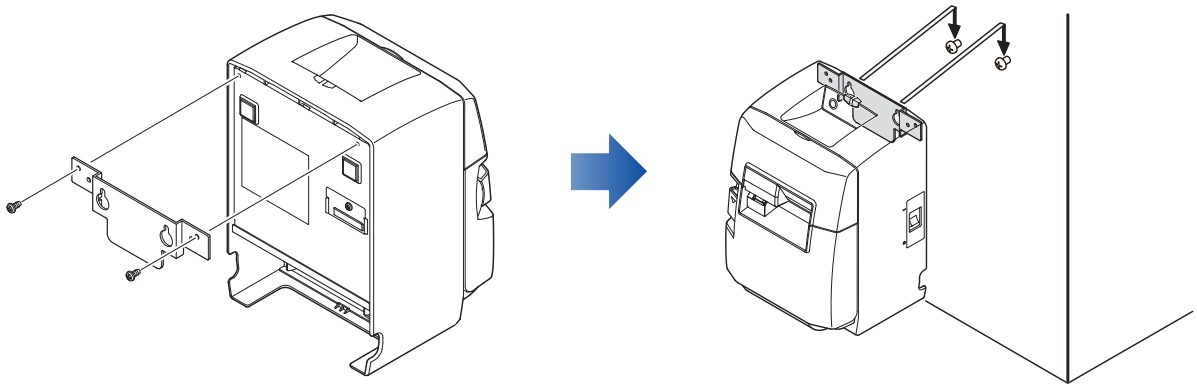
Follow the procedure below to install.

1. Place the wall mounting plate onto the wall and mark the positions of the screw holes.
   Install the 2 screws that were prepared in advance in the marked positions.

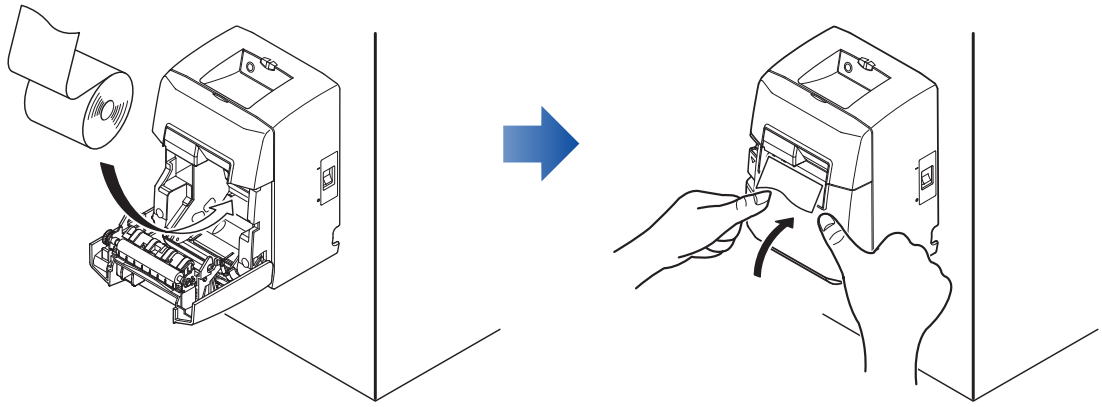



**Do not install the screws in a location where there is only 1 wall board. Be sure to install at the location of a beam and use screws that reach the beam.**

2. Install the wall mounting plate onto the printer and fasten it in place using the 2 accessory screws.
3. Mount the printer onto the wall.



4. Pull the cover opening lever down to open the printer cover.
5. Check the installation orientation and set the paper into the printer.
   Close the printer cover to complete installation.



# 5. Use Printer Function

## 5-1. Use Hold Print Sensor

### 5-1-1. About This Function

The hold print sensor detects whether or not the printed label was removed from the paper exit.

When a printed label was detected, the next label will not print until it is removed.
When the label is removed, the next label will be printed automatically.

This function can help prevent problems such as labels printed in succession being stuck to each other.
The default setting for the hold print sensor is “Enabled” .
It is recommended that it be left “Enabled” in order to prevent paper jams and other problems.
To disable it, refer to the following “5-1-2. Select Enabled or Disabled” and perform the procedure correctly.

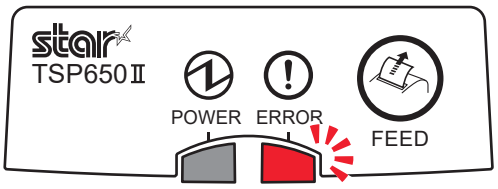
### 5-1-2. Select Enabled or Disabled

The operation panel can be used to select enabled or disabled for the hold print sensor.

After setting paper into the printer, follow the procedure below.

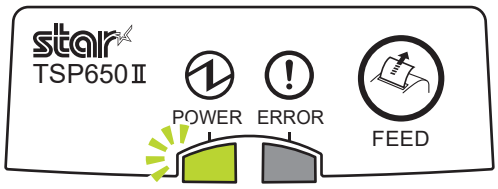
1. Turn ON the printer power and open the printer cover.
2. Press and hold the FEED button for 5 seconds or longer to enter selection mode.
3. Check the lamp status as shown below. The lamp status changes each time the FEED button is pressed.

POWER lamp (green): Not lit
ERROR lamp (red): Flashing




Hold print sensor disabled

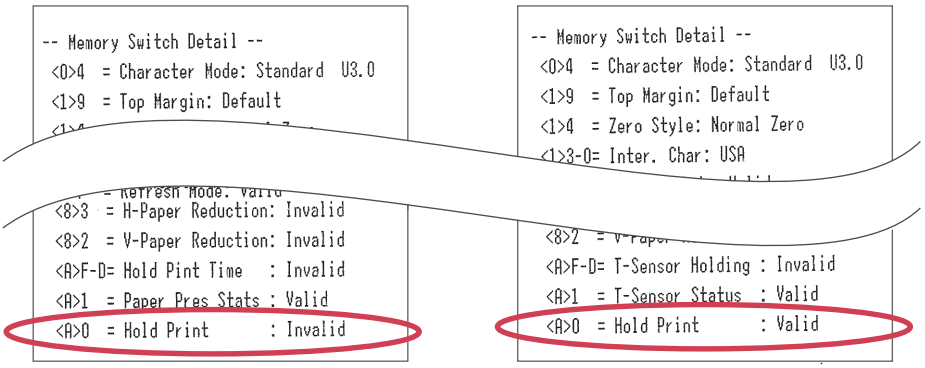
POWER lamp (green): Flashing
ERROR lamp (red): Not lit




Hold print sensor enabled

Confirm the setting status and then release the FEED button.

4. The enabled/disabled setting is automatically saved when the printer cover is closed.
5. After performing printer reset, perform self-printing.
6. Check from the self-printing contents that the setting was changed.



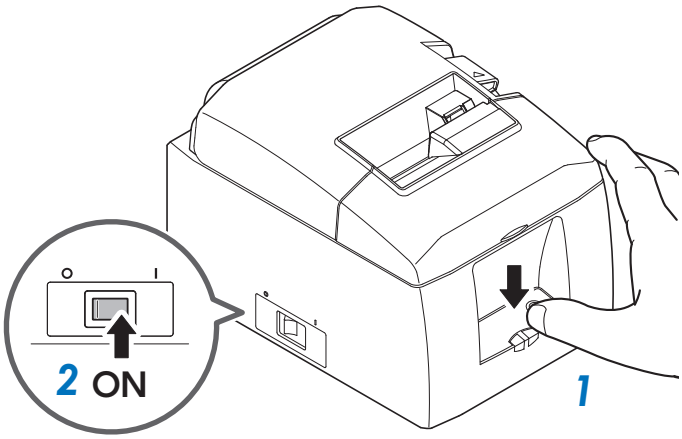

Hold print sensor disabled

Hold print sensor enabled

## 5-2. Check Settings by Self-Printing

The self-printing function can be used to check basic printer information and setting status.
Be sure to set the paper into the printer before performing self-printing.

1. Turn OFF the printer power.
2. While holding the FEED button depressed, turn ON the power switch.
   When self-printing starts, release the FEED button.




3. After self-printing finishes, the printer performs the reset operation and exits self-printing mode.

# 6. Maintenance

Dirt on printer parts may prevent clear printing and may also cause trouble or malfunction.
To ensure comfortable and safe use, perform maintenance periodically.

### Precautions when performing maintenance

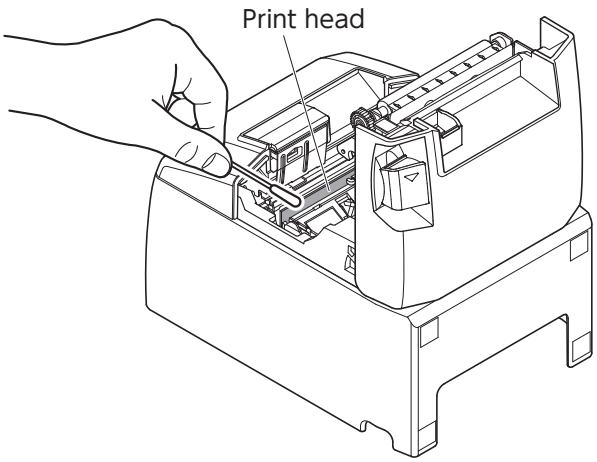
Be sure to read the following before performing maintenance.

- Before starting maintenance, be sure to turn OFF the printer power and unplug the power plug from the outlet.
  Performing maintenance with the power ON may result in electric shock or injury.
- Never perform maintenance work with wet hands.
  Doing so may result in electric shock.
- Perform periodic maintenance of the power cable.
  Continued use of a cracked or damaged power cable may result in fire or electric shock.
- Do not use benzene, paint thinner, trichlorethylene, or ketone solvents.
  Be careful not to dampen or damage the inside of the printer during maintenance.
  Doing so may result in malfunction.
- Do not touch any parts inside the printer other than those instructed in this manual.
  Doing so may result in injury or burns.

Maintenance frequency: Every 6 months or 40 rolls (2 km / 500,000 lines)
The above frequency is only an approximate guideline. When label paper glue adheres to the rubber roller or guides, paper transport failures and printing failures become more likely. Regardless of the guideline frequency, it is recommended that maintenance be performed on a daily basis.

## 6-1. Print Head

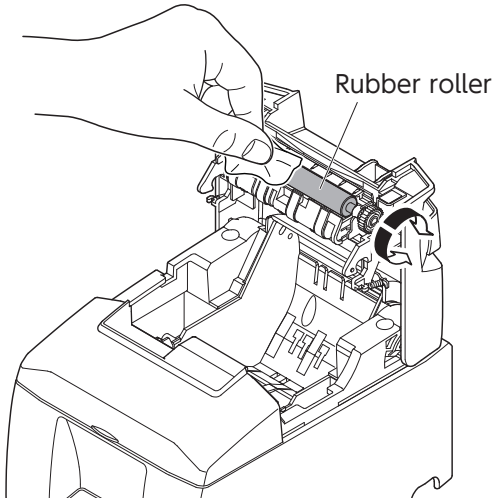
Moisten a cotton swab (or soft cloth) with alcohol solvent (ethanol, methanol, isopropyl alcohol) and wipe the thermal area of the print head. When label paper rolls are used, a mixture of and glue will adhere to the print head. Be sure to remove it.




[Note]
- The thermal head is easily damaged.
  When cleaning, use a soft cloth and clean carefully to avoid scratching the print head.
- Do not clean the thermal head immediately after printing because the print head will be hot.
- Be careful of static electricity as static electricity can damage the print head and cause other problems.
- Turn the power ON only after the alcohol has completely dried.

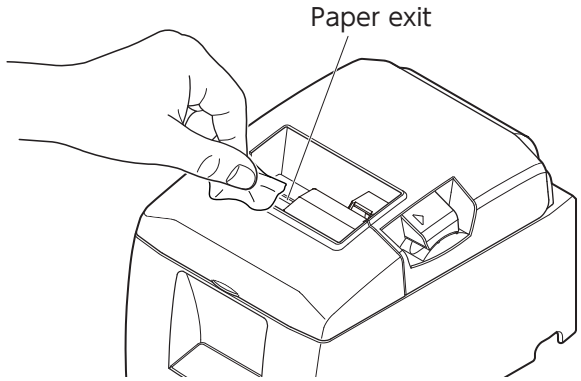
## 6-2. Rubber Roller

Wipe the debris on the rubber roller with a dry soft cloth. Rotate the rubber roller while cleaning to make sure that the whole roller is cleaned.



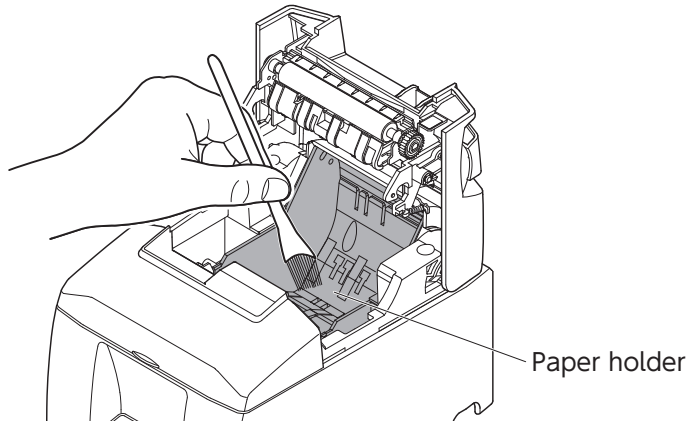

## 6-3. Around Paper Exit

Remove any adhering glue, debris, dust, paper particles, and other substances.




## 6-4. Paper Holder

Remove any adhering debris, dust, paper particles, and other substances.



# 7. Troubleshooting

## 7-1. Error Indicators

When an error occurs, the status of the lamps on the operation panel is as shown below. Check the error from the lamp status, and correct the error.

### 7-1-1. Recoverable Errors

Check the error which occurred from the indicators on the operation panel.
The error is canceled when the “Condition for recovery” has been performed.

| Error type | Operation panel lamp indicators | | Condition for recovery |
|---|---|---|---|
| | POWER (green) | ERROR (red) | |
| Print head high temperature detection error | Flashing (1 second) | Not lit | Immediately discontinue printing and wait without using the printer until the error disappears. Recovery occurs automatically when the print head temperature drops. |
| Cover open error | Lit | Lit | Recovery occurs when the cover is closed. |
| Paper out error | Lit | Flashing (1 second) | Recovery occurs when the cover is closed after the paper roll was set. |
| Ethernet broken link detection (Physical link broken) (*1 | Flashing (4 second) | Flashing (4 second) | After connecting one end of the Ethernet interface cable to the host device or hub and the other end to the printer, turn the power back ON to complete recovery. |
| Ethernet broken link detection (IP address lost) (*1 | Flashing (0.25 second) | Flashing (0.25 second) | After setting the correct IP address, turn the power ON again to complete recovery. |

(*1: Error only when IFBD-HE07 is used

## 7-1-2. Unrecoverable Errors

Check the error which occurred from the indicators on the operation panel.

Turn OFF the printer power. Check the “Condition for recovery” and then turn the printer power ON.

If the same error recurs after turning the power back ON, repairs are necessary. Contact the dealer where you purchased the product.

| Error type | Operation panel lamp indicators | | Cause | Condition for recovery |
|---|---|---|---|---|
| | POWER (green) | ERROR (red) | | |
| Cutter error | Not lit | Flashing (0.25 second) | Error while paper cutting was in progress or a cutter failure | After turning the power OFF and back ON, recovery occurs when the moving cutter returns to its home position. (See Note *3, *4) If the same error recurs after turning the power back ON, repairs are necessary. |
| Flash memory error | Not lit | Flashing (1 second) | Flash memory access error | Repair |
| EEPROM error | Not lit | Flashing (1.5 second) | EEPROM access error | Repair |
| SRAM error | Not lit | Flashing (2 second) | SRAM access error | Repair |
| Head thermistor error | Not lit | Flashing (3 second) | Detection of head thermistor abnormal value | Repair |
| Power voltage error | Not lit | Flashing (4 second) | Detection of power voltage error | Check the condition of the power supply, and turn the power back ON. If the same error recurs after turning the power back ON, repairs are necessary. |

[Note] ● If an unrecoverable error occurred, turn OFF the printer power immediately.

● A power voltage error may be a result of a power supply malfunction.

● *3) When paper is jammed, turn OFF the printer power and remove the jammed paper. Then turn the power ON again.
For details, refer to “7-2-2. Clear Paper Jams” .

● *4) When a cutter error occurred, if the moving cutter cannot return to its home position or the printer cannot perform the initial operations after turning the power OFF and back ON, manually unlock the cutter.
For details, refer to “7-3. Release Cutter Lock” .

**If another unrecoverable error occurred, contact the dealer where bought the product and request repairs.**

# 7-2. How to Deal with Paper Jams

## 7-2-1. Prevent Paper Jams

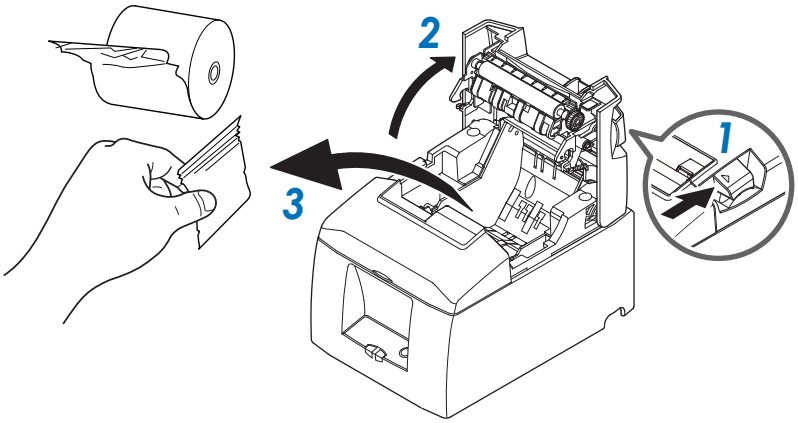
To prevent paper jams, pay attention to the following points.

- Feed at least 1 mm (8 dot lines) of paper before starting printing.
- When setting paper, pull out the end of the paper in a straight line.
- Do not hold or pull the paper during printing or ejection.
  Doing so can cause paper jams, improper cutting, and improper line breaks.
- Do not place a hand or object near the paper exit during printing or paper ejection.
  Doing so may cause a paper jam.
- If paper is consecutively ejected toward the front of the printer, paper jams may occur.
- Make sure that the paper ejected at the paper exit does not accumulate.
- It is recommended that the blank space from the final printing position to the cutting position be at least 5 mm.

## 7-2-2. Clear Paper Jam Errors

If a paper jam occurred, clear it by following the procedure below.

1. Turn OFF the printer power.
2. Press the cover opening lever to open the printer cover.
3. Remove the jammed paper.
   If the cut end remains behind, it may cause a paper jam. Check that all of the paper was removed.




4. Recovery occurs when the paper roll is set straight and the printer cover is closed.
   Printing may not start if the printer cover is not completely closed.
   Press both sides of the printer cover and close it securely.
5. Turn ON the printer power.
   If the POWER lamp is lit green, then the error was corrected.

[Note]
- If you cannot open the printer cover, refer to “7-3. Release Cutter Lock” .
- The print head will be hot immediately after printing. Be careful not to touch it when removing jammed paper.
- Do not forcefully attempt to pull out the paper while the printer cover is closed.
  Doing so may scratch or deform the print head, rubber roller, or other parts.

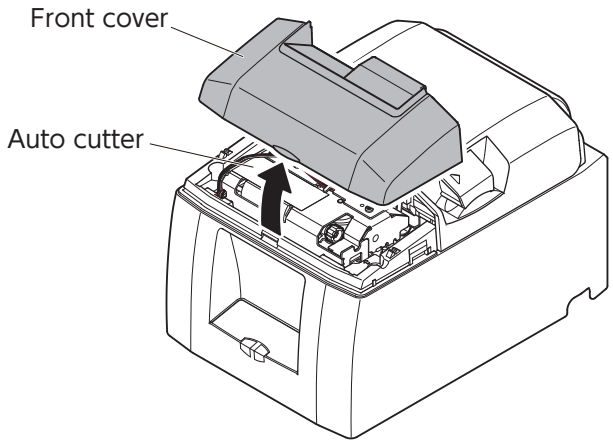
## 7-3. Release Cutter Lock

If the printer cover does not open when you press the open lever, it is likely that a paper jam has occurred and the cutter is locked. Do not force the printer cover to open or pull on the paper.

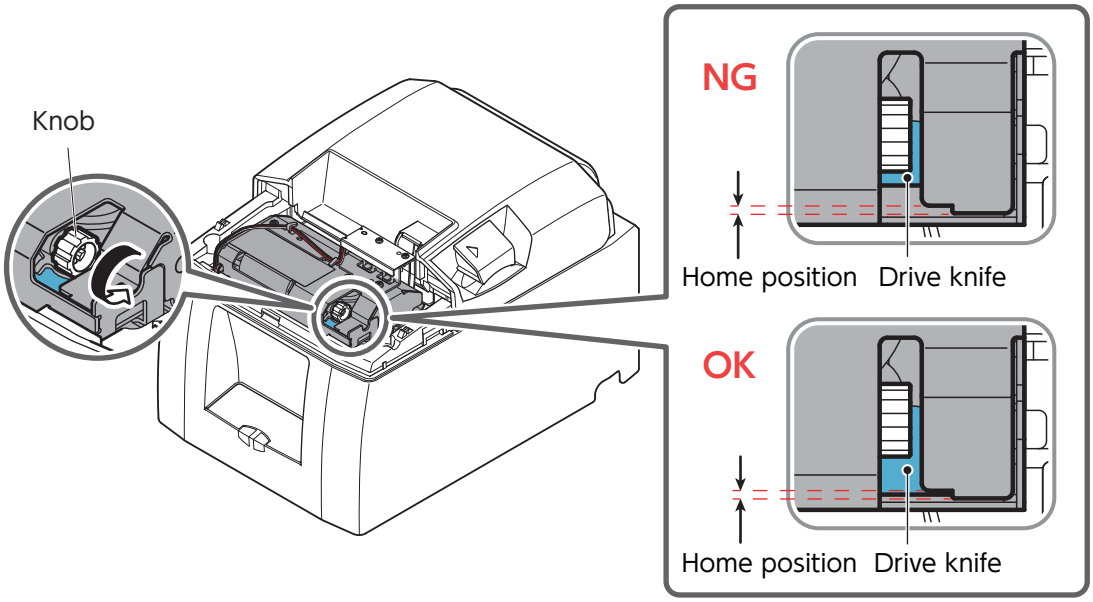
First turn OFF the printer power and then turn it back ON again. This will automatically release the lock. If turning the power OFF and back ON does not release the lock, follow the procedure below to release it.

**[Note] Be sure to turn OFF the power before opening the front cover.**
**The cutter is located inside the front cover. Be careful not to touch the cutter blade.**

1. Turn OFF the printer power.
2. Remove the front cover.




3. Remove the paper that is jammed inside of the printer.
4. Turn the knob in front of the cutter toward you until the moving cutter reaches the home position.




5. Open the printer cover and remove all paper that is jammed inside of the printer, then set the paper again.
6. Attach the front cover and turn ON the power.

*URL: http://www.starmicronics.com/support/*

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