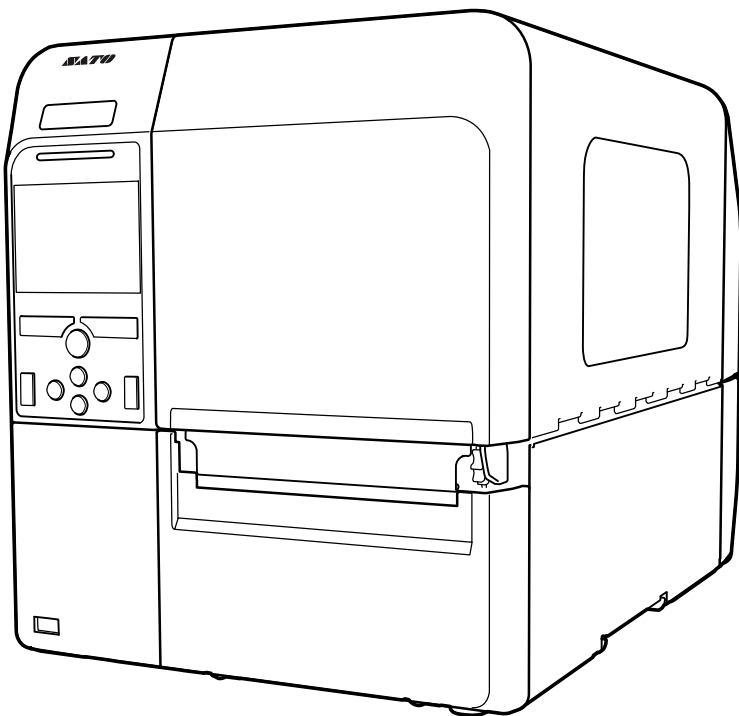




Operator Manual

For printer model:

CL4NX
CL6NX



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Be sure to perform a virus check for the USB memory before connecting it to the printer. SATO Corporation shall not be held responsible for a malfunction of the printer caused by a virus infection through the USB memory.

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Version: GBS-CL4NX_CL6NX-r06-01-06-15OM

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Before You Start

Thank you for purchasing this SATO CL4NX/CL6NX printer (hereafter referred to as “the printer”). This manual supplies basic information on how to operate the printer. Read the manual carefully to understand each function before operation.

Features of the Product

This SATO CL4NX/CL6NX printer is a high-performance labeling system with a robust casing made of metal and equipped with versatile functions. The main features of the printer are as follows:

- Simple and stylish design
- High-quality printing
- Designed for better usability
- Equipped with high legibility TFT color 3.5 inch LCD and LED
- Onboard Guidance Videos
- Print head and platen roller can be replaced without using extra tools
- Supports a 600 m ribbon
- Supports thirty languages for display and forty-seven languages for printing scalable fonts
- Supports various communication interfaces
- Supports protocols such as IPv6, SNMP and NTP
- Certified by Wi-Fi alliance



- Compatible with Cisco CCX V4.0



SATO CL4NX/CL6NX printer has tested compatible with Cisco CCX, version 4.0. The Cisco Compatible logo signifies that SATO product has undergone interoperability testing by SATO together with Cisco and a third-party test house based on testing criteria set by Cisco.

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- Conforms to international ENERGY STAR program




The products described herein comply with the requirements of the ENERGY STAR. As an ENERGY STAR Partner, SATO Corporation has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

Safety Precautions


This section describes how to safely operate the printer. Be sure to read and understand all instructions carefully before you install and use the printer.

Pictographic Symbols

This operator manual and printer labels use a variety of pictographic symbols. These symbols show the safe and correct operation of the printer and how to prevent injury to others and property damage. The symbol explanations are as follows.

	<p>The Warning symbol indicates that you can cause death or serious injury if you do not follow the instruction or procedure.</p>
---	---

Warning

	<p>The Caution symbol indicates that you can cause injury or property damage if you do not follow the instruction or procedure.</p>
---	---

Caution

Example Pictographs












The △ pictograph means “Caution is required”. The pictograph includes a specified warning symbol (for example, the left symbol shows electric shock).



The ⊘ pictograph means “Must not be done”. The pictograph includes a specified prohibited symbol (for example, the left symbol means “Disassembly prohibited”).



The ● pictograph means “Must be done”. The pictograph includes a specified mandate action symbol (for example, the left symbol means “Disconnect the power plug from the outlet”).

 Warning	
<p>Place the printer on a stable area.</p>  <ul style="list-style-type: none"> Place the printer on a stable area. Do not place the printer on an unstable table, slanted surface or an area subject to strong vibration. If the printer falls off or topples, it could cause injury to someone. <p>Do not place containers filled with liquid on the printer.</p>    <ul style="list-style-type: none"> Do not place flower vases, cups, or other containers filled with liquids, on the printer. If any liquid spills into the printer, immediately power off the printer and disconnect the power plug from the outlet. Then contact your SATO reseller or technical support center. If you operate the printer in this condition, it could cause a fire or electric shock. 	<p>Do not place objects into the printer.</p>    <ul style="list-style-type: none"> Do not place metal or flammable objects inside the printer's opening. If a foreign object gets into the printer, immediately power off the printer and disconnect the power plug from the outlet. Then contact your SATO reseller or technical support center. If you operate the printer in this condition, it could cause a fire or electric shock. <p>Do not use other than the specified voltage.</p>  <ul style="list-style-type: none"> Do not use other than the specified voltage (AC 100 V - 240 V). Doing so could cause a fire or electric shock.

⚠ Warning

Always ground connections.



- Always connect the printer's ground wire to a ground. Not grounding the ground wire could cause an electric shock.

Handling the power cord



- Do not break or change the power cord. Do not place heavy objects on the power cord, heat it, or pull it. Doing so could cause damage to the power cord and cause a fire or electric shock.
- If the power cord becomes damaged (core is exposed, wires broken, etc.), contact your SATO reseller or technical support center. Using the power cord in this condition could cause a fire or electric shock.
- Do not change, overly bend, twist, or pull the power cord. Using the power cord in such a way could cause a fire or electric shock.

When the printer has been dropped or broken



- If the printer is dropped or broken, immediately power off the printer and disconnect the power plug from the outlet. Contact your SATO reseller or technical support center. Using the printer in this condition could cause a fire or electric shock.

Do not use the printer when something is unusual about it.



- Continuing to use the printer in the event something is unusual about it, such as smoke or unusual smells coming from it, could cause a fire or electric shock. Immediately power off the printer and disconnect the power plug from the outlet. Then contact your SATO reseller or technical support center for repairs. Under no circumstances should you attempt repairs on your own; it is too dangerous.

Do not disassemble the printer.



- Do not disassemble or modify the printer. Doing so could cause a fire or electric shock. Contact your SATO reseller or technical support center to perform internal inspections, adjustments, and repairs.

Regarding the cutter



- Do not touch the cutter with your hands, nor place objects into the cutter. Doing so could cause an injury.

Using the head cleaning fluid



- Use of flame or heat around the head cleaning fluid is prohibited. Do not heat it or subject it to flames.
- Keep the fluid out of reach of children. If a child accidentally drinks the fluid, immediately consult with a physician.

Print head



- The print head will become hot after printing. Be careful not to touch it when replacing media or cleaning immediately after printing, to avoid being burned.
- Touching the edge of the print head immediately after printing could cause an injury. Use caution when replacing the media or cleaning the print head.
- Never replace the print head if you have not received the correct training.

Do not use in hazardous locations.



- The printer is not explosion proof certified.
- Do not use in a potentially explosive environment or atmosphere.

⚠ Caution

Do not use in areas of high humidity.



- Do not use the printer in areas of high humidity or where condensation forms. If condensation forms, immediately power off the printer and do not use the printer until it dries. Using the printer while condensation is on it could cause an electric shock.

Carrying the printer



- When moving the printer, always disconnect the power cord from the outlet and check to make sure that all external wires are disconnected before moving it. Moving the printer with the wires still connected could cause damage to the cords or connecting wires, resulting in a fire or electric shock.
- Do not carry the printer while it contains media. The media could fall out and cause an injury.
- When setting the printer on the floor or a stand, be sure not to get your fingers or hands pinched under the printer feet.

Power supply



- If your hands are wet, do not operate the power button, connect the power cord or disconnect the power cord. Doing so could cause an electric shock.

Power cord



- Keep the power cord away from hot devices. Placing the power cord near hot devices could cause the cord's covering to melt and cause a fire or electric shock.
- When disconnecting the power cord from the outlet, be sure to hold the plug. Pulling the cord could expose or break the wires and cause a fire or electric shock.
- The power cord set that comes with the printer is designed especially for this printer. Do not use it with any other electrical devices.

Top cover



- Be careful not to get your fingers pinched when opening or closing the top cover. Also, be careful that the top cover does not slip off and drop.

Loading media



- When loading a media roll, be careful not to get your fingers pinched between the media roll and the supply unit.

When not using the printer for a long time



- When not using the printer for a long time, disconnect the power cord from the outlet to maintain safety.

During maintenance and cleaning



- When maintaining and cleaning the printer, disconnect the power cord from the outlet to maintain safety.

Precautions for Installation and Handling

Printer operation can be affected by the printer environment.

Refer to the following instructions for installation and handling of the CL4NX/CL6NX printer.

Select a Safe Location

Place the printer on a surface that is flat and level.

If the surface is not flat and level, this may cause bad print quality. This may also cause a malfunction and decrease the life span of the printer.

Do not place the printer on a location that produces vibration.

Giving serious vibration or shock to the printer may cause a malfunction and shorten the life span of the printer.

Keep the printer out of high temperature and humidity.

Avoid locations subject to extreme or fast changes in temperature or humidity.

Do not place the printer in a location subject to water or oil.

Do not place the printer in a location where it will be exposed to water or oil. Water or oil entering inside the printer may cause a fire, electric shock or malfunction.

Avoid dust.

Dust build up may result in bad print quality.

Keep out of direct sunlight.

This printer has a built-in optical sensor. Exposure to direct sunlight will make the sensor less responsive and may cause the media to be sensed incorrectly. Close the top cover when printing.

Power Supply

This printer requires an AC power supply.

Be sure to connect the printer to an AC power supply.

Connect the power cord to a grounded power outlet.

Make sure that the printer is connected to a grounded power outlet.

Supply a stable source of electricity to the printer.

When using the printer, do not share its power outlet with other electrical devices that could cause power fluctuations and performance issues with your printer.

Regulatory Approval

FCC Warning

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

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.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded cable must be used in order to comply with the emission limits.

FCC Statement for Optional Wireless LAN

This device complies with RF radiation exposure limits set forth for an uncontrolled environment.

The antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all people and must not be collocated or operating in conjunction with any other antenna or transmitter.

Bluetooth/Wireless Communication

Compliance Statement

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

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

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

Industry Canada (IC) Statement for Bluetooth

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

- This device may not cause interference.
- This device must accept any interference, including interference that may cause undesired operation of the device.

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment should be installed and operated keeping the radiator at least 20 cm or more away from person's body (excluding extremities: hands, wrists, feet and ankles).

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- L'appareil ne doit pas produire de brouillage.
- L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles 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).

Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)



A product marked with this symbol on itself or on its packaging shall not be treated as household waste. Instead, it shall be handed over to an appropriate collection point for the recycling of electrical and electronic equipment in accordance with local regulations. Inappropriate waste handling of this product may cause detrimental consequences for the environment and damage to human health. The recycling of materials will help to conserve natural resources and contribute to your community. For more detailed information on recycling of this product, contact your local municipal organization, your household waste disposal service or the dealer where you purchased the product.

EN55022 Warning

This is a class A product.

In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

EN55022 Warnung

Warnung! Dies ist eine Einrichtung der Klasse A.

Diese Einrichtung kann im Wohnbereich Funkstörungen verursachen. In diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen durchzuführen.

Das Gerät ist nicht für die Benutzung im unmittelbaren Gesichtsfeld am Bildschirmarbeitsplatz vorgesehen. Um störende Reflexionen am Bildschirmarbeitsplatz zu vermeiden, darf dieses Produkt nicht im unmittelbaren Gesichtsfeld platziert werden.

机器名称: 条码打印机

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr6+)	多溴联苯 (PBB)	多溴二 苯醚 (PBDE)
印刷电路板	×	○	○	○	○	○
电源、交流转换器 电池	×	○	○	○	○	○
热敏头、液晶显示屏	×	○	○	○	○	○
电动机、切纸机	×	○	○	○	○	○
树脂 (ABS、PC等)	×	○	○	○	○	○
金属 (铁、非铁金属)	×	○	○	○	○	○
电缆等	○	○	○	○	○	×
包装材料 (纸盒等)	○	○	○	○	○	○

- ：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 “电子信息产品中有毒有害物质的限量要求” 的标准规定以下。
- ×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 “电子信息产品中有毒有害物质的限量要求” 的标准规定。

环保使用期限



本标志中的年数，是根据2006年2月28日公布的“电子信息产品污染防治管理办法”和SJ/T11364-2006“产品污染防治标识要求”，适用于在中华人民共和国（除台湾、香港和澳门外）生产或进口的电子信息产品的“环保使用期限”。在遵守使用说明书中记载的有关本产品安全和使用上的注意事项、且没有其他法律和规定的免责事由的情况下，在从生产日开始的上述年限内，产品的有毒、有害物质或元素不会发生外泄或突变，使用该产品不会对环境造成严重污染或对使用者人身、财产造成严重损害。

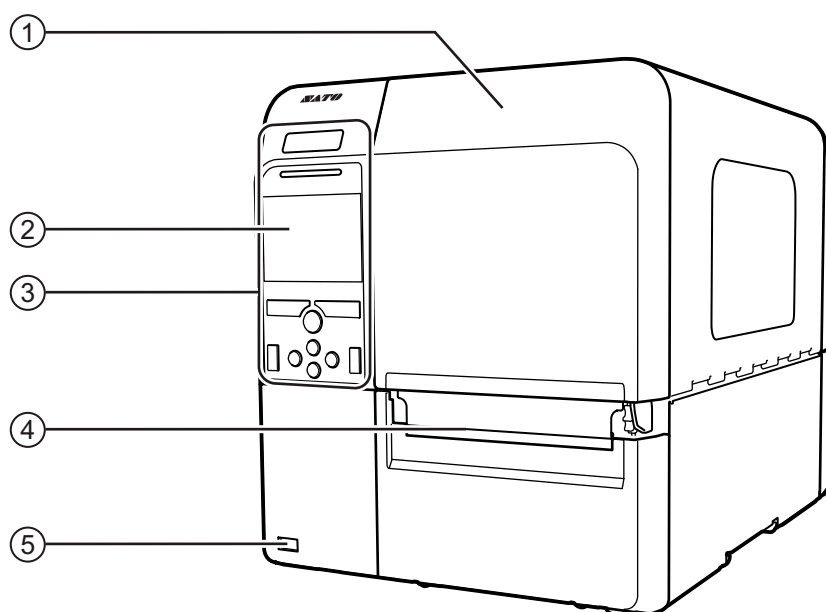
- 注1): “环保使用期限”不是安全使用期限。尤其不同于基于电气性能安全、电磁安全等因素而被限定的使用期限。产品在经适当使用后予以废弃时, 希望依照有关电子信息产品的回收和再利用的法律与规定进行处理。
- 注2): 本标志中的年数为“环保使用期限”，不是产品的质量保证期限。对于同一包装内包含电池、充电器等附属品的产品，产品和附属品的环保使用期限可能不同。

1

Parts Identification

1.1 Parts Identification of the Printer

1.1.1 Front View



① Top cover

② Color LCD

③ Operator panel

④ Media discharge outlet

⑤ **USB connector (Type A)**

Enable the storage of printer setting information with USB memory and for connecting other devices like a barcode verifier, barcode scanner or a keyboard.

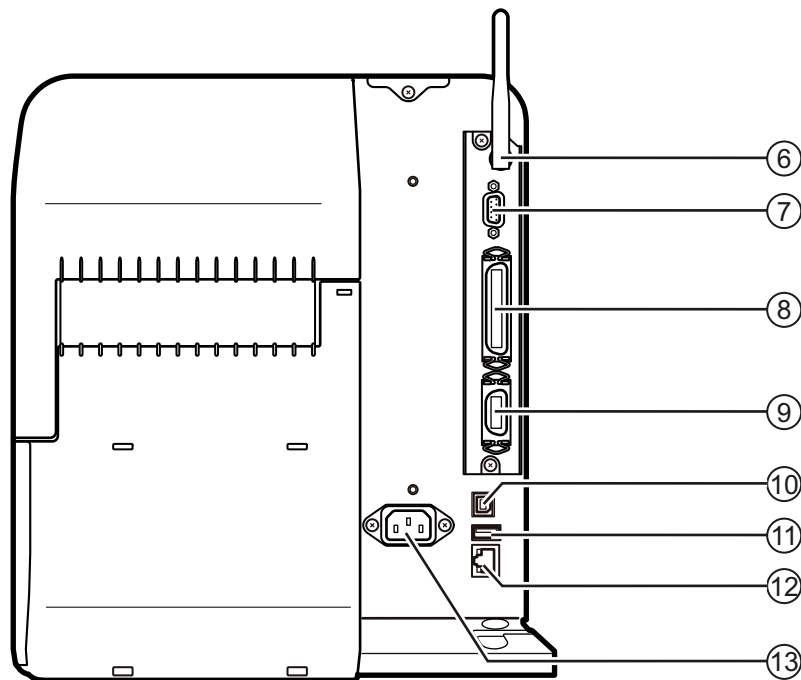
⚠ CAUTION

Be sure to perform a virus check for the USB memory before connecting it to the printer. SATO Corporation shall not be held responsible for a malfunction of the printer caused by a virus infection through the USB memory.

Note

The pictures in this manual show the CL4NX unless otherwise stated.

1.1.2 Rear View



- ⑥ **Wireless LAN antenna (optional)**
Connector for installation of optional wireless LAN antenna.
- ⑦ **RS-232C connector**
To connect the printer to the computer using the RS-232C serial interface.
- ⑧ **IEEE1284 connector**
To connect the printer to the computer using the IEEE1284 interface.
- ⑨ **EXT connector (External signal interface)**
Interface connector for external signals. Connect an optional device to this terminal.
- ⑩ **USB connector (Type B)**
To connect the printer to the computer using the USB interface.

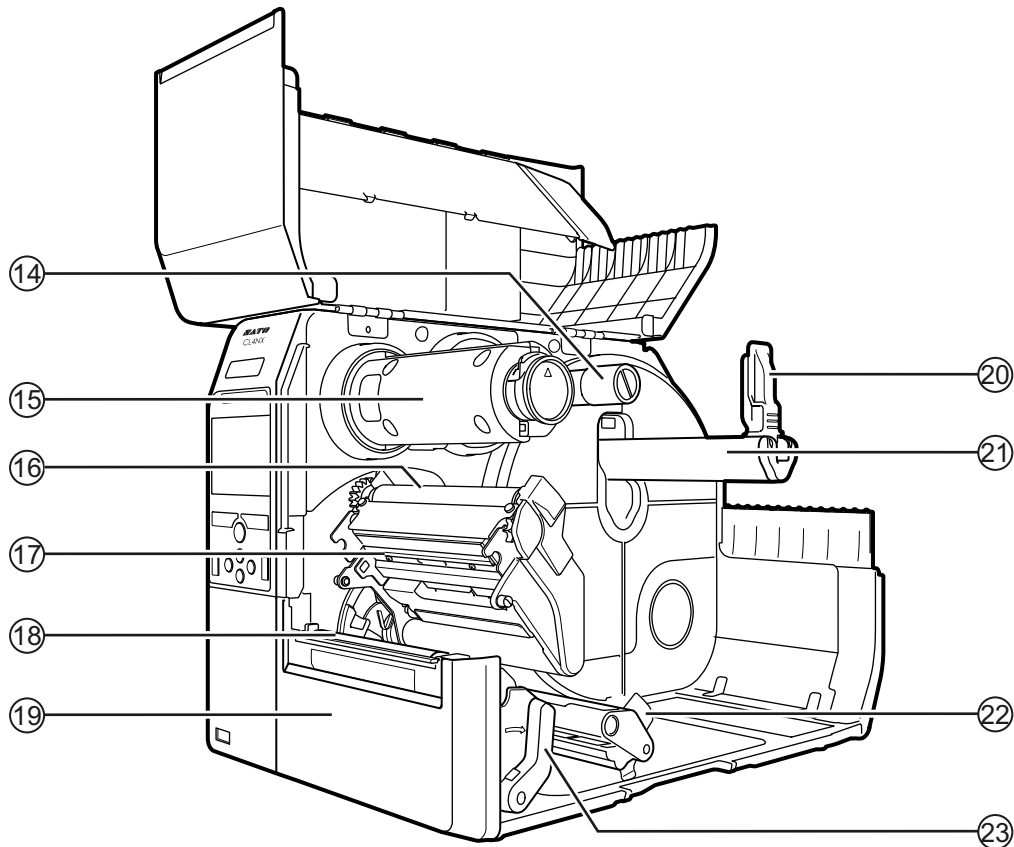
- ⑪ **USB connector (Type A)**
Enable the storage of printer setting information with USB memory and for connecting other devices like a barcode verifier, barcode scanner or a keyboard.

CAUTION

Be sure to perform a virus check for the USB memory before connecting it to the printer. SATO Corporation shall not be held responsible for a malfunction of the printer caused by a virus infection through the USB memory.

- ⑫ **LAN connector**
To connect printer to the network using the LAN interface.
- ⑬ **AC input terminal**
Supplies power to the printer through the inserted power cord.
Before connecting, make sure that the AC voltage of your region is in the range of AC 100 to 240 V, 50 to 60 Hz.

1.1.3 Internal View



⑭ **Ribbon supply spindle**

⑮ **Ribbon rewind spindle**

⑯ **Ribbon roller**

⑰ **Print head (Consumables)**

Creates an image directly on the media or by using a ribbon. Highest print quality is achieved when regular maintenance is performed.

⑱ **Platen roller (Consumables)**

⑲ **Front cover**

⑳ **Media holder guide**

Used to hold the media roll.

㉑ **Media roll holder**

Hang the media roll to the bar.

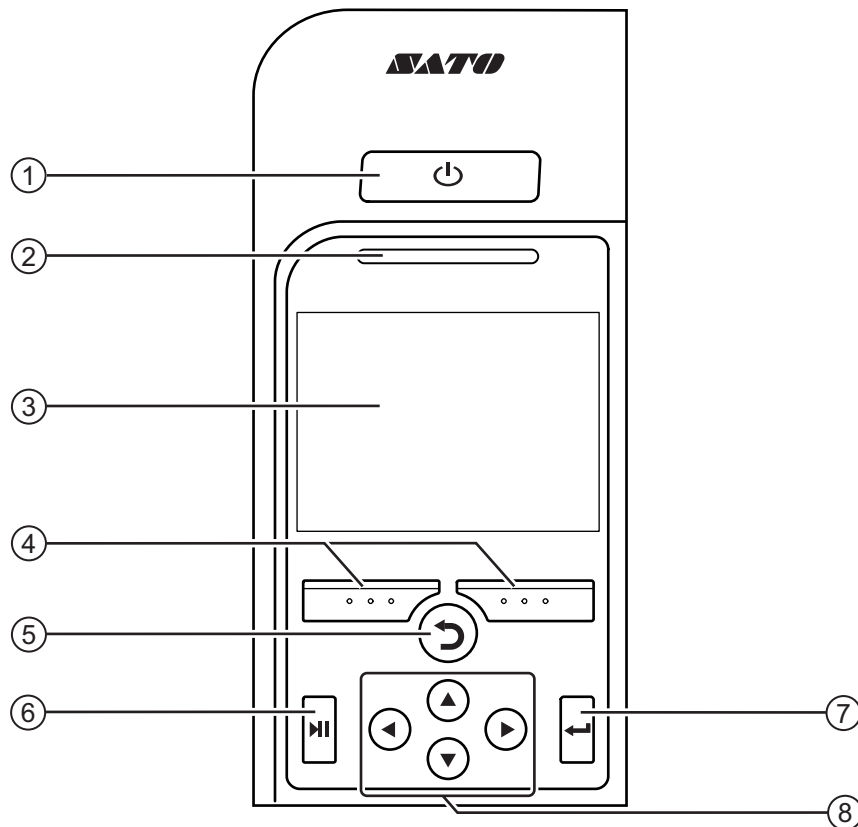
㉒ **Media guide**

㉓ **Head lock lever**


Used to release the print head assembly.


1.2 Parts on the Operator Panel

1.2.1 Operator Panel



① **Power button**

Press the  power button for more than one second to power on the printer.

Press the  power button for more than two seconds to power off the printer.

② **LED indicator**

③ **Color LCD**

④ **Soft buttons**

The functions change depending on the screen. The functions of the buttons are indicated on the bottom of the screen.

(For example, when in offline mode, left soft button: ONLINE; right soft button: FEED)

⑤ **Back button**

Returns to the previous screen.

⑥ **Line button**

Toggle between online/offline mode or playback/pause the video.


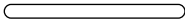


⑦ **Enter button**

Confirm the selected item or setting value.

⑧ **Arrow buttons**

Navigate the selection in the screen menu.

1.2.2 LED Indicator

LED Indicator	Color	Description
	Blue	Online mode
	(Light off)	Power off or offline mode
	Red	Printer error (For example, when the ribbon runs out)
 Flashes at intervals of two seconds.	Blue	Sleep mode (energy saving mode)

Note

If the printer enters sleep mode during a printer error status (LED lights red), the LED indicator will flash blue at intervals of two seconds.

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2

Installing the Printer

2.1 Installation Precautions

Install this printer in a location as follows:

- A location that is horizontal and stable.
- A location that has sufficient space for operating the printer.

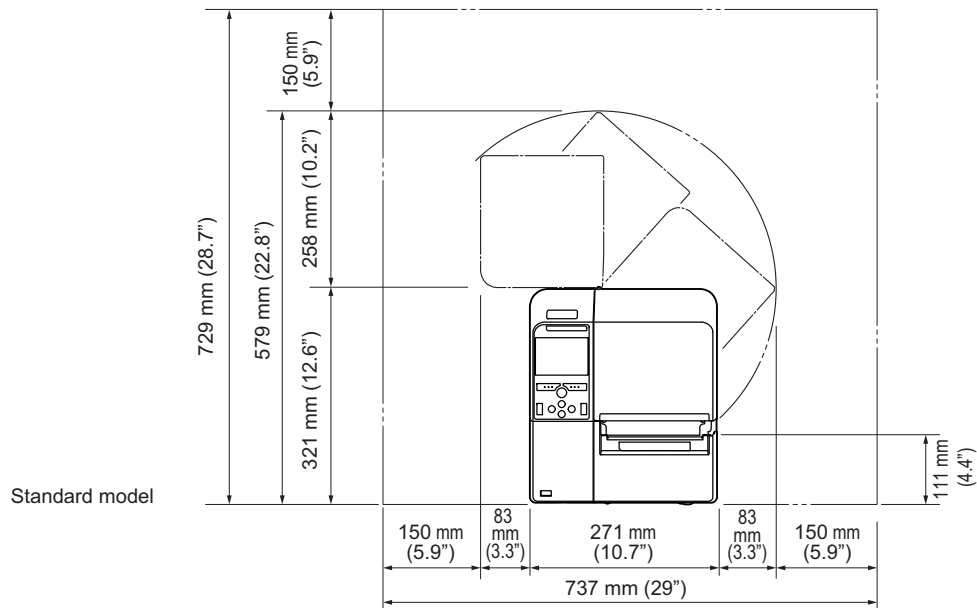
Do not install this printer in a location as follows. Doing so could cause the printer to malfunction.

- A location that is subject to vibration.
- A location with high temperature and humidity.
- A dusty location.
- A location exposed to direct sunlight.
- A location with a lot of electrical noise.
- A location with a large fluctuation in power.
- A location with an explosive atmosphere (flammable gas or vapor).

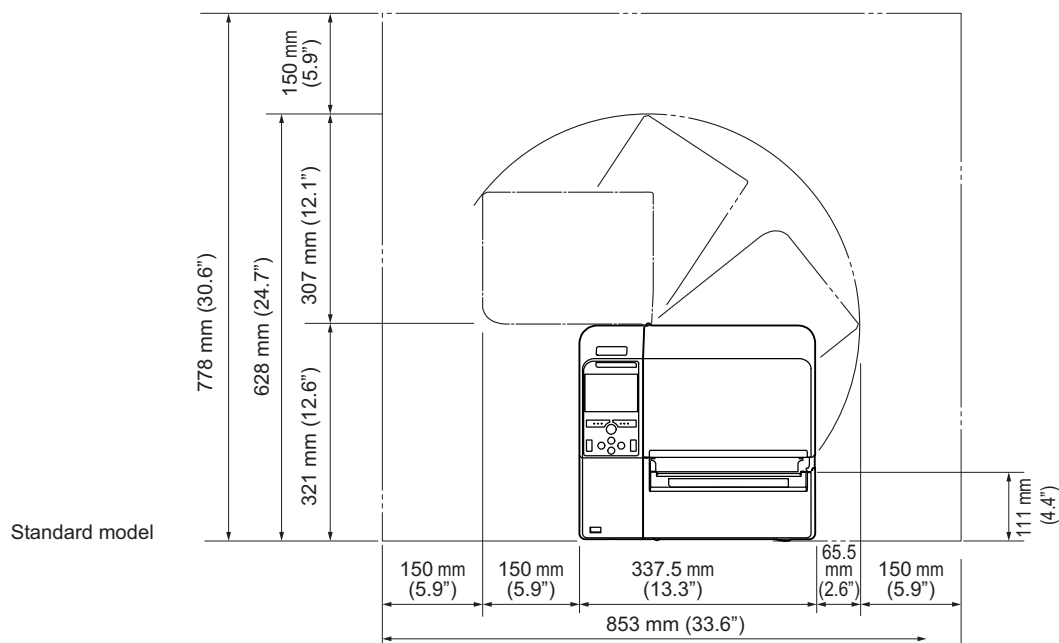
2.2 Installation Space

Make sure that there is sufficient space around the printer so that the top cover can be fully opened when operating or cleaning the printer, or replacing consumables.

2.2.1 Front View (CL4NX)

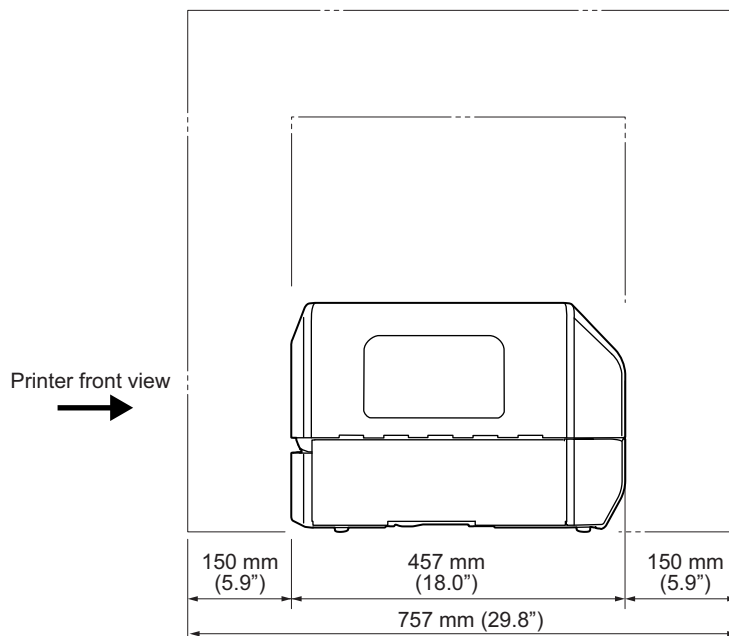


2.2.2 Front View (CL6NX)

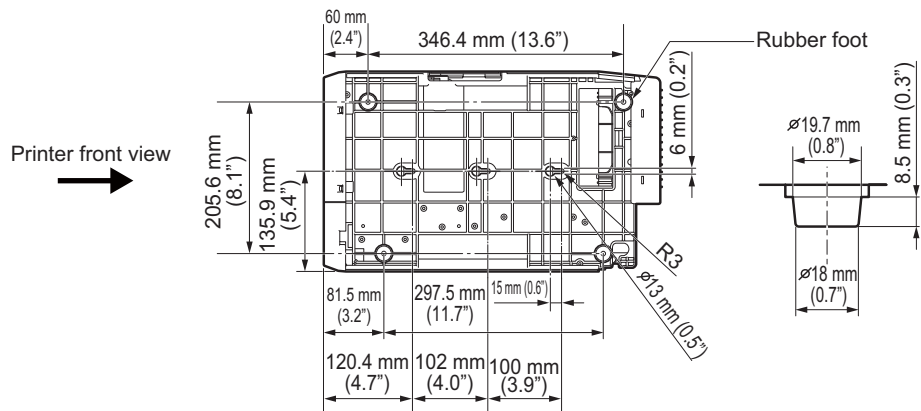


2.2.3 Side View (CL4NX/CL6NX)

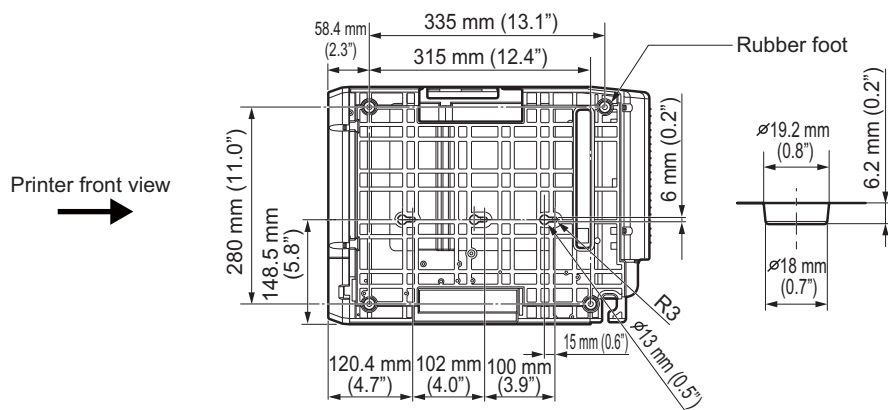
Make sure that there is sufficient space on the rear side of the printer so that no stress is applied to the power cord or cables connected to the printer.



2.2.4 Bottom View (CL4NX)



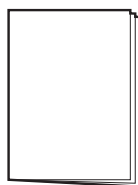
2.2.5 Bottom View (CL6NX)



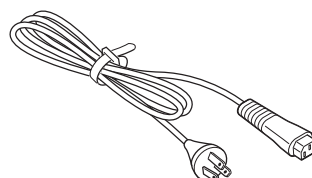
2.3 Checking the Bundled Accessories

After unpacking the printer, make sure that you have all the bundled accessories: if there are any missing items, contact the SATO reseller where you purchased the printer.

User documents
(Quick guide, Warranty, etc.)



AC power cord*



* The shape of power plug varies depending on the region in which it was purchased.

Note

Keep the packaging box and cushioning material after installing the printer. You can pack the printer with this packaging box for shipment when requesting for repairs.

2.4 Connecting the Interface Cable

The connection of the interface cable is explained as follows:

2.4.1 Available Interfaces

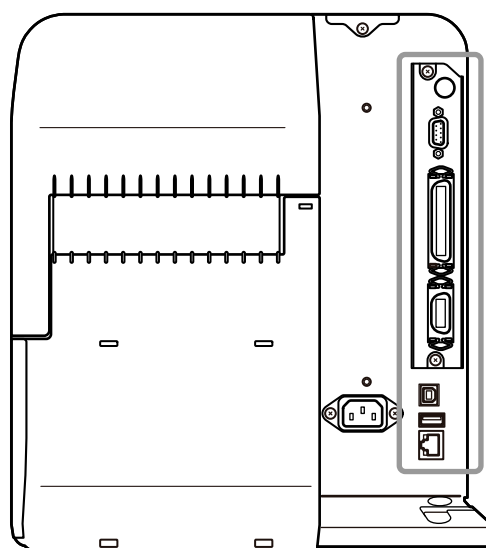
This printer supports the following interfaces.

A printer connected with multiple interface cables can continue to operate when receiving data.

However, you cannot receive data from more than one interface at a time. Normally, do not use multiple interfaces at a time.

The printer prints the received data in the reception order. The next received data is stored in the receive buffer while the first data is printed.

- USB
- LAN
- Bluetooth
- RS-232C
- IEEE1284
- External signal (EXT)
- Wireless LAN



Note

The wireless LAN interface is optional.

CAUTION

Do not connect or disconnect the interface cables (or use a switch box) with power supplied to either the printer or computer. This may cause damage to the interface circuitry in the printer or computer and is not covered by warranty.

2.4.2 Interface Settings

You can set the various interface settings of the printer through **Interface** in the **Settings** menu. For details, refer to [Interface](#) in chapter 4 **Operation and Configuration**.

2.5 Connecting the Power Cord

WARNING

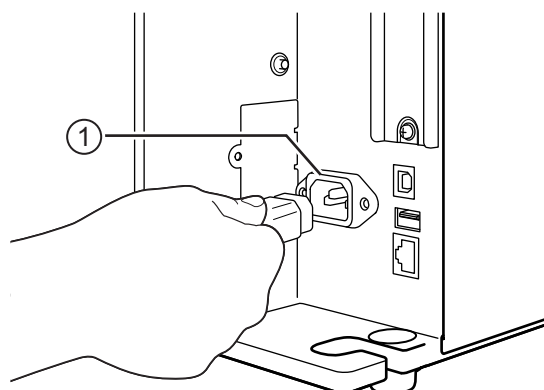
- Do not touch the power button, connect or disconnect the power cord while your hands are wet. Doing so could cause an electric shock.
- Always connect the ground wire to a ground terminal. Electric shock could occur if you do not.

CAUTION

- The attached power cord is designed exclusively for this printer.
- Do not use the attached power cord with other devices.

1 Connect the power cord to the **AC input terminal** ① at the rear of the printer.

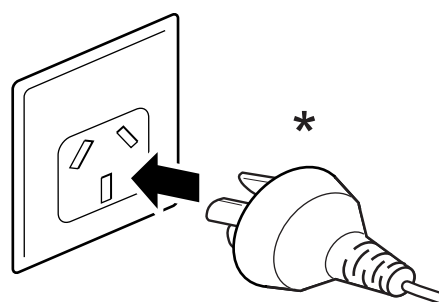
Take note of the orientation of the connector.
Secure the printer with one hand, and insert the connector tightly.



2 Insert the power plug into an AC outlet.

Make sure that the AC voltage of your region is in the range of AC 100 - 240 V, 50 - 60 Hz. If your local voltage is not in the stated range, contact your SATO reseller or technical support center.

*The shape of the power plug varies depending on the region in which it was purchased.



Note

This product is also designed for IT power distribution system with phase-to-phase voltage 230 V.

2.6 Power On/Off the Printer

WARNING

Do not touch the power button, connect or disconnect the power cord while your hands are wet. Doing so could cause an electric shock.


CAUTION

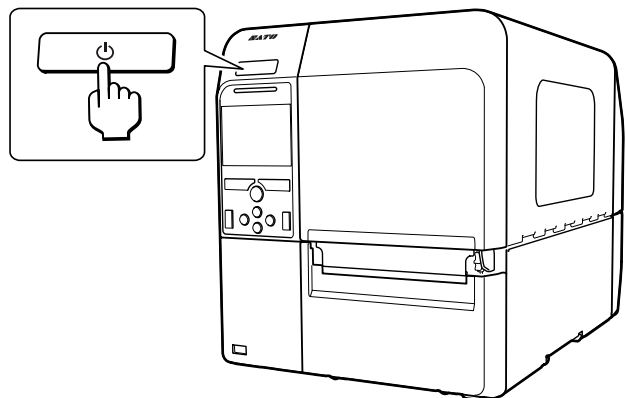
An incorrect power on/off operation may damage the printer settings. In such a case, the printer settings are reset to their default values.

Note

You can power on/off the printer from the main power source by enabling **Start on AC** under the **System** menu.

2.6.1 Power On the Printer

- 1 Press the  power button on the operator panel for more than one second to power on the printer.



- 2 **Online** shows on the screen and the LED lights blue.



2.6.2 Power Off the Printer


CAUTION

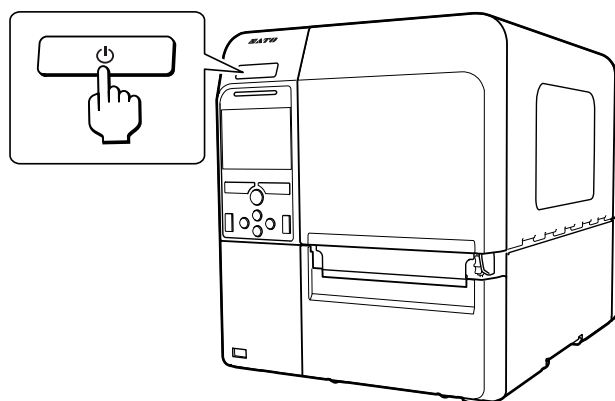
- Do not power off the printer during operation, such as when printing or updating. Doing so could cause a malfunction of the printer.
- Do not disconnect the power cord until the powering off process is completed on the printer.

- 1 Make sure that the printer is in offline mode before you power off.

If **Online** shows on the screen, press the **▶▶** button to change to offline mode.



- 1 Press the  power button for more than two seconds to power off the printer.



2.7 Starting Up the Printer (Startup Guide)

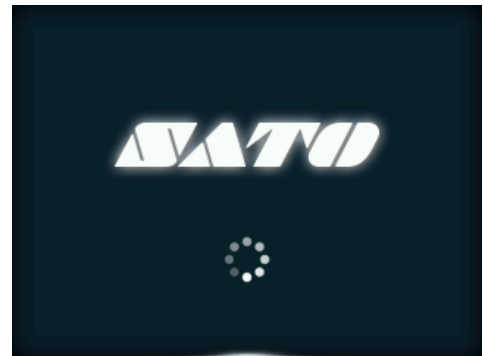
When you power on the printer for the first time after purchase, the display shows the startup guide. The startup guide is a function to help you through the initial printer configuration, such as setting date and time, and loading the ribbon and media.

You can cancel the startup guide and perform the configuration later from the menu.

*If you have installed the optional RTC (Real Time Clock) kit, the time zone, date and time setting screens show.

2.7.1 Startup Screen

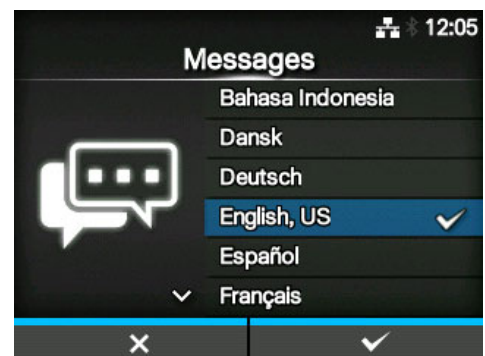
The startup screen shows when you first power on the printer.



2.7.2 Language Selection

Select the display language.

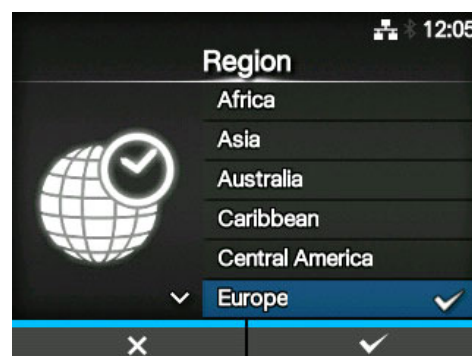
Select the language name using the ▲ / ▼ buttons, then press the right soft button or ↵ button to confirm.



2.7.3 Region Setting with Optional RTC

Set the region (time zone).

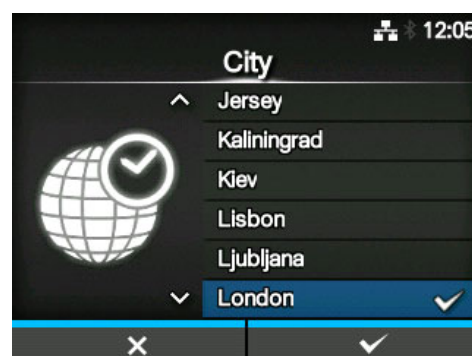
Select the region using the ▲/▼ buttons, then press the right soft button or ↵ button to confirm.



2.7.4 City Setting with Optional RTC

Set the city (time zone).

Select the city using the ▲/▼ buttons, then press the right soft button or ↵ button to confirm.

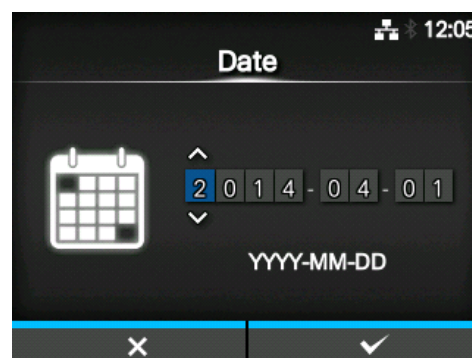


2.7.5 Date Setting with Optional RTC

Set the date.

Select the current value using the ▲/▼ buttons, and move the cursor using the ◀/▶ buttons.

When you have completed the date setting, press the right soft button or ↵ button to confirm.



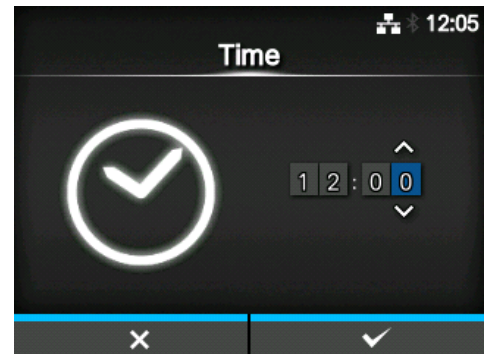
2.7.6 Time Setting with Optional RTC

Set the time.

Select the current value using the ▲/▼ buttons, and move the cursor using the ◀/▶ buttons. When you have completed the time setting, press the right soft button or ↵ button to confirm.

Note

The time is set in 24-hour format.



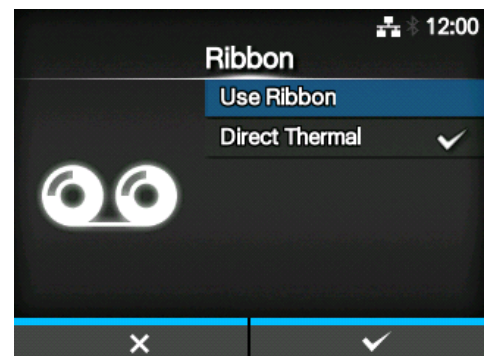
2.7.7 Print Method Setting

Set whether to use the ribbon or direct thermal media to print.

The options are as follows:

- **Use Ribbon:** Print with a ribbon.
- **Direct Thermal:** Print using direct thermal media.


Select the print method using the ▲/▼ buttons, then press the right soft button or ↵ button to confirm.




2.7.8 Ribbon Setting

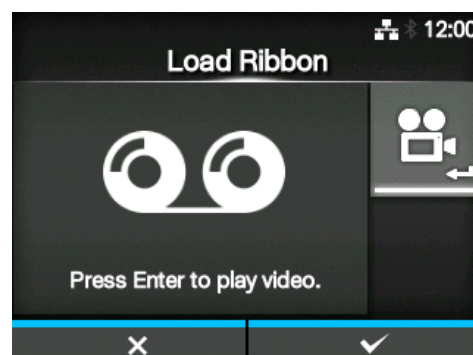
Load the ribbon.

*Shows if you have selected **Use Ribbon** in the print method setting.

You can check the setting method of the ribbon through the video. Press the  button to watch the video.

Press the  button to stop the video and return to the previous screen.

After you complete the ribbon setting, press the right soft button to go to the next screen.






2.7.9 Setting the Media Sensor Type

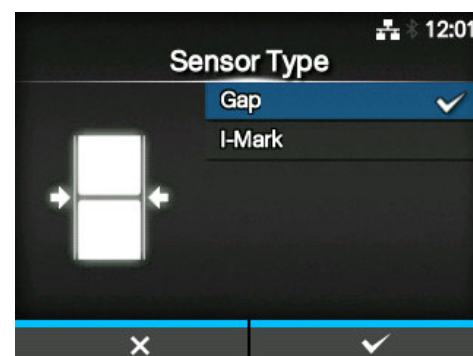
Set the type of sensor for sensing the media.

The available options will vary depending on the default print mode of your printer.

The options are as follows:

- **None:** Disable the media sensor.
- **Gap:** Use the transmissive type sensor.
- **I-Mark:** Use the reflective type sensor.


Select the media sensor type using the  /  buttons, then press the right soft button or  button to confirm.




2.7.10 Media Setting

Load the media.




You can check the setting method of the media through the video.

Press the  button to select video mode.

Note (for CL4NX only)

When you are using the linerless model, the video is shown immediately after the  button is pressed.

The selection screen of the video for playback shows. (Not available for linerless model of CL4NX.)

Select the video to playback using the  /  buttons, then press the right soft button or  button to playback the video.

The options are as follows:


The options vary depending on the printer model.

Standard Model and Cutter Model

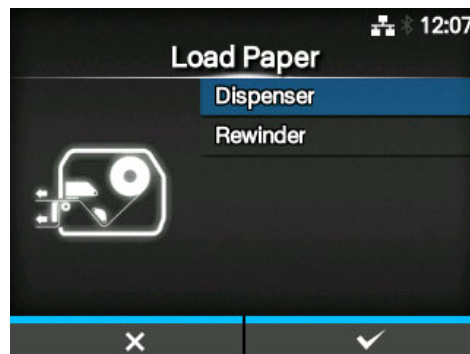
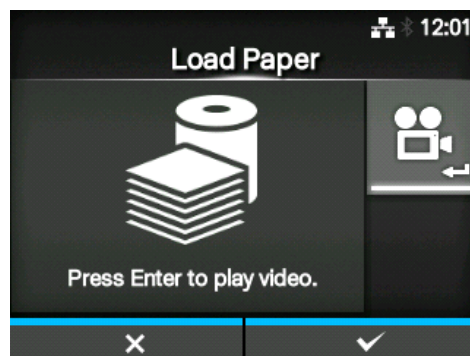
- **Roll:** Shows the video on how to load the media roll.
- **Fanfold:** Shows the video on how to load the fan-fold media.

Dispenser Model

- **Dispenser:** Shows the video on how to eject the liner out of the printer.
- **Rewinder:** Shows the video on how to rewind the liner in the printer.

Press the  button to stop the video and return to the previous screen.

After you complete the media setting, press the right soft button to go to the next screen.

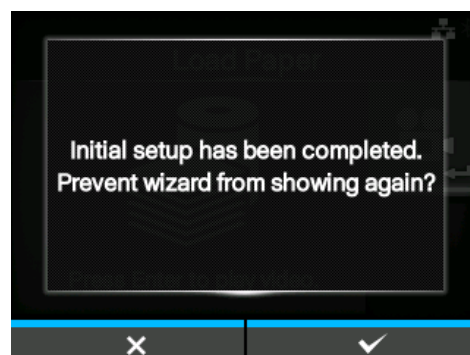


2.7.11 Confirmation Screen

This screen shows when the startup guide completes.

If you want the startup guide to show the next time you start up, press the left soft button. If not, press the right soft button.

When you press one of the soft buttons, the printer automatically feeds the media (to the print head position) and enters online mode.



Note

You can enable or disable the startup guide in [Startup Guide](#) under the **Tools** menu.

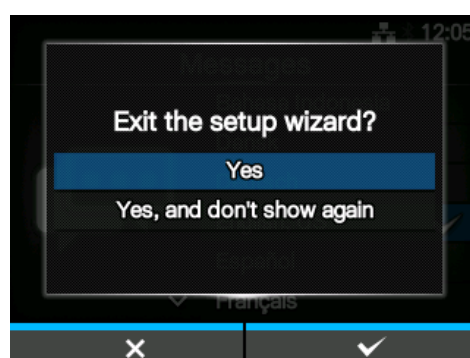
2.7.12 Startup Guide Cancellation

You can cancel the startup guide at any time.

When you press the left soft button on the setting screen, the screen to the right shows.

Select whether or not to show the startup guide during the next startup using the ▲ / ▼ buttons, and press the right soft button to confirm.

To cancel and return to the startup guide setting, press the left soft button.



Note

- You can enable or disable the startup guide in [Startup Guide](#) under the **Tools** menu.
- Even if you cancel the startup guide during play, the printer will save the settings you have changed.

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3

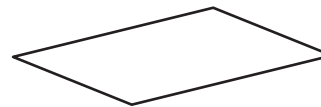
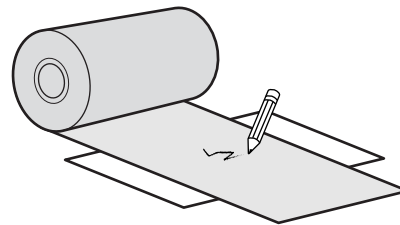
Loading the Ribbon and Media

This printer supports two types of print methods, thermal transfer and direct thermal. Thermal transfer printing transfers the ink of the ribbon to the media. Direct thermal printing creates the image on direct thermal media. Ribbon is not necessary if you are using direct thermal media.

3.1 Checking the Ink Side of the Ribbon

There are two wind directions for the ribbon. Face-out means the ink is on the outer side and Face-in means the ink is on the inner side. This printer supports both wind directions. You can examine the ink side of the ribbon using the following procedure:

- 1** Place the outer side of the ribbon onto the media (touching).
- 2** Scratch the inner side of the ribbon with your fingernail or a pointed object.
- 3** If there is a mark on the media, the ink is coated on the outer side of the ribbon.



The ink is coated on the inner side. (Face-in ribbon)



The ink is coated on the outer side. (Face-out ribbon)


3.2 Loading the Ribbon

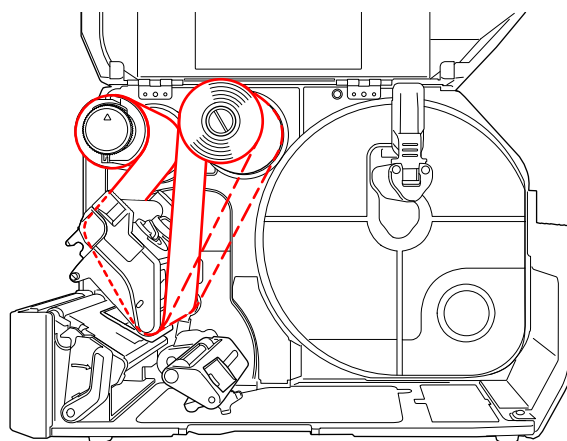
Use genuine SATO media and ribbons for the printer, for optimum print quality.

CAUTION

- The print head and its surroundings are hot after printing. Be careful not to touch it, to avoid being burned.
- Touching the edge of the print head with your bare hand could cause injury.

The routing path of the ribbon is shown in the right picture.

-  Face-in ribbon
-  Face-out ribbon



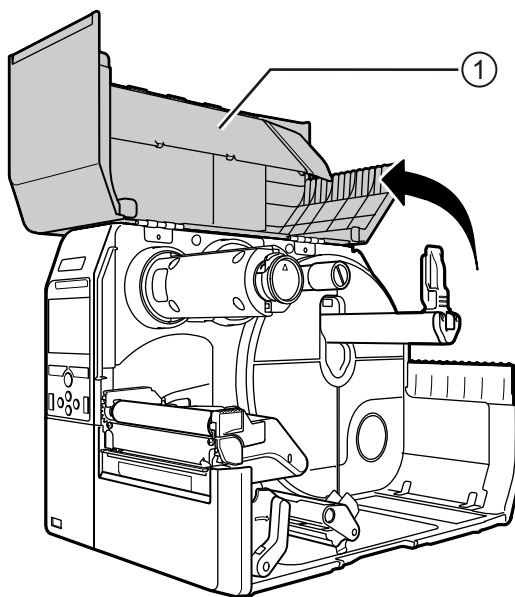
Note

You can also refer to the sticker located on the inner side of the top cover.

1 Open the **top cover** ①.

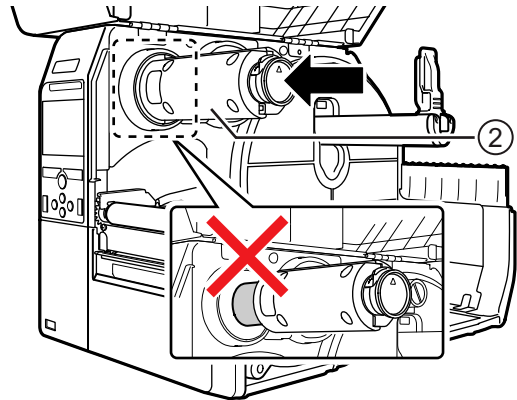
CAUTION

Open the top cover fully to prevent accidental drop of the cover.

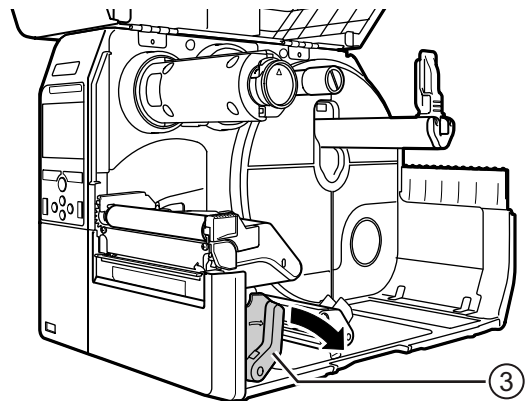


2 Push the **ribbon rewind spindle** ② all the way in.

If there is any ribbon on the ribbon rewind spindle, remove it.

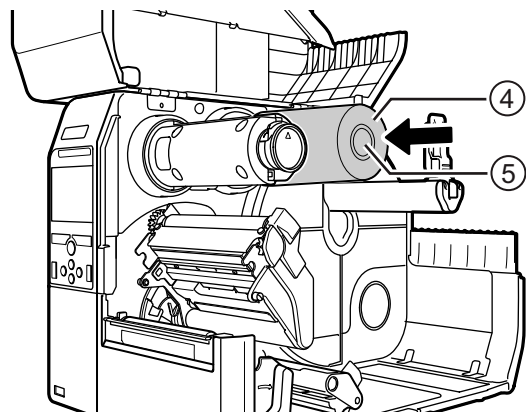


3 Push the **head lock lever** ③ towards the rear.

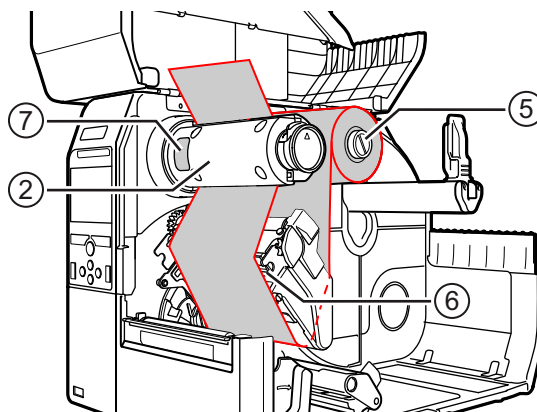


4 Load the **ribbon** ④ onto the **ribbon supply spindle** ⑤.

While taking note of the wind direction, insert the ribbon all the way in.

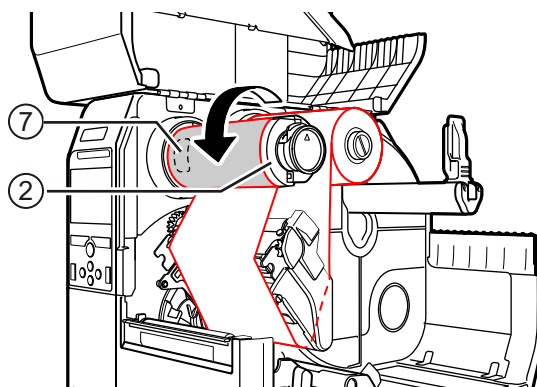


- 5** From the **ribbon supply spindle** ⑤, pass the ribbon below the **print head** ⑥.



- 6** Wind the ribbon counterclockwise to the **ribbon rewind spindle** ② and **grip sheet** ⑦.

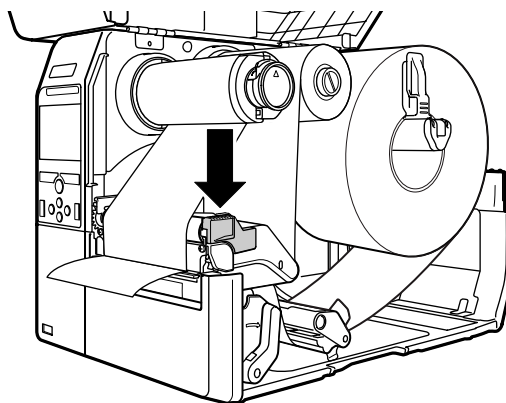
Turn the ribbon rewind spindle counterclockwise for several rounds, to wind the ribbon.



- 7** If the media is already loaded, press the **print head** down until the **head lock lever** is locked.

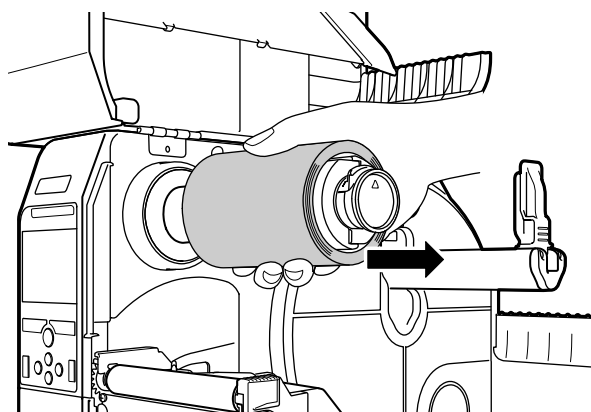
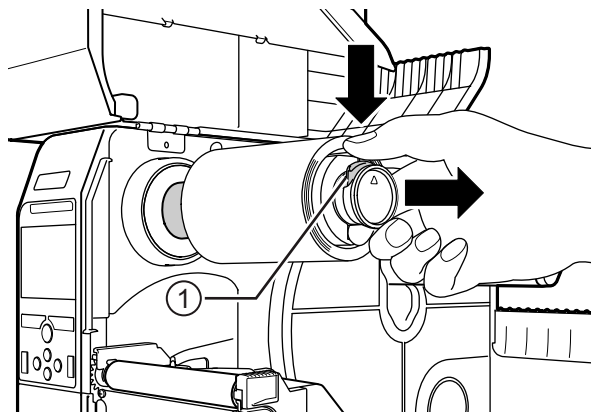
If the media is not loaded, continue with [Section 3.5 Loading Media](#).

- 8** Close the **top cover**.



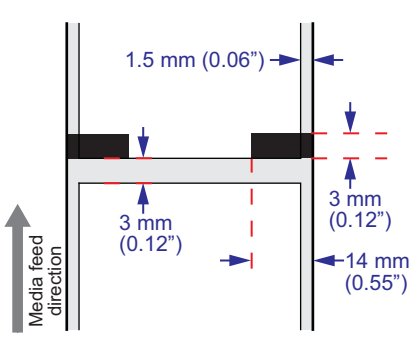
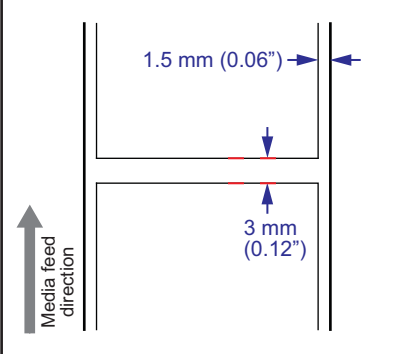
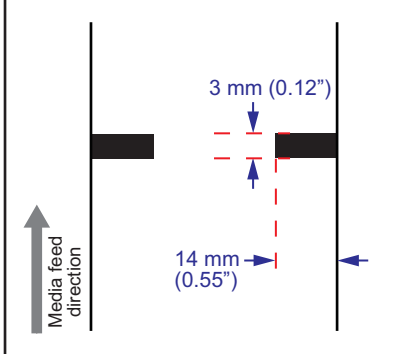
3.3 Removing the Ribbon

- 1** Press the **tab** ① on the tip of the **ribbon rewind spindle** to pull it out.
- 2** Pull to remove the used ribbon from the **ribbon rewind spindle**.
- 3** Push the **ribbon rewind spindle** all the way in.



3.4 Usable Media

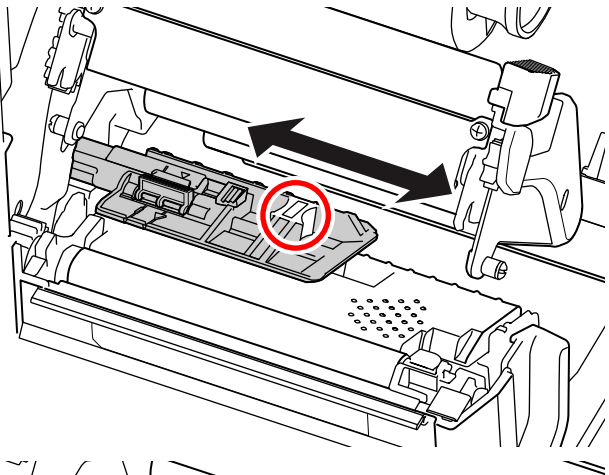
This printer can print on two types of media; media roll and fan-fold media. The printer uses media sensors to detect I-marks or Gaps on the media in order to precisely print the content.

		
I-mark label	Gap label	I-mark journal paper/ linerless label (CL4NX only)

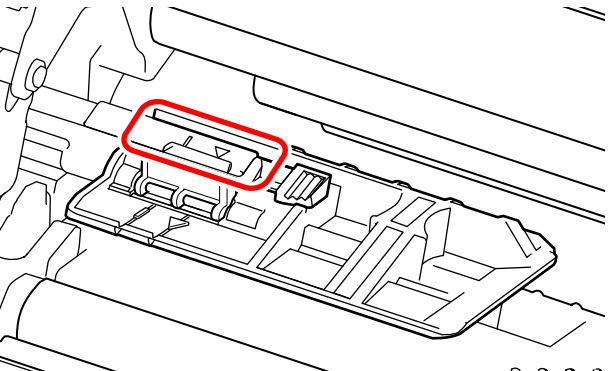
3.4.1 Adjusting the Position of the Media Sensor

When you use nonstandard media (for example, media with printing on the underside, or media with a special shape), the media sensor cannot sense the I-mark or Gap of the media correctly. In such a case, adjust the position of the media sensor to sense the I-mark or Gap correctly.

Adjust the media sensor guide to the position where it can sense the I-mark or Gap of the media.



The I-mark sensor is below the □ mark, and the Gap sensor is below the ▽ mark.



3.5 Loading Media

Use genuine media and ribbons for the printer, for optimum print quality.



CAUTION

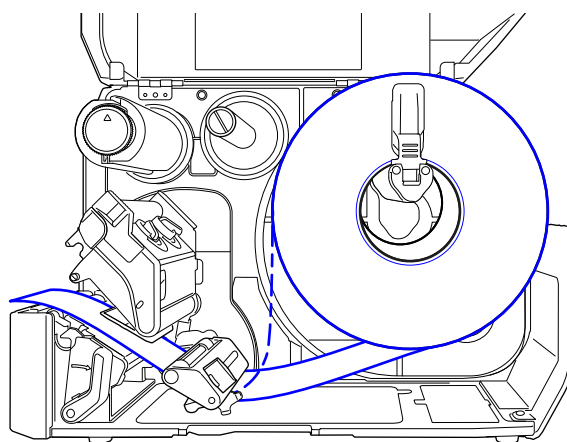
- The print head and its surroundings are hot after printing. Be careful not to touch it, to avoid being burned.
- Touching the edge of the print head with your bare hand could cause injury.

3.5.1 Loading Media Roll

The routing path of the media is shown in the right picture.

When loading the media, make sure that the print side is facing up.

-  Face-in media
-  Face-out media



1 Open the **top cover**.

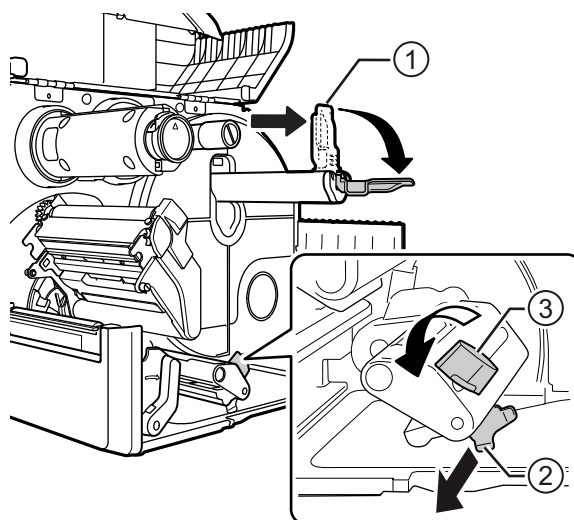
CAUTION

Open the top cover fully to prevent accidental drop of the cover.

2 Push the **head lock lever** towards the rear to unlock the print head.

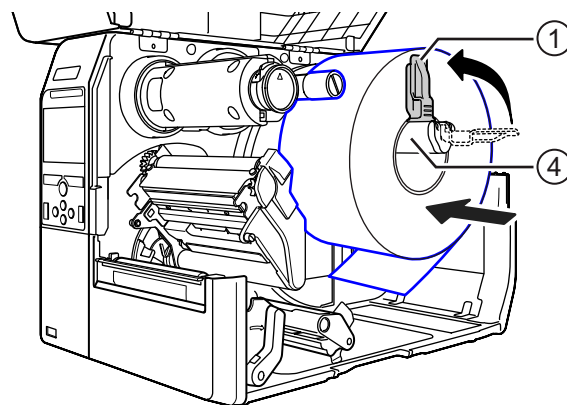
3 Pull the **media holder guide** ① and **media guide** ② away from the printer.

Turn the **knob** ③ counterclockwise to release the media guide.



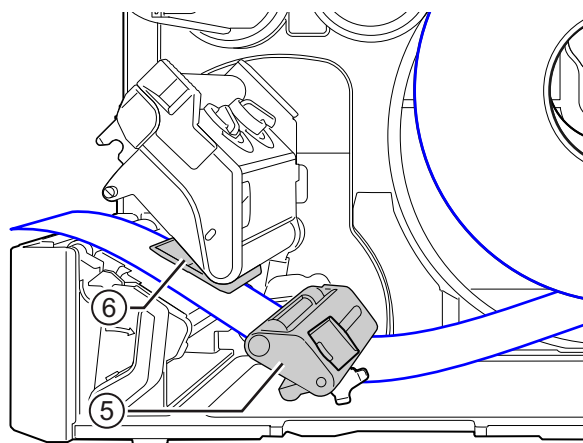
4 Load the media in the **media holder** ④. Make sure that the media roll is all the way in to inside of the printer.

5 Push the **media holder guide** ① lightly against the media roll.



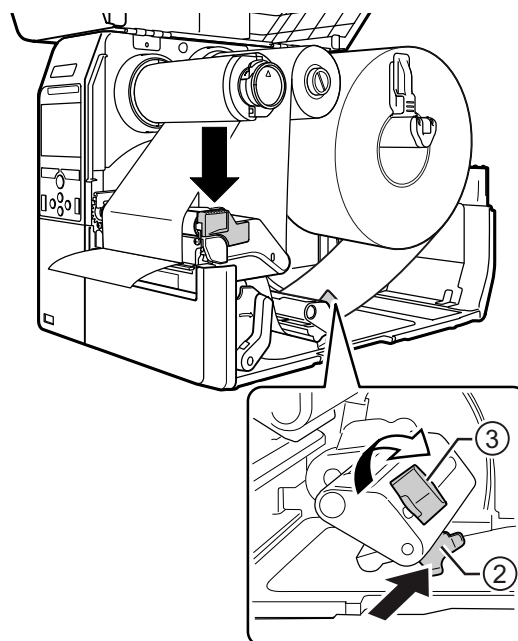
6 Pass the media below the **media damper** ⑤ and **media sensor guide** ⑥ while pushing the media to inside of the printer.

Make sure that the end of the media extends out the front of the printer.



- 7** Press the **print head** down until the **head lock lever** is locked.
- 8** Press the **media guide** ② lightly against the end of the media, then turn the **knob** ③ to lock the media guide.
- 9** Close the **top cover**.
- 10** After loading the media and ribbon, perform a test print to make sure that the media is loaded correctly.

Refer to the **Test Print** menu in **Section 4.4.5 Tools Menu** for details on how to perform a test print.



⚠ CAUTION

When closing the top cover, be careful not to pinch your fingers.


3.5.2 Loading Fan-fold Media


Place the fan-fold media on a flat location, then load the media from the rear of the printer or from the media slot on the bottom of the printer.

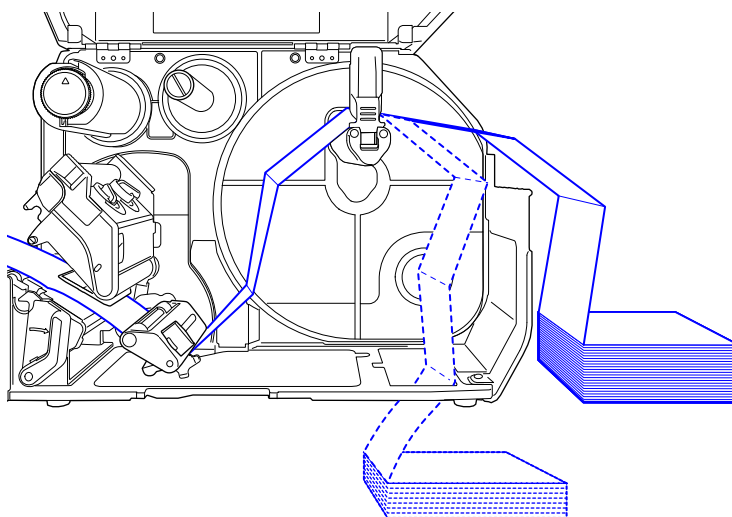
The routing path of the media is shown in the right picture.

When loading the media, make sure that the print side faces up.

After passing the media through the slot, refer to steps 5 through 10 of **Section 3.5.1 Loading Media Roll** to load the media.

 Load the media from the rear of the printer.

 Load the media from the bottom of the printer.



Note

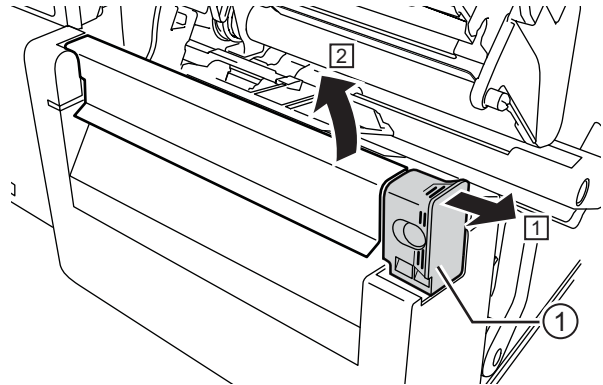
If a media jam frequently occurs with the media being loaded from the bottom of the printer, change the load location to the rear of the printer.

3.5.3 Loading Media with the Optional Cutter

Refer to the procedure in [Section 3.5.1 Loading Media Roll](#) or [Section 3.5.2 Loading Fan-fold Media](#) to load the media.

For models with a cutter installed, pull the **tab** ① of the **cutter unit** in the direction shown, then open up the cutter-open lever before passing the media through it.

After loading media, close the cutter-open lever and then push the **tab** ① in the reverse direction to lock it.



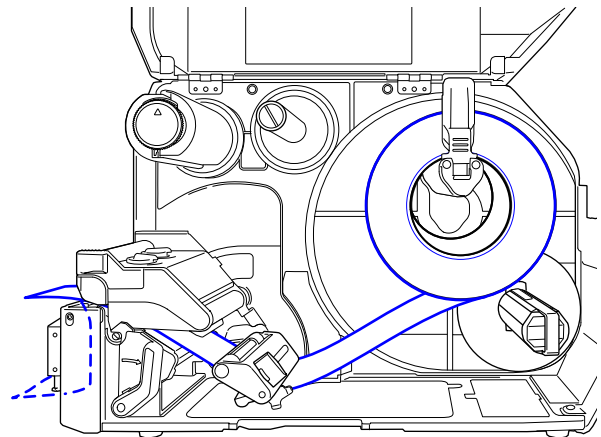
CAUTION

Be careful not to touch the cutter blade.

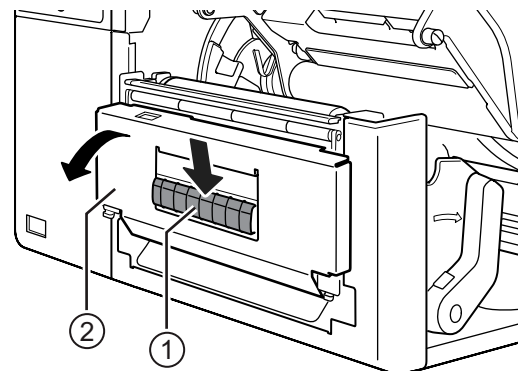
3.5.4 Loading Media with an Optional Dispenser and Liner Discharge Outlet

This section describes the procedure to dispense the label and eject the liner out of the printer.

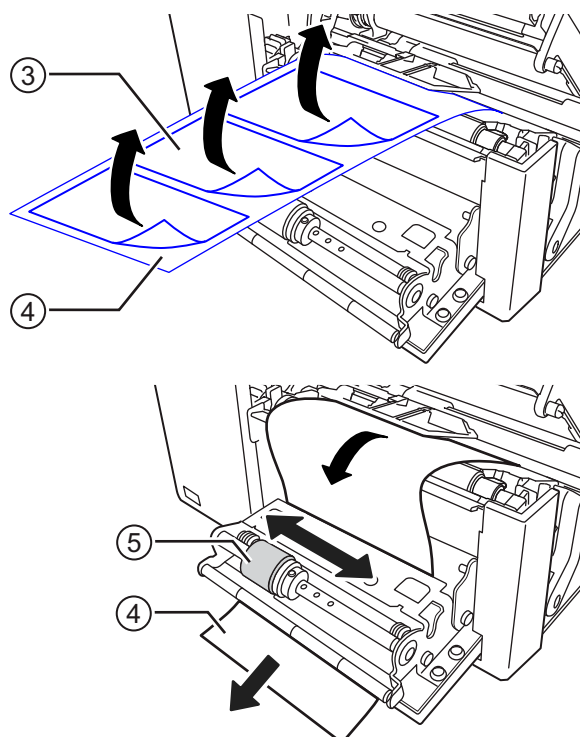
- 1 Refer to steps 1 through 6 of [Section 3.5.1 Loading Media Roll](#) to load the media.



- 2 Press the **tab** ① at the front of the printer to open the **dispenser unit** ②.



- 3** Remove about 30 cm (11.8") of labels ③ from the liner ④, then pass the liner ④ through the gap of the dispenser unit to the outside of the printer.
- 4** Adjust the **dispenser roller** ⑤ to the center of the label.
- 5** Close the **dispenser unit**.
- 6** Close the **print head and top cover**.



3.5.5 Loading Media with an Optional Dispenser and Liner Rewinder

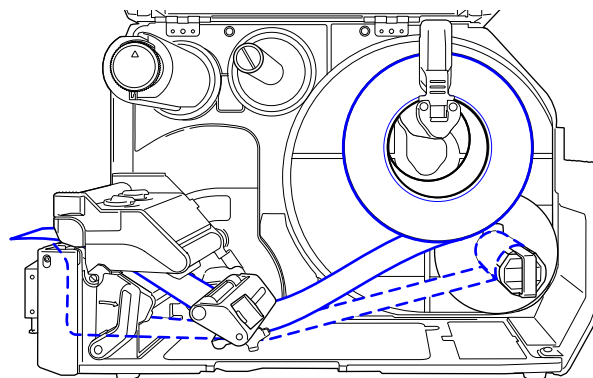
This section describes the procedure to dispense the label and rewind the liner in the printer.

Note

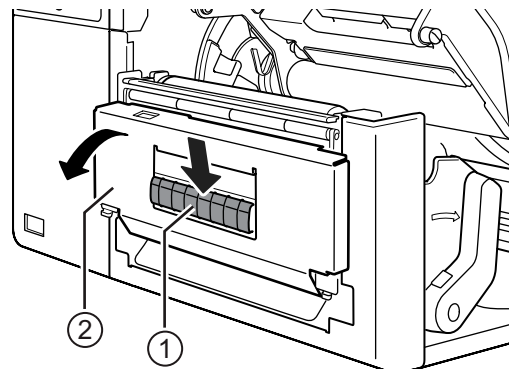
The maximum diameter of the liner that can be rewound in the printer is 120 mm (4.72").

The routing path of the media is shown in the right picture.

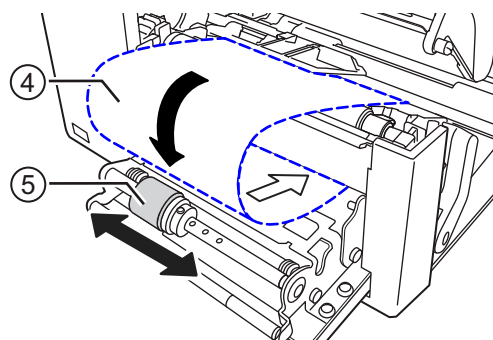
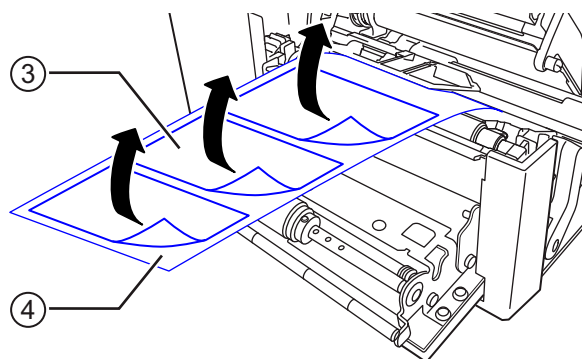
 Label
 Liner



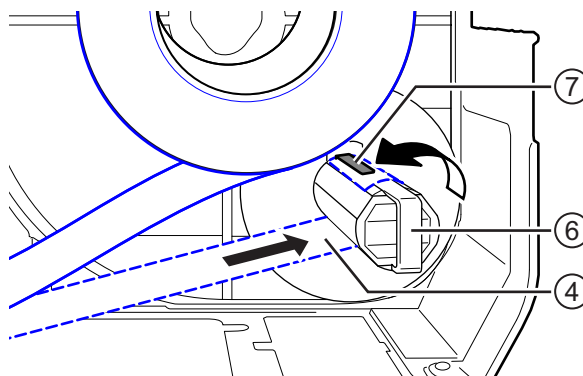
- 1** Refer to steps 1 through 7 of [Section 3.5.1 Loading Media Roll](#) to load the media.
- 2** Press the **tab** ① at the front of the printer to open the **dispenser unit** ②.



- 3** Remove about 80 cm (31.5") of labels ③ from the liner ④, then pass the liner ④ through the gap of the **dispenser unit** to the inside of the printer.
- 4** Adjust the **dispenser roller** ⑤ to the center of the label.

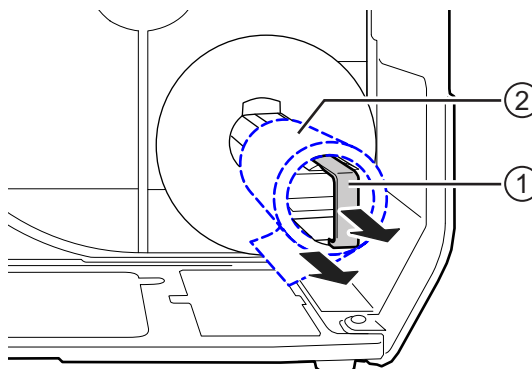


- 5** Pass the liner ④ below the **liner rewriter** ⑥, then attach it with the **clip** ⑦.
- 6** Rotate the **liner rewriter** ⑥ counterclockwise by hand, to wind the liner.
- 7** Close the **dispenser unit**.
- 8** Close the **print head** and **top cover**.



3.5.6 Removing the Liner from the Rewinder

- 1** Pull the clip ① away from the printer then pull to remove the liner ②.
- 2** Place the clip back to its original position.



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4

Operation and Configuration

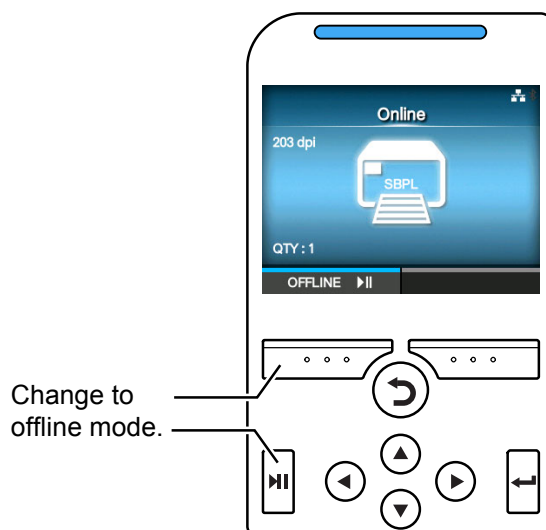
The display of the printer varies depending on the following modes:

- Online mode: refer to [Section 4.1.1 Online Mode/Offline Mode](#).
- Offline mode: refer to [Section 4.1.1 Online Mode/Offline Mode](#).
- Error display: refer to [Section 4.1.3 Error Icon](#).
- Settings mode: refer to [Section 4.2 Settings Mode](#).

4.1 Display and Operation

4.1.1 Online Mode/Offline Mode

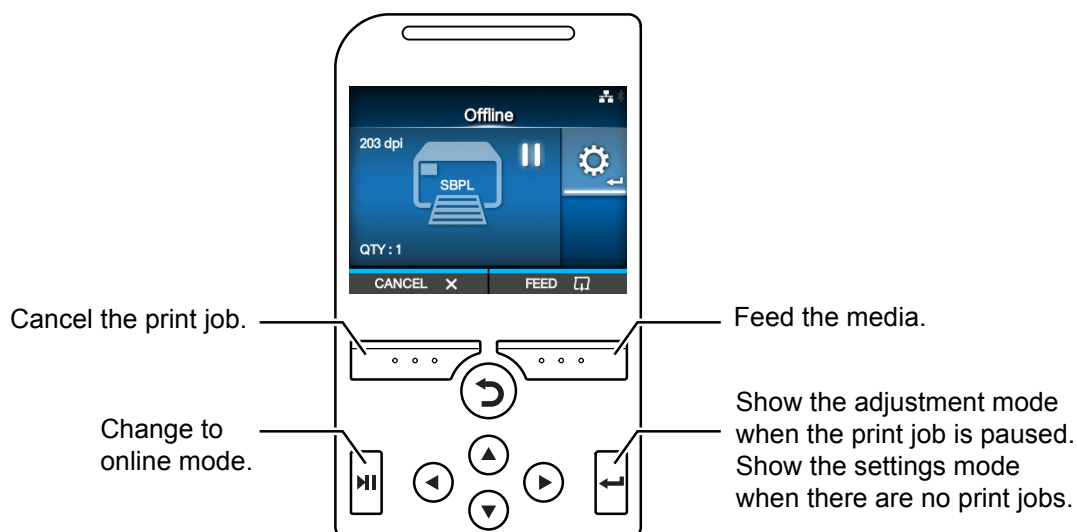
In online mode, you can execute the print job.



In offline mode, the print job will stop.

You can adjust the print settings, cancel the print job or feed the media.

After you complete or cancel the print job, you can show the settings mode.












4.1.2 Status Icon

The icons on the status bar of the display show the printer status.




• Communication Interface Status


Icon	Description
	Bluetooth is enabled but not connected.
	Bluetooth is enabled and connected.
	Network link is enabled but not connected.
	Network link is enabled and connected.
	Not connected to the NTP time server.
	Wi-Fi is not connected.
	Wi-Fi is connected. Signal Level: 1
	Wi-Fi is connected. Signal Level: 2
	Wi-Fi is connected. Signal Level: 3
	Wi-Fi is connected. Signal Level: 4

Icon	Description
	Wi-Fi Direct is not connected.
	Wi-Fi Direct is connected. Signal Level: 1
	Wi-Fi Direct is connected. Signal Level: 2
	Wi-Fi Direct is connected. Signal Level: 3
	Wi-Fi Direct is connected or the printer is set to act as an access point. Signal Level: 4
	Printer is connected to USB host.
	Waiting for external input/output signal.
	RFID mode is enabled (CL4NX only).
	Standard code is disabled (Non-standard code).







- USB Memory Status

Icon	Description
	USB memory is connected.





- Barcode Verifier Status

Icon	Description
	Barcode verifier is connected.

- Print Job Status

Icon	Description
	Waiting for media removal. Remove the media.
	Ribbon is near the end. Prepare a new ribbon.
	Command error detected. Check the print data.
	Receive buffer is nearly full. Wait until the printer starts printing the previously sent data, and then send the next data.
	Defective print head is detected. Replace the print head.
	Incompatible print head is detected. Replace the print head.

- Maintenance Status

Icon	Description
	Clean the print head or platen roller.
	Replace the print head.
	Replace the platen roller.
	Replace the cutter unit.

4.1.3 Error Icon

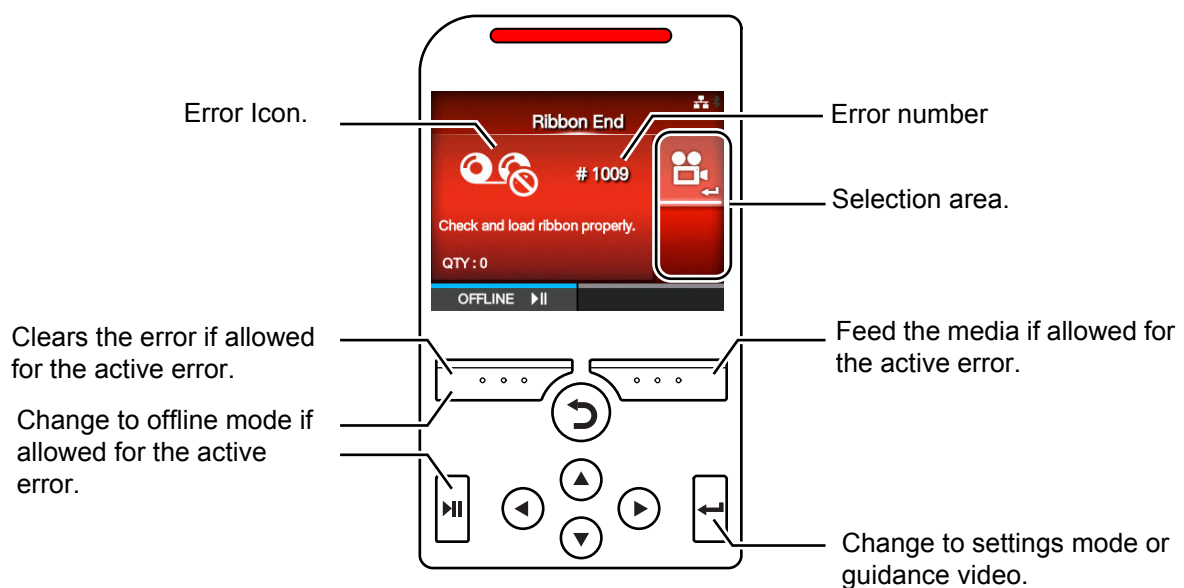
When a printer error occurs, the error status shows on the screen with an icon.

When an error occurs, you can perform the following operations:



- Change to offline mode.
- Cancel the error.
- Feed the media.
- Change to settings mode.
- Change to guidance video.

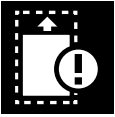










Note




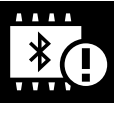



The available operations vary, depending on the situation.



- Error Icon

Icon	Description
	Paper end is detected.
	Ribbon end is detected.

Icon	Description
	Print data is larger than the media size.
	Sensor error is detected.
	Print head is unlocked.
	Print head error is detected.
	<ul style="list-style-type: none"> • Communication error is detected. • BCC error is detected. • CRC error is detected.
	Receive buffer overflow.
	Cutter error is detected.
	<ul style="list-style-type: none"> • USB memory is not accessible. • There is no free space in the USB memory.
	Calendar error is detected.
	<ul style="list-style-type: none"> • Writing/reading information to/from the RFID tag failed (CL4NX only). • With Non-RFID warning enabled and RFID tag loaded, the items received do not contain an RFID issue command (CL4NX only).
	<ul style="list-style-type: none"> • Wireless LAN setting error is detected. • Authentication with the server failed. • Authentication with the server timed out.

Icon	Description
	Printer error is detected.
	The temperature of the print head has exceeded the tolerance range.
	RFID module is defective (CL4NX only).
	Bluetooth module is defective.
	Paper jam is detected. (CL4NX only)
	The barcode verifier is not detected at printer startup when the barcode check mode is enabled.
	<ul style="list-style-type: none">• The barcode could not be read.• The read result of the barcode does not match the command data.



4.1.4 Guidance Video

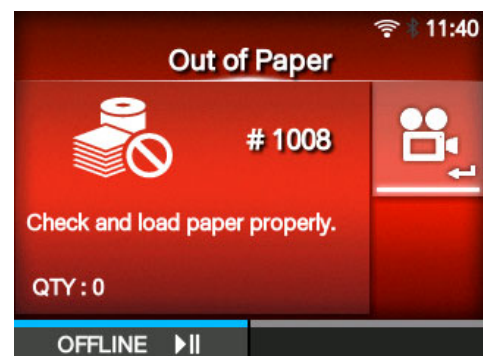
The printer contains the following guidance videos for visual reference of printer operations.

No.	Guidance Video	Show video from		
		Error screen	Startup Guide	Information menu
1	Media roll loading (Standard)	-	Possible	Possible
2	Media roll loading (Cutter)	-	Possible	Possible
3	Media roll loading (Linerless) (CL4NX only)	-	Possible	Possible
4	Media roll loading (Dispenser)	-	Possible	Possible
5	Media roll loading (Dispenser with rewinder)	-	Possible	Possible
6	Fan-fold media loading (Standard)	-	Possible	Possible
7	Fan-fold media loading (Cutter)	-	Possible	Possible
8	Ribbon loading	-	Possible	Possible
9	Media roll replacement (Standard)	Possible	-	Possible
10	Media roll replacement (Cutter)	Possible	-	Possible
11	Media roll replacement (Linerless) (CL4NX only)	Possible	-	Possible
12	Media roll replacement (Dispenser)	Possible	-	Possible
13	Media roll replacement (Dispenser with rewinder)	Possible	-	Possible
14	Fan-fold media replacement (Standard)	Possible	-	Possible
15	Fan-fold media replacement (Cutter)	Possible	-	Possible
16	Ribbon replacement	Possible	-	Possible
17	Print head replacement	-	-	Possible
18	Platen roller replacement	-	-	Possible
19	Cleaning	-	-	Possible

You can play the guidance video using the following procedures:

- **To play the guidance video from the error screen**

- 1 On the error screen, press the  button to play the guidance video.
If there are more videos to choose from, press the arrow buttons to select the guidance video, then press  button.
The guidance video will playback.
- 2 Follow the procedures to resolve the error according to the guidance video.



• To get access to the guidance video in online mode

- 1 Press the ► button in online mode.
The printer enters offline mode.

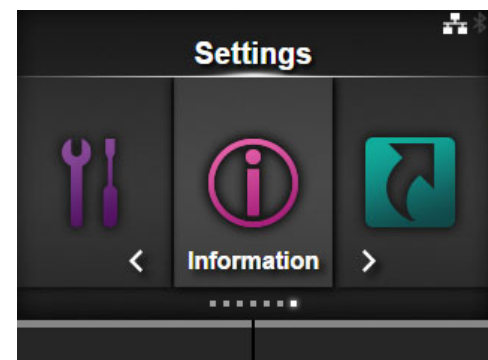


- 2 Press the ◀ button.
The printer enters settings mode.



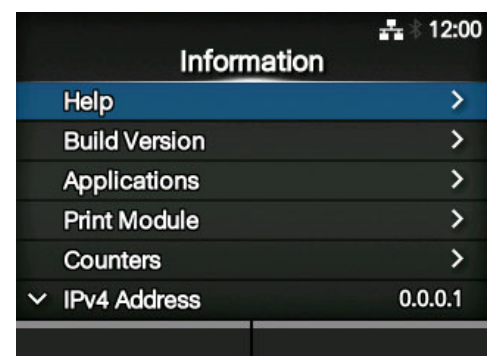
- 3 Select **Information** using the ◀/▶ buttons.

- 4 Press the ◀ button.
The item list shows.

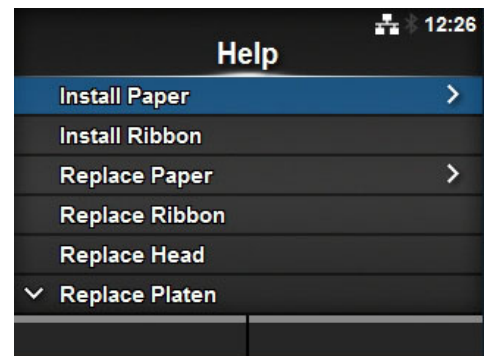


- 5 Select **Help** using the ▲/▼ buttons.

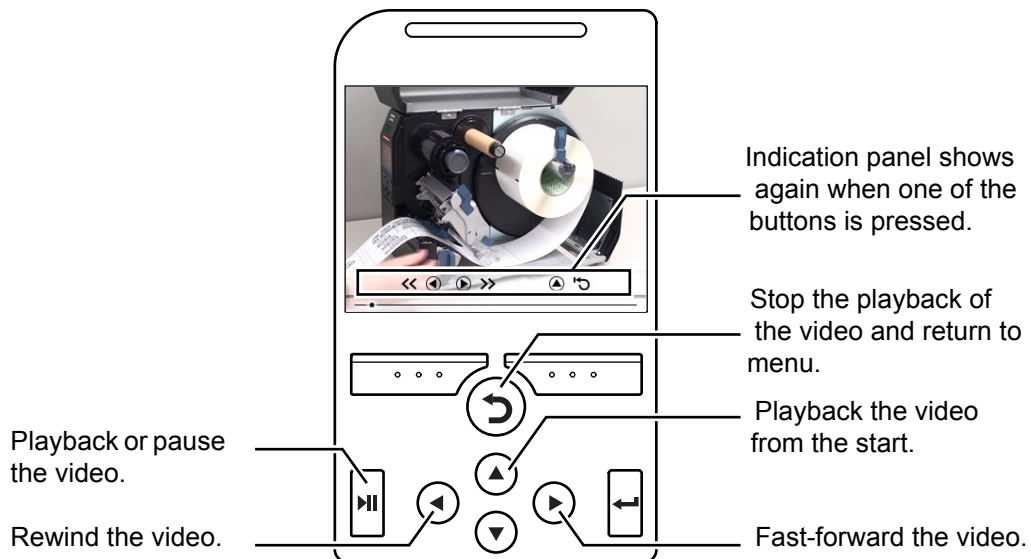
- 6 Press the ◀ button.
The list of guidance videos shows.



- 7** Select the video for playback using the ▲/▼ buttons, then press the ◀ button.
The guidance video will playback.



The guidance video operating procedures are described below:



4.1.5 How to Adjust the Print Settings During Printing

Follow the procedure below to adjust the print position, print darkness and print speed during printing.

1 Press the **⏸** button to pause print job and change the printer to offline mode.

2 Press the **⏮** button.
The Adjustments menu shows.



3 Select an item and adjust the setting.
For details on how to adjust settings, refer to [Section 4.2 Settings Mode](#).

Adjustments	
Offset	0 dot
Pitch	8 dot
Speed	6 ips
Darkness Range	A
Darkness	5
Darkness Adjust	50

4 Press the **⏪** button to return to offline mode.

5 Press the **⏸** button to change to online mode.
The print job resumes with the adjusted settings.

Note

When **Prioritize** in the **Printing > Advanced** menu has been set to **Commands** and the print settings have been specified by command, the changes made in the Adjustments menu will be applied only to the data already analyzed at that time. The settings specified by command will be applied to the rest of the data.

4.1.6 How to Cancel the Print Job

Cancel the print job according to the following procedure. When the print job is canceled, the data stored in the receive buffer of the printer is also deleted.

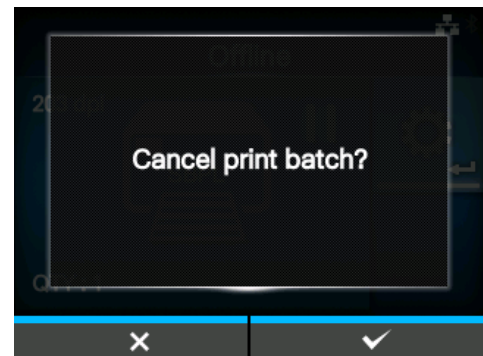
1 Press the ► button to change the printer to offline mode.

2 Press the left soft button.

A message shows, confirming that you want to cancel the print job.

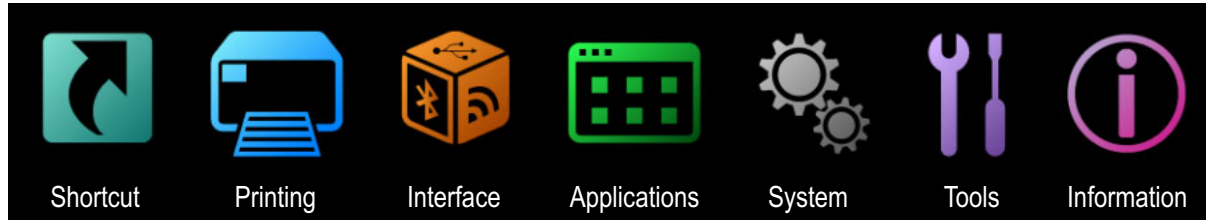
3 Press the right soft button.

The print job will be canceled.



4.2 Settings Mode

In settings mode, the following menus show:



Menu	Description
Shortcut	Directly access frequently used settings.
Printing	Access the settings related to printing.
Interface	Access the settings related to the interfaces.
Applications	Access the settings related to the printer's command language.
System	Access the settings related to the display language, buzzer volume etc.
Tools	Access the test print, initialization and other settings.
Information	Access the printer information and help videos.

4.2.1 Changing to Settings Mode


The settings mode can be shown when no print jobs remain in the printer.
Change the printer to settings mode according to the following procedure:

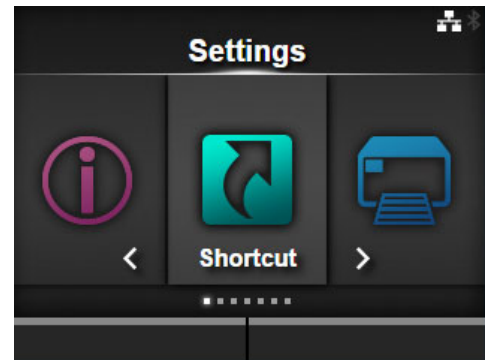
- 1 Press the ►|| button in online mode.
The printer enters offline mode.



2 Press the button.

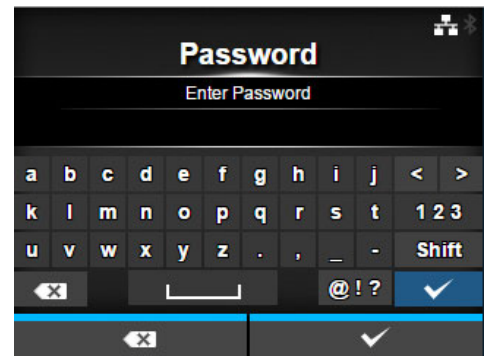
The printer enters settings mode.

To exit the settings mode, press the  button.



4.2.2 Log In to/Log Out of the Settings Mode

After entering the settings mode, you will be prompted with password if password is enabled (Refer to [Password Enable](#) in *System > Password*).



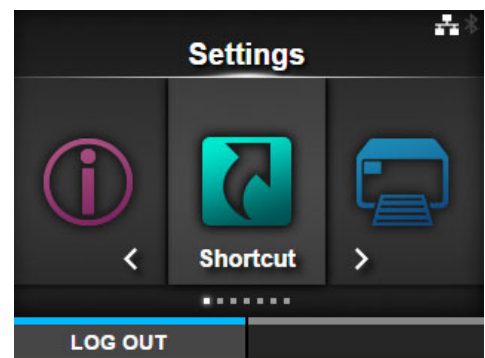
When you exit from the settings mode after a successful login, **LOG OUT** shows on the bottom left of the screen.

Press the left soft button if you want to log out immediately.

Password is required to enter the settings mode again.

Note

With password enabled, if no button is pressed for about ten minutes after login, the login session will end automatically. Password is required to enter the settings mode again.



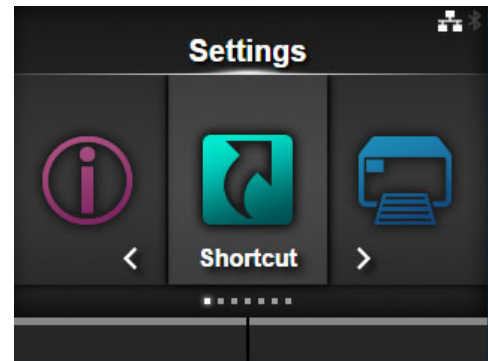
4.2.3 Item Selection

Select an item in settings mode according to the following procedure:

1 Select menu using the ◀/▶ buttons.

2 Press the ↵ button.

The item list shows.

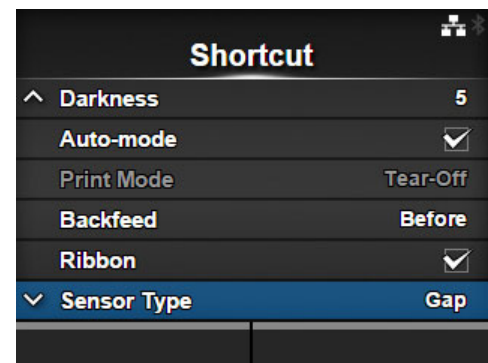


3 Select an item using the ▲/▼ buttons.

4 Press the ↵ button.

If the selected item is a setting item, the setting screen shows.

If the selected item is a command, the command will be executed.

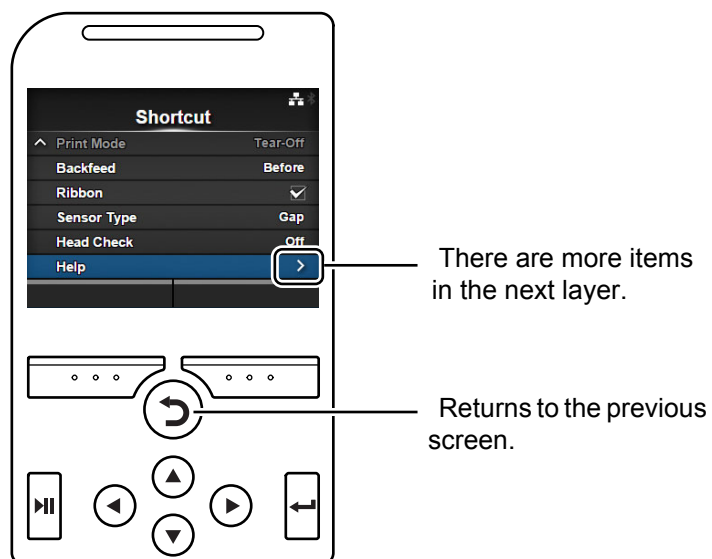


Items with a ">" indicated on the right side have more items in the next layer of the submenu.

Press the ▶ or ◀ button to show the next layer.

Similarly, select an item using the ▲/▼ and ↵ buttons.

Press the ↶ button to return to the previous screen.



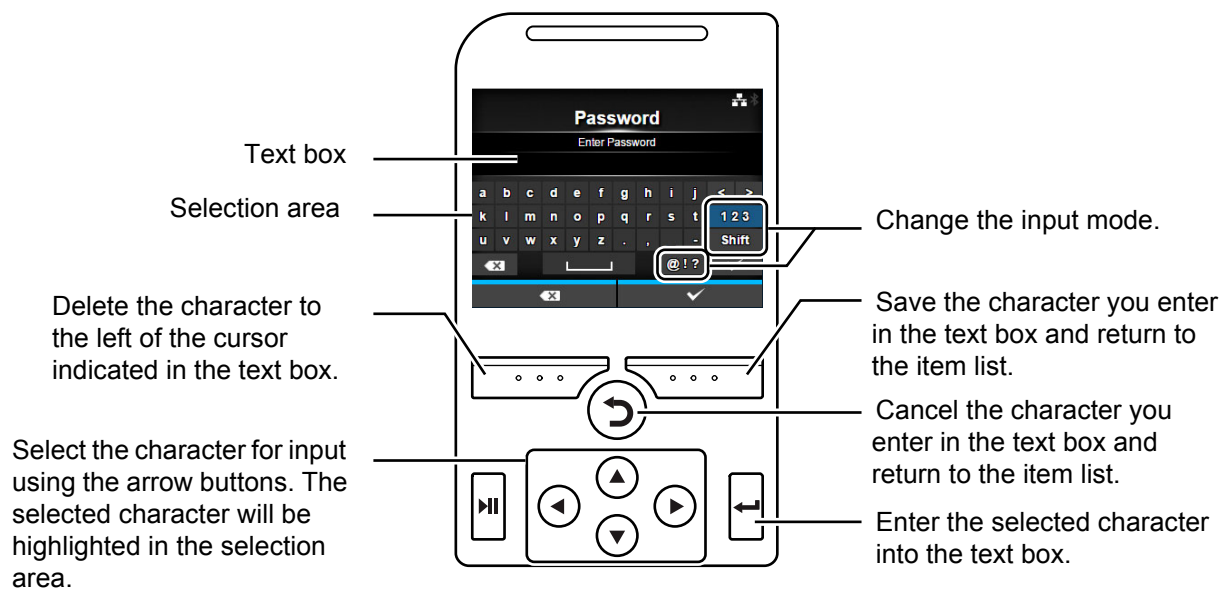
4.2.4 Setting Value Input or Selection

This section describes the alphanumeric input on the setting screen and how to select an item from the list.

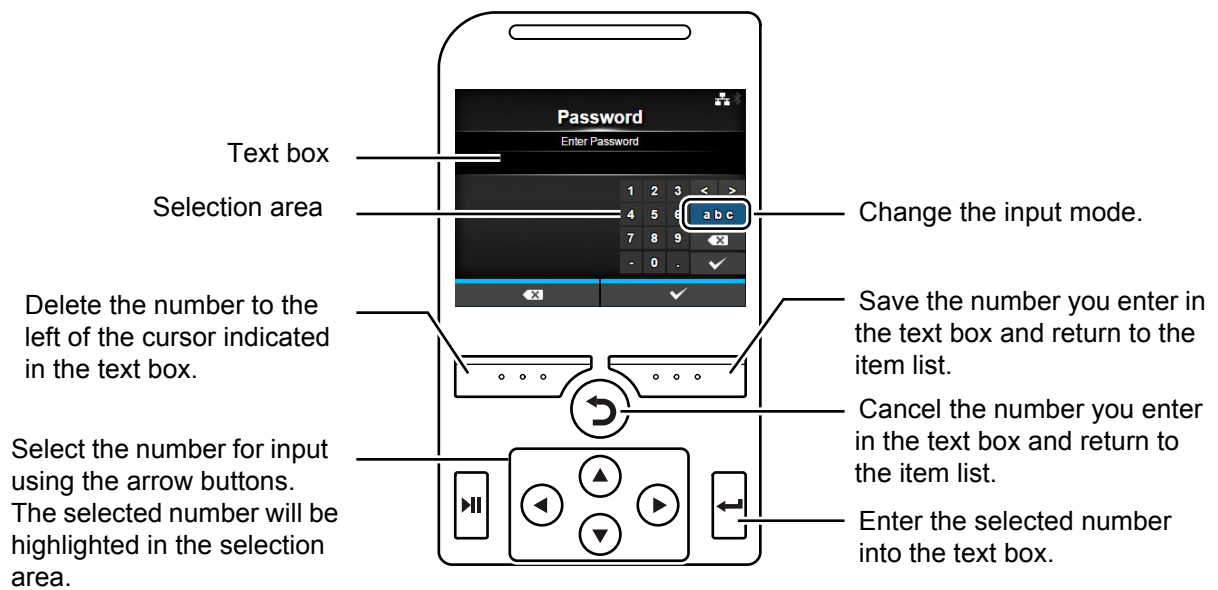
Note

You can also input alphanumeric characters from a USB keyboard by connecting it to the printer.

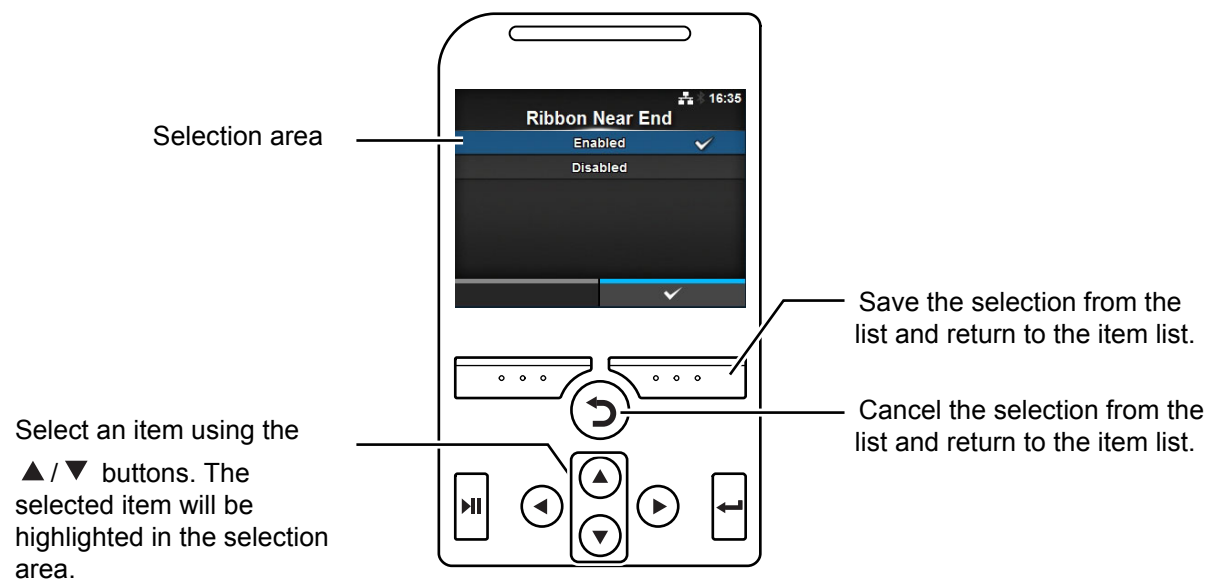
- **Character Input**



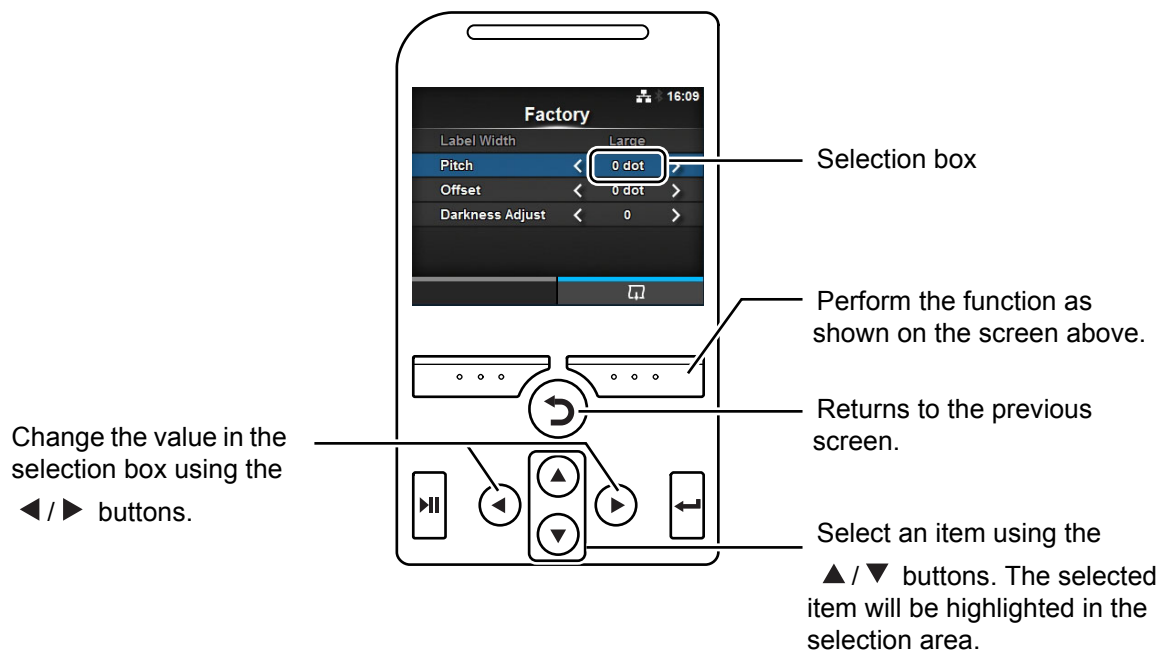
• Numeric Input



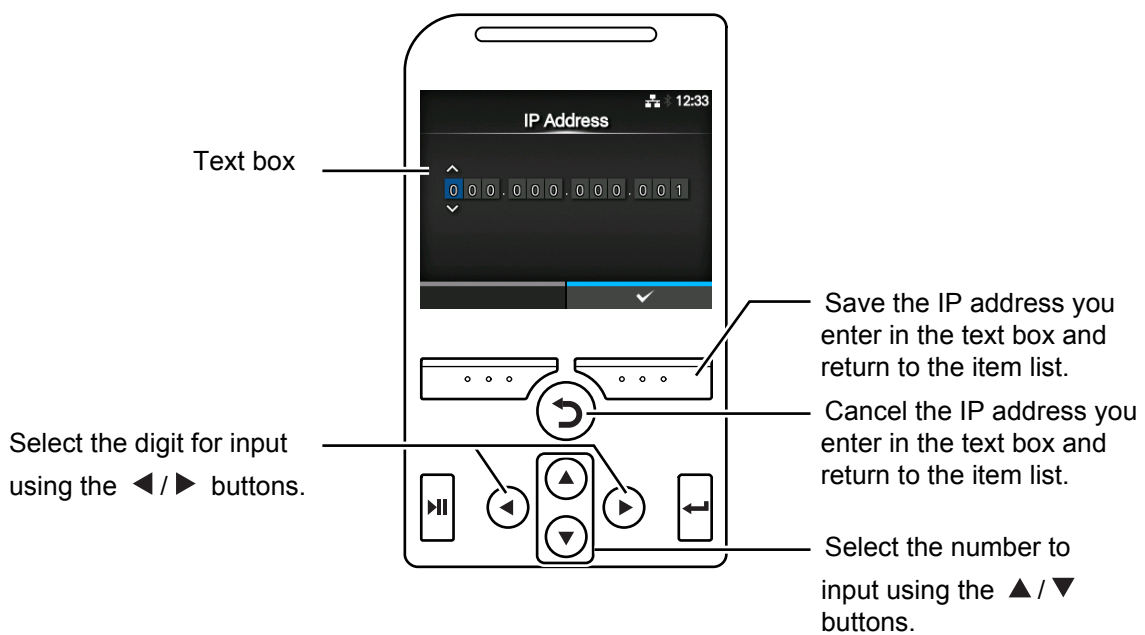
• Selection from the list



- **Selection from the box**





- **Entering an IP address**





4.3 Settings Menu Tree Structure


There are six main menus in Settings mode and each menu contains many layers of submenus. Frequently used settings are also listed in the Shortcut menu so that you can directly access them. The tables below outline the Settings menus tree structure. Refer to the tree structure to understand where information is located in the setting menus. Click on the items in blue to link directly to the details of the selected items.


 Shortcut	Shortcuts to frequently used settings
	Adjustments
	Speed
	Darkness Range
	Darkness
	Auto-mode
	Print Mode
	Backfeed
	Ribbon
	Sensor Type
	Head Check
	Help


<div> Printing</div>		Submenus			
Label Length					
Label Width					
Auto Measure					
Ribbon					
Ribbon Near End					
Speed					
Sensor Type					
Auto-mode					
Print Mode					
Backfeed					
Eject Cut					
Darkness Range					
Darkness					
Imaging		Vertical			
		Horizontal			
Advanced		Calibrate		Auto-calibration	
				GAP Levels	
				GAP Slice Level	
				I-Mark Levels	
				I-Mark Slice Level	
				Head Check	
				Head Check Mode	
				Every Page	
				Check Media Size	
		Adjustments		Offset	
				Pitch	
				Darkness Adjust	
				Start Online	
				Feed After Error	
				Feed At Power On	
				Finisher Feed	
				Paper End	
				Head Base Position	
				Prioritize	
				Reprint	
				Print End Position	
				Label Near End	


 Interface		Submenus			
	Network	Settings	LAN	IPv4	Mode
					DHCP/Renew Lease
					IP Address
					Netmask
					Gateway
					DNS
				IPv6	Mode
					DHCP/Renew Lease
					IP Address
					Prefix Length
					Gateway
					DNS
				Proxy	Enabled
					Server
					Exclude
			Wi-Fi	IPv4	Mode
					DHCP/Renew Lease
					IP Address
					Netmask
					Gateway
					DNS
				IPv6	Mode
					DHCP/Renew Lease
					IP Address
					Prefix Length
					Gateway
					DNS
				Proxy	Enabled
					Server
					Exclude
				Wi-Fi Protected Setup	Button (PBC)
					PIN
				Wi-Fi Direct	Device Name
					Connect
					Start Group
					Remove Group
					Disconnect
					SSID
					IP Address
					Passphrase
				SSID	


 Interface		Submenus		
	Network	Settings	Wi-Fi	Hidden SSID
				Mode
				Channel
				Security
				WEP Conf.
				Authentication
				Key Index
				Key #1 - Key #4
				WPA Conf.
				WPA Authentication
				PSK
				EAP Conf.
				EAP Mode
				Inner Method
				Username
				Password
				Anon. Outer ID
				Verify Server Cert.
				Private Key P/W
				PAC Auto Provisioning
				PAC P/W
		Services	Interface	
			Ports	Port1
				Port2
				Port3
				Flow Control
				BCC
			NTP	Enable
				Error
				Time Server IP
			LPD	
			FTP	Enable
				FTP Timeout


 Interface		Submenus		
	Network	Services	SNMP	sysContact
				sysName
				sysLocation
				Agent
				Enable
				Read-Only
				SNMP Version
				Community
				User
				User Security
				Authentication Protocol
				Authentication Passphrase
				Privacy Protocol
				Privacy Passphrase
				Read-Write
				SNMP Version
				Community
				User
				User Security
				Authentication Protocol
				Authentication Passphrase
				Privacy Protocol
				Privacy Passphrase
				Traps
				Enable
				SNMP Version
				IP Version
				Destinations
				Destination 1
				Destination 2
				Destination 3
				Community
				User
				Engine ID
				Security
				Authentication Protocol
				Authentication Passphrase
				Privacy Protocol
				Privacy Passphrase
		Advanced	ARP Announce-ment	Additional
				Periodic

<div></div> <div>Interface</div>		Submenus		
IEEE1284	Flow Control			
	BCC			
RS-232C	Baudrate			
	Parameters			
	Flow Control			
	BCC			
USB	Flow Control			
	BCC			
Bluetooth	Enable			
	Name			
	Pin Code			
	BD Address			
	Firm Version			
	Host BD Addr			
	Authentication			
	ISI			
	ISW			
	PSI			
	PSW			
	CRC Mode			
	Flow Control			
	Ignore CR/LF			
Ignore CAN/DLE				
External I/O	Enable			
	Signals	EXT 9PIN		
		EXT Mode		
		Inputs	Start Print	
			Reprint	
		Outputs	Paper End	
			Ribbon End	
			Machine Error	
			Print Done	
			Qty/Offline	
			Ribbon Near End	
			Dispenser	
			Label Near End	
		EXT I/O Re-print		


 Interface		Submenus		
RFID (CL4NX only)	Antenna Pitch			
	Write Power			
	Read Power			
	Tag Offset			
	Reader Model			
	Reader Version			
	View	Memory Bank		
	Retry Mode			
	Retries			
	Mark bad tags			
	MCS	MCS		
		Chip Manufacturer		
		Pre-Encoded Tag		
		Assign Prefix		
		MCS Prefix Digit		
		Input Prefix		
	Non-RFID Warning			
	Log RFID Data			
	Data To Record			
	Output Error Mode			
	Pulse Length			
	Counters	Lifetime	Count Success	
			Count Failure	
			Count Total	
		User	Count Success	
			Count Failure	
			Count Total	


 Applications		Submenus	
Protocol			
SBPL	Show Error	Standard Code	
		Orientation	
		Font Settings	Zero Slash
			Kanji
			Kanji Set
			Character Code
			Kanji Style
			Proportional
			Code Page
			€
		Compatible	CODE128(C) Zero Fill
			Kanji Command
			Call Font/Logo
SZPL	Label	Shift	
		Top	
	Caret		
	Delimiter		
SIPL	Tilde		
	Clock Format		
STCL	Font Settings	Code Page	
		c20 Proportional Pitch	
		0 Slash	
	Format Save		
STCL	Command Head	Control Code	
		1st Byte Code	
		2nd Byte Code	
		3rd Byte Code	
	Font Settings	Zero Slash	
		€	
		Code Page	


<div>Applications</div>		Submenus	
SDPL	Control Code	Code Type	
		SOH	
		STX	
		CR	
		CNTBY	
	Label Rotation		
	Format Attribute		
	Pause Mode		
	SOP Emulation		
	1 Byte Codepage		
	SDPL Measure Unit		
AEP	Compatible Mode	TTF	
	Enable		
	Start Application		

<div><div>System</div></div>		Submenus	
Regional	Messages		
	USB Keyboard		
	Locale		
	Unit		
	Time		
	Date		
	Time Zone	Region	City
Notifications	Clean Printhead	Clean Printhead	
		Cleaning Interval	
		Clean Counter	
	Change Printhead	Change Printhead	
		Printhead Interval	
		Printhead Count	
	Change Cutter	Change Cutter	
		Cutter Life	
		Cutter Count	
	Change Platen	Change Platen	
		Platen Interval	
		Platen Count	
Sound	Error Sound		
Energy Saving	Sleep Timeout		
LCD Brightness			
Show Total Count			
Password	Password Enable		
	Install Security		
	Change Password	admin	
		manager	
		level1	
rfid			
Start on AC			

<div>Tools</div>		Submenus	
Test Print	Factory	Label Width	
		Pitch	
		Offset	
		Darkness Adjust	
	Configure List	Label Width	
		Label Length	
		Pitch	
		Offset	
		Darkness Adjust	
	Configure QR	Label Width	
		Label Length	
		Pitch	
		Offset	
		Darkness Adjust	
	Paper Sensor	Label Width	
		Label Length	
		Pitch	
		Offset	
		Darkness Adjust	
HEX-Dump	Hex Dump Mode		
	Buffer Dump		
	Log Files	Copy	
		Remove	
Print			
Reset	Select	Data	
		Data & Settings	
		Settings	
Profiles	Delete		
	Load		
	Save		
	Start with		
Service			
Factory			
Certificates	HTTPS		
	Wi-Fi Root CA		
	Wi-Fi Client		
	Wi-Fi Private Key		
	EAP-FAST PAC File		

 Tools		Submenus	
Barcode Reader	Reading	Reader Select	
		Reader Test	
	Checking	Mode	
		Start Position	
		VOID Print	
		Retry Count	
		Host Notification	
		Logs	Copy
			Remove
	Clone		
	Startup Guide		

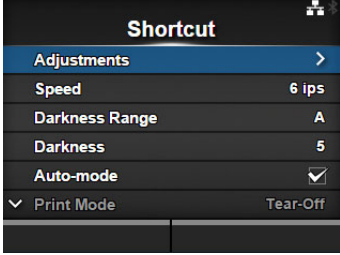
<div></div> <div>Information</div>		Submenus		
Help	Install Paper	Roll	Standard	
			Cutter	
			Linerless (CL4NX only)	
			Dispenser	
			Dispenser with Rewinder	
		Fanfold	Standard	
	Cutter			
	Install Ribbon			
	Replace Paper	Roll	Standard	
			Cutter	
			Linerless (CL4NX only)	
			Dispenser	
			Dispenser with Rewinder	
		Fanfold	Standard	
	Cutter			
	Replace Ribbon			
	Replace Head			
	Replace Platen			
	Cleaning			
Build Version	Name			
	Date			
	Checksum			
	Kernel Version			
	Boot Version	Disks		
		Warp!!-mode		
		Date		
Applications				
Installation Log	RPM Log			
	System Restore			
Print Module	Boot	Name		
		Release Date		
		Checksum		
	Main	Name		
		Release Date		
		Checksum		
Counters	Head	Life		
		Head 1		
		Head 2		
		Head 3		
	Cutter			
IPv4 Address				
IPv6 Address				

 Information	Submenus	
	LAN MAC	
	Wi-Fi MAC	
	Wi-Fi Region	
	Wi-Fi Status	
	Wi-Fi Direct	SSID
		Role
		Device Address
		IP Address
		Passphrase
	Wi-Fi Versions	

4.4 Details of the Settings Menu Screen

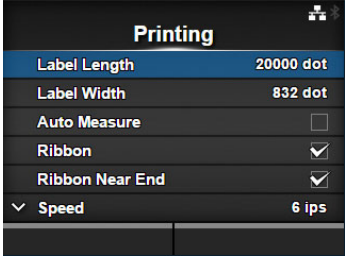
4.4.1 Shortcut Menu

Frequently used settings are listed in the **Shortcut** menu.

Shortcut			
1	Adjustments	Correct the offset, print position and print darkness.	
2	Speed	Set the print speed.	
3	Darkness Range	Set the range of the print darkness.	
4	Darkness	Set the print darkness.	
5	Auto-mode	Automatically set the print mode.	
6	Print Mode	Manually set the print mode.	
7	Backfeed	Set the backfeed operation.	
8	Ribbon	Set whether to print using a ribbon or direct thermal media.	
9	Sensor Type	Set the media sensor type.	
10	Head Check	Check if there is a broken element of the print head.	
11	Help	Shows the guidance video.	

4.4.2 Printing Menu

The following settings are available in the **Printing** menu:

Printing			
1	Label Length	Set the length of the media.	
2	Label Width	Set the width of the media.	
3	Auto Measure	Automatically measure the length of the media.	
4	Ribbon	Set whether to print using a ribbon or direct thermal media.	
5	Ribbon Near End	Enable or disable the warning when the ribbon is about to run out. *Shows only if you have selected Use Ribbon in the Ribbon menu.	
6	Speed	Set the print speed.	
7	Sensor Type	Set the media sensor type.	
8	Auto-mode	Automatically set the print mode.	
9	Print Mode	Manually set the print mode.	
10	Backfeed	Set the backfeed operation.	
11	Eject Cut	Set the time from the print completion until the print cut. *Shows only if you have selected Cut & Print in the Print Mode menu.	
12	Darkness Range	Set the range of the print darkness.	
13	Darkness	Set the print darkness.	
14	Imaging	Set the print reference position in the vertical and horizontal directions.	
15	Advanced	Set the sensor operation and print motion.	

Label Length

Printing > Label Length

Set the length of the media.

The setting range varies depending on the print resolution of the printer.
The setting range of the label length is as follows:

<CL4NX>

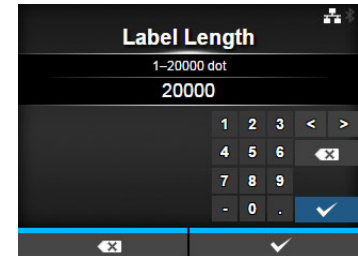
- 203 dpi: 1 to 20000 dots
- 305 dpi: 1 to 18000 dots
- 609 dpi: 1 to 9600 dots

<CL6NX>

- 203 dpi: 1 to 20000 dots
- 305 dpi: 1 to 18000 dots

Note

Set the label size to a value that includes the liner.



Label Width

Printing > Label Width

Set the width of the media.

The setting range varies depending on the print resolution of the printer.
The setting range of the label width is as follows:

<CL4NX>

- 203 dpi: 1 to 832 dots
- 305 dpi: 1 to 1248 dots
- 609 dpi: 1 to 2496 dots

<CL6NX>

if Head Base Position is Standard

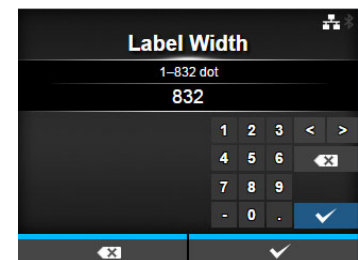
- 203 dpi: 1 to 1216 dots
- 305 dpi: 1 to 1984 dots

if Head Base Position is Left-justify

- 203 dpi: 1 to 1340 dots
- 305 dpi: 1 to 2010 dots

Note

Set the label size to a value that includes the liner.



Auto Measure

Printing > Auto Measure

The printer automatically measures the length of the media.

The measured length of the media will be automatically saved in **Label Length**.

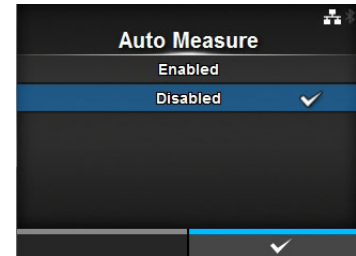
Available when you have selected **Gap** or **I-Mark** in the **Sensor Type** menu.

The setting procedure of the label length using the Auto Measure function is as follows:

1. Load the media.
2. Set **Auto Measure** to **Enabled**.
3. Press the **▶||** button or **↶** button to show the online or offline screen.
4. Open the print head. (Head Open error occurs)
5. Close the print head. (Returns to offline screen)
6. When you press the **▶||** button, the printer feeds two pieces of label and measures the label length.
7. The measured label length will be saved in **Label Length**.

Note

When you have set **Auto Measure** to **Enabled**, this function executes when the printer powers on.



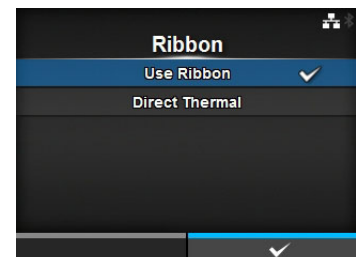
Ribbon

Printing > Ribbon

Set whether to print using a ribbon or direct thermal media.

The options are as follows:

- **Use Ribbon**: Print with a ribbon.
- **Direct Thermal**: Print using direct thermal media.



Ribbon Near End

Printing > Ribbon Near End

Show or do not show the warning icon when the ribbon is about to run out.

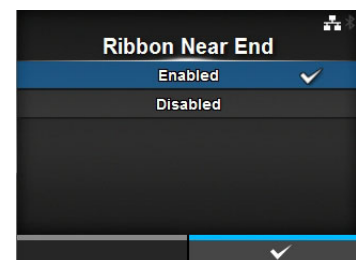
Shows only if you have selected **Use Ribbon** in the **Ribbon** menu.

The options are as follows:

- **Enabled**: Show the warning icon.
- **Disabled**: Do not show the warning icon.

Note

The warning icon shows in the status bar on the upper part of the screen.



Speed

Printing > Speed

The setting range varies depending on the print resolution of the printer.
The setting range of the print speed is as follows:

<CL4NX>

- 203 dpi: 2 to 10 ips (inches/sec)
- 305 dpi: 2 to 8 ips (inches/sec)
- 609 dpi: 2 to 6 ips (inches/sec)

If the optional linerless kit is installed, the setting range will be from 2 to 6 ips (inches/sec) regardless of the print resolution of the printer.

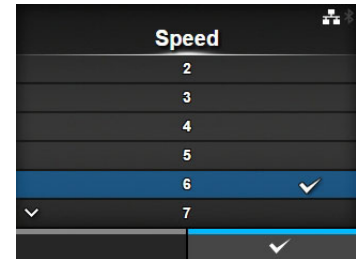
If Speed is set to 7 ips and above, it will change to 4 ips after the optional linerless kit is installed.

<CL6NX>

- 203 dpi: 2 to 10 ips (inches/sec)
- 305 dpi: 2 to 8 ips (inches/sec)

Note

Setting the print speed to a level that is too fast may affect the print quality.



Sensor Type

Printing > Sensor Type

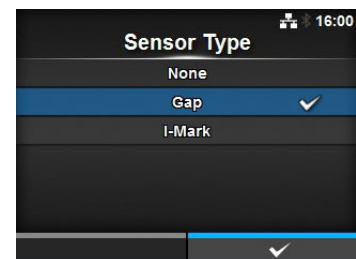
Set the type of sensor for sensing the media.

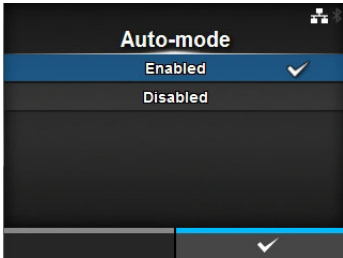
The options are as follows:

- **None**: Disable the media sensor.
- **Gap**: Use the transmissive type sensor.
- **I-Mark**: Use the reflective type sensor.

If you have selected **Tear-Off**, **Dispenser** or **Cut & Print** in **Print Mode**, only **Gap** and **I-Mark** will be available in the **Sensor Type** menu.

If you have selected **Linerless** in **Print Mode** (CL4NX only), only **None** and **I-Mark** will be available in the **Sensor Type** menu.



Auto-mode	
<p><i>Printing > Auto-mode</i></p> <p>When using Auto-mode, the print mode changes automatically according to the status of the installed option unit.</p> <p>The options are as follows:</p> <ul style="list-style-type: none">• Enabled: The print mode changes automatically.• Disabled: The print mode changes according to the setting of the Print Mode. <p>Operate in cutter mode if you have installed the optional cutter unit. Operate in dispenser mode if you have installed the optional dispenser unit. Operate in linerless mode if you have installed the optional linerless kit (CL4NX only).</p>	

Print Mode

Printing > Print Mode

Set the print mode.

The options are as follows:

- **Continuous**: Print the specified number of media. The media remains in position for printing at all times.
- **Tear-Off**: After printing the specified number of media, the printer feeds the last printed media so that it is fully extended out of the printer's front for removal. After printing, tear off the media manually.
- **Cutter**: Cut each media while printing the specified number of media. You can specify this option only if you have installed the cutter unit.
- **Cut & Print**: Cut the last printed media while printing media with next data. If next data is not received within the period specified in Eject Cut, the printer will feed the media to the cut position and cut the last printed media. You can specify this option only if you have installed the cutter unit.
- **Dispenser**: Peel the liner from the printed label as it is advanced to the printer's front. Once the printed label has been removed from the printer for application, the next label will retract and position itself for printing. You can specify this option only if you have installed the dispenser unit.
- **Linerless** (CL4NX only): Cut each label while printing the specified number of labels. You can specify this option only if you have installed the linerless kit.

<CL4NX>

If no option is installed, **Continuous** and **Tear-Off** are available in the **Print Mode** menu.

If the optional cutter unit is installed, **Continuous**, **Tear-Off**, **Cutter** and **Cut & Print** are available in the **Print Mode** menu.

If the optional dispenser unit is installed, **Continuous**, **Tear-Off** and **Dispenser** are available in the **Print Mode** menu.

If the optional linerless kit is installed, only **Linerless** is available in the **Print Mode** menu.

<CL6NX>

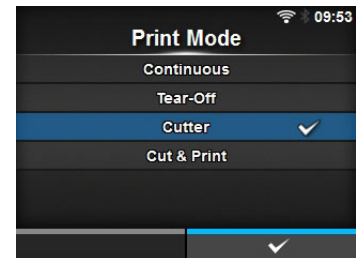
If no option is installed, **Continuous** and **Tear-Off** are available in the **Print Mode** menu.

If the optional cutter unit is installed, **Continuous**, **Tear-Off**, **Cutter** and **Cut & Print** are available in the **Print Mode** menu.

If the optional dispenser unit is installed, **Continuous**, **Tear-Off** and **Dispenser** are available in the **Print Mode** menu.

Note

You cannot set the **Print Mode** if **Auto-mode** is **Enabled**.



Backfeed

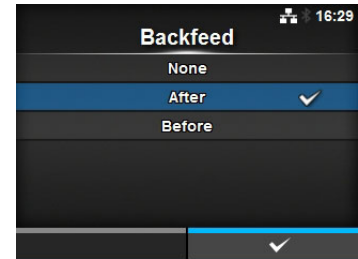
Printing > Backfeed

Backfeed is applicable only when the print mode is set to tear-off mode, cutter mode, dispenser mode or linerless mode (CL4NX only).

The options are as follows:

- **None:** Do not backfeed.
- **After:** After cut, backfeed the front part of the next media to the print head position. For dispenser mode, backfeed the front part of the next label after dispensing the label.
- **Before:** Before printing, backfeed the front part of the media to the print head position.

If you have selected **Tear-Off** or **Linerless** (CL4NX only) in **Print Mode**, only **Before** is available in the **Backfeed** menu.

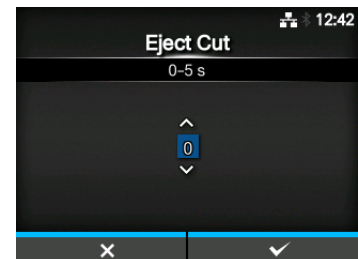


Eject Cut

Printing > Eject Cut

Set the Eject cut motion for the last printed media. Cut the last media after the specified timing.

Shows only when you have selected **Cut & Print** in the **Print Mode** menu. The setting range is from 0 to 5 (sec).



Darkness Range

Printing > Darkness Range

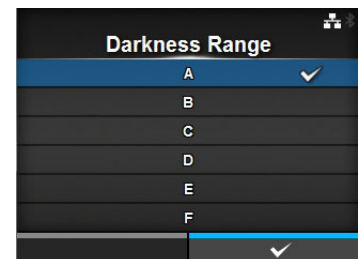
Set the range of the print darkness.

The darkness range affects the print darkness.

The options are as follows:

A, B, C, D, E, F

*The normal setting is A. You can also select B to F but the print darkness does not change.

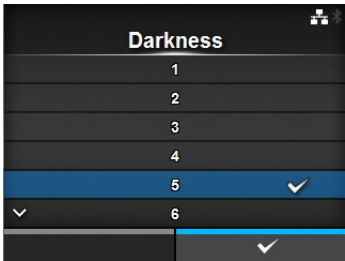


Darkness

Printing > Darkness

Specify the print darkness from ten steps.
The setting range is from 1 to 10. 1 is the lightest and 10 is the darkest.

To further fine tune the print darkness, set the items in **Printing > Advanced > Adjustments > Darkness Adjust**.

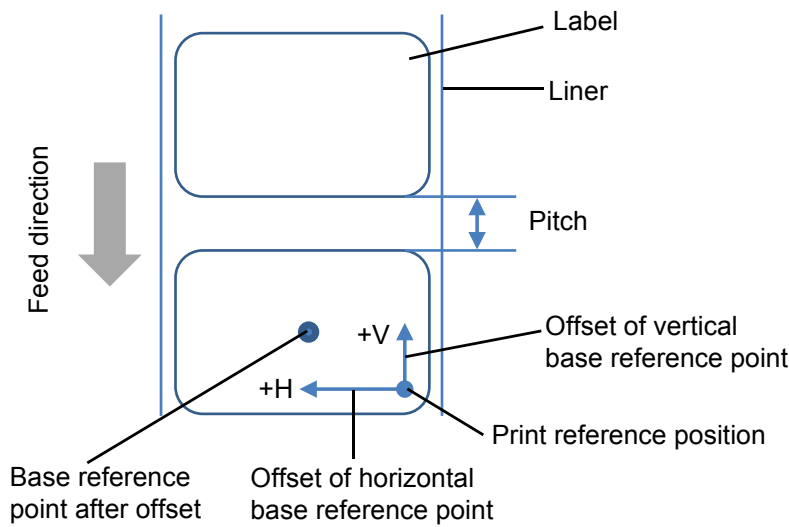
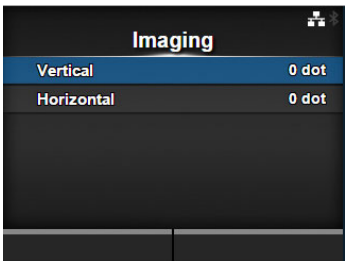


Imaging

Printing > Imaging

Set the print reference position in the vertical and horizontal directions.
The setting items are as follows:

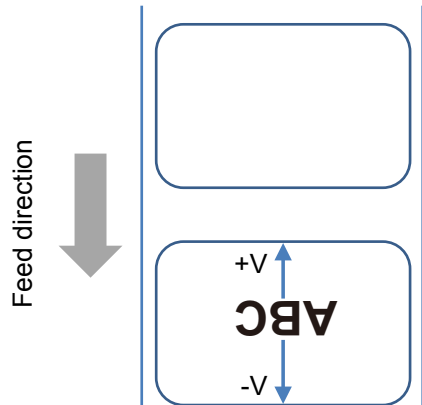
1	Vertical	Offset the print position in the vertical (feed) direction.
2	Horizontal	Offset the print position in the horizontal direction.



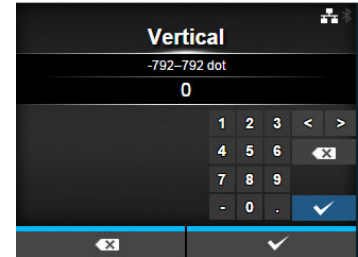
Vertical

Printing > Imaging > Vertical

Set the print position in the vertical direction.
Set the offset value '+' from the print reference position to move the print position opposite the feed direction and value '-' to move the print position in the feed direction.



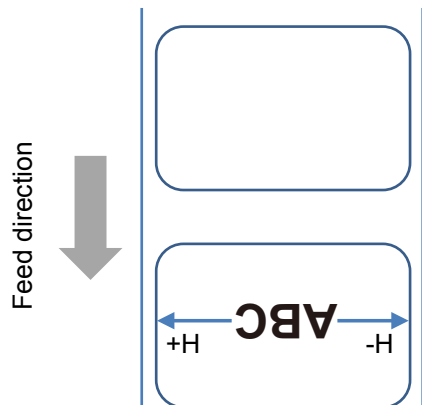
The setting range is from -792 to +792 dots.



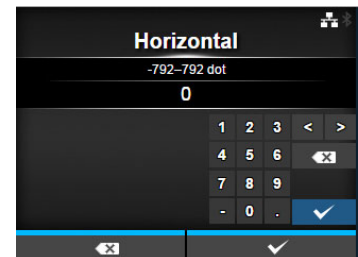
Horizontal

Printing > Imaging > Horizontal

Set the print position in the horizontal direction.
Set the offset value '+' from the print reference position to move to the left side and value '-' to move to the right side of the printer (when facing the front of the printer).



The setting range is from -792 to +792 dots.

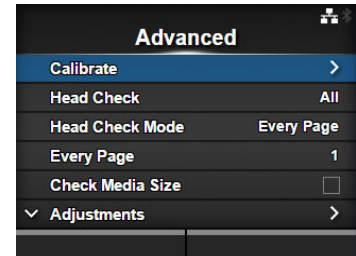


Advanced

Printing > Advanced

Set detailed sensor operation and print motion.
The setting items are as follows:

1	Calibrate	Adjust the media sensor.
2	Head Check	Check if there is a broken element of the print head.
3	Head Check Mode	Set the mode for head check. *Shows only if you have selected All or Barcode in the Head Check menu.
4	Every Page	Set the interval for head check. *Shows only if you have selected Every Page in the Head Check Mode menu.
5	Check Media Size	Enable or disable media size check. *Shows only if you have selected Gap or I-Mark in the Sensor Type menu.
6	Adjustments	Correct the offset, print position and print darkness.
7	Start Online	Start in online mode at power on.
8	Feed After Error	Feeds the media when an error occurs.
9	Feed At Power On	Automatically feeds the media at power on.
10	Finisher Feed	Set the length to feed after printing.
11	Paper End	Select the sensor for sensing the paper end.
12	Head Base Position	Set the edge position for printing.
13	Prioritize	Select the prioritized setting.
14	Reprint	Enable or disable the reprint function.
15	Print End Position	Set the print end position of the media.
16	Label Near End	Enable or disable the warning when the media is about to run out. *This printer does not support the Label Near End function. Keep the setting disabled.



Calibrate

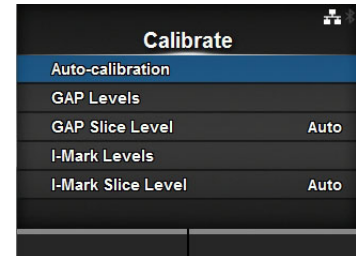
Printing > Advanced > Calibrate

Adjust the media sensor level.

In instances of media detection malfunction, adjust the media sensor level (Gap and I-mark sensor).

The setting items are as follows:

1	Auto-calibration	Automatically adjust the sensor level. *Does not show if you have installed the optional linerless kit (CL4NX only).
2	GAP Levels	Manually set the Gap sensor level.
3	GAP Slice Level	Manually set the Gap sensor slice level.
4	I-Mark Levels	Manually set the I-mark sensor level.
5	I-Mark Slice Level	Manually set the I-mark sensor slice level.



Auto-calibration

Printing > Advanced > Calibrate > Auto-calibration

Perform the auto-calibration for the selected media sensor.

Auto-calibration is not available if you have installed the optional linerless kit (CL4NX only).

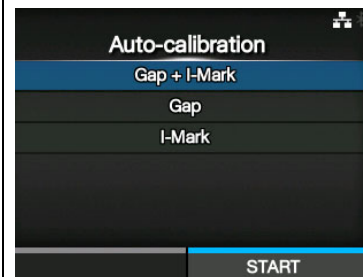
- **Gap + I-Mark:** Perform the adjustment for both the Gap sensor and I-mark sensor.
- **Gap:** Perform the adjustment for the Gap sensor.
- **I-Mark:** Perform the adjustment for the I-mark sensor.

Procedure:

1. Push the head lock lever towards the rear to unlock the print head.
2. Pass the media below the media sensor guide. If you are using labels, remove the label from the liner. Align it so that the media sensor does not sense the I-mark (black mark).
3. Press the print head down until the head lock lever is locked. To get the correct adjustment result, adjust after you have locked the print head.
4. Press the ▲ / ▼ buttons to select the type of sensor to be adjusted.
5. Press the right soft button or ➡ button to start the sensor adjustment.
6. The sensor adjustment result shows. To exit the adjustment, press the right soft button.
7. Set to offline mode. Press the right soft button to confirm that the media feeds correctly.

Note

If the media does not feed correctly after **Auto-calibration**, contact your SATO reseller or technical support center.



GAP Levels

Printing > Advanced > Calibrate > GAP Levels

Manually set the Gap sensor level.

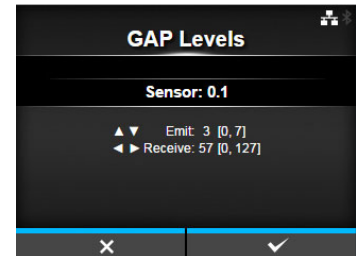
The setting procedure is as follows:




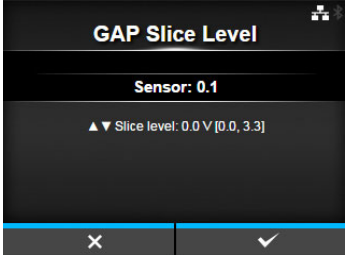
First, adjust the “Low” level (voltage) of the Gap sensor.

1. Remove the label from the liner.
2. Pass the liner through the media sensor. Align it so that the media sensor does not sense the I-mark (black mark).
3. Close the print head. To get the correct adjustment result, adjust after you have closed the print head.
4. Select the **GAP Levels** in the **Calibrate** menu and press the **←** button.
5. Press the **▲/▼** buttons to change the **Emit** value until the **Sensor** value is below 0.5 (V). Set the **Emit** value as low as possible.
6. If the **Sensor** value does not decrease below 0.5 after you changed the **Emit** value, press the **◀/▶** buttons to change the **Receive** value.
7. Take a note of the **Sensor** value from the above procedure. This is the “Low” level value for the Gap sensor.

Next, check the “High” level (voltage) of the Gap sensor as follows:

8. Pass the media (attached with liner) between the media sensors. Align it so that the media sensor does not sense the I-mark (black mark).
9. Close the print head.
10. Check the **Sensor** value.
If the value is 1.0 (V) higher than the “Low” level value you have recorded, then this is the “High” level value for the Gap sensor.
If the difference between the “High” and the “Low” levels is less than 1.0, adjust the **Emit** and **Receive** values so that the difference is more than 1.0, or perform the adjustments again from step 1.
The standard values for the “High” and “Low” levels for the Gap sensor are as follows:
 - Low (with only liner) ≤ 0.5 (V)
 - High (media attached with liner) - Low ≥ 1.0 (V)
11. If both “High” and “Low” levels comply with the standard value, press the right soft button to confirm the value.



GAP Slice Level	
<p><i>Printing > Advanced > Calibrate > GAP Slice Level</i></p> <p>Set the Gap sensor slice level. The setting procedure is as follows:</p> <ol style="list-style-type: none">1. Use the following formula to calculate the slice level. [(High level - Low level) x 0.3 + Low level = slice level]2. Select the GAP Slice Level in the Calibrate menu and press the  button.3. Press the  /  buttons to change the Slice level value. Set the Slice level to the level calculated in step 1.4. Press the right soft button to confirm the value. <hr/> <p>Note If you set the Slice Level to 0.0 (V), the printer sets the slice level automatically.</p>	

I-Mark Levels

Printing > Advanced > Calibrate > I-Mark Levels

Manually set the I-mark sensor level.

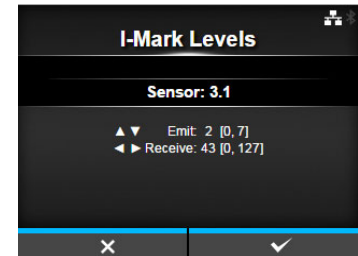
The setting procedure is as follows:

First, adjust the “Low” level (voltage) of the I-mark sensor.

1. Pass the media (attached with liner) between the media sensors. Align it so that the media sensor does not sense the I-mark (black mark).
2. Close the print head. To get the correct adjustment result, adjust after you have closed the print head.
3. Select the **I-Mark Levels** in the **Calibrate** menu and press the **←** button.
4. Press the **▲ / ▼** buttons to change the **Emit** value until the **Sensor** value is below 0.5 (V). Set the **Emit** value as low as possible.
5. If the **Sensor** value does not decrease below 0.5 after you changed the **Emit** value, press the **◀ / ▶** buttons to change the **Receive** value.
6. Take a note of the **Sensor** value from the above procedure. This is the “Low” level value for the I-mark sensor.

Next, check the “High” level (voltage) of the I-mark sensor as follows:

7. Pass the media between the media sensors so that the media sensor can sense the I-mark (black mark).
8. Close the print head.
9. Check the **Sensor** value.
If the value is 1.0 (V) higher than the “Low” level value you have recorded, then this is the “High” level value for the I-mark sensor.
If the difference between the “High” and the “Low” levels is less than 1.0, adjust the **Emit** and **Receive** values so that the difference is more than 1.0, or perform the adjustments again from step 1.
The standard values for the “High” and “Low” levels for the I-mark sensor are as follows:
 - Low (without I-mark) ≤ 0.5 (V)
 - High (with I-mark) - Low ≥ 1.0 (V)
10. If both “High” and “Low” levels comply with the standard value, press the right soft button to confirm the value.






I-Mark Slice Level

Printing > Advanced > Calibrate > I-Mark Slice Level

Set the I-mark sensor slice level.

The setting procedure is as follows:

1. Use the following formula to calculate the slice level.

$$[(\text{High level} - \text{Low level}) \times 0.7 + \text{Low level}] = \text{slice level}$$
2. Select the **I-Mark Slice Level** in the **Calibrate** menu and press the  button.
3. Press the  /  buttons to change the **Slice level** value. Set the **Slice level** to the slice level calculated in step 1.
4. Press the right soft button to confirm the value.

Note

If you set the **Slice Level** to 0.0 (V), the printer sets the level automatically.



Head Check

Printing > Advanced > Head Check

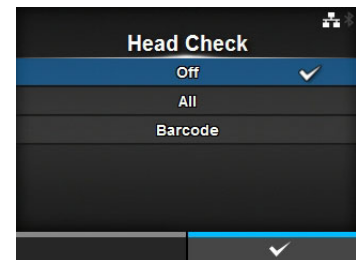
Automatically check if there is a broken element of the print head.

The options are as follows:

- **Off**: Head Check disabled.
- **All**: Check the entire print area.
- **Barcode**: Check only the area for printing a barcode. Head check is not applicable for barcodes printed as graphic data.

CAUTION

Head check is a reference for checking for a broken element of the print head. This function does not guarantee barcode readability.



Head Check Mode

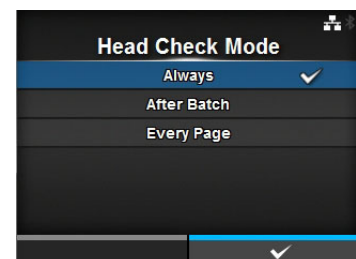
Printing > Advanced > Head Check Mode

Set the method for head check.

Shows only if you have selected **All** or **Barcode** in the **Head Check** menu.

The options are as follows:

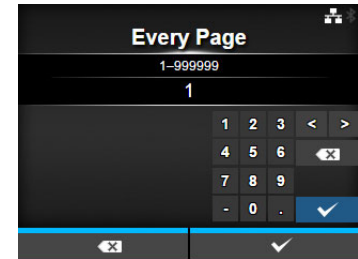
- **Always**: Perform the head check for every item.
- **After Batch**: The head check occurs before starting to print and when printing is stopped. If backfeed is applicable, the head check occurs before starting to print, when stopping to print and during the backfeed.
- **Every Page**: Perform the head check for each specified number of media.



Every Page

Printing > Advanced > Every Page

Specify the number of media between each head check.
Shows only if you have selected **Every Page** in the **Head Check Mode** menu.
The setting range is from 1 to 999999.

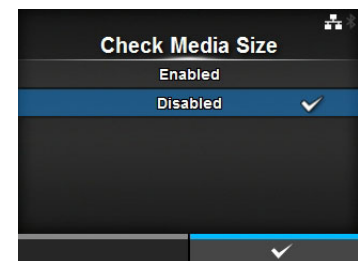


Check Media Size

Printing > Advanced > Check Media Size

Enable or disable media size check.
Media size check is a function to detect a **Media error** when you load a media with a length longer than the media size specified by command, or if you have specified print data larger than the loaded media length.
Shows only if you have selected **Gap** or **I-Mark** in the **Sensor Type** menu.
The options are as follows:

- **Enabled**: Enable media size check.
- **Disabled**: Disable media size check.

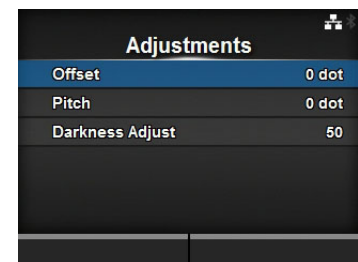


Adjustments

Printing > Advanced > Adjustments

Correct the offset position, print position and print darkness.
The setting items are as follows:

1	Offset	Correct the offset position.
2	Pitch	Offset the print position in the vertical direction.
3	Darkness Adjust	Fine tune the print darkness.



Offset

Printing > Advanced > Adjustments > Offset

Correct the offset position.

Offset position refers to the tear-off position, cut position and dispense stop position.

Set the offset value '+' to move the stop position opposite the feed direction and value '-' to move the stop position in the feed direction.

The setting range varies depending on the print resolution of the printer.

The setting range is as follows:

<CL4NX>

- 203 dpi: -30 to 0 to 30 dots
- 305 dpi: -45 to 0 to 45 dots
- 609 dpi: -90 to 0 to 90 dots

<CL6NX>

- 203 dpi: -30 to 0 to 30 dots
- 305 dpi: -45 to 0 to 45 dots

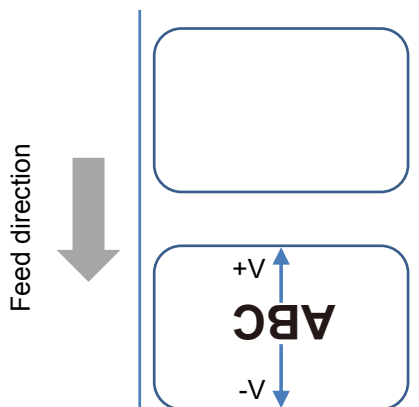


Pitch

Printing > Advanced > Adjustments > Pitch

Offset the print position in the vertical direction.

Set the offset value '+' to move the print position opposite the feed direction and value '-' to move the print position in the feed direction.



The setting range varies depending on the print resolution of the printer.

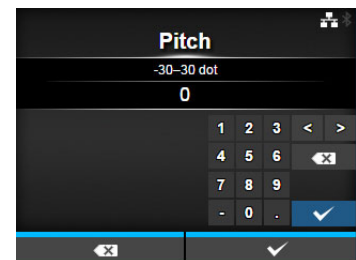
The setting range is as follows:

<CL4NX>

- 203 dpi: -30 to 0 to 30 dots
- 305 dpi: -45 to 0 to 45 dots
- 609 dpi: -90 to 0 to 90 dots

<CL6NX>

- 203 dpi: -30 to 0 to 30 dots
- 305 dpi: -45 to 0 to 45 dots

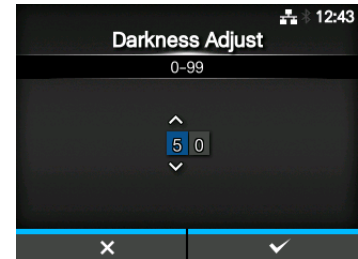


Darkness Adjust

Printing > Advanced > Adjustments > Darkness Adjust

Fine tune the print darkness.
The setting range is from 0 to 99.
0 is the lightest and 99 is the darkest.

Refer to **Darkness** in *Printing > Darkness*.

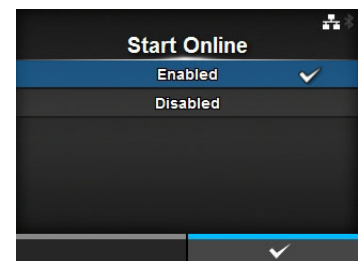


Start Online

Printing > Advanced > Start Online

Select default mode at power on.
The options are as follows:

- **Enabled:** The printer powers on in online mode.
- **Disabled:** The printer powers on in offline mode.



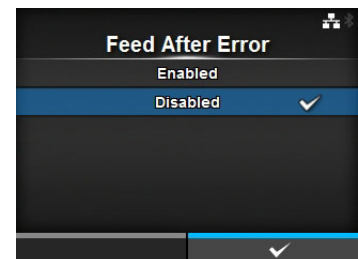
Feed After Error

Printing > Advanced > Feed After Error

Automatically feeds the media when recovering from an error and changing to online mode.

The options are as follows:

- **Enabled:** Feed the media when changing to online mode after recovering from an error.
- **Disabled:** Do not feed the media when changing to online mode after recovering from an error.



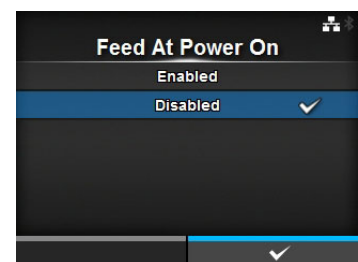
Feed At Power On

Printing > Advanced > Feed At Power On

Automatically feeds the media at power on.

The options are as follows:

- **Enabled:** Feed the media when the printer is powered on.
- **Disabled:** Do not feed the media when the printer is powered on.



Finisher Feed

Printing > Advanced > Finisher Feed

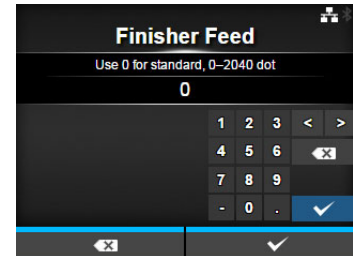
Set the media feed amount for Tear-off, cut and dispense stop.
Set the media feed amount based on the print head position of 0.
The actual media feed amount is the value of **Offset + Finisher Feed**.
The setting range varies depending on the print resolution of the printer.
The setting range is as follows:

<CL4NX>

- 203 dpi: 0 to 2040 dots
- 305 dpi: 0 to 3060 dots
- 609 dpi: 0 to 6120 dots

<CL6NX>

- 203 dpi: 0 to 2040 dots
- 305 dpi: 0 to 3060 dots



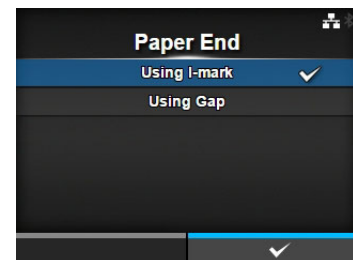
Paper End

Printing > Advanced > Paper End

Select the sensor for sensing the paper end.

The options are as follows:

- **Using I-mark:** Use the I-mark sensor (reflective type) to sense the paper end.
- **Using Gap:** Use the Gap sensor (transmissive type) to sense the paper end.



Head Base Position

Printing > Advanced > Head Base Position

Set the position used for the base reference point for printing.

The options are as follows:

<CL4NX>

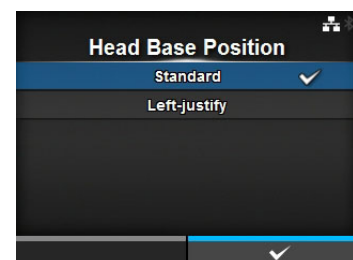
- **Standard:** Print with a standard base reference point.
- **Left-justify:** Move the base reference point 2 mm (0.08") to the left (when you face the printer).

<CL6NX>

- **Standard:** Print with a standard base reference point.
- **Left-justify:** Move the base reference point 2 mm (0.08") to the left (when you face the printer). Expand the width of the printable area. Refer to [Printable Area](#) in [Section 7.6.1 Hardware](#) for details.

Note

The message prompting to restart the printer will appear on the online/offline screen if you have made any changes. In such a case, reboot the printer to make the setting effective.



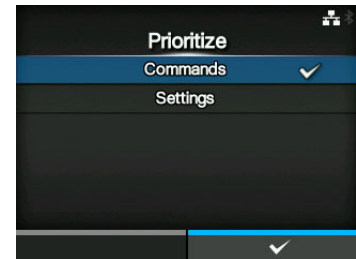
Prioritize

Printing > Advanced > Prioritize

For printer configuration, set whether to prioritize the setting through the printer or prioritize the setting through the command.

The options are as follows:

- **Commands**: Prioritize the setting through the command.
- **Settings**: Prioritize the setting through the printer.



Reprint

Printing > Advanced > Reprint

Enable or disable the reprint function.

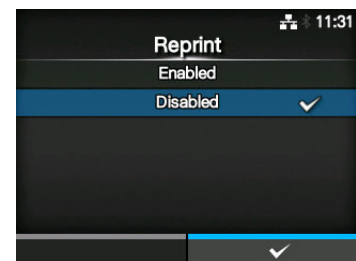
The options are as follows:

- **Enabled**: Enable the reprint function.
- **Disabled**: Disable the reprint function.

If you have selected **Enabled** in **Reprint**, you can press the right soft button (Reprint) on the online screen to print the previous data again.

Note

The previous data will be lost if you power off the printer.



Print End Position

Printing > Advanced > Print End Position

Adjust the media stop position or cut position when the sensor type is set to **None**. This adjustment also sets the blank amount from the media stop position.

The setting range varies depending on the print resolution of the printer.

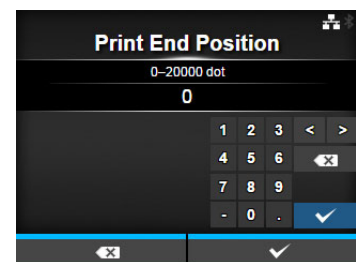
The setting range is as follows:

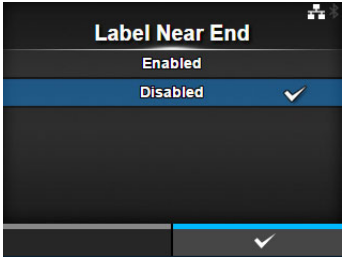
<CL4NX>

- 203 dpi: 0 to 20000 dots
- 305 dpi: 0 to 18000 dots
- 609 dpi: 0 to 9600 dots

<CL6NX>

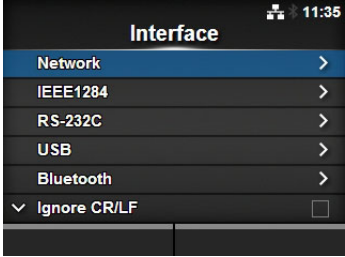
- 203 dpi: 0 to 20000 dots
- 305 dpi: 0 to 18000 dots

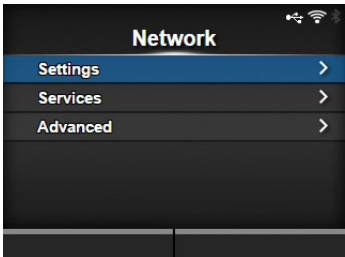


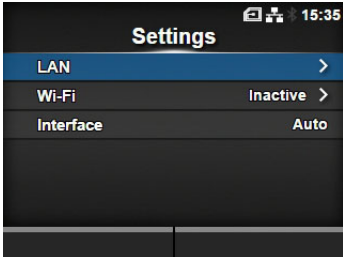
Label Near End	
<p><i>Printing > Advanced > Label Near End</i></p> <p>Show or do not show the warning icon when the media is about to run out. The options are as follows:</p> <ul style="list-style-type: none">• Enabled: Show the warning icon.• Disabled: Do not show the warning icon.	
<p>Note</p> <p>This printer does not support the Label Near End function. Keep the setting disabled.</p>	

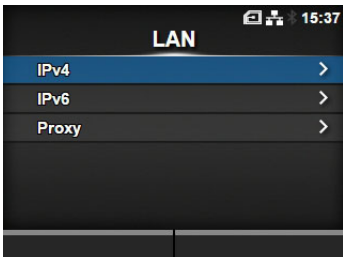
4.4.3 Interface Menu

In the **Interface** menu, the setting items are as follows:

Interface			
1	Network	Set the LAN connection and wireless LAN connection.	
2	IEEE1284	Set the IEEE1284 connection. *Shows only if the combo interface board is installed.	
3	RS-232C	Set the RS-232C connection. *Shows only if the combo interface board is installed.	
4	USB	Set the USB connection.	
5	Bluetooth	Set the Bluetooth connection.	
6	Ignore CR/LF	Set to ignore CR/LF codes.	
7	Ignore CAN/DLE	Set to ignore CAN/DLE codes.	
8	External I/O	Set the external signal (EXT). *Shows only if the combo interface board is installed.	
9	RFID (CL4NX only)	Set the RFID. *Shows only for RFID models.	

Network			
Interface > Network To use LAN and wireless LAN for the interface between the host and the printer. The setting items are as follows:			
1	Settings	Set the LAN, wireless LAN or select the interface.	
2	Services	Set the TCP/IP port number, NTP, LPD, FTP or SNMP.	
3	Advanced	Set the advanced function for the interface.	

Settings			
<i>Interface > Network > Settings</i> Set the LAN, wireless LAN or select the interface. The setting items are as follows:			
1	LAN	Set the LAN.	
2	Wi-Fi	Set the wireless LAN. *Shows only if you have installed the optional wireless LAN.	
3	Interface	Select the network interface. *This item is to select the network interface from LAN or wireless LAN when you have installed the optional wireless LAN.	
CAUTION You cannot use LAN and wireless LAN at the same time. The wireless LAN function is available only if you have installed the wireless LAN.			

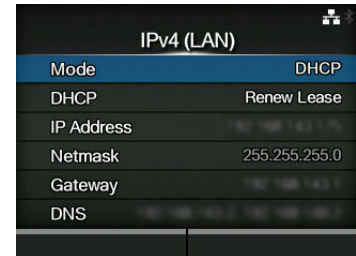
LAN			
<i>Interface > Network > Settings > LAN</i> Set the IPv4, IPv6 or proxy for the LAN. The setting items are as follows:			
1	IPv4	Set the IPv4 for the LAN.	
2	IPv6	Set the IPv6 for the LAN.	
3	Proxy	Set the proxy for the LAN.	

IPv4

Interface > Network > Settings > LAN > IPv4

Set IPv4 for the LAN. The setting items are as follows:

1	Mode	Select the IP address assignment method.
2	DHCP / Renew Lease	Update the lease time and get the IP address from the DHCP server again. *Shows only if you have selected DHCP in the Mode menu and LAN is the active interface. *Does not show if WLAN is the active interface.
3	IP Address	Set and check the IP address. If you have selected DHCP in the Mode menu, the screen shows the IP address you received from the DHCP server. If you have selected Static in the Mode menu, select to set the IP address.
4	Netmask	Set and check the subnet mask address. If you have selected DHCP in the Mode menu, the screen shows the subnet mask address you received from the DHCP server. If you have selected Static in the Mode menu, select to set the subnet mask address.
5	Gateway	Set and check the default gateway address. If you have selected DHCP in the Mode menu, the screen shows the gateway address you received from the DHCP server. If you have selected Static in the Mode menu, select to set the default gateway address.
6	DNS	Set and check DNS server addresses. If you have selected Static in the Mode menu, select to set and check DNS server addresses.



CAUTION

After setting, press the right soft button to enable the new setting. Press the left soft button to cancel the new setting and return to the previous setting.

Note

You cannot change IP Address, Netmask, Gateway and DNS if Mode is DHCP.

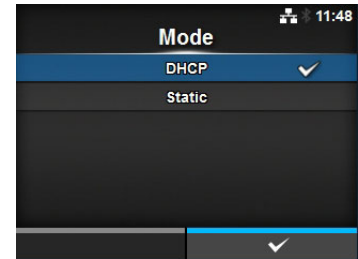
Mode

Interface > Network > Settings > LAN > IPv4 > Mode

Select the IP address assignment method.

The options are as follows:

- **DHCP**: Automatically retrieve the IP address, gateway and subnet mask from the DHCP server.
- **Static**: Manually set the IP address, gateway and subnet mask.



IP Address

Interface > Network > Settings > LAN > IPv4 > IP Address

If you have selected **Static** in the **Mode** menu, set the IP address.

The setting range is as follows:

000.000.000.000 to 255.255.255.255



Netmask

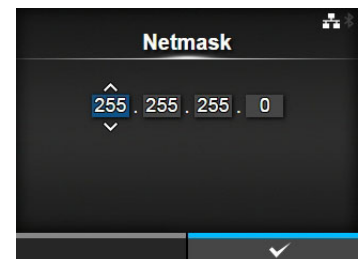
Interface > Network > Settings > LAN > IPv4 > Netmask

If you have selected **Static** in the **Mode** menu, set the subnet mask address.

Each group of the address can be set cyclically among 0, 128, 192, 224, 240, 248, 252, 254 and 255.

The setting range is as follows:

128.000.000.000 to 255.255.255.254



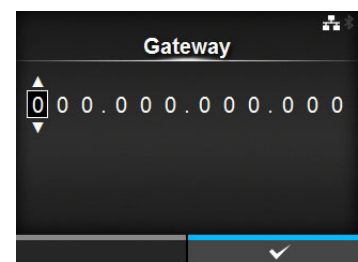
Gateway

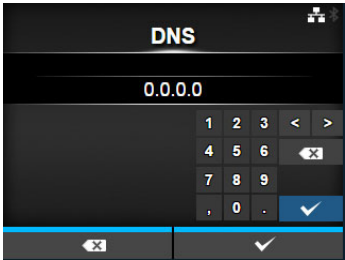
Interface > Network > Settings > LAN > IPv4 > Gateway

If you have selected **Static** in the **Mode** menu, set the default gateway address.

The setting range is as follows:

000.000.000.000 to 255.255.255.255



DNS	
<p><i>Interface > Network > Settings > LAN > IPv4 > DNS</i></p> <p>If you have selected Static in the Mode menu, set and check DNS server addresses.</p> <p>The setting range is as follows: 000.000.000.000 to 255.255.255.255</p> <hr/> <p>Note You can register up to three IP addresses for the DNS server. Use a comma to delimit different IP addresses.</p> <hr/>	

IPv6

Interface > Network > Settings > LAN > IPv6

Set IPv6 for the LAN. The setting items are as follows:

1	Mode	Select the IP address assignment method.
2	DHCP / Renew Lease	Update the lease time and get the IP address from the DHCP server again. *Shows only if you have selected DHCP in the Mode menu. *Does not show if WLAN is the active interface.
3	IP Address	Set and check the IP address. If you have selected DHCP in the Mode menu, the screen shows the IP address you received from the DHCP server. If you have selected Static in the Mode menu, select to set the IP address.
4	Prefix Length	Set and check the prefix.
5	Gateway	Set and check the default gateway address. If you have selected DHCP in the Mode menu, the screen shows the gateway address you received from the DHCP server. If you have selected Static in the Mode menu, select to set the default gateway address.
6	DNS	Set and check the address of the primary DNS server. If you have selected Static in the Mode menu, select to set the primary address of the DNS server.

CAUTION

After setting, press the right soft button to enable the new setting. Press the left soft button to cancel the new setting and return to the previous setting.

Note

You cannot change IP Address, Prefix Length, Gateway and DNS if Mode is DHCP or Auto.

IPv6 (LAN)

ModeDHCP

DHCPRenew Lease

IP Address::

Prefix Length64

Gateway2001:2040:34::

DNS::

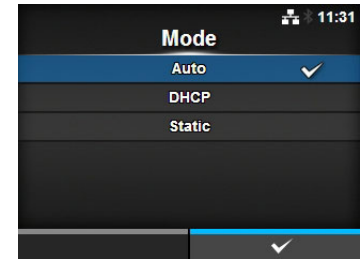
Mode

Interface > Network > Settings > LAN > IPv6 > Mode

Select the IP address assignment method.

The options are as follows:

- **Auto**: Automatically generate the IP address and gateway (stateless mode).
- **DHCP**: Automatically retrieve the IP address and gateway from the DHCP server automatically (stateful mode).
- **Static**: Manually set the IP address, gateway and subnet mask.



IP Address

Interface > Network > Settings > LAN > IPv6 > IP Address

If you have selected **Static** in the **Mode** menu, set the IP address.

The setting range is as follows:

0:0:0:0:0:0:1 to ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff

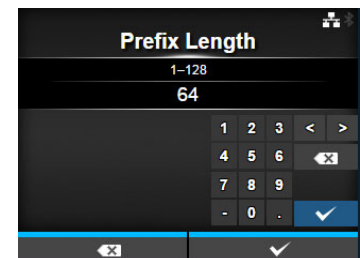


Prefix Length

Interface > Network > Settings > LAN > IPv6 > Prefix Length

If you have selected **Static** in the **Mode** menu, set the prefix.

The setting range is from 1 to 128.



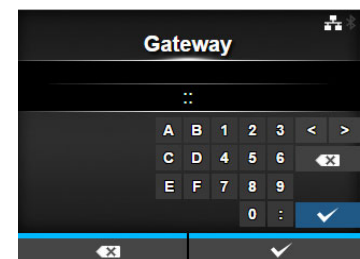
Gateway

Interface > Network > Settings > LAN > IPv6 > Gateway

If you have selected **Static** in the **Mode** menu, set the default gateway address.

The setting range is as follows:

0:0:0:0:0:0:0:0 to ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff



DNS

Interface > Network > Settings > LAN > IPv6 > DNS

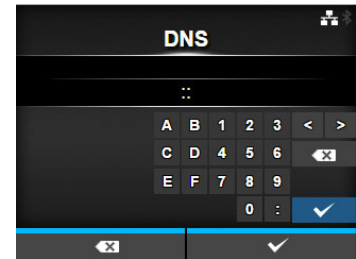
If you have selected **Static** in the **Mode** menu, set the primary address of the DNS server.

The setting range is as follows:

0:0:0:0:0:0:0 to ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff

Note

You can register only one IP address for the DNS server for IPv6.

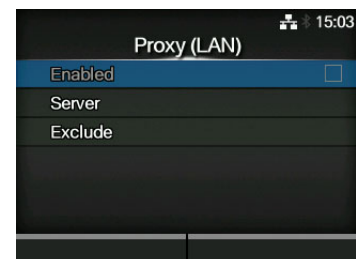


Proxy

Interface > Network > Settings > LAN > Proxy

Set the proxy for the LAN. The setting items are as follows:

1	Enabled	Enable or disable use of proxy.
2	Server	Set the proxy server address.
3	Exclude	Exclude the proxy from usage.



Enabled

Interface > Network > Settings > LAN > Proxy > Enabled

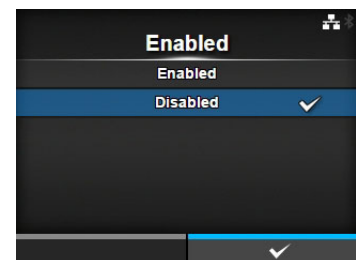
Enable or disable use of proxy.

The options are as follows:

- **Enabled:** Enable proxy server usage.
- **Disabled:** Disable proxy server usage.

Note

To enable the proxy, Server should be set and Exclude must contain at least 127.0.0.1 and localhost.



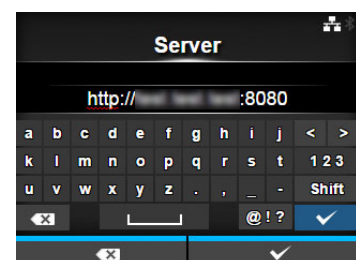
Server

Interface > Network > Settings > LAN > Proxy > Server

Set the name or IP address of the proxy server.

Note

Server should be set with a valid name or IP address and port number.



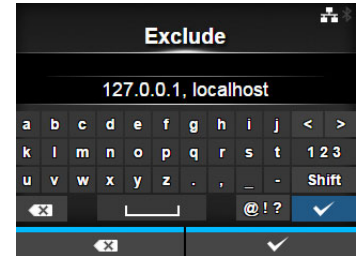
Exclude

Interface > Network > Settings > LAN > Proxy > Exclude

Set names, IP addresses or domains for the proxy to exclude.

Note

Exclude must contain at least 127.0.0.1 and localhost.



Wi-Fi

Interface > Network > Settings > Wi-Fi

Set the wireless LAN.

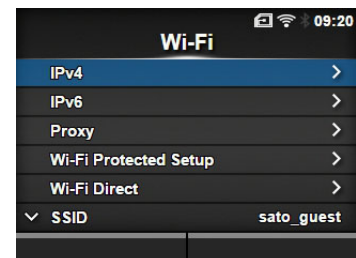
Shows only if you have installed the optional wireless LAN.

The setting items are as follows:

1	IPv4	Configure IPv4 for Wi-Fi.
2	IPv6	Configure IPv6 for Wi-Fi.
3	Proxy	Configure the proxy for Wi-Fi.
4	Wi-Fi Protected Setup	Set the wireless LAN connection with the WPS function.
5	Wi-Fi Direct	Set the Wi-Fi Direct function. *Enabled only if you have selected Infrastructure in the Mode menu.
6	SSID	Set the SSID.
7	Hidden SSID	Set the Hidden SSID.
8	Mode	Set the communication mode.
9	Channel	Set the communication channel.
10	Security	Set the security (encryption method).
11	WEP Conf.	Set the WEP key. *Shows only if you have selected WEP in the Security menu.
12	WPA Conf.	Set the WPA authentication. *Shows only if you have selected WPA+WPA2 or WPA2 in the Security menu.
13	EAP Conf.	Set the EAP authentication. *Shows only if you have selected Dynamic WEP in the Security menu.

Note

When Wi-Fi Direct is active, only IPv6 is not shown on the screen.



IPv4

Interface > Network > Settings> Wi-Fi > IPv4

Configure IPv4 for Wi-Fi. The setting items are as follows:

1	Mode	Select the IP address assignment method.
2	DHCP / Renew Lease	Update the lease time and get the IP address from the DHCP server again. *Shows only if you have selected DHCP in the Mode menu. *Does not show if LAN is the active interface.
3	IP Address	Set and check the IP address. If you have selected DHCP in the Mode menu, the screen shows the IP address you received from the DHCP server. If you have selected Static in the Mode menu, select to set the IP address.
4	Netmask	Set and check the subnet mask address. If you have selected DHCP in the Mode menu, the screen shows the subnet mask address you received from the DHCP server. If you have selected Static in the Mode menu, select to set the subnet mask address.
5	Gateway	Set and check the default gateway address. If you have selected DHCP in the Mode menu, the screen shows the gateway address you received from the DHCP server. If you have selected Static in the Mode menu, select to set the default gateway address.
6	DNS	Set and check DNS server addresses. If you have selected Static in the Mode menu, select to set and check DNS server addresses.

CAUTION

After setting, press the right soft button to enable the new setting. Press the left soft button to cancel the new setting and return to the previous setting.

Note

When Wi-Fi Direct is active, Mode, DHCP and DNS are not shown. In addition, you cannot change IP Address, Netmask and Gateway if Mode is DHCP or Wi-Fi Direct is active. DNS cannot be changed if Mode is DHCP.

IPv4 (Wi-Fi)

Mode

DHCP

DHCP

Renew Lease

IP Address

192.168.1.43

Netmask

255.255.255.0

Gateway

192.168.1.43

DNS

192.168.1.43, 192.168.1.43

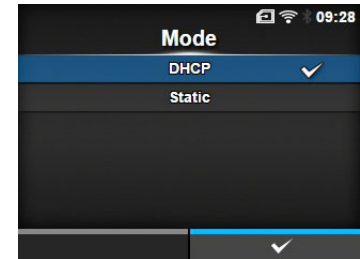
Mode

Interface > Network > Settings > Wi-Fi > IPv4 > Mode

Select the IP address assignment method.

The options are as follows:

- **DHCP**: Automatically retrieve the IP address, gateway and subnet mask from the DHCP server.
- **Static**: Manually set the IP address, gateway and subnet mask.



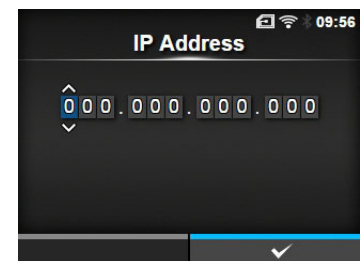
IP Address

Interface > Network > Settings > Wi-Fi > IPv4 > IP Address

If you have selected **Static** in the **Mode** menu, set the IP address.

The setting range is as follows:

000.000.000.000 to 255.255.255.255



Netmask

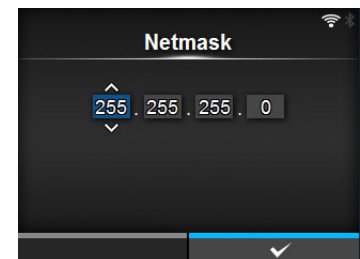
Interface > Network > Settings > Wi-Fi > IPv4 > Netmask

If you have selected **Static** in the **Mode** menu, set the subnet mask address.

Each group of the address can be set cyclically among 0, 128, 192, 224, 240, 248, 252, 254 and 255.

The setting range is as follows:

128.000.000.000 to 255.255.255.254



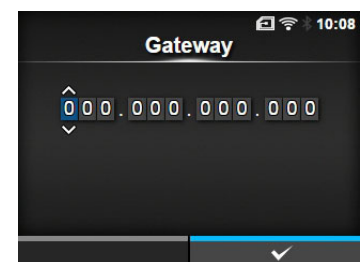
Gateway

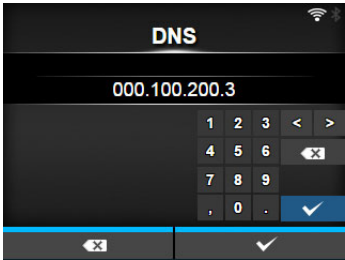
Interface > Network > Settings > Wi-Fi > IPv4 > Gateway

If you have selected **Static** in the **Mode** menu, set the default gateway address.

The setting range is as follows:

000.000.000.000 to 255.255.255.255



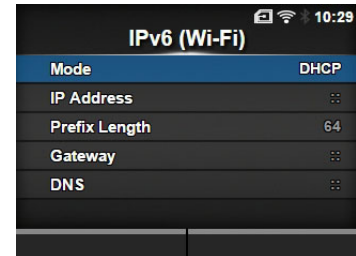
DNS	
<p><i>Interface > Network > Settings > Wi-Fi > IPv4 > DNS</i></p> <p>If you have selected Static in the Mode menu, set and check DNS server addresses.</p> <p>The setting range is as follows: 000.000.000.000 to 255.255.255.255</p> <hr/> <p>Note</p> <p>You can register up to three IP addresses for the DNS server. Use a comma to delimit different IP addresses.</p> <hr/>	

IPv6

Interface > Network > Settings > Wi-Fi > IPv6

Configure IPv6 for Wi-Fi. The setting items are as follows:

1	Mode	Select the IP address assignment method.
2	DHCP / Renew Lease	Update the lease time and get the IP address from the DHCP server again. *Shows only if you have selected DHCP in the Mode menu. *Does not show if LAN is the active interface.
3	IP Address	Set and check the IP address. If you have selected DHCP in the Mode menu, the screen shows the IP address you received from the DHCP server. If you have selected Static in the Mode menu, select to set the IP address.
4	Prefix Length	Set and check the prefix.
5	Gateway	Set and check the default gateway address. If you have selected DHCP in the Mode menu, the screen shows the gateway address you received from the DHCP server. If you have selected Static in the Mode menu, select to set the default gateway address.
6	DNS	Set and check the address of the primary DNS server. If you have selected Static in the Mode menu, select to set the primary address of the DNS server.



CAUTION

After setting, press the right soft button to enable the new setting. Press the left soft button to cancel the new setting and return to the previous setting.

Note

When Wi-Fi Direct is active, this IPv6 screen is not shown. In addition, you cannot change IP Address, Prefix Length, Gateway and DNS if Mode is DHCP or Auto.

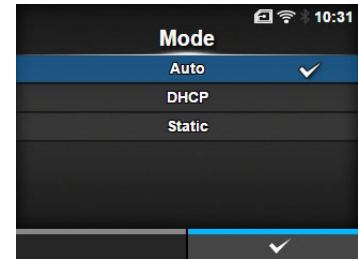
Mode

Interface > Network > Settings > Wi-Fi > IPv6 > Mode

Select the IP address assignment method.

The options are as follows:

- **Auto**: Automatically generate the IP address and gateway (stateless mode).
- **DHCP**: Automatically retrieve the IP address and gateway from the DHCP server automatically (stateful mode).
- **Static**: Manually set the IP address, gateway and subnet mask.



IP Address

Interface > Network > Settings > Wi-Fi > IPv6 > IP Address

If you have selected **Static** in the **Mode** menu, set the IP address.

The setting range is as follows:

0:0:0:0:0:0:1 to ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff

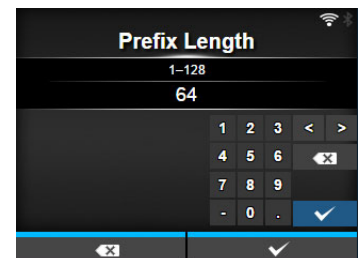


Prefix Length

Interface > Network > Settings > Wi-Fi > IPv6 > Prefix Length

If you have selected **Static** in the **Mode** menu, set the prefix.

The setting range is from 1 to 128.



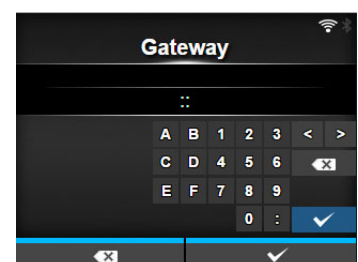
Gateway

Interface > Network > Settings > Wi-Fi > IPv6 > Gateway

If you have selected **Static** in the **Mode** menu, set the default gateway address.

The setting range is as follows:

0:0:0:0:0:0:0:0 to ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff



DNS

Interface > Network > Settings > Wi-Fi > IPv6 > DNS

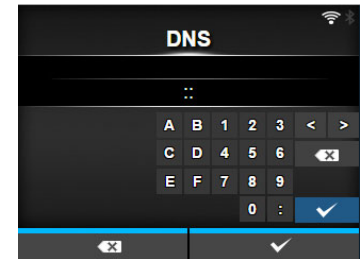
If you have selected **Static** in the **Mode** menu, set the primary address of the DNS server.

The setting range is as follows:

0:0:0:0:0:0:0:0 to ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff

Note

You can register only one IP address for the DNS server for IPv6.

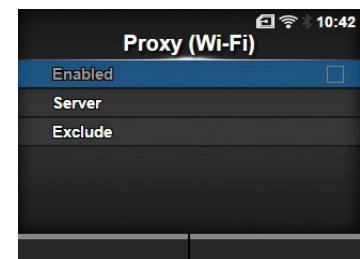


Proxy

Interface > Network > Settings > Wi-Fi > Proxy

Configure the proxy for Wi-Fi. The setting items are as follows:

1	Enabled	Enable or disable use of proxy.
2	Server	Set the proxy server address.
3	Exclude	Exclude the proxy server usage.



Enabled

Interface > Network > Settings > Wi-Fi > Proxy > Enabled

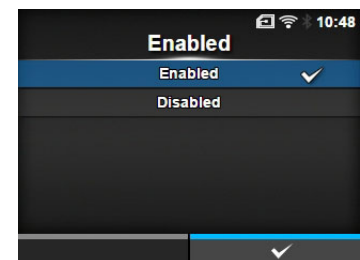
Enable or disable use of proxy.

The options are as follows:

- **Enabled:** Enable proxy server usage.
- **Disabled:** Disable proxy server usage.

Note

To enable the proxy, Server should be set and Exclude must contain at least 127.0.0.1 and localhost.



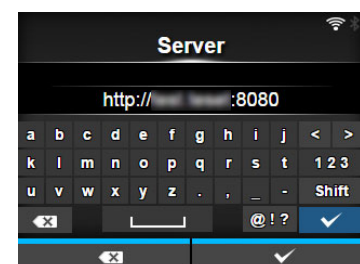
Server

Interface > Network > Settings > Wi-Fi > Proxy > Server

Set the name or IP address of the proxy server.

Note

Server should be set with a valid name or IP address and port number.



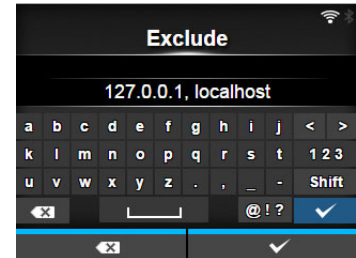
Exclude

Interface > Network > Settings > Wi-Fi > Proxy > Exclude

Set names, IP addresses or domains for the proxy to exclude.

Note

Exclude must contain at least 127.0.0.1 and localhost.



Wi-Fi Protected Setup

Interface > Network > Settings > Wi-Fi > Wi-Fi Protected Setup

Set the wireless LAN connection using the push button or PIN code method.

The setting items are as follows:

1	Button (PBC)	Set the wireless LAN connection using the push button method.
2	PIN	Set the wireless LAN connection using the PIN code method.

Note

- Refer to the manual of the access point device for its operation.
- This screen does not show if LAN or Wi-Fi Direct is active.

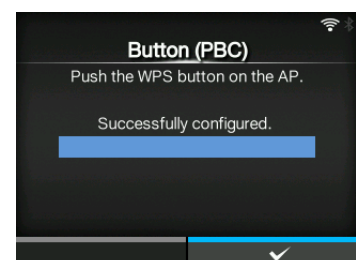
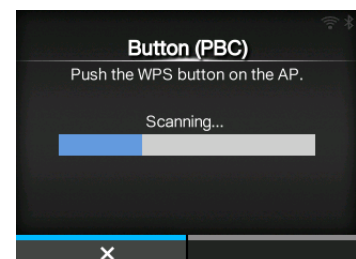


Button (PBC)

Interface > Network > Settings > Wi-Fi > Wi-Fi Protected Setup > Button (PBC)

Set the wireless LAN connection using the push button method.


1. Select **Button (PBC)** in the **Wi-Fi Protected Setup** menu and press the **←** button.
2. When **Scanning...** shows on the screen, press the **WPS** button on the access point of the wireless LAN device.
3. When the connection to the access point is established, **Successfully configured.** shows on the screen.

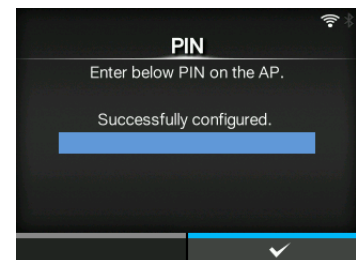
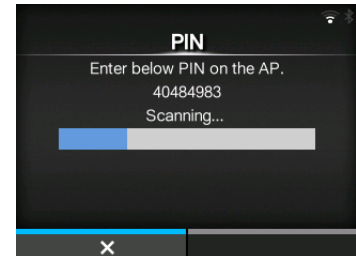


PIN

Interface > Network > Settings > Wi-Fi > Wi-Fi Protected Setup > PIN

Set the wireless LAN connection using the PIN code method.

1. Select **PIN** in the **Wi-Fi Protected Setup** menu and press the  button.
2. When **Scanning...** shows on the screen, set the PIN code shown on the screen to the access point of the wireless LAN or computer.
3. When the connection to the access point is established, **Successfully configured.** shows on the screen.




Wi-Fi Direct



Interface > Network > Settings > Wi-Fi > Wi-Fi Direct

Set the Wi-Fi Direct function.

*The Wi-Fi Direct function is enabled only if you have selected **Infrastructure** in the **Mode** menu.

The setting procedure is as follows:

1. Set the device name for the printer using **Device Name**. You can enter 1 to 32 characters including alphabets (capital and small letters), numbers and symbols. Press the  button to return to **Wi-Fi** menu and press the right soft button to enable changes.
2. Select **Connect** to search and show the connectable device names or to accept connection requests when printer is GO (Group Owner).

Select the device name you want to connect using the  /  buttons, then press the right soft button.
3. Select **Start Group** if you want to start a new persistent group or select a group from the list.
4. Select **Remove Group** to remove the persistent group in step 3.
5. Complete the connection according to the display on the printer or device you want to connect.
6. Select **Disconnect** if you want to stop the connection.

Note

You can connect a maximum of ten devices.

When Wi-Fi Direct is active, **Device Name** cannot be changed.


Start Group and **Remove Group** show only if Wi-Fi is active and the printer is not connected to a Wi-Fi Direct network.

Disconnect shows if Wi-Fi is active and the printer is connected.

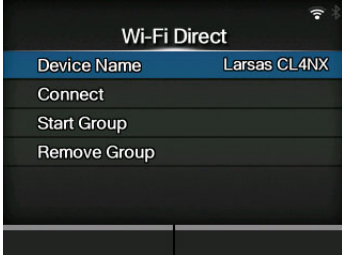
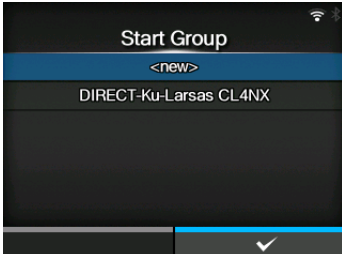
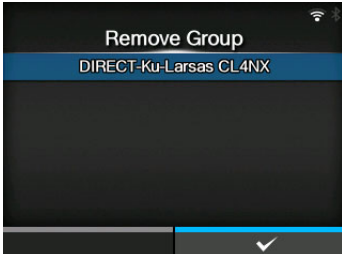
After setting up a start group, the printer will be set to GO (Group Owner) and will wait for a connection request from another device.

If the printer is powered off during a persistent group connection, the group will be started automatically after the printer is powered on.

Connect without group



Connect with group

SSID

Interface > Network > Settings > Wi-Fi > SSID

Set the SSID.

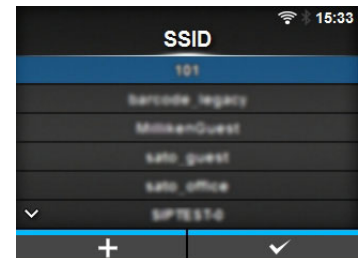
The screen shows the Wi-Fi network detected by the printer.

Select the name of the Wi-Fi network you want to connect using the

▲ / ▼ buttons and press the right soft button to confirm.

To register a Wi-Fi network manually, press the left soft button and enter the name of the network.

You can enter a maximum of thirty-two characters including alphabet (upper case and lower case), numbers and symbols.



Note

SSID is editable if LAN or Wi-Fi Direct is active.

Hidden SSID

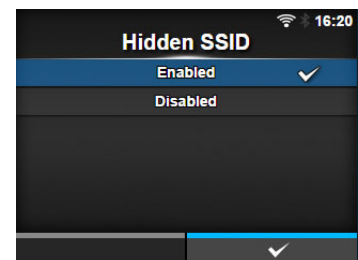
Interface > Network > Settings > Wi-Fi > Hidden SSID

Set the Hidden SSID (stealth function).

Shows if you have selected **Infrastructure** in the **Mode** menu.

The options are as follows:

- **Enabled**
- **Disabled**



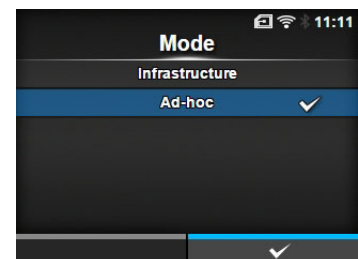
Mode

Interface > Network > Settings > Wi-Fi > Mode

Set the communication method of the wireless LAN.

The options are as follows:

- **Infrastructure**
- **Ad-hoc**

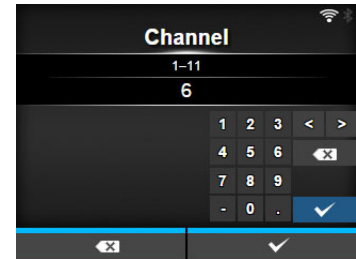


Channel

Interface > Network > Settings > Wi-Fi > Channel

Set the communication channel.

Channel can be set only if you have selected **Ad-hoc** in the **Mode** menu. The number of channels you can set varies depending on the region of the printer.



Security

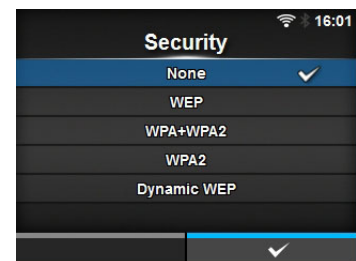
Interface > Network > Settings > Wi-Fi > Security

Set the security method of the network. Set the security methods so that the printer, host and network devices match.

The options are as follows:

- **None**
- **WEP**
- **WPA+WPA2**
- **WPA2**
- **Dynamic WEP**

If you have selected **Ad-hoc** in the **Mode** menu, only **None** and **WEP** will be available in the **Security** menu.



WEP Conf.

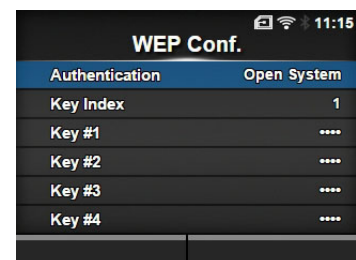
Interface > Network > Settings > Wi-Fi > WEP Conf.

Set the WEP key.

Shows only if you have selected **WEP** in the **Security** menu.

The setting items are as follows:

1	Authentication	Set the WEP authentication method.
2	Key Index	Set the key index.
3	Key #1 - Key #4	Set the WEP key1 - key4.



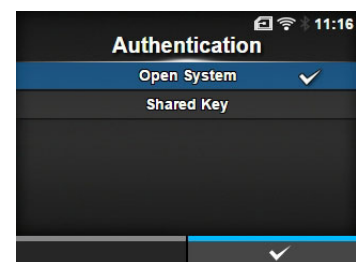
Authentication

Interface > Network > Settings > Wi-Fi > WEP Conf. > Authentication

Set the WEP authentication method.

The options are as follows:

- **Open System**
- **Shared Key**



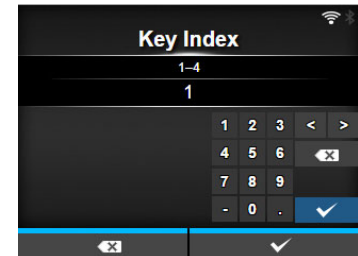
Key Index

Interface > Network > Settings > Wi-Fi > WEP Conf. > Key Index

Set the key index.
Set the key index (WEP key) according to the access point of the wireless LAN you connect.
The setting range is from 1 to 4.

CAUTION

Depending on the product, the range of the key index may be 0 to 3. In such a case, if you have set the printer to **1**, then set the product to **0**.

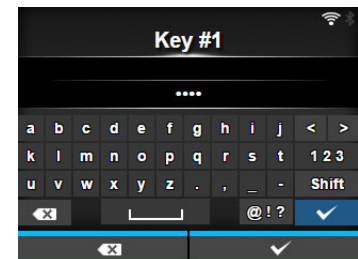


Key #1 - Key #4

Interface > Network > Settings > Wi-Fi > WEP Conf. > Key #1 - Key #4

Set the WEP key #1 - key #4.
You can enter alphabet (upper case and lower case) and numbers.
Depending on the length of the WEP key, the number of characters you can set is as follows:

- When the key length is 64 bit
ASCII: Five characters
Hexadecimal: Ten characters
- When the key length is 128 bit
ASCII: Thirteen characters
Hexadecimal: Twenty-six characters

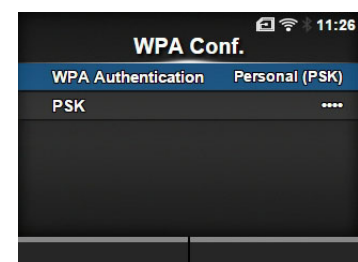


WPA Conf.

Interface > Network > Settings > Wi-Fi > WPA Conf.

Set the WPA authentication.
Shows only if you have selected **WPA+WPA2** or **WPA2** in the **Security** menu.
The setting items are as follows:

1	WPA Authentication	Set the WPA authentication method.
2	PSK	Set the PSK shared key. *Shows only if you have selected Personal (PSK) in the WPA Authentication menu.
3	EAP Conf.	Set the functions for EAP. *Shows only if you have selected items other than Personal (PSK) in the WPA Authentication menu.

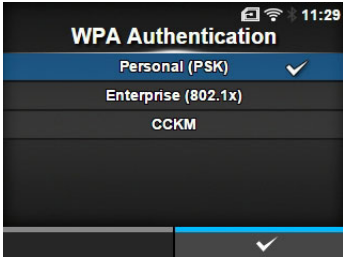


WPA Authentication

Interface > Network > Settings > Wi-Fi > WPA Conf. > WPA Authentication

Set the WPA authentication method.
The options are as follows:

- **Personal (PSK)**
- **Enterprise (802.1x)**
- **CCKM**

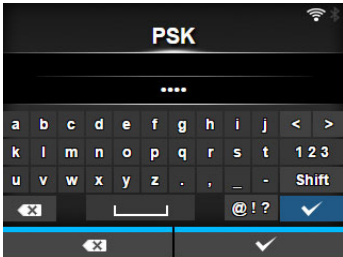


The screenshot shows the 'WPA Authentication' screen with three options: 'Personal (PSK)' (selected with a checkmark), 'Enterprise (802.1x)', and 'CCKM'. The status bar at the top shows signal strength, Wi-Fi icon, and the time 11:29.

PSK

Interface > Network > Settings > Wi-Fi > WPA Conf. > PSK

Set the PSK shared key.
Shows only if you have selected **Personal (PSK)** in the **WPA Authentication** menu.
You can enter alphabetic, numeric and symbolic characters in the range of 8-63 ASCII or 64 hexadecimal digits.



The screenshot shows the 'PSK' entry screen with a virtual keyboard. The keyboard has rows for letters a-z, numbers 1-3, and symbols including '@', '!', and '?'. There are also backspace and checkmark buttons. The status bar at the top shows signal strength, Wi-Fi icon, and the time 11:29.

EAP Conf.

Interface > Network > Settings > Wi-Fi > EAP Conf.

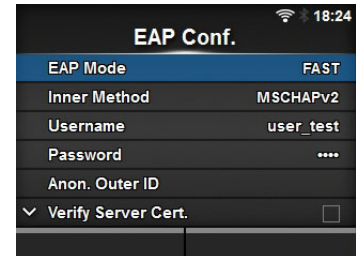
Interface > Network > Settings > Wi-Fi > WPA Conf. > EAP Conf.

Set the functions for EAP.

Shows only if you have selected an item other than **Personal (PSK)** in the **WPA Authentication** menu or if you have selected **Dynamic WEP** in the **Security** menu.

The setting items are as follows:

1	EAP Mode	Set the EAP Mode (authentication mode).
2	Inner Method	Set the inner method.
3	Username	Set the user name.
4	Password	Set the password.
5	Anon. Outer ID	Set the external ID. *Shows only if you have selected FAST , PEAP or TTLS in the EAP Mode menu.
6	Verify Server Cert.	Enable or disable server authentication. *Shows only if you have selected anything other than LEAP in the EAP Mode menu.
7	Private Key P/W	Set the Private Key password. *Shows only if you have selected TLS in either the EAP Mode menu or Inner Method menu.
8	PAC Auto Provisioning	Enable or disable PAC Auto Provisioning. *Shows only if you have selected FAST in the EAP Mode menu.
9	PAC P/W	Set the PAC password. *Shows only if you have selected FAST in the EAP Mode menu and if you have selected Disabled in PAC Auto Provisioning .



EAP Mode

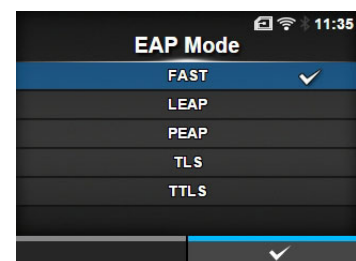
Interface > Network > Settings > Wi-Fi > EAP Conf. > EAP Mode

Interface > Network > Settings > Wi-Fi > WPA Conf. > EAP Conf. > EAP Mode

Set the EAP Mode (authentication mode).

The options are as follows:

- **FAST**
- **LEAP**
- **PEAP**
- **TLS**
- **TTLS**



Inner Method

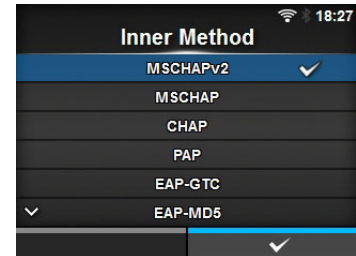
Interface > Network > Settings > Wi-Fi > EAP Conf. > Inner Method

Interface > Network > Settings > Wi-Fi > WPA Conf. > EAP Conf. > Inner Method

Set the inner method.

Shows only if you have selected **FAST**, **PEAP** or **TTLS** in the **EAP Mode** menu.

- If you have selected **FAST** in the **EAP Mode** menu, the options are **MSCHAPv2**, **GTC** and **TLS**.
- If you have selected **PEAP** in the **EAP Mode** menu, the options are **MSCHAPv2**, **GTC**, **MD5**, **OTP** and **TLS**.
- If you have selected **TTLS** in the **EAP Mode** menu, the options are **MSCHAPv2**, **MSCHAP**, **CHAP**, **PAP**, **EAP-GTC**, **EAP-MD5**, **EAP-MSCHAPv2**, **EAP-OTP** and **EAP-TLS**.



Username

Interface > Network > Settings > Wi-Fi > EAP Conf. > Username

Interface > Network > Settings > Wi-Fi > WPA Conf. > EAP Conf. > Username

Set the user name.

You can enter alphabetic, numeric and symbolic characters in the range of 0 to 63 characters.



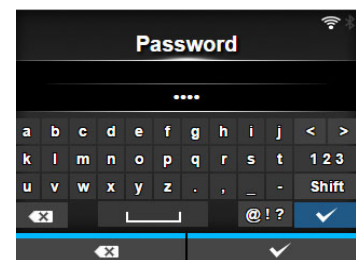
Password

Interface > Network > Settings > Wi-Fi > EAP Conf. > Password

Interface > Network > Settings > Wi-Fi > WPA Conf. > EAP Conf. > Password

Set the password.

You can enter alphabetic, numeric and symbolic characters in the range of 0 to 32 characters.



Anon. Outer ID

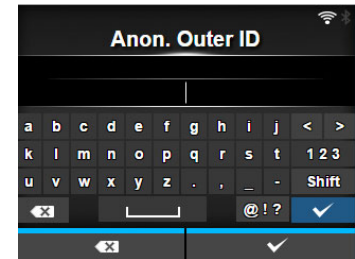
Interface > Network > Settings > Wi-Fi > EAP Conf. > Anon. Outer ID

Interface > Network > Settings > Wi-Fi > WPA Conf. > EAP Conf. > Anon. Outer ID

Set the external ID.

Shows only if you have selected **FAST**, **PEAP** or **TTLS** in the **EAP Mode** menu.

You can enter alphabetic, numeric and symbolic characters in the range of 0 to 63 characters.



Verify Server Cert.

Interface > Network > Settings > Wi-Fi > EAP Conf. > Verify Server Cert.

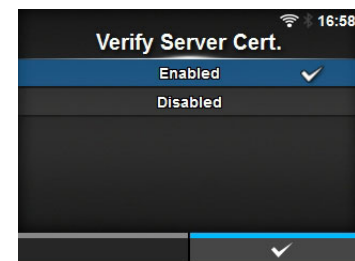
Interface > Network > Settings > Wi-Fi > WPA Conf. > EAP Conf. > Verify Server Cert.

Enable or disable server certificate validation.

Shows only if you have selected anything other than **LEAP** in the **EAP Mode** menu.

The options are as follows:

- **Enabled**: Enable server certificate validation.
- **Disabled**: Disable server certificate validation.



Private Key P/W

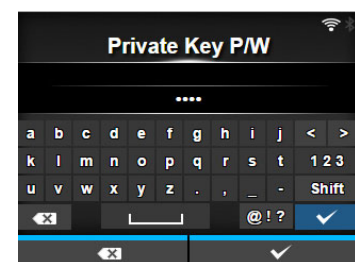
Interface > Network > Settings > Wi-Fi > EAP Conf. > Private Key P/W

Interface > Network > Settings > Wi-Fi > WPA Conf. > EAP Conf. > Private Key P/W

Set the Private Key password.

Shows only if you have selected **TLS** in either the **EAP Mode** menu or **Inner Method** menu.

You can enter alphabetic, numeric and symbolic characters in the range of 0 to 64 characters.



PAC Auto Provisioning

Interface > Network > Settings > Wi-Fi > EAP Conf. > PAC Auto Provisioning

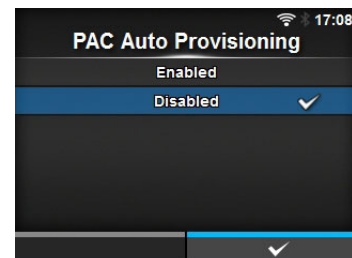
Interface > Network > Settings > Wi-Fi > WPA Conf. > EAP Conf. > PAC Auto Provisioning

Enable or disable PAC Auto Provisioning.

Shows only if you have selected **FAST** in the **EAP Mode** menu.

The options are as follows:

- **Enabled:** Enable PAC Auto Provisioning.
- **Disabled:** Disable PAC Auto Provisioning.



PAC P/W

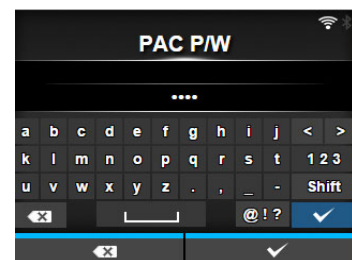
Interface > Network > Settings > Wi-Fi > EAP Conf. > PAC P/W

Interface > Network > Settings > Wi-Fi > WPA Conf. > EAP Conf. > PAC P/W

Set the PAC password.

Shows only if you have selected **FAST** in the **EAP Mode** menu and if you have selected **Disabled** in the **PAC Auto Provisioning**.

You can enter alphabetic, numeric and symbolic characters in the range of 0 to 64 characters.



Interface

Interface > Network > Settings > Interface

Select the network interface.

This item is to select the network interface from LAN or wireless LAN when you have installed the optional wireless LAN.

The options are as follows:

- **Auto:** Automatically select between LAN and wireless LAN interface at printer startup. LAN is selected if LAN cable is connected to a link established hub (Link LED is flashing) at printer startup. Wireless LAN is selected if LAN is not detected at printer startup.
- **LAN:** Use LAN interface (or Force LAN interface).
- **Wi-Fi:** Use wireless LAN interface (or Force wireless LAN interface).

Note

The message prompting to restart the printer will appear on the online/offline screen if you have made any changes. In such a case, reboot the printer to make the setting effective.

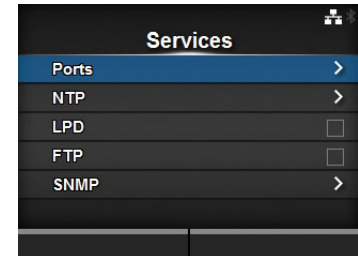


Services

Interface > Network > Services

Set the TCP/IP port number, NTP, LPD, FTP or SNMP.
The setting items are as follows:

1	Ports	Set the port number.
2	NTP	Set the functions for NTP.
3	LPD	Set the functions for LPD.
4	FTP	Set the functions for FTP.
5	SNMP	Set the functions for SNMP.

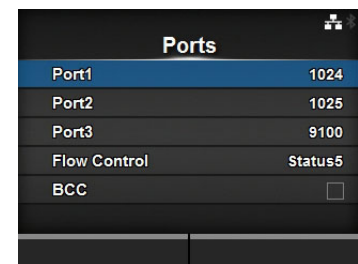


Ports

Interface > Network > Services > Ports

The setting items are as follows:

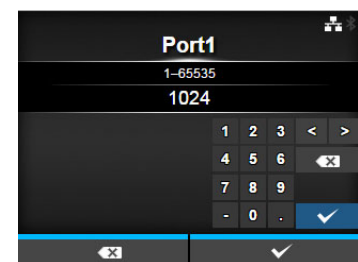
1	Port1	Set the port number.
2	Port2	Set the port number.
3	Port3	Set the port number.
4	Flow Control	Set the communication protocol.
5	BCC	Set the BCC check function. *Shows only if you have selected Status5 in the Flow Control menu.



Port1

Interface > Network > Services > Ports > Port1

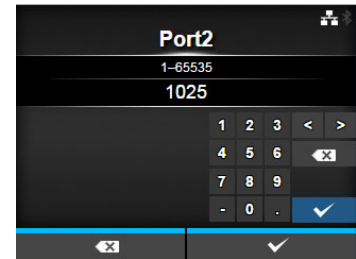
Set the port number.
The setting range is from 1 to 65535.
Each port (1, 2 and 3) must be set to different values.



Port2

Interface > Network > Services > Ports > Port2

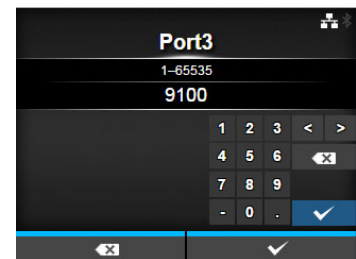
Set the port number.
The setting range is from 1 to 65535.
Each port (1, 2 and 3) must be set to different values.



Port3

Interface > Network > Services > Ports > Port3

Set the port number.
The setting range is from 1 to 65535.
Each port (1, 2 and 3) must be set to different values.

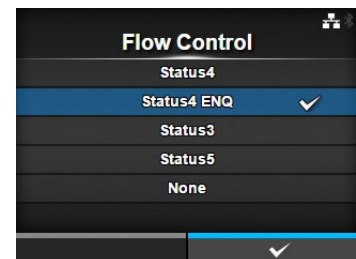


Flow Control

Interface > Network > Services > Ports > Flow Control

Set the communication protocol.
The options are as follows:

- **Status4**
- **Status4 ENQ**
- **Status3**
- **Status5**
- **None**

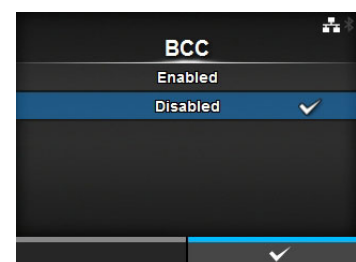


BCC

Interface > Network > Services > Ports > BCC

Enable or disable the BCC check function.
Shows only if you have selected **Status5** in the **Flow Control** menu.
The options are as follows:

- **Enabled**: Enable the BCC check function.
- **Disabled**: Disable the BCC check function.



NTP

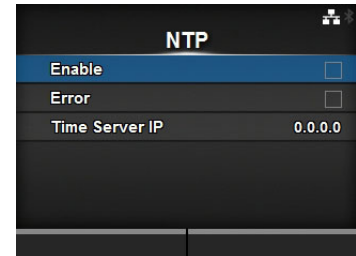
Interface > Network > Services > NTP

Set the functions for NTP.

The NTP function gets the time information from the NTP server through the network and sets the time of the printer.

The setting items are as follows:

1	Enable	Enable or disable the functions for NTP.
2	Error	Set to show the NTP error message if detected.
3	Time Server IP	Set the IP address of the NTP server.



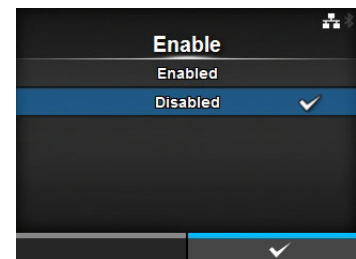
Enable

Interface > Network > Services > NTP > Enable

Enable or disable the functions for NTP.

The options are as follows:

- **Enabled:** Enable the NTP function.
- **Disabled:** Disable the NTP function.



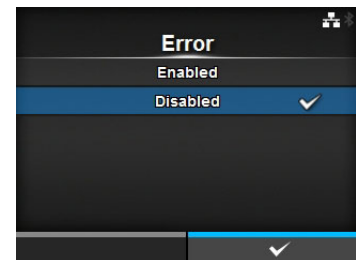
Error

Interface > Network > Services > NTP > Error

Set to show the NTP error message if detected.

The options are as follows:

- **Enabled:** Shows the error message.
- **Disabled:** Do not show the error message.



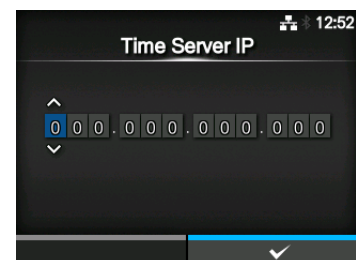
Time Server IP

Interface > Network > Services > NTP > Time Server IP

Set the IP address of the NTP server.

The setting range is from 0.0.0.0 to 255.255.255.255.

The IP address should normally be set to 0.0.0.0 (the default) which means that global NTP servers will be assigned automatically. Set to a valid IP if the time synchronization is requested for a specific server.



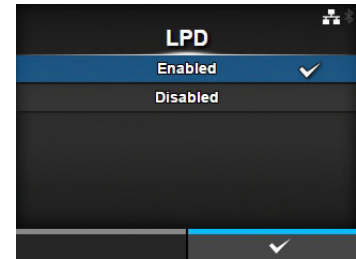
LPD

Interface > Network > Services > LPD

Enable or disable the functions for LPD.

The options are as follows:

- **Enabled:** Enable the LPD function.
- **Disabled:** Disable the LPD function.



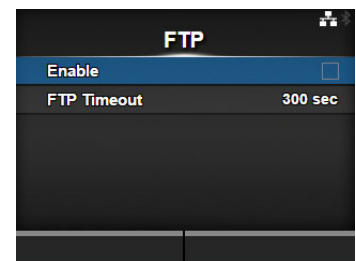
FTP

Interface > Network > Services > FTP

Set the functions for FTP.

The setting items are as follows:

1	Enable	Enable or disable the functions for FTP.
2	FTP Timeout	Set the connection timeout period between the printer's FTP server and clients.



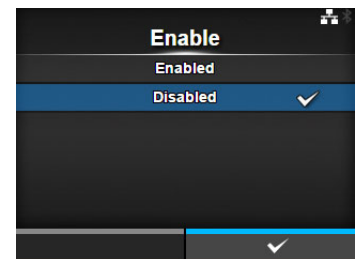
Enable

Interface > Network > Services > FTP > Enable

Enable or disable the functions for FTP.

The options are as follows:

- **Enabled:** Enable the FTP function.
- **Disabled:** Disable the FTP function.



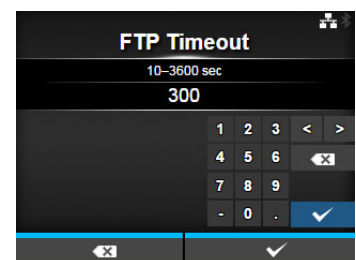
FTP Timeout

Interface > Network > Services > FTP > FTP Timeout

Set the connection timeout period between the printer's FTP server and clients.

Specify the maximum number of seconds that the printer's FTP server will allow clients to stay connected without receiving any data on either the control or data connection.

The setting range is from 10 to 3600 seconds.



SNMP

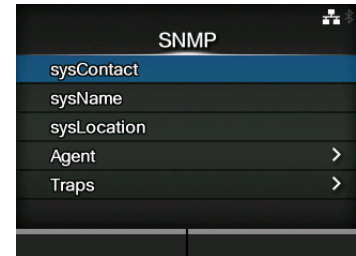
Interface > Network > Services > SNMP

Set the functions for SNMP.

The SNMP function enables you to monitor and manage a UDP/IP based network.

The setting items are as follows:

1	sysContact	Set the contact information.
2	sysName	Set the name information.
3	sysLocation	Set the location information.
4	Agent	Set the Agent function.
5	Traps	Set the Traps function.

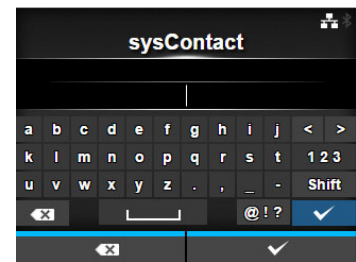


sysContact

Interface > Network > Services > SNMP > sysContact

Set the contact information.

You can enter alphabetic, numeric and symbolic characters in the range of 0 to 255 characters.



sysName

Interface > Network > Services > SNMP > sysName

Set the name information.

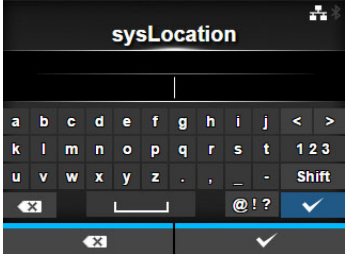
You can enter alphabetic, numeric and symbolic characters in the range of 0 to 255 characters.



sysLocation

Interface > Network > Services > SNMP > sysLocation

Set the location information.
You can enter alphabetic, numeric and symbolic characters in the range of 0 to 255 characters.

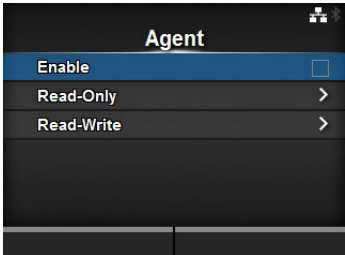


Agent

Interface > Network > Services > SNMP > Agent

Set the Agent function.
The setting items are as follows:

1	Enable	Use the Agent function.
2	Read-Only	Set the Read-Only function.
3	Read-Write	Set the Read-Write function.

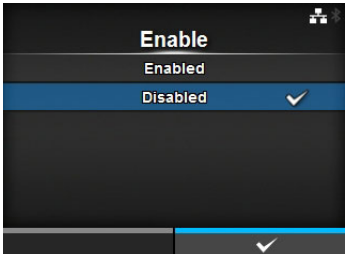


Enable

Interface > Network > Services > SNMP > Agent > Enable

Enable or disable the functions for Agent.
The options are as follows:

- **Enabled**: Enable the functions for Agent.
- **Disabled**: Disable the functions for Agent.



Read-Only

Interface > Network > Services > SNMP > Agent > Read-Only

Set the Read-Only function.

The setting items are as follows:

1	SNMP Version	Set the SNMP version.
2	Community	Set the Read-Only community name. *Shows only if you have selected 1 2c 3 or 1 2c in the SNMP Version menu.
3	User	Set the Read-Only user name. *Shows only if you have selected 1 2c 3 or 3 in the SNMP Version menu.
4	User Security	Set the Read-Only security level. *Shows only if you have selected 1 2c 3 or 3 in the SNMP Version menu.
5	Authentication Protocol	Set the authentication protocol. *Shows only if you have selected Authentication or Privacy in the User Security menu.
6	Authentication Passphrase	Set the authentication passphrase. *Shows only if you have selected Authentication or Privacy in the User Security menu.
7	Privacy Protocol	Set the privacy protocol. *Shows only if you have selected Privacy in the User Security menu.
8	Privacy Passphrase	Set the privacy passphrase. *Shows only if you have selected Privacy in the User Security menu.



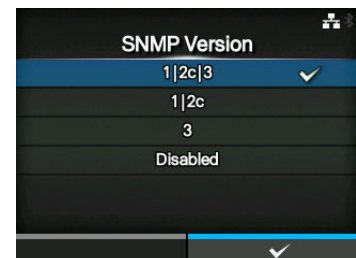
SNMP Version

Interface > Network > Services > SNMP > Agent > Read-Only > SNMP Version

Set the SNMP version.

The options are as follows:

- **1|2c|3**
- **1|2c**
- **3**
- **Disabled**



Community

Interface > Network > Services > SNMP > Agent > Read-Only > Community

Set the Read-Only community name.

Shows only if you have selected **1|2c|3** or **1|2c** in the **SNMP Version** menu.

You can enter alphabetic, numeric and symbolic characters in the range of 1 to 32 characters.

Initial setting: public



User

Interface > Network > Services > SNMP > Agent > Read-Only > User

Set the Read-Only user name.

Shows only if you have selected **1|2c|3** or **3** in the **SNMP Version** menu.

You can enter alphabetic, numeric and symbolic characters in the range of 1 to 32 characters.

Initial setting: rouser



User Security

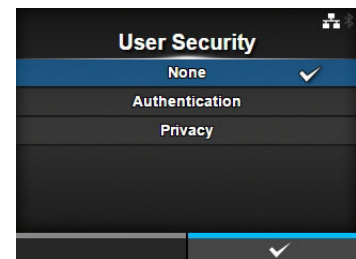
Interface > Network > Services > SNMP > Agent > Read-Only > User Security

Set the Read-Only security level.

Shows only if you have selected **1|2c|3** or **3** in the **SNMP Version** menu.

The options are as follows:

- **None**
- **Authentication**
- **Privacy**



Authentication Protocol

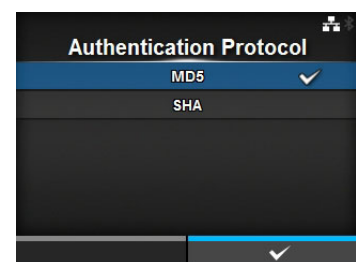
Interface > Network > Services > SNMP > Agent > Read-Only > Authentication Protocol

Set the authentication protocol.

Shows only if you have selected **Authentication** or **Privacy** in the **User Security** menu.

The options are as follows:

- **MD5**
- **SHA**



Authentication Passphrase

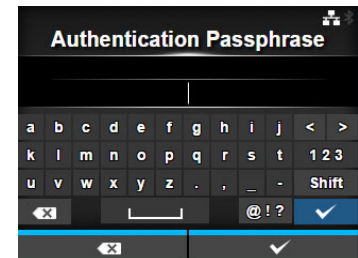
Interface > Network > Services > SNMP > Agent > Read-Only > Authentication Passphrase

Set the authentication passphrase.

Shows only if you have selected **Authentication** or **Privacy** in the **User Security** menu.

You can enter alphabetic, numeric and symbolic characters in the range of 8 to 32 characters.

Initial setting: mypassword



Privacy Protocol

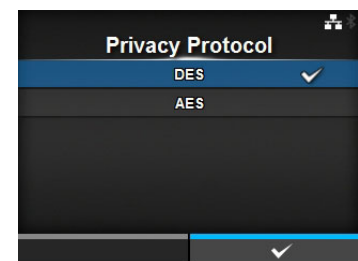
Interface > Network > Services > SNMP > Agent > Read-Only > Privacy Protocol

Set the privacy protocol.

Shows only if you have selected **Privacy** in the **User Security** menu.

The options are as follows:

- **DES**
- **AES**



Privacy Passphrase

Interface > Network > Services > SNMP > Agent > Read-Only > Privacy Passphrase

Set the privacy passphrase.

Shows only if you have selected **Privacy** in the **User Security** menu.

You can enter alphabetic, numeric and symbolic characters in the range of 8 to 32 characters.

Initial setting: mypassword



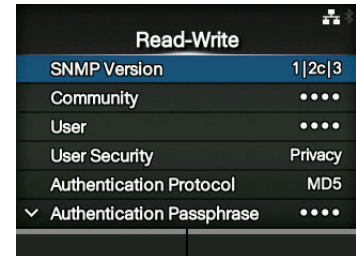
Read-Write

Interface > Network > Services > SNMP > Agent > Read-Write

Set the Read-Write function.

The setting items are as follows:

1	SNMP Version	Set the SNMP version.
2	Community	Set the Read-Write community name. *Shows only if you have selected 1 2c 3 or 1 2c in the SNMP Version menu.
3	User	Set the Read-Write user name. *Shows only if you have selected 1 2c 3 or 3 in the SNMP Version menu.
4	User Security	Set the Read-Write security level. *Shows only if you have selected 1 2c 3 or 3 in the SNMP Version menu.
5	Authentication Protocol	Set the authentication protocol. *Shows only if you have selected Authentication or Privacy in the User Security menu.
6	Authentication Passphrase	Set the authentication passphrase. *Shows only if you have selected Authentication or Privacy in the User Security menu.
7	Privacy Protocol	Set the privacy protocol. *Shows only if you have selected Privacy in the User Security menu.
8	Privacy Passphrase	Set the privacy passphrase. *Shows only if you have selected Privacy in the User Security menu.



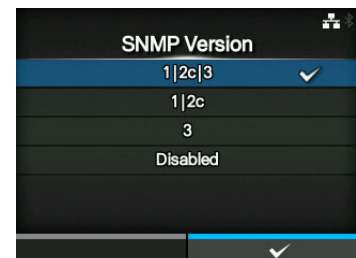
SNMP Version

Interface > Network > Services > SNMP > Agent > Read-Write > SNMP Version

Set the SNMP version.

The options are as follows:

- **1|2c|3**
- **1|2c**
- **3**
- **Disabled**



Community

Interface > Network > Services > SNMP > Agent > Read-Write > Community

Set the Read-Write community name.

Shows only if you have selected **1|2c|3** or **1|2c** in the **SNMP Version** menu.

You can enter alphabetic, numeric and symbolic characters in the range of 0 to 32 characters.

Initial setting: private



User

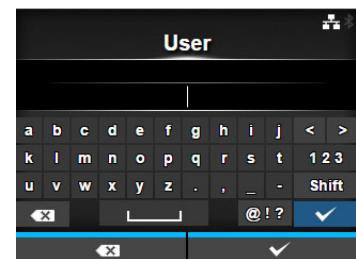
Interface > Network > Services > SNMP > Agent > Read-Write > User

Set the Read-Write user name.

Shows only if you have selected **1|2c|3** or **3** in the **SNMP Version** menu.

You can enter alphabetic, numeric and symbolic characters in the range of 0 to 32 characters.

Initial setting: rwuser



User Security

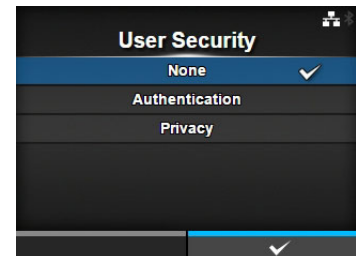
Interface > Network > Services > SNMP > Agent > Read-Write > User Security

Set the Read-Write security level.

Shows only if you have selected **1|2c|3** or **3** in the **SNMP Version** menu.

The options are as follows:

- **None**
- **Authentication**
- **Privacy**



Authentication Protocol

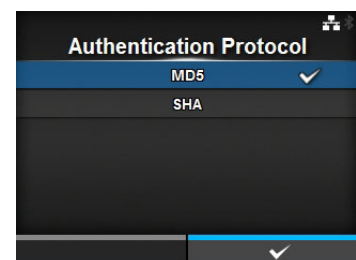
Interface > Network > Services > SNMP > Agent > Read-Write > Authentication Protocol

Set the authentication protocol.

Shows only if you have selected **Authentication** or **Privacy** in the **User Security** menu.

The options are as follows:

- **MD5**
- **SHA**



Authentication Passphrase

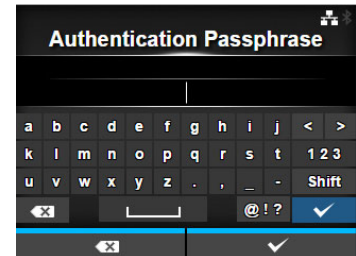
Interface > Network > Services > SNMP > Agent > Read-Write > Authentication Passphrase

Set the authentication passphrase.

Shows only if you have selected **Authentication** or **Privacy** in the **User Security** menu.

You can enter alphabetic, numeric and symbolic characters in the range of 0 to 32 characters.

Initial setting: mypassword



Privacy Protocol

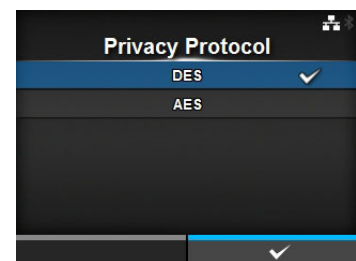
Interface > Network > Services > SNMP > Agent > Read-Write > Privacy Protocol

Set the privacy protocol.

Shows only if you have selected **Privacy** in the **User Security** menu.

The options are as follows:

- **DES**
- **AES**



Privacy Passphrase

Interface > Network > Services > SNMP > Agent > Read-Write > Privacy Passphrase

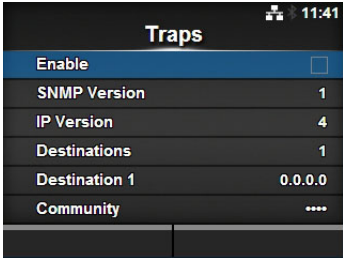
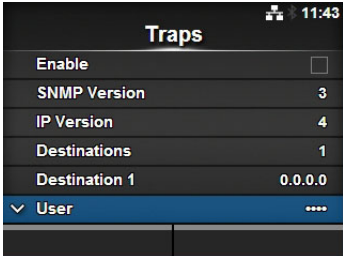
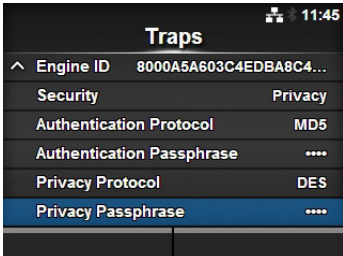
Set the privacy passphrase.

Shows only if you have selected **Privacy** in the **User Security** menu.

You can enter alphabetic, numeric and symbolic characters in the range of 8 to 32 characters.

Initial setting: mypassword



Traps			
Interface > Network > Services > SNMP > Traps			
Set the Traps function. The setting items are as follows:			
1	Enable	Use the Traps function.	
2	SNMP Version	Set the SNMP version.	
3	IP Version	Set the IP version.	
4	Destinations	Set the number of trap destinations.	
5	Destination 1	Set address 1 for the trap destination.	
6	Destination 2	Set address 2 for the trap destination. *Shows only if you have selected 2 or 3 in the Destination menu.	
7	Destination 3	Set address 3 for the trap destination. *Shows only if you have selected 3 in the Destination menu.	
8	Community	Set the Traps community name. *Shows only if you have selected 1 or 2c in the SNMP Version menu.	
9	User	Set the Traps user name. *Shows only if you have selected 3 in the SNMP Version menu.	
10	Engine ID	Set the engine ID. *Shows only if you have selected 3 in the SNMP Version menu.	
11	Security	Set the security level. *Shows only if you have selected 3 in the SNMP Version menu.	
12	Authentication Protocol	Set the authentication protocol. *Shows only if you have selected Authentication or Privacy in the Security menu.	
13	Authentication Passphrase	Set the authentication passphrase. *Shows only if you have selected Authentication or Privacy in the Security menu.	
14	Privacy Protocol	Set the privacy protocol. *Shows only if you have selected Privacy in the Security menu.	
15	Privacy Passphrase	Set the privacy passphrase. *Shows only if you have selected Privacy in the Security menu.	

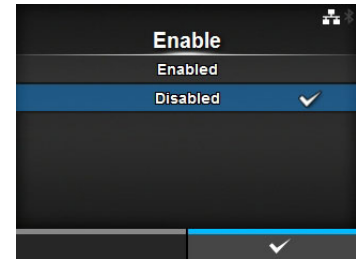
Enable

Interface > Network > Services > SNMP > Traps > Enable

Enable or disable the functions for Traps.

The options are as follows:

- **Enabled:** Enable the Traps function.
- **Disabled:** Disable the Traps function.



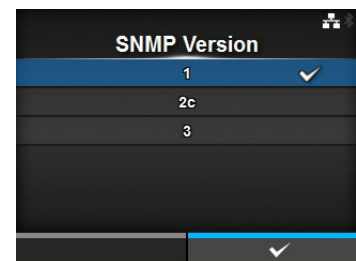
SNMP Version

Interface > Network > Services > SNMP > Traps > SNMP Version

Set the SNMP version.

The options are as follows:

- **1**
- **2c**
- **3**



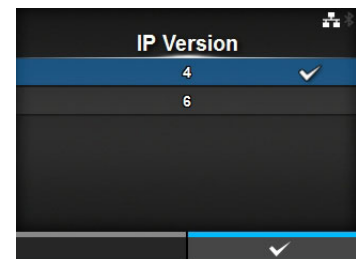
IP Version

Interface > Network > Services > SNMP > Traps > IP Version

Set the IP version to use for trap destinations.

The options are as follows:

- **4:** Set the IP version to IPv4.
- **6:** Set the IP version to IPv6.

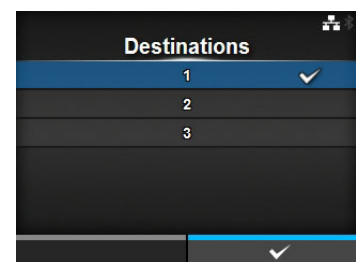


Destinations

Interface > Network > Services > SNMP > Traps > Destinations

Set the number of trap destinations.

The setting range is from 1 to 3.

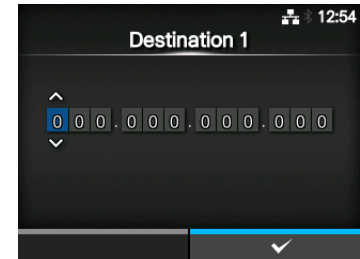


Destination 1

Interface > Network > Services > SNMP > Traps > Destination 1

Set address 1 for trap destination.

The displayed IP version differs depending on the **IP Version** setting.



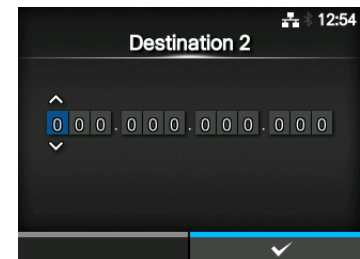
Destination 2

Interface > Network > Services > SNMP > Traps > Destination 2

Set address 2 for trap destination.

The displayed IP version differs depending on the **IP Version** setting.

Shows only if you have selected **2** or **3** in the **Destination** menu.



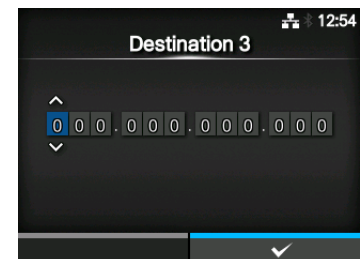
Destination 3

Interface > Network > Services > SNMP > Traps > Destination 3

Set address 3 for trap destination.

The displayed IP version differs depending on the **IP Version** setting.

Shows only if you have selected **3** in the **Destination** menu.



Community

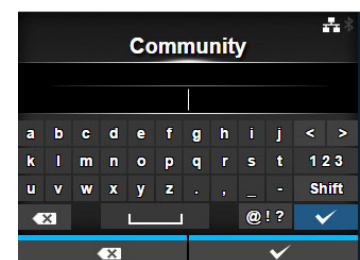
Interface > Network > Services > SNMP > Traps > Community

Set the Traps community name.

Shows only if you have selected **1** or **2c** in the **SNMP Version** menu.

You can enter alphabetic, numeric and symbolic characters in the range of 1 to 32 characters.

Initial setting: trapcom



User

Interface > Network > Services > SNMP > Traps > User

Set the Traps user name.

Shows only if you have selected **3** in the **SNMP Version** menu.

You can enter alphabetic, numeric and symbolic characters in the range of 1 to 32 characters.

Initial setting: trapuser



Engine ID

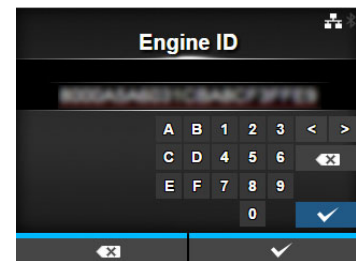
Interface > Network > Services > SNMP > Traps > Engine ID

Set the engine ID.

Shows only if you have selected **3** in the **SNMP Version** menu.

Initial setting: Created from the MAC address.

Hexadecimal characters are allowed and the range is from 10 to 64 characters (only an even number of characters are allowed).



Security

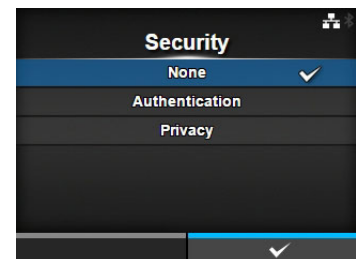
Interface > Network > Services > SNMP > Traps > Security

Set the security level.

Shows only if you have selected **3** in the **SNMP Version** menu.

The options are as follows:

- **None**
- **Authentication**
- **Privacy**



Authentication Protocol

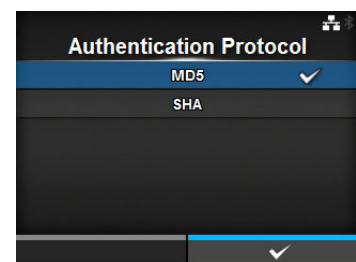
Interface > Network > Services > SNMP > Traps > Authentication Protocol

Set the authentication protocol.

Shows only if you have selected **Authentication** or **Privacy** in the **Security** menu.

The options are as follows:

- **MD5**
- **SHA**



Authentication Passphrase

Interface > Network > Services > SNMP > Traps > Authentication Passphrase

Set the authentication passphrase.

Shows only if you have selected **Authentication** or **Privacy** in the **Security** menu.

You can enter alphabetic, numeric and symbolic characters in the range of 0 to 32 characters.

Initial setting: mypassword



Privacy Protocol

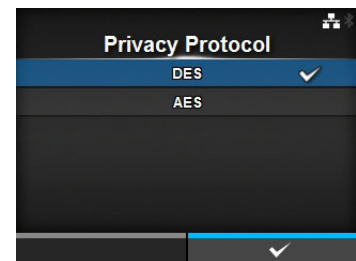
Interface > Network > Services > SNMP > Traps > Privacy Protocol

Set the privacy protocol.

Shows only if you have selected **Privacy** in the **Security** menu.

The options are as follows:

- **DES**
- **AES**



Privacy Passphrase

Interface > Network > Services > SNMP > Traps > Privacy Passphrase

Set the privacy passphrase.

Shows only if you have selected **Privacy** in the **Security** menu.

You can enter alphabetic, numeric and symbolic characters in the range of 8 to 32 characters.

Initial setting: mypassword

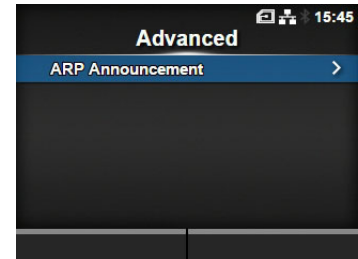


Advanced

Interface > Network > Advanced

Set the advanced function for the interface.
The setting item is as follows:

1	ARP Announcement	Set the ARP announcement.
---	------------------	---------------------------

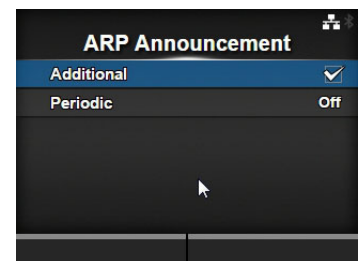


ARP Announcement

Interface > Network > Advanced > ARP Announcement

Set the functions for ARP announcement.
The ARP announcement is useful for updating other hosts mapping of a hardware address when the IP address or MAC address of the sender has changed.
The setting items are as follows:

1	Additional	Enable or disable the additional ARP announcement.
2	Periodic	Set the periodic timing for ARP announcement.



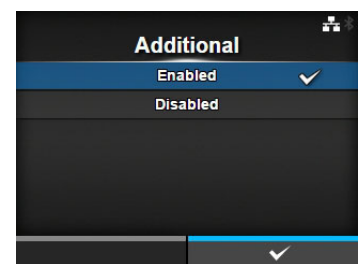
Additional

Interface > Network > Advanced > ARP Announcement > Additional

Set the additional ARP announcement.

The options are as follows:

- **Enabled:** Enable the additional ARP announcement. The ARP is sent at 1, 2, 4, 8 and 16 seconds after the link up/DHCP assignment.
- **Disabled:** Disable the additional ARP announcement. The ARP is only sent at 1 second after the link up/DHCP assignment.

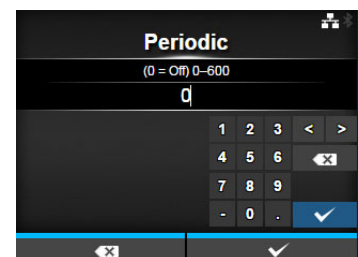


Periodic

Interface > Network > Advanced > ARP Announcement > Periodic

Set the interval of the ARP announcement in the range of 0 to 600 seconds.

Initial setting: 0

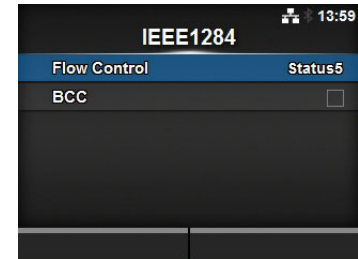


IEEE1284

Interface > IEEE1284

Set the IEEE1284 connection.
Shows only if the combo interface board is installed.
The setting items are as follows:

1	Flow Control	Set the communication protocol.
2	BCC	Set the BCC check function. *Shows only if you have selected Status5 in the Flow Control menu.

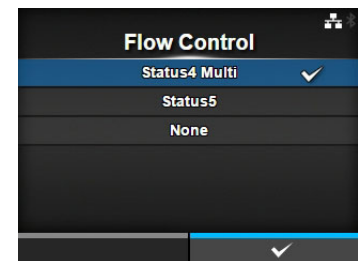


Flow Control

Interface > IEEE1284 > Flow Control

Set the communication protocol.
The options are as follows:

- **Status4 Multi**
- **Status5**
- **None**

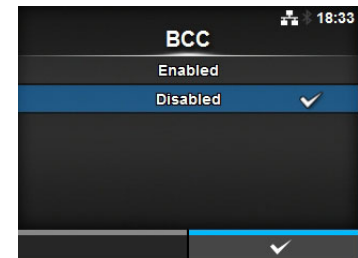


BCC

Interface > IEEE1284 > BCC

Enable or disable the BCC check function.
Shows only if you have selected **Status5** in the **Flow Control** menu.
The options are as follows:

- **Enabled**: Enable the BCC check function.
- **Disabled**: Disable the BCC check function.



RS-232C			
<i>Interface > RS-232C</i> Set the RS-232C connection. Shows only if the combo interface board is installed. The setting items are as follows:			
1	Baudrate	Set the communication speed.	
2	Parameters	Set the data parameters.	
3	Flow Control	Set the communication protocol.	
4	BCC	Set the BCC check function. *Shows only if you have selected STATUS5 in the Flow Control menu.	

Baudrate		
<i>Interface > RS-232C > Baudrate</i> Set the baud rate (bps). The options are as follows: <ul style="list-style-type: none">• 2400• 4800• 9600• 19200• 38400• 57600• 115200		

Parameters

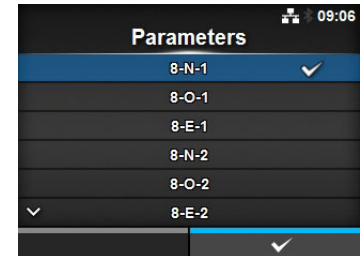
Interface > RS-232C > Parameters

Set the data parameter.

The options are as follows:

Refer to the table below for the parameter configurations.

- 8-N-1
- 8-O-1
- 8-E-1
- 8-N-2
- 8-O-2
- 8-E-2
- 7-N-1
- 7-O-1
- 7-E-1
- 7-N-2
- 7-O-2
- 7-E-2



Parameter Configurations List

Parameter	Data length (bit)	Parity	Stop bit (bit)
8-N-1	8	NONE	1
8-O-1	8	ODD	1
8-E-1	8	EVEN	1
8-N-2	8	NONE	2
8-O-2	8	ODD	2
8-E-2	8	EVEN	2
7-N-1	7	NONE	1
7-O-1	7	ODD	1
7-E-1	7	EVEN	1
7-N-2	7	NONE	2
7-O-2	7	ODD	2
7-E-2	7	EVEN	2

Flow Control

Interface > RS-232C > Flow Control

Set the communication protocol.
The options are as follows:

- **READY/BUSY Multi**
- **XON/XOFF Multi**
- **STATUS3**
- **STATUS4**
- **STATUS5**
- **None**

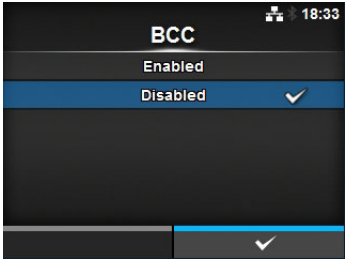


BCC

Interface > RS-232C > BCC

Enable or disable the BCC check function.
Shows only if you have selected **STATUS5** in the **Flow Control** menu.
The options are as follows:

- **Enabled**: Enable the BCC check function.
- **Disabled**: Disable the BCC check function.

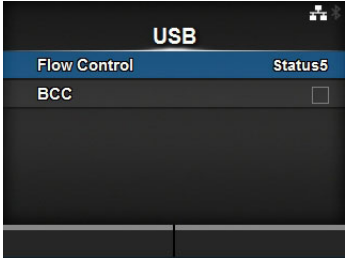


USB

Interface > USB

Set the USB connection.
The setting items are as follows:

1	Flow Control	Set the communication protocol.
2	BCC	Set the BCC check function. *Shows only if you have selected Status5 in the Flow Control menu.



Flow Control

Interface > USB > Flow Control

Set the communication protocol.
The options are as follows:

- **Status4**
- **Status5**
- **None**

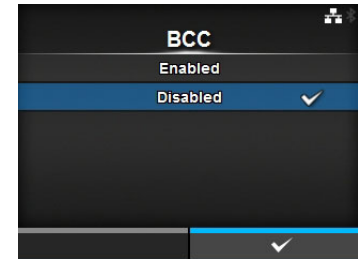


BCC

Interface > USB > BCC

Enable or disable the BCC check function.
Shows only if you have selected **Status5** in the **Flow Control** menu.
The options are as follows:

- **Enabled**: Enable the BCC check function.
- **Disabled**: Disable the BCC check function.

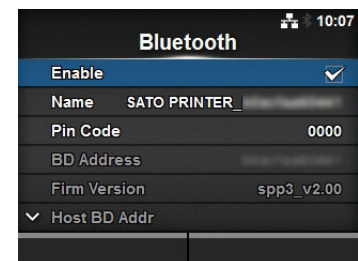


Bluetooth

Interface > Bluetooth

Set the Bluetooth connection.
The setting items are as follows:

1	Enable	Enable or disable the functions for Bluetooth.
2	Name	Set the device name for the printer.
3	Pin Code	Set the PIN code.
4	BD Address	Shows the BD address of this printer. (You cannot change this address.)
5	Firm Version	Shows the firmware version of the Bluetooth. (You cannot change this value.)
6	Host BD Addr	Check the Host BD address.
7	Authentication	Set the authentication level.
8	ISI	Set the ISI communication parameter.
9	ISW	Set the ISW communication parameter.
10	PSI	Set the PSI communication parameter.
11	PSW	Set the PSW communication parameter.
12	CRC Mode	Set the CRC check function.
13	Flow Control	Set the communication protocol.

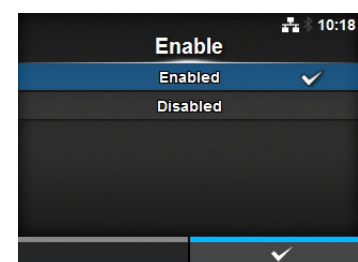


Enable

Interface > Bluetooth > Enable

Enable or disable the functions for Bluetooth.
The options are as follows:

- **Enabled**: Enable the Bluetooth function.
- **Disabled**: Disable the Bluetooth function.



Name

Interface > Bluetooth > Name

Set the device name for the printer.

You can enter one to fifty-three characters including alphabet (upper case and lower case), numbers and symbols.

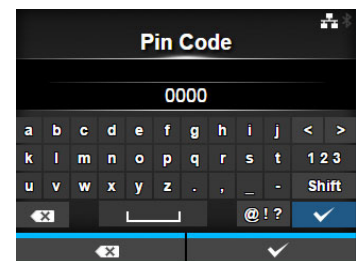


Pin Code

Interface > Bluetooth > Pin Code

Set the PIN code.

You can enter four to sixteen characters including alphabet (upper case and lower case), numbers and symbols.



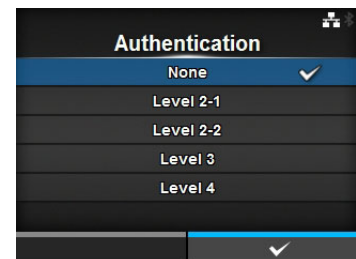
Authentication

Interface > Bluetooth > Authentication

Set the authentication level.

The options are as follows:

- **None:** No authentication
- **Level 2-1:** PIN code authentication, service level, no encryption
- **Level 2-2:** PIN code authentication, service level, encryption
- **Level 3:** PIN code authentication, link level, no encryption
- **Level 4:** Secure Simple Pairing compatible, service level, encryption (Can be communicated with devices that are not compatible with Secure Simple Pairing)



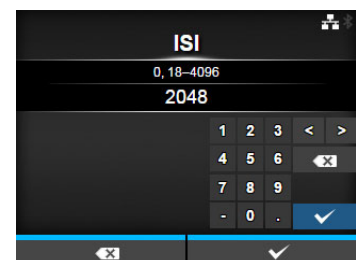
ISI

Interface > Bluetooth > ISI

Set the ISI communication parameter.

The setting range is 0, or from 18 to 4096.

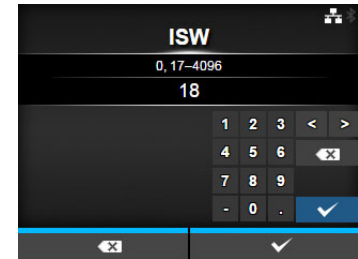
Set to a value that is higher than the ISW communication parameter setting value.



ISW

Interface > Bluetooth > ISW

Set the ISW communication parameter.
The setting range is 0, or from 17 to 4096.
The setting range varies depending on the ISI communication parameter setting value.
Set to a value that is lower than the ISI communication parameter setting value.



PSI

Interface > Bluetooth > PSI

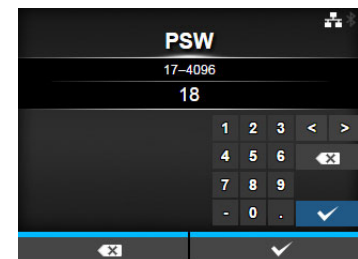
Set the PSI communication parameter.
The setting range is from 18 to 4096.
Set to a value that is higher than the PSW communication parameter setting value.



PSW

Interface > Bluetooth > PSW

Set the PSW communication parameter.
The setting range is from 17 to 4096.
The setting range varies depending on the PSI communication parameter setting value.
Set to a value that is lower than the PSI communication parameter setting value.

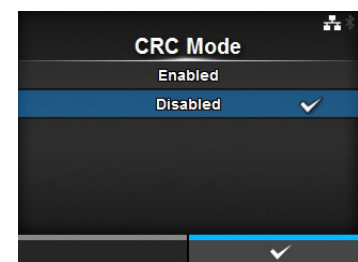


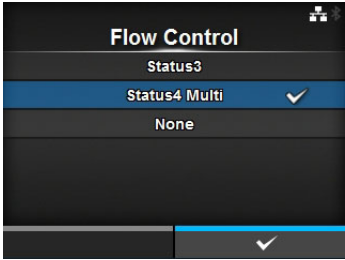
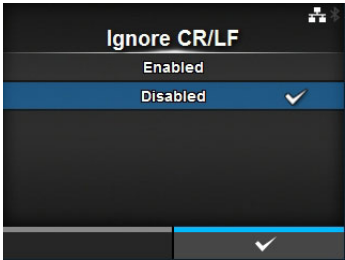
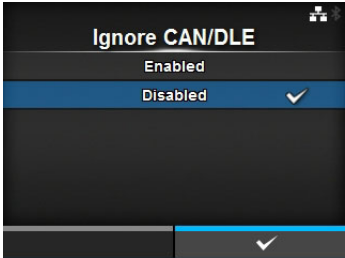
CRC Mode

Interface > Bluetooth > CRC Mode

Enable or disable the CRC check function.
The options are as follows:

- **Enabled:** Enable the CRC check function.
- **Disabled:** Disable the CRC check function.



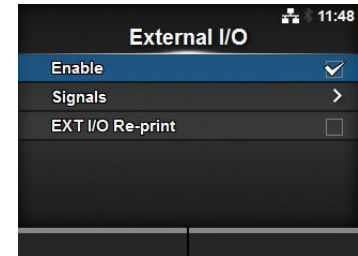
Flow Control	
<p><i>Interface > Bluetooth > Flow Control</i></p> <p>Set the communication protocol. The options are as follows:</p> <ul style="list-style-type: none">• Status3• Status4 Multi• None	
Ignore CR/LF	
<p><i>Interface > Ignore CR/LF</i></p> <p>Ignore or acknowledge the CR/LF code of the received data. The options are as follows:</p> <ul style="list-style-type: none">• Enabled: Ignore the CR/LF code.• Disabled: Do not ignore the CR/LF code.	
Ignore CAN/DLE	
<p><i>Interface > Ignore CAN/DLE</i></p> <p>Ignore or acknowledge the CAN/DLE code of the received data. The options are as follows:</p> <ul style="list-style-type: none">• Enabled: Ignore the CAN/DLE code.• Disabled: Do not ignore the CAN/DLE code.	

External I/O

Interface > External I/O

Use the external (EXT) terminal as an interface between the external device and the printer.
Shows only if the combo interface board is installed.
The setting items are as follows:

1	Enable	Enable or disable the external signal interface.
2	Signals	Set the external signal. *Shows only if you have selected Enabled in the Enable menu.
3	EXT I/O Re-print	Set the reprint function that uses the external terminal.

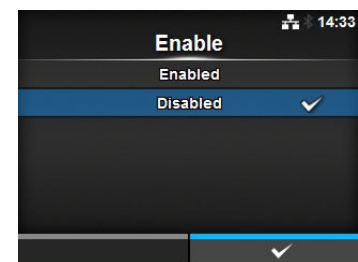


Enable

Interface > External I/O > Enable

Enable or disable the external signal interface.
The options are as follows:

- **Enabled**: Enable the external signal interface.
- **Disabled**: Disable the external signal interface.

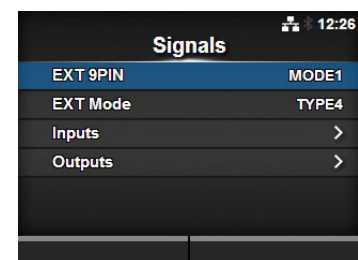


Signals

Interface > External I/O > Signals

Set the external signal.
Shows only if you have selected **Enabled** in the **Enable** menu.
The setting items are as follows:

1	EXT 9PIN	Set the function of the EXT 9PIN output.
2	EXT Mode	Set the mode of the Print End Signal.
3	Inputs	Set the input pin No. of the Signal Print Start/Signal Reprint.
4	Outputs	Set the output pin No. of the signals.



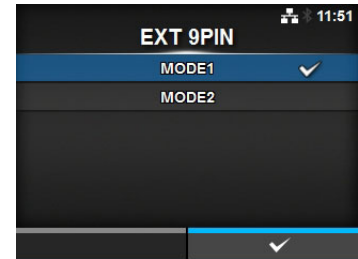
EXT 9PIN

Interface > External I/O > Signals > EXT 9PIN

Set the function of the EXT 9PIN output.

The options are as follows:

- **MODE1:** The output signal becomes “Active” when there is remaining print data without error in online mode.
- **MODE2:** The output signal becomes “Active” when the printer is ONLINE.

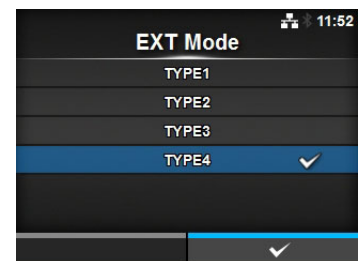
**EXT Mode**

Interface > External I/O > Signals > EXT Mode

Set the mode of the Print End Signal.

The options are as follows:

Type	Operation Details
TYPE1	The print end signal (PREND) is High before label printing, and it becomes Low after print completion. The signal level becomes High after 20 ms.
TYPE2	The print end signal (PREND) is Low before label printing, and it becomes High after print completion. The signal level becomes Low after 20 ms.
TYPE3	The print end signal (PREND) is High before label printing, becomes Low from the start to the end of print, and becomes High again after print completion.
TYPE4	The print end signal (PREND) is Low before label printing, becomes High from the start to the end of print, and becomes Low again after print completion.



*Refer to [Section 7.7.6 External Signal Interface \(EXT\)](#) for the [Timing Chart of the EXT Output Signal](#).

Inputs

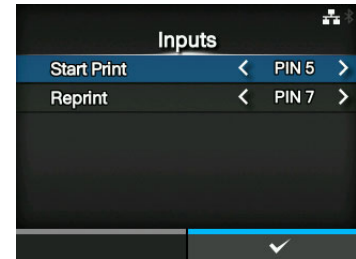
Interface > External I/O > Signals > Inputs

Set the input pin No. of the Signal Print Start/Signal Reprint.

Press the ▲/▼ buttons to highlight the item that you want to change, then press the ◀/▶ buttons to change the pin No.

Press the ⬅ button to save the settings and return to the **Signals** menu. The setting items are as follows:

1	Start Print	Set the input pin No. of the Signal Print Start. The options are as follows: <ul style="list-style-type: none"> • PIN5: Set the Signal Print Start to 5PIN. • PIN7: Set the Signal Print Start to 7PIN.
2	Reprint	Set the input pin No. of the Signal Reprint. The options are as follows: <ul style="list-style-type: none"> • PIN5: Set the Signal Reprint to 5PIN. • PIN7: Set the Signal Reprint to 7PIN.



Note

You cannot set any inputs using the same pin number. If you attempt to set the same number, the settings will show in red and you cannot save the settings.

Outputs

Interface > External I/O > Signals > Outputs

Set the output pin No. of the signals.

Press the ▲ / ▼ buttons to highlight the item that you want to change, then press the ◀ / ▶ buttons to change the pin No.

Press the ⬅ button to save the settings and return to the **Signals** menu. The setting items are as follows:

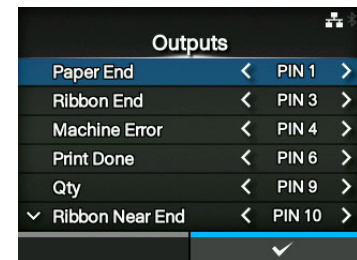
1	Paper End/ Paper/Ribbon End (If RFID Mode is enabled) (CL4NX only)	Set the output pin No. of the Signal Paper End. Set the output pin No. of the Signal Paper/ Ribbon End if you have installed the RFID.
2	Ribbon End/ RFID Tag Error (If RFID Mode is enabled) (CL4NX only)	Set the output pin No. of the Signal Ribbon End. Set the output pin No. of the Signal RFID Tag Error if you have installed the RFID.
3	Machine Error/ Machine/RFID Error (If RFID Mode is enabled) (CL4NX only)	Set the output pin No. of the Signal Machine Error. Set the output pin No. of the Signal Machine/ RFID Error if you have installed the RFID.
4	Print Done	Set the output pin No. of the Signal Print End.
5	Qty/Offline	<ul style="list-style-type: none"> • MODE1: The output signal becomes “Active” when there is remaining print data without error in online mode. • MODE2: The output signal becomes “Active” when the printer is Online.
6	Ribbon Near End	Set the output pin No. of the Signal Ribbon Near End.
7	Dispenser	Set the output pin No. of the Signal Dispenser. *To use this signal, connect the dispenser unit or linerless kit (CL4NX only).
8	Label Near End	Set the output pin No. of the Signal Label Near End. *This printer does not support the Label Near End function. Keep the setting off.

The options for each signal outputs are as follows:

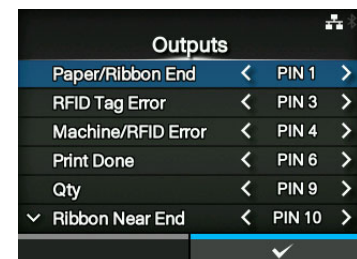
- **PIN1:** Set the selected signal to 1PIN.
- **PIN3:** Set the selected signal to 3PIN.
- **PIN4:** Set the selected signal to 4PIN.
- **PIN6:** Set the selected signal to 6PIN.
- **PIN9:** Set the selected signal to 9PIN.
- **PIN10:** Set the selected signal to 10PIN.
- **OFF:** Set the selected signal to off mode.

Note

You cannot set any outputs using the same pin number. If you attempt to set the same number, the settings will show in red and you cannot save the settings.



(If RFID Mode is enabled)
(CL4NX only)



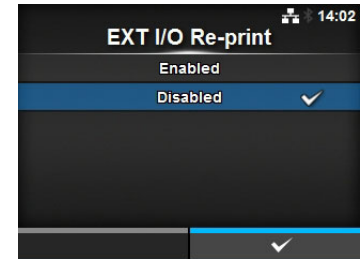
EXT I/O Re-print

Interface > External I/O > EXT I/O Re-print

Set the reprint function for use with the external terminal.

The options are as follows:

- **Enabled:** Enable the reprint function.
- **Disabled:** Disable the reprint function.



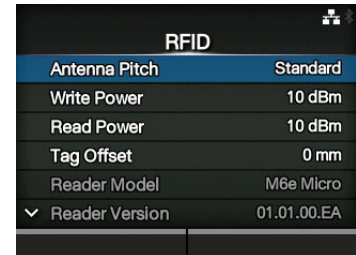
RFID (CL4NX only)*Interface > RFID*

Perform the RFID settings.

*Shows only for the RFID model.

The setting items are as follows:

1	Antenna Pitch	Set the antenna pitch.
2	Write Power	Set radio power level used to write information to RFID tag.
3	Read Power	Set radio power level used to read information from RFID tag.
4	Tag Offset	Set distance to print on label BEFORE pausing to encode RFID.
5	Reader Model	Shows the RFID module model.
6	Reader Version	Shows the RFID module firmware version.
7	View	Shows the RFID tag data.
8	Retry Mode	Set whether to retry encoding of failed data after error recovery.
9	Retries	Set the number of failed encoding attempts before error warning/print pause.
10	Mark bad tags	Set the error print for the RFID tag error.
11	MCS	Set the Multi vendor Chip-based Serialization.
12	Non-RFID Warning	Set the non-RFID warning message.
13	Log RFID Data	Set the log function to record the encoded tag information.
14	Data To Record	Set the data to be recorded.
15	Output Error Mode	Set the signal type for RFID errors.
16	Pulse Length	Set the length of an RFID error pulse.
17	Counters	Shows the RFID counter.



RFID	
Antenna Pitch	Standard
Write Power	10 dBm
Read Power	10 dBm
Tag Offset	0 mm
Reader Model	M6e Micro
Reader Version	01.01.00.EA

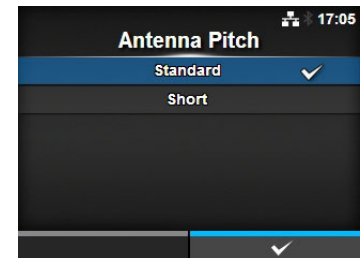
Antenna Pitch**UHF***Interface > RFID > Antenna Pitch*

Set the antenna pitch according to the **Inlay Configuration Guide**.
For details, access the following URL:
<http://www.satoworldwide.com/rfid/>

The options are as follows:

- **Standard**
- **Short**

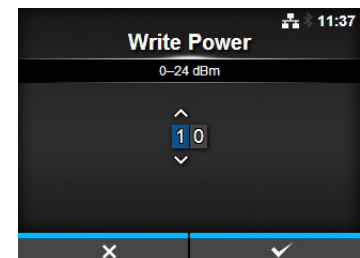
*Shows only if the module is UHF.

**Write Power****UHF***Interface > RFID > Write Power*

Set radio power level used to write information to RFID tag according to the **Inlay Configuration Guide**. For details, access the following URL:
<http://www.satoworldwide.com/rfid/>

The setting range is from 0 to 24 dBm.

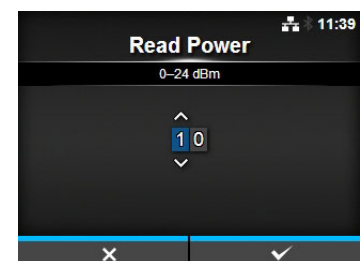
*Shows only if the module is UHF.

**Read Power****UHF***Interface > RFID > Read Power*

Set radio power level used to read information from RFID tag according to the **Inlay Configuration Guide**. For details, access the following URL:
<http://www.satoworldwide.com/rfid/>

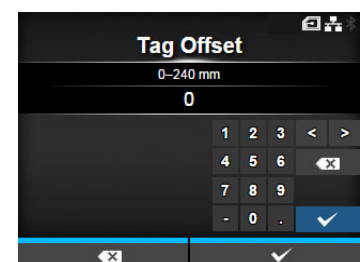
The setting range is from 0 to 24 dBm.


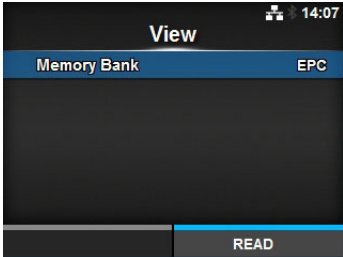
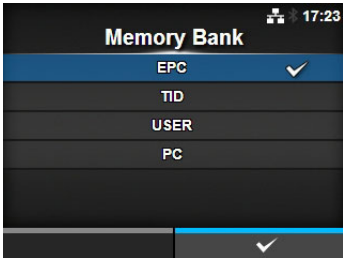
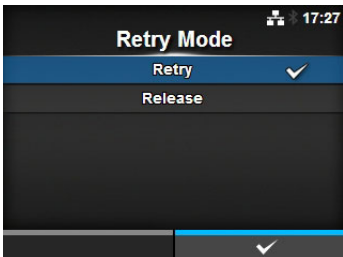
*Shows only if the module is UHF.

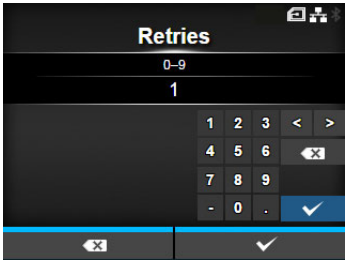
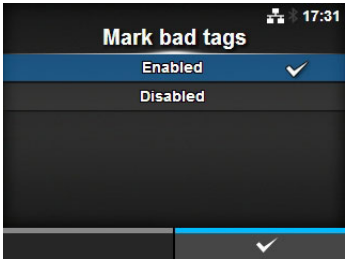
**Tag Offset****UHF HF***Interface > RFID > Tag Offset*

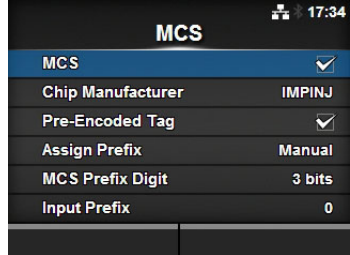
Set distance to print on label BEFORE pausing to encode RFID according to the **Inlay Configuration Guide**. This setting will be used when labels are not compatible with the CL4NX's antenna positions. For details, access the following URL:
<http://www.satoworldwide.com/rfid/>

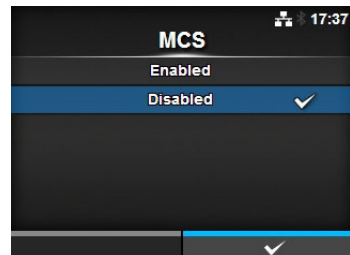
The setting range is from 0 to 240 mm.



View	UHF HF
<p><i>Interface > RFID > View</i></p> <p>Shows the data of the RFID tag.</p> <p>Press the  button to change to the Memory Bank screen.</p> <p>Press the right soft button (READ) to change to the Data Reading screen, to read and show the data.</p> <p>On the Data Reading screen, you can press the right soft button to feed the media and attempt to read the tag currently set in the printer.</p>	
Memory Bank	UHF HF
<p><i>Interface > RFID > View > Memory Bank</i></p> <p>Set the memory area of the RFID tag to read. The readable memory areas are as follows:</p> <p>If the installed module is UHF</p> <ul style="list-style-type: none"> • EPC: EPC area • TID: TID area • USER: USER area • PC: PC/AFI area <p>If the installed module is HF</p> <ul style="list-style-type: none"> • USER: USER area • UID: UID area 	
Retry Mode	UHF HF
<p><i>Interface > RFID > Retry Mode</i></p> <p>Set whether to retry encoding of failed data after error recovery. The options are as follows:</p> <ul style="list-style-type: none"> • Retry: The printer will continue to attempt encoding the same data. However, if you have set the Retries to 0, the RFID error screen shows and printing continues. • Release: Deletes the current print job, allowing the printer to move on to the next print job. If the RFID error occurs continuously and reaches the maximum number of Retries, printing stops. 	

Retries UHF HF	
<p><i>Interface > RFID > Retries</i></p> <p>Set the number of failed encoding attempts before error warning/print pause. The setting range is from 0 to 9. If you set to 0, the RFID error screen shows and printing continues.</p>	
Mark bad tags UHF HF	
<p><i>Interface > RFID > Mark bad tags</i></p> <p>Set the error print for the RFID tag error.</p> <ul style="list-style-type: none">• Enabled: Enable the RFID error print function.• Disabled: Disable the RFID error print function. <p>For details on the RFID error print, refer to Section 7.5.1 Printing RFID Tag Errors.</p>	

MCS			UHF
<i>Interface > RFID > MCS</i> Set the Multi vendor Chip-based Serialization. Shows only if the module is UHF. The setting items are as follows:			
1	MCS	Enable or disable the Multi vendor Chip-based Serialization.	
2	Chip Manufacturer	Manually set MCS manufacturer prefix. *Shows only if you have selected Enabled in the MCS menu.	
3	Pre-Encoded Tag	Enable or disable for tags with pre-encoded EPC serial numbers. *Shows only if you have selected Enabled in the MCS menu.	
4	Assign Prefix	Set how to assign the three digit prefix data. *Shows only if you have selected Enabled in the MCS menu.	
5	MCS Prefix Digit	Set the length of manually assigned MCS manufacturer prefix. *Shows only if you have selected Manual in the Assign Prefix menu.	
6	Input Prefix	Set the contents of MCS prefix. *Shows only if you have selected Manual in the Assign Prefix menu.	

MCS		UHF
<i>Interface > RFID > MCS > MCS</i> <p>Enable or disable the Multi vendor Chip-based Serialization.</p> <ul style="list-style-type: none">• Enabled: Enable the Multi vendor Chip-based Serialization.• Disabled: Disable the Multi vendor Chip-based Serialization. <hr/> <p>Note Multi vendor Chip-based Serialization: use TID as base for SGTIN serial number.</p> <hr/>		

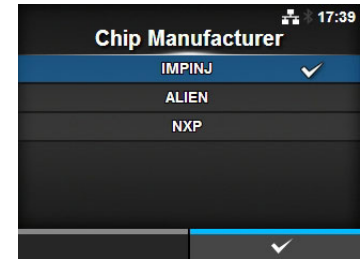
Chip Manufacturer

UHF

Interface > RFID > MCS > Chip Manufacturer

Manually set MCS manufacturer prefix.
Shows only if you have selected **Enabled** in the **MCS** menu.
The options are as follows:

- **IMPINJ**
- **ALIEN**
- **NXP**



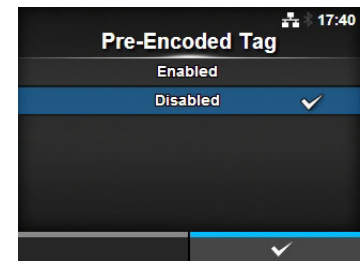
Pre-Encoded Tag

UHF

Interface > RFID > MCS > Pre-Encoded Tag

Enable or disable for tags with pre-encoded EPC serial numbers. EPC GTIN data is still required.
Shows only if you have selected **Enabled** in the **MCS** menu.
The options are as follows:

- **Enabled**: Enable the pre-encoded tag.
- **Disabled**: Disable the pre-encoded tag.



Assign Prefix

UHF

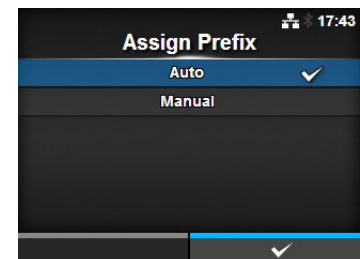
Interface > RFID > MCS > Assign Prefix

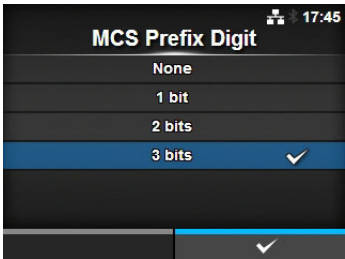
Set how to assign the three digit prefix data.
Shows only if you have selected **Enabled** in the **MCS** menu.
The options are as follows:

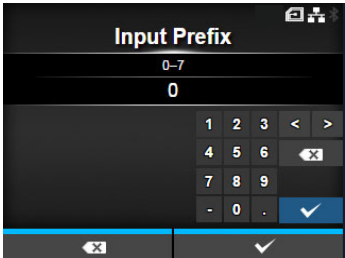
- **Auto**: Set to the manufacturer prefix selected in Chip Manufacturer.
- **Manual**: Set to the prefix determined by the MCS Prefix Digit and Input Prefix.

Note

Does not show if Chip Manufacturer is NXP and Pre-Encoded Tag is enabled.



MCS Prefix Digit UHF	
<p><i>Interface > RFID > MCS > MCS Prefix Digit</i></p> <p>Set the length of manually assigned MCS manufacturer prefix. This screen shows only if you have selected Manual in the Assign Prefix menu.</p> <p>The options are as follows:</p> <ul style="list-style-type: none"> • None: Set the number of digits of the prefix data to 0. Fill in 0 for all three 3 digits of the prefix data. • 1 bit: Set the number of digits of the prefix data to 1 digit. Fill in 0 for the lower 2 bits of the prefix data. • 2 bits: Set the number of digits of the prefix data to 2 digits. Fill in 0 for the lower 1 bit of the prefix data. • 3 bits: Set the number of digits of the prefix data to 3 digits. <hr/> <p>Note Does not show if Chip Manufacturer is NXP and Pre-Encoded Tag is enabled.</p>	

Input Prefix UHF	
<p><i>Interface > RFID > MCS > Input Prefix</i></p> <p>Set the contents of MCS prefix. This screen shows only if you have selected Manual in the Assign Prefix menu.</p> <p>The setting range is from 0 to 7.</p> <hr/> <p>Note</p> <ul style="list-style-type: none"> • Does not show if Chip Manufacturer is NXP and Pre-Encoded Tag is enabled. • The setting range varies depending on the setting value in MCS Prefix Digit. 	

Non-RFID Warning

UHF HF

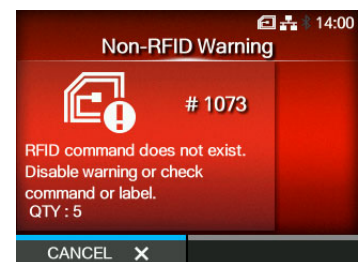
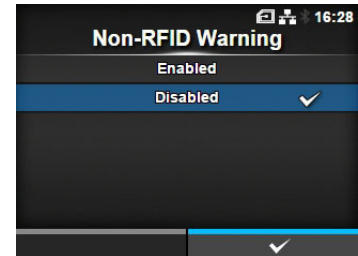
Interface > RFID > Non-RFID Warning

Set the warning for non-RFID error.

The options are as follows:

- **Enabled:** Show the non-RFID warning upon error.
- **Disabled:** Ignore the non-RFID error.

With Non-RFID warning enabled and RFID tag loaded, if the items received do not contain an RFID issue command, a warning error shows before printing so that the RFID tag will not be wasted. Press the CANCEL button to clear the warning message.



Log RFID Data

UHF HF

Interface > RFID > Log RFID Data

Set the log function to record the encoded tag information.

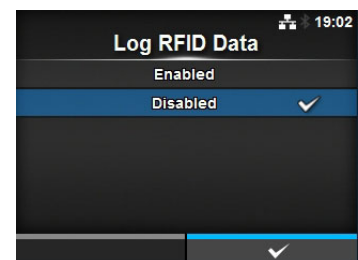
The log data can record up to 100 tags of information.

The options are as follows:

- **Enabled:** Enable the log function to record the RFID data.
- **Disabled:** Disable the log function to record the RFID data.

Note

UID data is recorded if the module is HF.



Data To Record

UHF

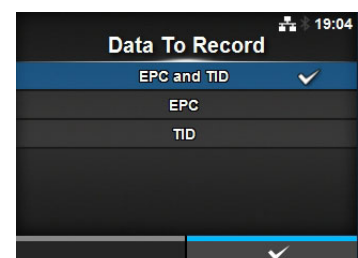
Interface > RFID > Data To Record

Set the data to record the log when Log RFID Data is enabled.

The options are as follows:

- **EPC and TID:** Store the EPC and TID data.
- **EPC:** Store the EPC data.
- **TID:** Store the TID data.

* Shows only if the module is UHF.



Output Error Mode

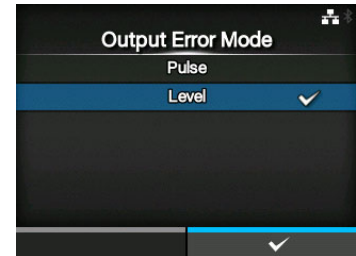
UHF HF

Interface > RFID > Output Error Mode

Set the signal type for RFID errors.

The options are as follows:

- **Pulse**: Outputs a pulse as the output signal when an RFID error occurs.
- **Level**: Outputs a level as the output signal when an RFID error occurs.



Pulse Length

UHF HF

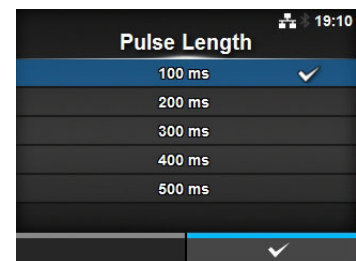
Interface > RFID > Pulse Length

Set the length of an RFID error pulse.

Shows only if you have selected **Pulse** in the **Output Error Mode** menu.

The options are as follows:

- **100 ms**
- **200 ms**
- **300 ms**
- **400 ms**
- **500 ms**



Counters

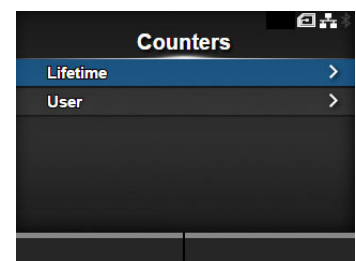
UHF HF

Interface > RFID > Counters

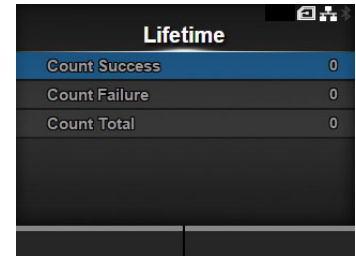
Shows the RFID counter.

The display items are as follows:

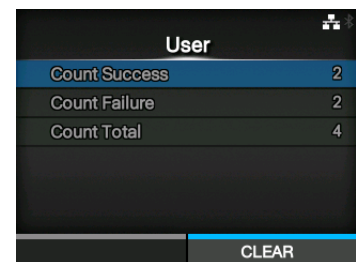
1	Lifetime	Shows the number of encoding successes, failures, and total attempts.
2	User	Shows the number of encoding successes, failures, and total attempts after the RFID counter is cleared.



Lifetime UHF HF		
<i>Interface > RFID > Counters > Lifetime</i> Shows the number of encoding successes, failures, and total attempts. The display items are as follows:		
1	Count Success	Shows the total number of successful times you have written to an RFID tag.
2	Count Failure	Shows the total number of RFID write errors.
3	Count Total	Shows the total number of times you have written to an RFID tag. This is the total number including Count Success and Count Failure.

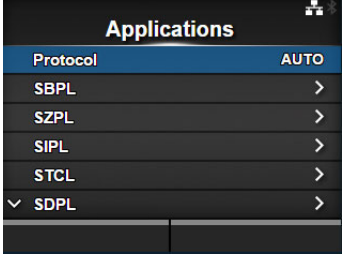


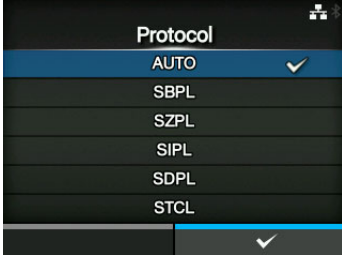

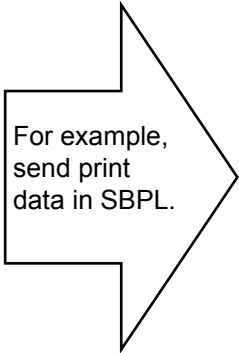

User UHF HF		
<i>Interface > RFID > Counters > User</i> Shows the number of encoding successes, failures, and total attempts after the RFID counter is cleared. The display items are as follows:		
1	Count Success	Shows the total number of successful times you have written to an RFID tag after the RFID counter is cleared.
2	Count Failure	Shows the total number of RFID write errors after the RFID counter is cleared.
3	Count Total	Shows the total number of times you have written to an RFID tag after the RFID counter is cleared. This is the total number including Count Success and Count Failure.
Note You can reset the counter using the right soft button (CLEAR) when the counter is 1 or higher.		



4.4.4 Applications Menu

In the **Applications** menu, there are setting items as follows:

Applications			
1	Protocol	Set the printer language.	
2	SBPL	Set the SBPL printer command.	
3	SZPL	Set the SZPL printer command.	
4	SIPL	Set the SIPL printer command.	
5	STCL	Set the STCL printer command.	
6	SDPL	Set the SDPL printer command.	
7	AEP	Set the functions for AEP (Application Enabled Printing).	

Protocol	
<p><i>Applications > Protocol</i></p> <p>Set the printer language. The options are as follows:</p> <ul style="list-style-type: none"> • AUTO: Automatically analyze the received print data and set the printer language. In Auto mode, the printer can change the language after startup by receiving another language. • SBPL: Set when you use the SBPL printer language or XML. • SZPL: Set when you use the SZPL printer language. • SIPL: Set when you use the SIPL printer language. • SDPL: Set when you use the SDPL printer language. • STCL: Set when you use the STCL printer language. 	
<p>Note (When AUTO is selected in the Protocol menu)</p> <ul style="list-style-type: none"> • When AUTO is selected, the message prompting to restart the printer will appear on the online/offline screen. In such a case, reboot the printer to make the setting effective. • Once the printer language is fixed, the name of the printer language will appear on the online/offline screen. The area to show the name of the printer language will remain blank until the printer language is finalized. <div style="display: flex; align-items: center; justify-content: center;">  <div style="margin: 0 20px; text-align: center;"> <p>For example, send print data in SBPL.</p>  </div>  </div> <p>The area remains blank until the printer language is finalized.</p> <ul style="list-style-type: none"> • Printer language is finalized with the received print data. • Non-Standard Code is not supported. When Standard Code under SBPL in the Applications menu is disabled, the Protocol setting will be changed to SBPL. 	

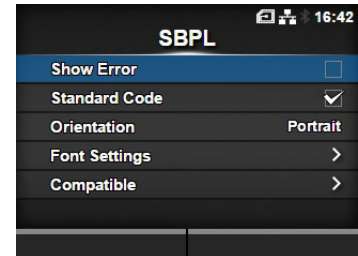
SBPL

Applications > SBPL

SBPL (Sato Barcode Printer Language) is the common command that controls SATO barcode label printers.

To use SBPL as the printer command, set the following items:

1	Show Error	Enable or disable the command error indication.
2	Standard Code	Set the protocol code.
3	Orientation	Set the layout for printing.
4	Font Settings	Set the font.
5	Compatible	Set the compatible code.



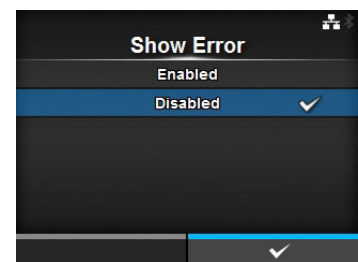
Show Error

Applications > SBPL > Show Error

Enable or disable the command error indication when incorrect command or parameter is detected in the print data.

The options are as follows:

- **Enabled:** Enable the command error indication. The command error is shown and the print operation is paused when incorrect command or parameter is detected in the print data.
- **Disabled:** Disable the command error indication.



Standard Code

Applications > SBPL > Standard Code

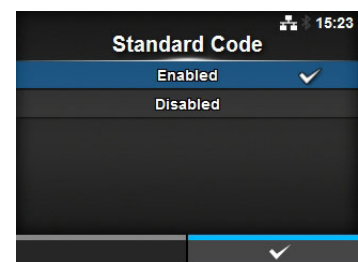
Set the protocol code.

The options are as follows:

- **Enabled:** Use a standard code.
- **Disabled:** Use a non-standard code.

Note

- The message prompting to restart the printer will appear on the online/offline screen if you have made any changes. In such a case, reboot the printer to make the setting effective.
- When **AUTO** is selected in the **Protocol** menu while **Disabled** is selected, the setting will be changed to **Enabled**.

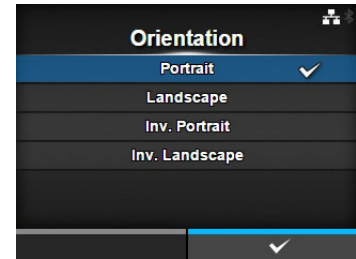


Orientation

Applications > SBPL > Orientation

Select the layout for printing the label.

- **Portrait:** Use a portrait layout. (No rotation)
- **Landscape:** Use a landscape layout. (90-degree rotation)
- **Inv. Portrait:** Use an inverse portrait layout. (180-degree rotation)
- **Inv. Landscape:** Use an inverse landscape layout. (270-degree rotation)



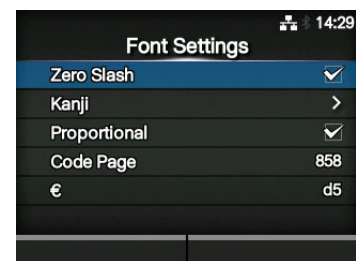
Font Settings

Applications > SBPL > Font Settings

Set the font.

The setting items are as follows:

1	Zero Slash	Set the type for printing zero.
2	Kanji	Set the kanji code to be used.
3	Proportional	Set the character pitch for printing.
4	Code Page	Set the code page to be used.
5	€	Set the European currency symbol to a hex code.



Zero Slash

Applications > SBPL > Font Settings > Zero Slash

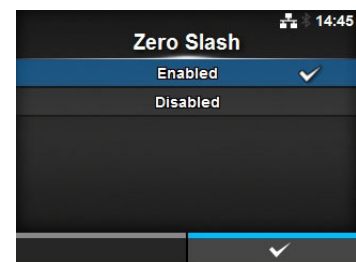
Set whether to print the number zero (0) with or without a slash (/).

This setting is applied to the following bitmap fonts:

U, S, M, WB, WL, XU, XS, XM, XL, X20, X21, X22, X23, X24

The options are as follows:

- **Enabled:** Print zero with a slash.
- **Disabled:** Print zero without a slash.

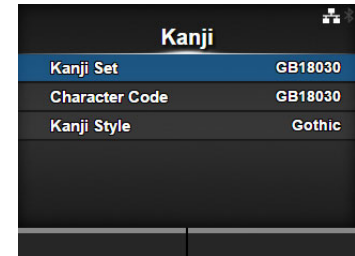


Kanji

Applications > SBPL > Font Settings > Kanji

Set the kanji code to be used.
The setting items are as follows:

1	Kanji Set	Set the kanji code to be used.
2	Character Code	Set the character code to be used.
3	Kanji Style	Set the font to be used.

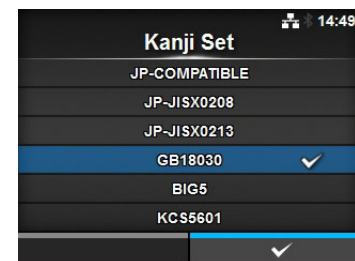


Kanji Set

Applications > SBPL > Font Settings > Kanji > Kanji Set

Set the kanji code to be used.
The options are as follows:

- **JP-COMPATIBLE**
- **JP-JISX0208**
- **JP-JISX0213**
- **GB18030**
- **BIG5**
- **KCS5601**



Character Code

Applications > SBPL > Font Settings > Kanji > Character Code

Set the character code to be used.
The options vary depending on the kanji code set in the **Kanji Set**:

When set to **JP-COMPATIBLE** or **JP-JISX0208**

- **JIS**
- **SJIS**
- **UTF-16**

When set to **JP-JISX0213**

- **SJIS**
- **UTF-16**

When set to **GB18030**

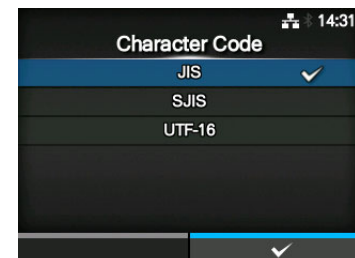
- **GB18030**

When set to **BIG5**

- **BIG5**

When set to **KCS5601**

- **KCS5601**



Kanji Style

Applications > SBPL > Font Settings > Kanji > Kanji Style

Set the font to be used.

The options are as follows:

- **Mincho**
- **Gothic**



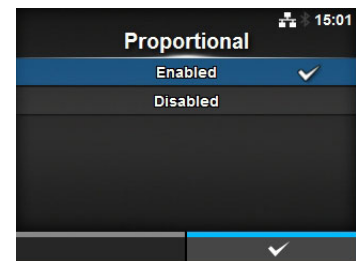
Proportional

Applications > SBPL > Font Settings > Proportional

Set whether to print each character using a proportional pitch or fixed pitch.

The options are as follows:

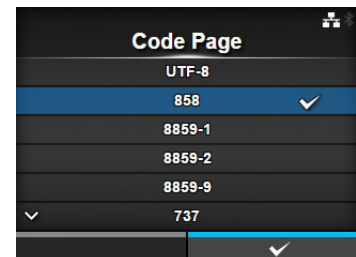
- **Enabled**: Print each character with a proportional pitch.
- **Disabled**: Print all characters with a fixed pitch.



Code Page

Applications > SBPL > Font Settings > Code Page

Select the code page to be used from the list.

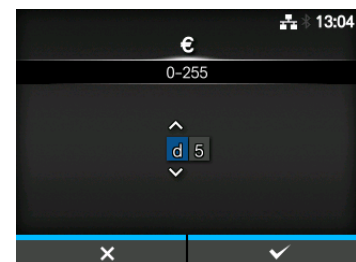


€

Applications > SBPL > Font Settings > €

Set the European currency symbol to a hex code.

The setting range is from 00 to ff (hexadecimal).

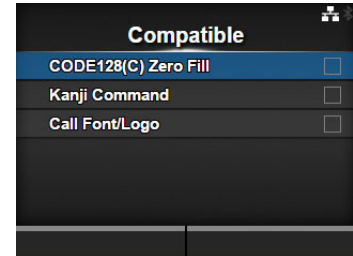


Compatible

Applications > SBPL > Compatible

Set the compatible code for SBPL.
The setting items are as follows:

1	CODE128(C) Zero Fill	Set whether to allow odd digits and print the barcode with zero-filling when start code C is used in CODE128.
2	Kanji Command	Set the printer behavior when the received data includes the Kanji command ESC+K5, ESC+K6 or ESC+K7.
3	Call Font/Logo	Set how to process the character code specified in Recall font & logo command (ESC+RF).



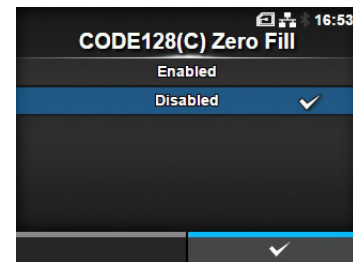
CODE128(C) Zero Fill

Applications > SBPL > Compatible > CODE128(C) Zero Fill

Set whether to allow odd digits and print the barcode with zero-filling in case start code C is used in CODE128.

The options are as follows:

- **Enabled:** Allow odd digits and print the barcode with zero-filling.
- **Disabled:** Do not allow odd digits. A command error occurs and the barcode will not be printed.



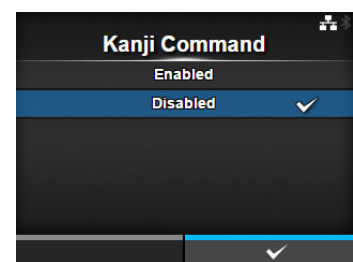
Kanji Command

Applications > SBPL > Compatible > Kanji Command

Set the printer behavior when the received data includes the Kanji command ESC+K5, ESC+K6 or ESC+K7.

The options are as follows:

- **Enabled:** Change the Kanji commands ESC+K5, ESC+K6 and ESC+K7 in the received data to the proper commands and print.
ESC+K5: 16x16 dots Kanji in horizontal line with 1-byte character
ESC+K6: 24x24 dots Kanji in horizontal line with 1-byte character
ESC+K7: 22x22 dots Kanji in horizontal line
- **Disabled:** Do not change the Kanji commands ESC+K5, ESC+K6 and ESC+K7 in the received data. The printer behavior when it receives these commands is as follows:
ESC+K5: Print with 40x40 dots Kanji in horizontal line.
ESC+K6: A command error occurs and the data will not be printed.
ESC+K7: A command error occurs and the data will not be printed.



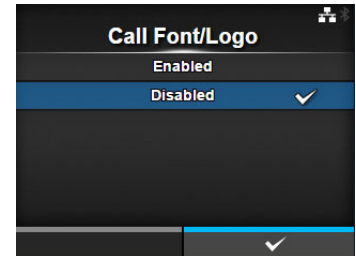
Call Font/Logo

Applications > SBPL > Compatible > Call Font/Logo

Set how to process the character code specified in Recall font & logo command (ESC+RF).

The options are as follows:

- **Enabled:** Character codes are processed in little-endian format.
- **Disabled:** Character codes are processed in big-endian format.

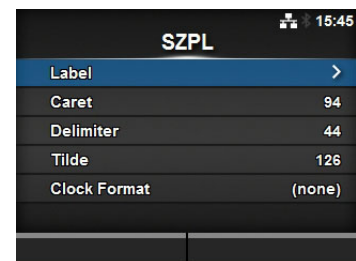


SZPL

Applications > SZPL

To use SZPL as the printer command, set the following items:

1	Label	Set the print position.
2	Caret	Set the caret (^) code.
3	Delimiter	Set the delimiter (,) code.
4	Tilde	Set the tilde (~) code.
5	Clock Format	Set the date format.



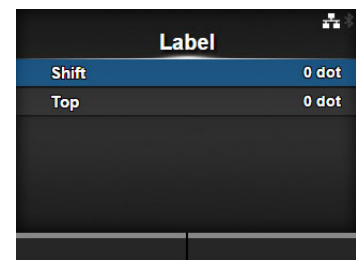
Label

Applications > SZPL > Label

Set the print position.

The setting items are as follows:

1	Shift	Set the shift offset position of the label.
2	Top	Set the top offset position of the label.



Shift

Applications > SZPL > Label > Shift

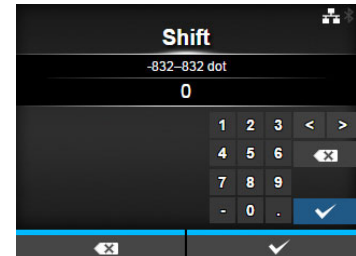
Set the shift offset position of the label.
The setting range varies depending on the print resolution of the printer.
The setting range is as follows:

<CL4NX>

- 203 dpi: -832 to 0 to 832 dots
- 305 dpi: -1248 to 0 to 1248 dots
- 609 dpi: -2496 to 0 to 2496 dots

<CL6NX>

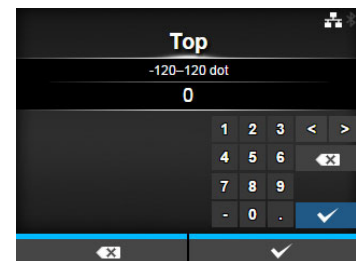
- 203 dpi: -832 to 0 to 832 dots
- 305 dpi: -1248 to 0 to 1248 dots



Top

Applications > SZPL > Label > Top

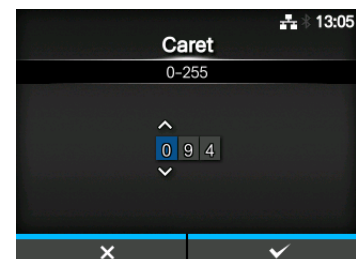
Set the top offset position of the label.
The setting range is from -120 to 0 to 120.



Caret

Applications > SZPL > Caret

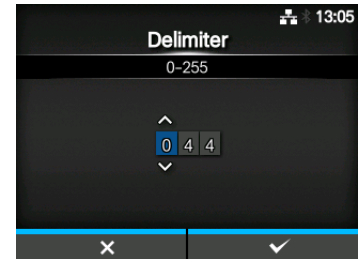
Set the caret (^) code.
The setting range is from 0 to 255.



Delimiter

Applications > SZPL > Delimiter

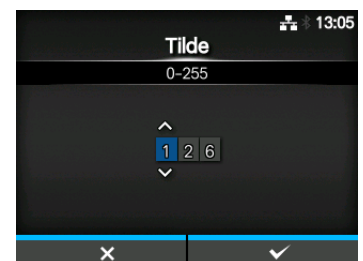
Set the delimiter (,) code.
The setting range is from 0 to 255.



Tilde

Applications > SZPL > Tilde

Set the tilde (~) code.
The setting range is from 0 to 255.

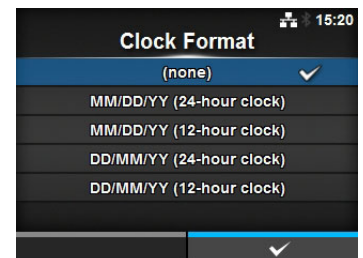


Clock Format

Applications > SZPL > Clock Format

Set the date format.
The options are as follows:

- **(none)**
- **MM/DD/YY (24-hour clock)**
- **MM/DD/YY (12-hour clock)**
- **DD/MM/YY (24-hour clock)**
- **DD/MM/YY (12-hour clock)**

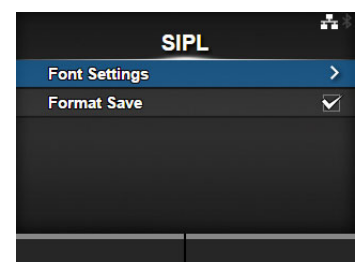


SIPL

Applications > SIPL

To use SIPL as the printer command, set the following items:

1	Font Settings	Set the font.
2	Format Save	Set whether to save the user format data registered at printing in the printer.



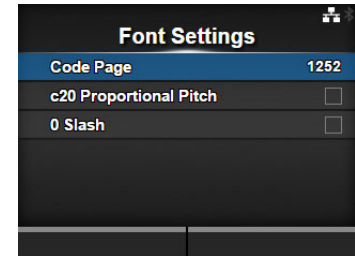
Font Settings

Applications > SIPL > Font Settings

Set the font.

The setting items are as follows:

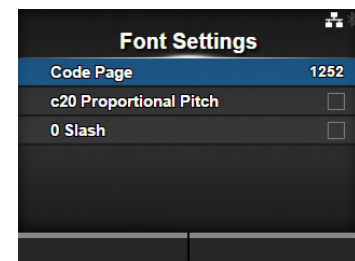
1	Code Page	Set the code page to be used.
2	c20 Proportional Pitch	Set the character pitch for printing.
3	0 Slash	Set the type for printing zero.



Code Page

Applications > SIPL > Font Settings > Code Page

Select the code page to be used from the list.



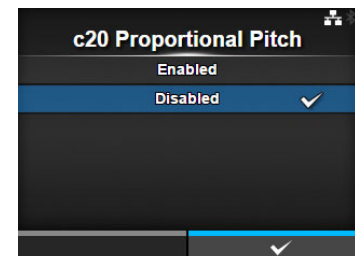
c20 Proportional Pitch

Applications > SIPL > Font Settings > c20 Proportional Pitch

Set whether to print each character using a proportional pitch or fixed pitch.

The options are as follows:

- **Enabled**: Print each character with a proportional pitch.
- **Disabled**: Print all characters with a fixed pitch.



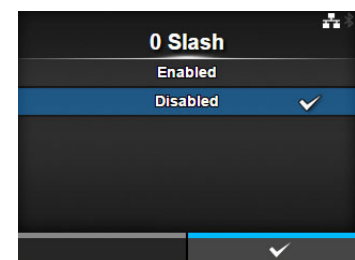
0 Slash

Applications > SIPL > Font Settings > 0 Slash

Set whether to print the number zero (0) with or without a slash (/).

The options are as follows:

- **Enabled**: Print zero with a slash.
- **Disabled**: Print zero without a slash.



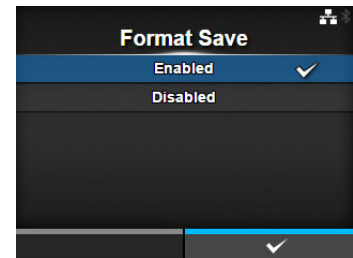
Format Save

Applications > SIPL > Format Save

Set whether to save the user format data registered at printing in the printer.

The options are as follows:

- **Enabled:** Save the user format data registered at printing in the printer.
- **Disabled:** Do not save the user format data registered at printing in the printer. The user format data remains in the printer memory until the printer is powered off. You need to register a user format again after reboot.

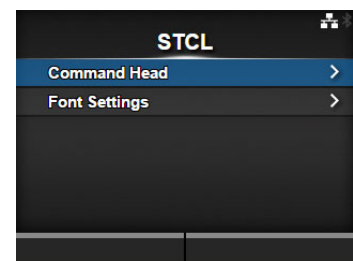


STCL

Applications > STCL

To use STCL as the printer command, set the following items:

1	Command Head	Set the command head.
2	Font Settings	Set the font.



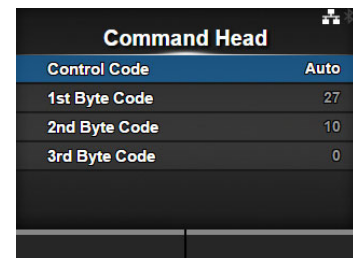
Command Head

Applications > STCL > Command Head

Set the command head.

The setting items are as follows:

1	Control Code	Set the control code.
2	1st Byte Code	Set the first byte code.
3	2nd Byte Code	Set the second byte code.
4	3rd Byte Code	Set the third byte code.



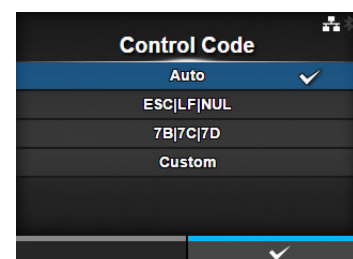
Control Code

Applications > STCL > Command Head > Control Code

Set the control code.

The options are as follows:

- **Auto:** Perform the protocol detection automatically.
- **ESC|LF|NUL**
- **7B|7C|7D**
- **Custom:** Change the first to third byte codes.



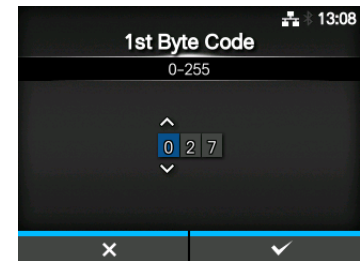
1st Byte Code

Applications > STCL > Command Head > 1st Byte Code

Set the first byte code.

You can change the code only if you have selected **Custom** in the **Control Code** menu.

The setting range is from 0 to 255.



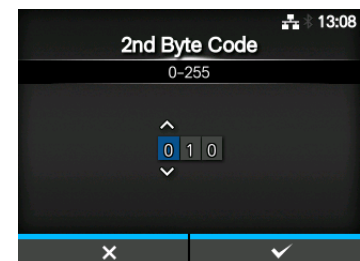
2nd Byte Code

Applications > STCL > Command Head > 2nd Byte Code

Set the second byte code.

You can change the code only if you have selected **Custom** in the **Control Code** menu.

The setting range is from 0 to 255.



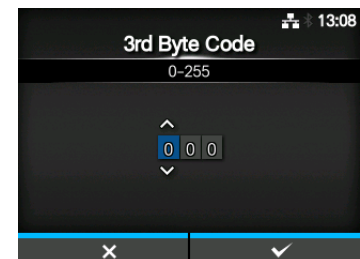
3rd Byte Code

Applications > STCL > Command Head > 3rd Byte Code

Set the third byte code.

You can change the code only if you have selected **Custom** in the **Control Code** menu.

The setting range is from 0 to 255.



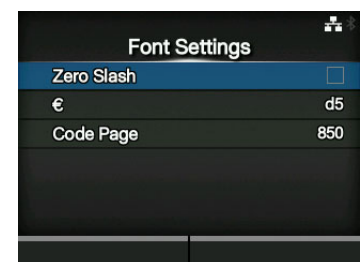
Font Settings

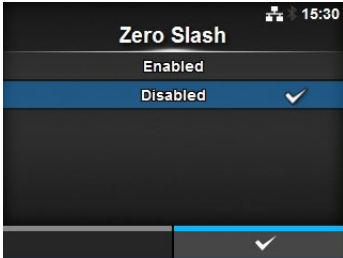
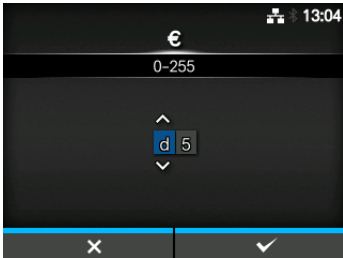
Applications > STCL > Font Settings

Set the font.

The setting items are as follows:

1	Zero Slash	Set the type for printing zero.
2	€	Set the European currency symbol to a hex code.
3	Code Page	Set the code page to be used.



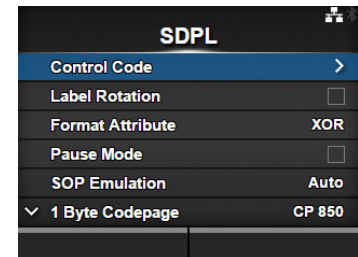
Zero Slash	
<p><i>Applications > STCL > Font Settings > Zero Slash</i></p> <p>Set whether to print the number zero (0) with or without a slash (/). The options are as follows:</p> <ul style="list-style-type: none">• Enabled: Print zero with a slash.• Disabled: Print zero without a slash.	
€	
<p><i>Applications > STCL > Font Settings > €</i></p> <p>Set the European currency symbol to a hex code. The setting range is from 00 to ff (hexadecimal).</p>	
Code Page	
<p><i>Applications > STCL > Font Settings > Code Page</i></p> <p>Select the code page to be used from the list.</p>	

SDPL

Applications > SDPL

To use SDPL as the printer command, set the following items:

1	Control Code	Set the control code.
2	Label Rotation	Set the page orientation of label printing.
3	Format Attribute	Set the format attribute.
4	Pause Mode	Enable or disable the pause mode.
5	SOP Emulation	Set the SOP emulation.
6	1 Byte Codepage	Select the code page to be used for 1 byte characters.
7	SDPL Measure Unit	Set the measurement unit.
8	Compatible Mode	Set the compatible mode for SDPL.



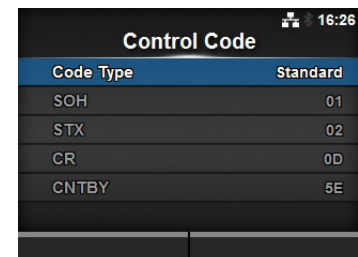
Control Code

Applications > SDPL > Control Code

Set the control code.

The setting items are as follows:

1	Code Type	Set the type of the control code.
2	SOH	Set the SOH code.
3	STX	Set the STX code.
4	CR	Set the CR code.
5	CNTBY	Set the CNTBY code.



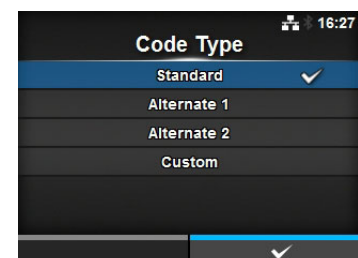
Code Type

Applications > SDPL > Control Code > Code Type

Set the control code type.

The options are as follows:

- **Standard**
- **Alternate 1**
- **Alternate 2**
- **Custom**



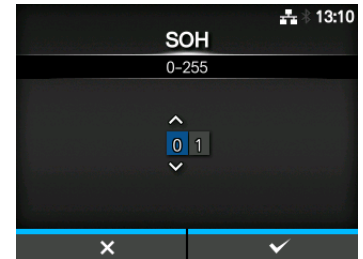
SOH

Applications > SDPL > Control Code > SOH

Set the SOH code.

You can change the code only if you have selected **Custom** in the **Code Type** menu.

The setting range is from 00 to ff (hexadecimal).



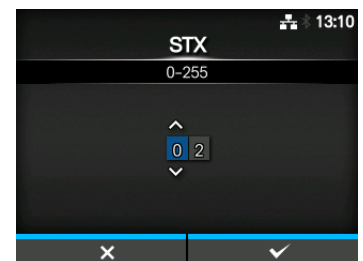
STX

Applications > SDPL > Control Code > STX

Set the STX code.

You can change the code only if you have selected **Custom** in the **Code Type** menu.

The setting range is from 00 to ff (hexadecimal).



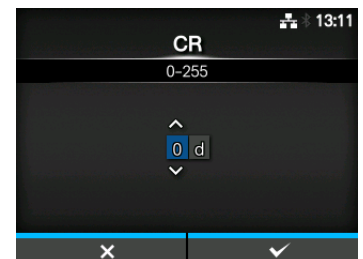
CR

Applications > SDPL > Control Code > CR

Set the CR code.

You can change the code only if you have selected **Custom** in the **Code Type** menu.

The setting range is from 00 to ff (hexadecimal).



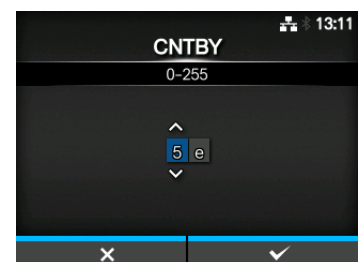
CNTBY

Applications > SDPL > Control Code > CNTBY

Set the CNTBY code.

You can change the code only if you have selected **Custom** in the **Code Type** menu.

The setting range is from 00 to ff (hexadecimal).



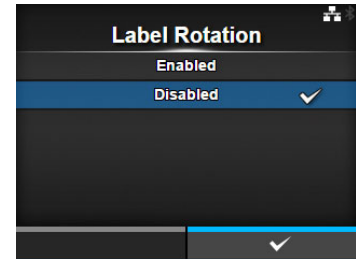
Label Rotation

Applications > SDPL > Label Rotation

Set the page orientation of label printing.

The options are as follows:

- **Enabled**: Labels are printed in inverse-portrait orientation.
- **Disabled**: Labels are printed in normal portrait orientation.



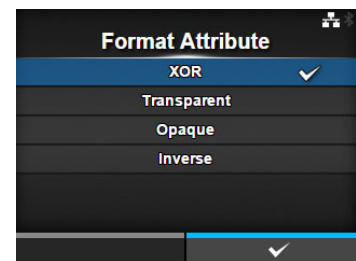
Format Attribute

Applications > SDPL > Format Attribute

Set the format attribute.

The options are as follows:

- **XOR**
- **Transparent**
- **Opaque**
- **Inverse**



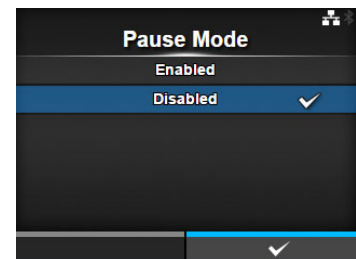
Pause Mode

Applications > SDPL > Pause Mode

Enable or disable the pause mode.

The options are as follows:

- **Enabled**: Enable the pause mode.
- **Disabled**: Disable the pause mode.



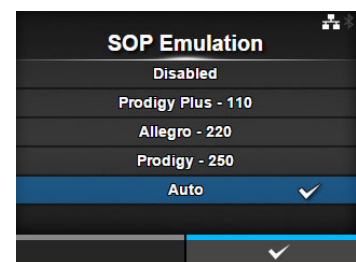
SOP Emulation

Applications > SDPL > SOP Emulation

Set the SOP emulation.

The options are as follows:

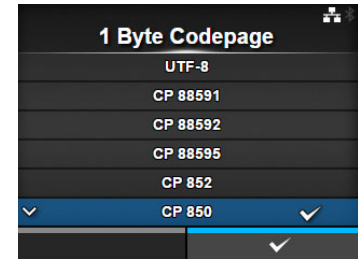
- **Disabled**
- **Prodigy Plus - 110**
- **Allegro - 220**
- **Prodigy - 250**
- **Auto**



1 Byte Codepage

Applications > SDPL > 1 Byte Codepage

Select the code page to be used for 1 byte characters from the list.



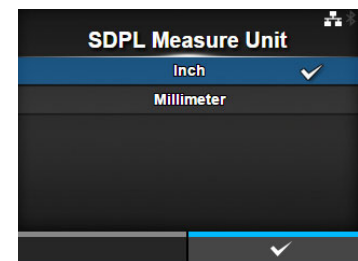
SDPL Measure Unit

Applications > SDPL > SDPL Measure Unit

Set the measurement unit.

The options are as follows:

- **Inch**
- **Millimeter**



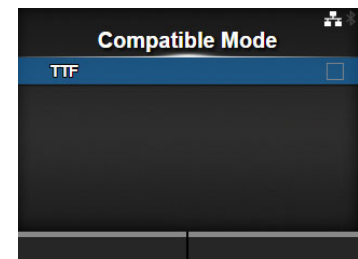
Compatible Mode

Applications > SDPL > Compatible Mode

Set the compatible mode for SDPL.

The setting item is as follows:

1	TTF	Set whether to allow the use of TrueType fonts.
---	-----	---



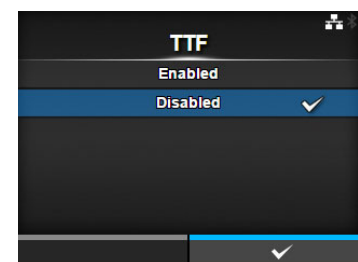
TTF

Applications > SDPL > Compatible Mode > TTF

Set whether to allow the use of TrueType fonts.

The options are as follows:

- **Enabled**: Allow the use of TrueType fonts.
- **Disabled**: Do not allow the use of TrueType fonts.



AEP

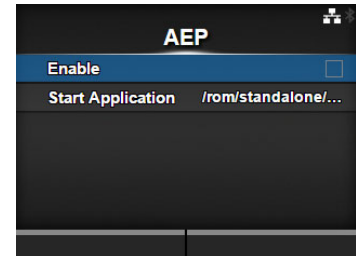
Applications > AEP

Set the functions for AEP (Application Enabled Printing).
 AEP mode allows you to use the printer as a stand-alone printer by running applications within the printer.
 Use the standard application, or install custom applications to the printer from a USB memory, All-In-One Tool, WebConfig page, etc.
 In AEP mode, you can use USB keyboards and barcode scanners to input data.
 The setting items are as follows:

1	Enable	Enable or disable AEP mode.
2	Start Application	Select the application to start at printer startup in AEP mode.

Note

Contact your SATO sales representative for more information about the use of AEP mode.



Enable

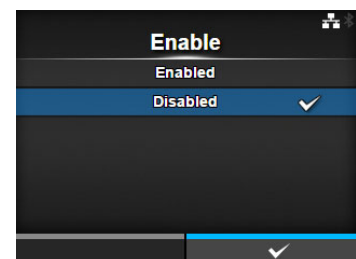
Applications > AEP > Enable

Enable or disable AEP mode.
 The options are as follows:

- **Enabled:** Enable AEP mode.
- **Disabled:** Disable AEP mode.

Note

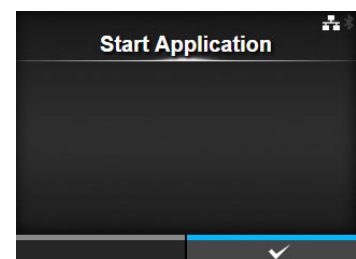
The message prompting to restart the printer will appear on the online/offline screen if you have made any changes. In such a case, reboot the printer to make the setting effective.



Start Application

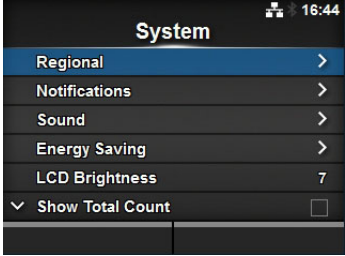
Applications > AEP > Start Application

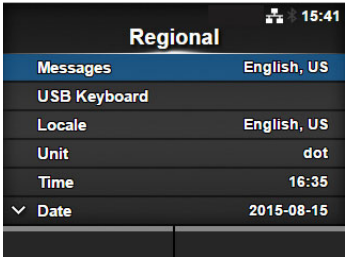
Select the application to start at printer startup in AEP mode.
 Select the application using the ▲ / ▼ buttons and press the right soft button to confirm.



4.4.5 System Menu

In the **System** menu, there are setting items as follows:

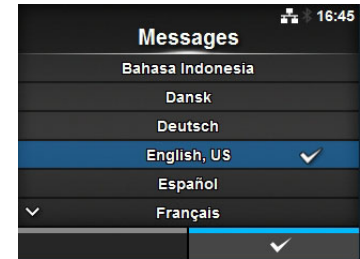
System			
1	Regional	Set the display language, time zone, calendar and unit.	
2	Notifications	Set the function to notify when to perform cleaning and parts replacement.	
3	Sound	Set the buzzer sound.	
4	Energy Saving	Set the period before the printer enters sleep mode.	
5	LCD Brightness	Set the brightness of the screen.	
6	Show Total Count	Enable or disable the indication of the total print count.	
7	Password	Set the password.	
8	Start on AC	Set whether to power on/off the printer by powering on/off the main power source.	

Regional			
<i>System > Regional</i>			
Set the display language, time zone, calendar and unit. The setting items are as follows:			
1	Messages	Set the display language of the LCD.	
2	USB Keyboard	Set the input language when you connect a USB keyboard to the printer.	
3	Locale	Set the locale to be used in AEP mode.	
4	Unit	Set the unit of length for indication.	
5	Time	Set the time. *You can set the time only if you have installed the optional RTC kit.	
6	Date	Set the date. *You can set the date only if you have installed the optional RTC kit.	
7	Time Zone	Set the time zone.	

Messages

System > Regional > Messages

Set the display language of the LCD.
Select the display language from the list.



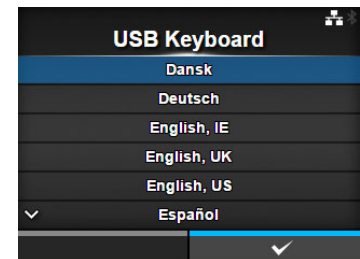
USB Keyboard

System > Regional > USB Keyboard

Set the input language when you connect a USB keyboard to the printer.
Select the input language from the list.

Note

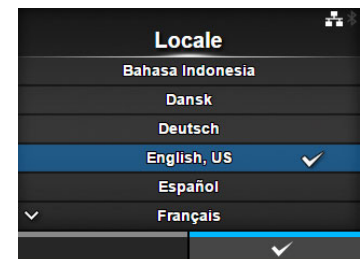
Only Western and East European languages are supported for data input from USB keyboards.



Locale

System > Regional > Locale

Set the locale to be used in AEP mode.
This setting determines the format of time, dates, numbers, prices, names of weekdays, months, etc. in AEP applications.
Select the locale from the list.

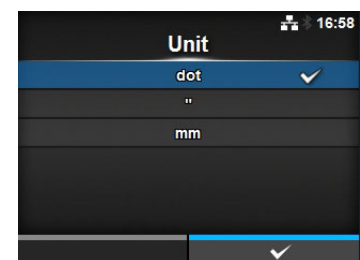


Unit

System > Regional > Unit

Set the unit of length for indication.
The options are as follows:

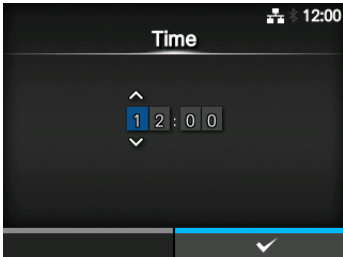
- dot
- " (inch)
- mm



Time

System > Regional > Time

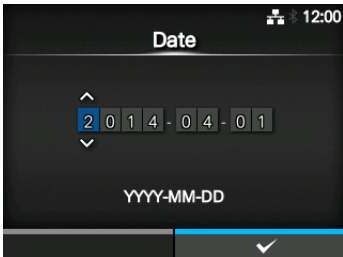
Set the time.
You can set the time only if you have installed the optional RTC kit.



Date

System > Regional > Date

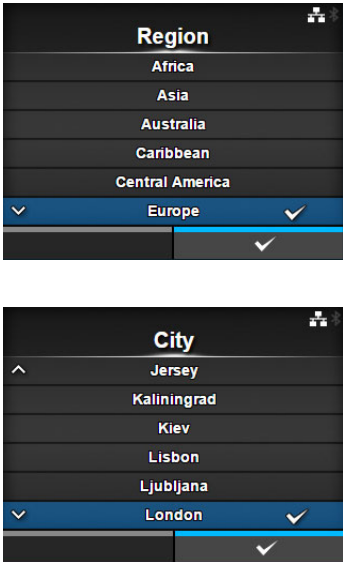
Set the date.
You can set the date only if you have installed the optional RTC kit.
The setting range is from 2000-01-01 to 2035-12-31.
*The date format is Year - Month - Date.



Time Zone

System > Regional > Time Zone > Region > City

Set the time zone.
First select the region from the **Region** list.
Then select the city from the **City** list.

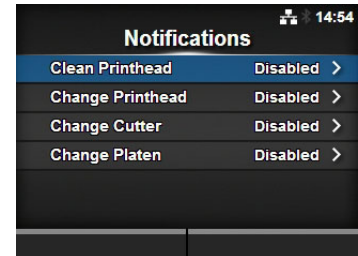


Notifications

System > Notifications

Set the function to notify the timing of cleaning and parts replacement.
The setting items are as follows:

1	Clean Printhead	Notify when the print head needs to be cleaned.
2	Change Printhead	Notify when the print head needs to be replaced.
3	Change Cutter	Notify when the cutter unit needs to be replaced.
4	Change Platen	Notify when the platen roller needs to be replaced.

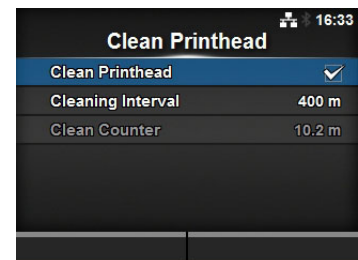


Clean Printhead

System > Notifications > Clean Printhead

Notify when the print head needs to be cleaned.
The setting items are as follows:

1	Clean Printhead	Enable or disable the notification function about when the print head needs to be cleaned.
2	Cleaning Interval	Set the notification interval about when the print head needs to be cleaned.
3	Clean Counter	Shows the current print distance.



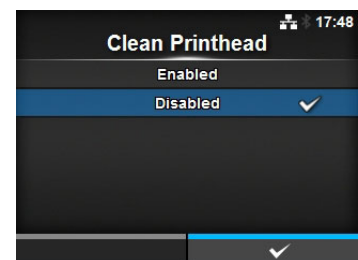
Clean Printhead

System > Notifications > Clean Printhead > Clean Printhead

Enable or disable the notification function about when the print head needs to be cleaned.

The options are as follows:

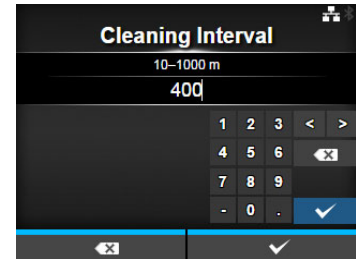
- **Enabled:** Enable the notification function.
- **Disabled:** Disable the notification function.



Cleaning Interval

System > Notifications > Clean Printhead > Cleaning Interval

Set the notification interval about when the print head needs to be cleaned.
Available to change only if you have selected **Enabled** in the **Clean Printhead** menu.
The printer shows the print distance as a setting value.
The setting range is from 10 to 1000 m.

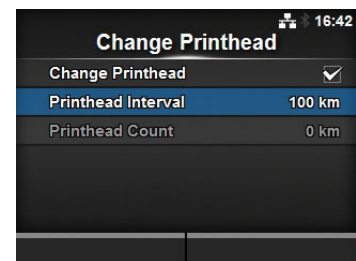


Change Printhead

System > Notifications > Change Printhead

Notify when the print head needs to be replaced.
The setting items are as follows:

1	Change Printhead	Enable or disable the notification function about when the print head needs to be replaced.
2	Printhead Interval	Set the notification interval about when the print head needs to be replaced.
3	Printhead Count	Shows the current print distance.



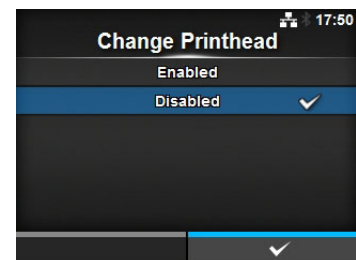
Change Printhead

System > Notifications > Change Printhead > Change Printhead

Enable or disable the notification function about when the print head needs to be replaced.

The options are as follows:

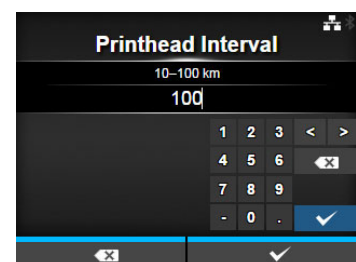
- **Enabled**: Enable the notification function.
- **Disabled**: Disable the notification function.



Printhead Interval

System > Notifications > Change Printhead > Printhead Interval

Set the notification interval about when the print head needs to be replaced.
Available to change only if you have selected **Enabled** in the **Change Printhead** menu.
The printer shows the print distance as the setting value.
The setting range is from 10 to 100 km.

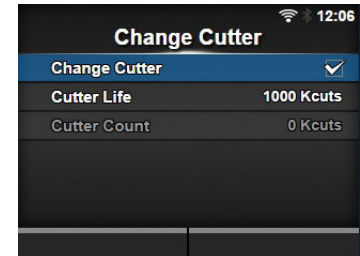


Change Cutter

System > Notifications > Change Cutter

Notify when the cutter unit needs to be replaced.
The setting items are as follows:

1	Change Cutter	Enable or disable the notification function about when the cutter unit needs to be replaced.
2	Cutter Life	Set the notification interval about when the cutter unit needs to be replaced.
3	Cutter Count	Shows the current number of cuts by the cutter.



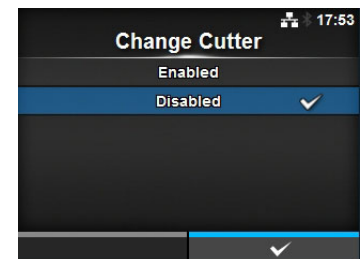
Change Cutter

System > Notifications > Change Cutter > Change Cutter

Enable or disable the notification function about when the cutter unit needs to be replaced.

The options are as follows:

- **Enabled**: Enable the notification function.
- **Disabled**: Disable the notification function.



Cutter Life

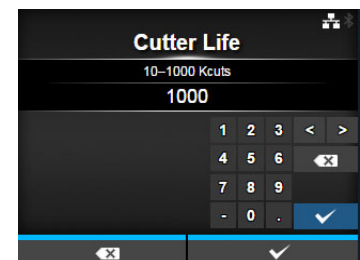
System > Notifications > Change Cutter > Cutter Life

Set the notification interval about when the cutter unit needs to be replaced.

Available to change only if you have selected **Enabled** in the **Change Cutter** menu.

The printer shows the cutter count as the setting value.

The setting range is from 10 to 1000 Kcuts.



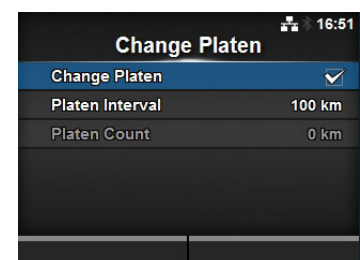
Change Platen

System > Notifications > Change Platen

Notify when the platen roller needs to be replaced.

The setting items are as follows:

1	Change Platen	Enable or disable the notification function about when the platen roller needs to be replaced.
2	Platen Interval	Set the notification interval about when the platen roller needs to be replaced.
3	Platen Count	Shows the current distance the platen roller has fed.



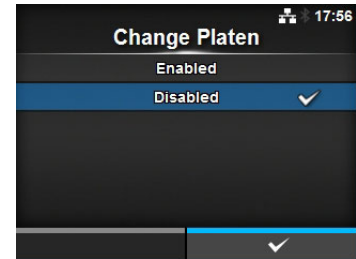
Change Platen

System > Notifications > Change Platen > Change Platen

Enable or disable the notification function about when the platen roller needs to be replaced.

The options are as follows:

- **Enabled**: Enable the notification function.
- **Disabled**: Disable the notification function.



Platen Interval

System > Notifications > Change Platen > Platen Interval

Set the notification interval about when the platen roller needs to be replaced.

Available to change only if you have selected **Enabled** in the **Change Platen** menu.

The printer shows the fed distance as the setting value.

The setting range is from 10 to 100 km.



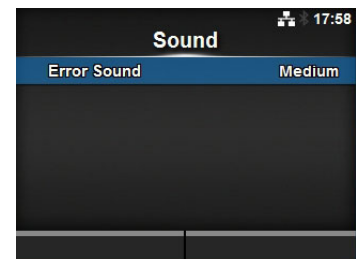
Sound

System > Sound

Set the buzzer sound.

The setting item is as follows:

1	Error Sound	Set the buzzer volume for the error sound.
---	-------------	--



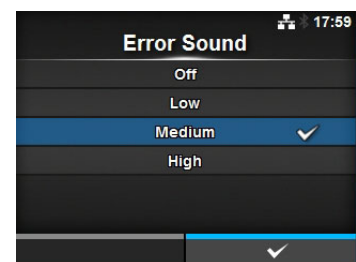
Error Sound

System > Sound > Error Sound

Set the buzzer volume for the error sound.

The options are as follows:

- **Off**: Mute the sound.
- **Low**: Low volume.
- **Medium**: Medium volume.
- **High**: High volume.

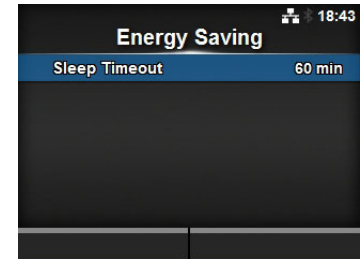


Energy Saving

System > Energy Saving

The setting items are as follows:

1	Sleep Timeout	Set the period before the printer enters sleep mode.
---	---------------	--



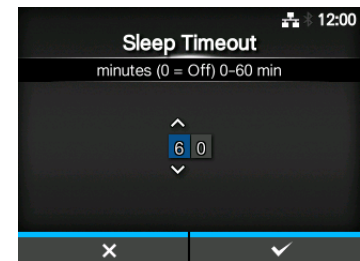
Sleep Timeout

System > Energy Saving > Sleep Timeout

Set the period before the printer enters sleep mode.
The setting range is from 0 to 60 minutes.

Note

- The sleep function is disabled if you set to 0.
- This setting is disabled if [External I/O on page 155](#) is set to Enable.



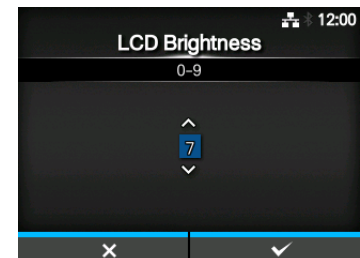
LCD Brightness

System > LCD Brightness

Set the brightness of the screen.
The setting range is from 0 to 9.
0 is the darkest and 9 is the brightest.
Press the right soft button to complete the setting.

Note

The printer has a built-in energy saving function, which will decrease the brightness of the screen when you have not operated the printer for a period.



Show Total Count

System > Show Total Count

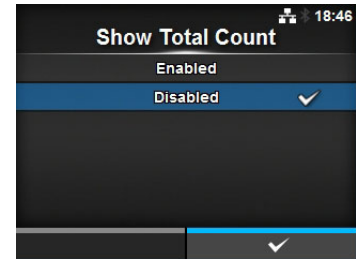
Enable or disable the indication of the total print count.

If set to **Enabled**, the total print count shows on both the Online and Offline screens.

The number in the brackets to the right of "QTY" on the Online and Offline screens is the total print count.

The options are as follows:

- **Enabled**: Enable the indication of the total print count.
- **Disabled**: Disable the indication of the total print count.



Note

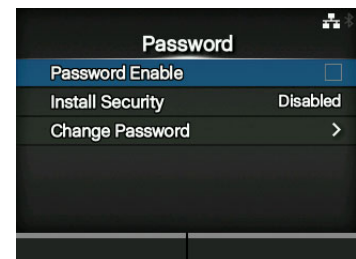
Shows the total print count from the time the printer is on until it is off. When you power off the printer, the count resets to 0.

Password

System > Password

The setting items are as follows:

1	Password Enable	Enable or disable the password setting.
2	Install Security	Enable or disable the password input for the package file download.
3	Change Password	Change the password.



Password Enable

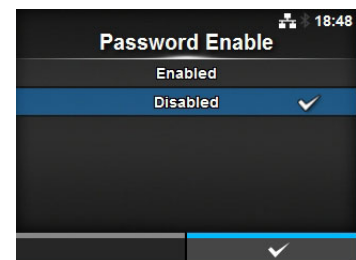
System > Password > Password Enable

Enable or disable the password setting.

If you have set the password to **Enabled**, the printer requires you to enter the password set in the **Password** screen before you enter the **Settings** menu.

The options are as follows:

- **Enabled**: Enable the password setting.
- **Disabled**: Disable the password setting.



Note

The default password is 0310. You can change the password in *Password > Change Password > level1*.

Install Security

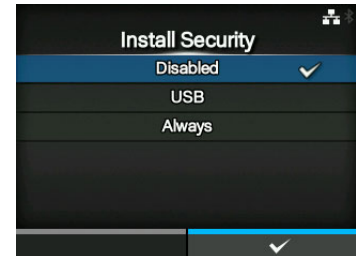
System > Password > Install Security

Enable or disable the password input for installing the pkg file to the printer.

If you have set the password to Enabled, the printer requires you to enter the password set in the **Password** screen before you can download the package file.

The options are as follows:

- **Disabled:** No password is required to install a pkg file.
- **USB:** Password is required to install a pkg file from the USB memory.
- **Always:** Password is required to install a pkg file from the USB memory or downloaded from computer.



Note

The password used for installing a pkg file can be any passwords set in the *System > Password*.

Contact a SATO reseller or technical service center for more information of the pkg file.

Change Password

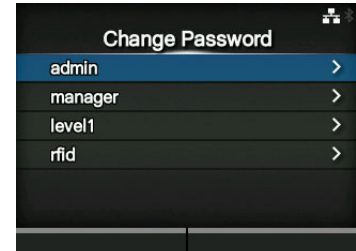
System > Password > Change Password

Change the password.

You can enter 4 to 32 characters including alphabet (capital and small letters), numbers and symbols.

The setting items are as follows:

- **admin:** This is the setting item for factory.
Strictly for SATO authorized personnel use.
- **manager:** The password for accessing the **Service** menu.
Strictly for SATO authorized personnel use.
- **level1:** The password for accessing the **Setting** menu.
- **rfid:** This is the setting item for factory.
Strictly for SATO authorized personnel use.







Note

The admin, manager and rfid passwords are for factory and maintenance personnel. You cannot change these passwords.

Change Password

Reset Passwords

If you have forgotten the customized password, you can reset it back to the default password.

- 1. Power off the printer.
- 2. Press and release the  power button while pressing and holding the  back button,  and  buttons simultaneously until the online/offline screen shows.
All the passwords are reset to default passwords.

Note


This key sequence allows users to access the settings menu with the default passwords as a temporary solution.
After accessing the settings menu with the default password, you must customize the password again.

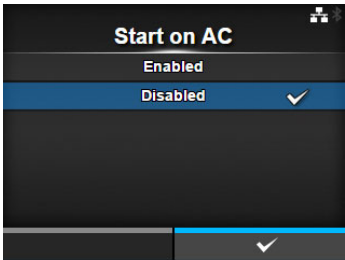
Start on AC

System > Start on AC


Set whether to power on/off the printer by powering on/off the main power source.

The options are as follows:

- **Enabled:** Power on/off the printer by powering on/off the main power source.
- **Disabled:** Power on/off the printer by pressing the  power button of the printer.

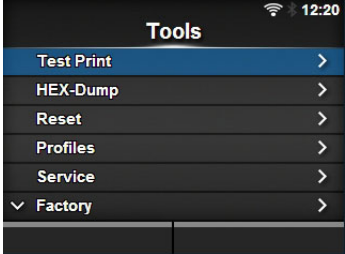


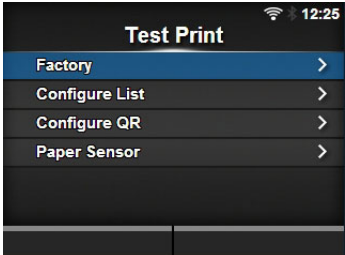
CAUTION


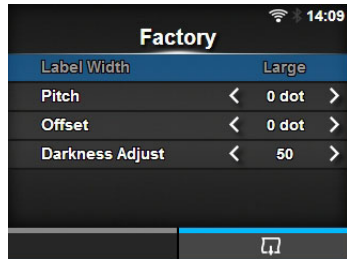
- Do not repeatedly power on and off the printer.
- If you power the main power source off and then on again quickly, the printer may not be powered on because it is still in the powering off process. In such a case, press the  power button to power on the printer.
- Do not power off the printer during operation, such as when printing or updating. Doing so could cause a malfunction of the printer.
- Do not disconnect the power cord until the powering off process is completed on the printer.
- An incorrect power on/off operation may damage the printer settings. In such a case, the printer settings are reset to their default values.


4.4.6 Tools Menu

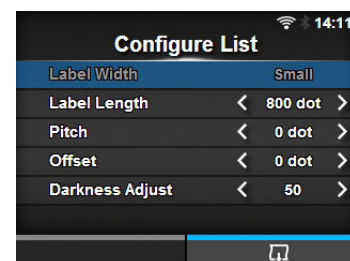
In the **Tools** menu, there are setting items as follows:

Tools			
1	Test Print	Perform a test print.	
2	HEX-Dump	Save the hex dump print data or dump data from the receive buffer to the USB memory.	
3	Reset	Initialize the configuration or counter of the printer.	
4	Profiles	Utilize the printer configurations as profiles.	
5	Service	These are the setting items for service. Strictly for SATO authorized service personnel use.	
6	Factory	These are the setting items for factory. Strictly for SATO factory personnel use.	
7	Certificates	Set the wireless LAN authentication. * Available only if you have installed the USB memory.	
8	Barcode Reader	Set the barcode check function using a barcode verifier.	
9	Clone	Copy the current printer settings and data to the USB memory. * Available only if you have installed the USB memory.	
10	Startup Guide	Enable or disable the startup guide.	

Test Print			
Tools > Test Print Perform a test print. The setting items are as follows:			
1	Factory	Perform the factory test print.	
2	Configure List	Print the configuration information of the printer.	
3	Configure QR	Print the configuration information with a QR code.	
4	Paper Sensor	Print the detection result of the media sensor level.	

Factory			
<p><i>Tools > Test Print > Factory</i></p> <p>Perform the factory test print.</p> <ol style="list-style-type: none"> 1. Check and set the items as listed on the Factory menu. 2. Press the right soft button to start the test print. Press the right soft button again to pause the print. <p>To stop the test print, first pause the print and then press the  button.</p> <p>The setting items are as follows.</p>			
1	Label Width	Shows the necessary media width of the test print. The necessary media width is 101.6 mm (4") for Large .	
2	Pitch	<p>Set the print position in the vertical direction. The setting range varies depending on the print resolution of the printer. The setting range is as follows:</p> <p><CL4NX></p> <ul style="list-style-type: none"> • 203 dpi: -30 to 0 to 30 dots • 305 dpi: -45 to 0 to 45 dots • 609 dpi: -90 to 0 to 90 dots <p><CL6NX></p> <ul style="list-style-type: none"> • 203 dpi: -30 to 0 to 30 dots • 305 dpi: -45 to 0 to 45 dots <p>When you decrease the setting value, the print position moves in the feed direction (toward the front part of the media). When you increase the setting value, the print position moves opposite the feed direction (toward the end part of the media).</p>	<p>Note The value of Pitch, Offset and Darkness Adjust set in the Factory menu will reflect to the same item settings in the Configure List menu, Configure QR menu and Paper Sensor menu.</p>
3	Offset	<p>Set the stop position of the media. The setting range varies depending on the print resolution of the printer. The setting range is as follows:</p> <p><CL4NX></p> <ul style="list-style-type: none"> • 203 dpi: -30 to 0 to 30 dots • 305 dpi: -45 to 0 to 45 dots • 609 dpi: -90 to 0 to 90 dots <p><CL6NX></p> <ul style="list-style-type: none"> • 203 dpi: -30 to 0 to 30 dots • 305 dpi: -45 to 0 to 45 dots <p>When you decrease the setting value, the stop position moves in the feed direction (toward the front part of the media). When you increase the setting value, the stop position moves opposite the feed direction (toward the end part of the media).</p>	
4	Darkness Adjust	Fine tune the print darkness of the test print. 0 is the lightest and 99 is the darkest.	


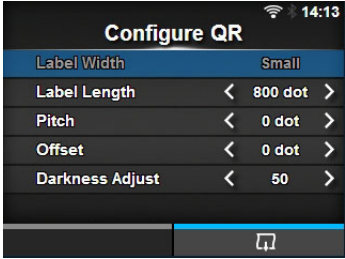
Configure List		
<p><i>Tools > Test Print > Configure List</i></p> <p>Print the configuration information of the printer.</p> <ol style="list-style-type: none"> 1. Check and set the items as listed on the Configure List menu. 2. Press the right soft button to start the test print. Press the right soft button again to pause the print. <p>To stop the test print, first pause the print and then press the  button.</p> <p>The setting items are as follows.</p>		
1	Label Width	Shows the necessary media width of the test print. The necessary media width is 50.8 mm (2") for Small .
2	Label Length	Set the length of one piece of the media used for the test print. The setting range varies depending on the print resolution of the printer. The setting range is as follows: <CL4NX> <ul style="list-style-type: none"> • 203 dpi: 400 to 1600 dots • 305 dpi: 600 to 2400 dots • 609 dpi: 1200 to 4800 dots <CL6NX> <ul style="list-style-type: none"> • 203 dpi: 400 to 1600 dots • 305 dpi: 600 to 2400 dots
3	Pitch	Set the print position in the vertical direction. The setting range varies depending on the print resolution of the printer. The setting range is as follows: <CL4NX> <ul style="list-style-type: none"> • 203 dpi: -30 to 0 to 30 dots • 305 dpi: -45 to 0 to 45 dots • 609 dpi: -90 to 0 to 90 dots <CL6NX> <ul style="list-style-type: none"> • 203 dpi: -30 to 0 to 30 dots • 305 dpi: -45 to 0 to 45 dots When you decrease the setting value, the print position moves in the feed direction (toward the front part of the media). When you increase the setting value, the print position moves opposite the feed direction (toward the end part of the media).




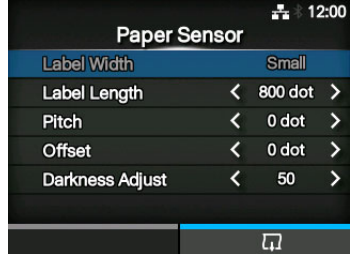
Note

The value of **Label Length**, **Pitch**, **Offset** and **Darkness Adjust** set in the **Configure List** menu will reflect to the same item settings in the **Factory** menu, **Configure QR** menu and **Paper Sensor** menu.

Configure List			
4	Offset	<p>Set the stop position of the media. The setting range varies depending on the print resolution of the printer. The setting range is as follows:</p> <p><CL4NX></p> <ul style="list-style-type: none"> • 203 dpi: -30 to 0 to 30 dots • 305 dpi: -45 to 0 to 45 dots • 609 dpi: -90 to 0 to 90 dots <p><CL6NX></p> <ul style="list-style-type: none"> • 203 dpi: -30 to 0 to 30 dots • 305 dpi: -45 to 0 to 45 dots <p>When you decrease the setting value, the stop position moves in the feed direction (toward the front part of the media). When you increase the setting value, the stop position moves opposite the feed direction (toward the end part of the media).</p>	
5	Darkness Adjust	Fine tune the print darkness of the test print. 0 is the lightest and 99 is the darkest.	

Configure QR			
Tools > Test Print > Configure QR			
<p>Print the configuration information with a QR code.</p> <ol style="list-style-type: none"> 1. Check and set the items as listed on the Configure QR menu. 2. Press the right soft button to start the test print. Press the right soft button again to pause the print. <p>To stop the test print, first pause the print and then press the  button. The setting items are as follows.</p>			
1	Label Width	Shows the necessary media width of the test print. The necessary media width is 50.8 mm (2") for Small .	

Configure QR			
2	Label Length	<p>Set the length of one piece of the media used for the test print. The setting range varies depending on the print resolution of the printer. The setting range is as follows:</p> <p><CL4NX></p> <ul style="list-style-type: none"> • 203 dpi: 400 to 1600 dots • 305 dpi: 600 to 2400 dots • 609 dpi: 1200 to 4800 dots <p><CL6NX></p> <ul style="list-style-type: none"> • 203 dpi: 400 to 1600 dots • 305 dpi: 600 to 2400 dots 	<p>Note The value of Label Length, Pitch, Offset and Darkness Adjust set in the Configure QR menu will reflect to the same item settings in the Factory menu, Configure List menu and Paper Sensor menu.</p>
3	Pitch	<p>Set the print position in the vertical direction. The setting range varies depending on the print resolution of the printer. The setting range is as follows:</p> <p><CL4NX></p> <ul style="list-style-type: none"> • 203 dpi: -30 to 0 to 30 dots • 305 dpi: -45 to 0 to 45 dots • 609 dpi: -90 to 0 to 90 dots <p><CL6NX></p> <ul style="list-style-type: none"> • 203 dpi: -30 to 0 to 30 dots • 305 dpi: -45 to 0 to 45 dots <p>When you decrease the setting value, the print position moves in the feed direction (toward the front part of the media). When you increase the setting value, the print position moves opposite the feed direction (toward the end part of the media).</p>	
4	Offset	<p>Set the stop position of the media. The setting range varies depending on the print resolution of the printer. The setting range is as follows:</p> <p><CL4NX></p> <ul style="list-style-type: none"> • 203 dpi: -30 to 0 to 30 dots • 305 dpi: -45 to 0 to 45 dots • 609 dpi: -90 to 0 to 90 dots <p><CL6NX></p> <ul style="list-style-type: none"> • 203 dpi: -30 to 0 to 30 dots • 305 dpi: -45 to 0 to 45 dots <p>When you decrease the setting value, the stop position moves in the feed direction (toward the front part of the media). When you increase the setting value, the stop position moves opposite the feed direction (toward the end part of the media).</p>	
5	Darkness Adjust	<p>Fine tune the print darkness of the test print. 0 is the lightest and 99 is the darkest.</p>	

Paper Sensor			
<p><i>Tools > Test Print > Paper Sensor</i></p> <p>Print the detection result of the media sensor level.</p> <ol style="list-style-type: none"> 1. Check and set the items as listed on the Paper Sensor menu. 2. Press the right soft button to start the test print. Press the right soft button again to pause the print. <p>To stop the test print, first pause the print and then press the  button. The setting items are as follows.</p>			
1	Label Width	Shows the necessary media width of the test print. The necessary media width is 101.6 mm (4") for Large and 50.8 mm (2") for Small .	
2	Label Length	Set the length of one piece of the media used for the test print. The setting range varies depending on the print resolution of the printer. The setting range is as follows: <CL4NX> <ul style="list-style-type: none"> • 203 dpi: 400 to 1600 dots • 305 dpi: 600 to 2400 dots • 609 dpi: 1200 to 4800 dots <CL6NX> <ul style="list-style-type: none"> • 203 dpi: 400 to 1600 dots • 305 dpi: 600 to 2400 dots 	<p>Note The value of Label Length, Pitch, Offset and Darkness Adjust set in the Paper Sensor menu will reflect to the same item settings in the Factory menu, Configure List menu and Configure QR menu.</p>
3	Pitch	Set the print position in the vertical direction. The setting range varies depending on the print resolution of the printer. The setting range is as follows: <CL4NX> <ul style="list-style-type: none"> • 203 dpi: -30 to 0 to 30 dots • 305 dpi: -45 to 0 to 45 dots • 609 dpi: -90 to 0 to 90 dots <CL6NX> <ul style="list-style-type: none"> • 203 dpi: -30 to 0 to 30 dots • 305 dpi: -45 to 0 to 45 dots <p>When you decrease the setting value, the print position moves in the feed direction (toward the front part of the media). When you increase the setting value, the print position moves opposite the feed direction (toward the end part of the media).</p>	

Paper Sensor

4	Offset	<p>Set the stop position of the media. The setting range varies depending on the print resolution of the printer. The setting range is as follows:</p> <p><CL4NX></p> <ul style="list-style-type: none"> • 203 dpi: -30 to 0 to 30 dots • 305 dpi: -45 to 0 to 45 dots • 609 dpi: -90 to 0 to 90 dots <p><CL6NX></p> <ul style="list-style-type: none"> • 203 dpi: -30 to 0 to 30 dots • 305 dpi: -45 to 0 to 45 dots <p>When you decrease the setting value, the stop position moves in the feed direction (toward the front part of the media). When you increase the setting value, the stop position moves opposite the feed direction (toward the end part of the media).</p>	
5	Darkness Adjust	<p>Fine tune the print darkness of the test print. 0 is the lightest and 99 is the darkest.</p>	

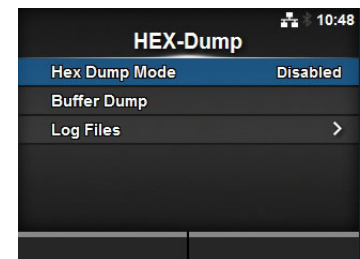
HEX-Dump

Tools > HEX-Dump

Save the hex dump print data or dump data from the receive buffer to the USB memory.

The setting items are as follows:

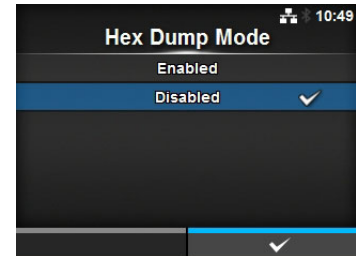
1	Hex Dump Mode	Enable or disable the Hex Dump mode.
2	Buffer Dump	Save the receive buffer data to the printer.
3	Log Files	Manage the log files of the printer.



Hex Dump Mode

Tools > HEX-Dump > Hex Dump Mode

Enable or disable the Hex Dump mode.
If you set the Hex Dump mode to **Enabled**, the printer prints the received data and at the same time creates a file of the received data inside “hexdump”.
When you return the setting to **Disabled**, you can check the file on the screen.



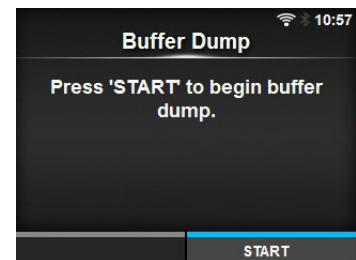
Note

- If you set the Hex Dump mode to **Enabled**, the design of the online/offline screen changes.
- You can save a maximum of ten received data files for each type of interface. Depending on the file size, the number of files you can save will be less than ten.
- The details of the files created inside “hexdump/” are as follows:
 - **BT00xx.bin**: Received data through Bluetooth.
 - **LAN00xx.bin**: Received data through LAN.
 - **LPT00xx.bin**: Received data through IEEE1284.
 - **SCI00xx.bin**: Received data through RS-232C.
 - **USB00xx.bin**: Received data through USB.
 - **WIFI00xx.bin**: Received data through Wi-Fi.

Buffer Dump

Tools > HEX-Dump > Buffer Dump

Save the receive buffer data to the printer.
Available only if you have set to **Disabled** in the **Hex Dump Mode** menu.
Press the **START** (right soft) button on the startup screen to save the data to the printer.
Save the receive buffer data to “buff”.



Note

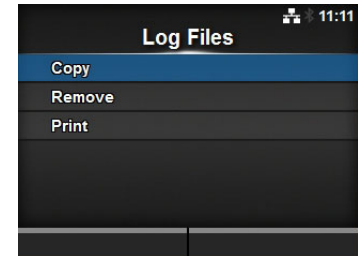
- The data files of the receive buffer are created for each type of interface.
- The details of the file created inside “buff/” are as follows:
 - **BT0001.bin**: The contents of the receive buffer for Bluetooth.
 - **LAN0001.bin**: The contents of the receive buffer for LAN.
 - **LPT0001.bin**: The contents of the receive buffer for IEEE1284.
 - **SCI0001.bin**: The contents of the receive buffer for RS-232C.
 - **USB0001.bin**: The contents of the receive buffer for USB.
 - **WIFI0001.bin**: The contents of the received buffer for Wi-Fi.
- If you perform the **Buffer Dump** again, the existing file will be overwritten.

Log Files

Tools > HEX-Dump > Log Files

The setting items are as follows:

1	Copy	Copy the log files of the printer to the USB memory. * Available only if you have installed the USB memory.
2	Remove	Delete the log files of the printer.
3	Print	Print a hex dump of the log files of the printer.



Copy

Tools > HEX-Dump > Log Files > Copy

Copy the log files of the printer to the USB memory.
Available only if you have installed the USB memory.
The procedure to copy the log files is as follows:

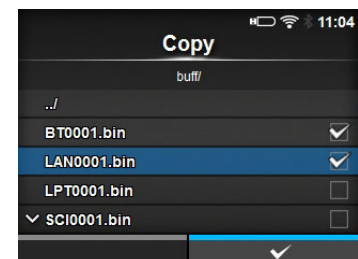
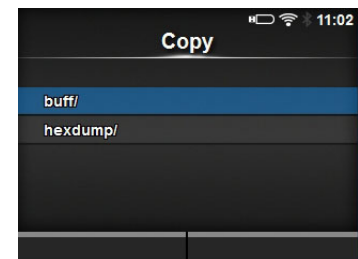
1. Select the file type to copy and press the **←** button.
 - **buff/**: The buffer data saved after you perform the **Buffer Dump**.
 - **hexdump/**: The received data created through **Hex Dump Mode**.
2. Select the file to copy and press the **←** button. A checkmark shows on the right side of the file name.
3. After you select the file, press the right soft button to copy the selected file to the USB memory.

CAUTION

Be sure to perform a virus check for the USB memory before connecting it to the printer. SATO Corporation shall not be held responsible for a malfunction of the printer caused by a virus infection through the USB memory.

Note

When **Hex Dump Mode** is set to **Enabled**, it may take some time before the files are shown.





Remove

Tools > HEX-Dump > Log Files > Remove

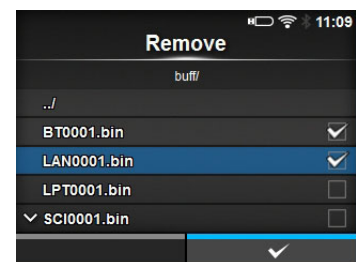
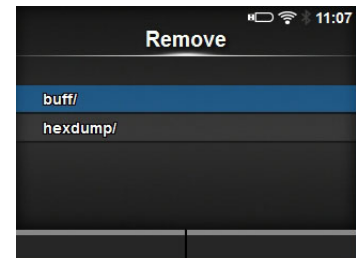
Delete the log files of the printer.

The procedure to delete the log files is as follows:

1. Select the file type to delete and press the  button.
 - **buff/**: The buffer data saved after you perform the **Buffer Dump**.
 - **hexdump/**: The received data created through **Hex Dump Mode**.
2. Select the file to delete and press the  button. A checkmark shows on the right side of the file name.
3. After you select the file, press the right soft button to delete the selected file.

Note

When **Hex Dump Mode** is set to **Enabled**, it may take some time before the files are shown.




Print

Tools > HEX-Dump > Log Files > Print

Print a hex dump of the log files of the printer.

The procedure to print the log files is as follows:

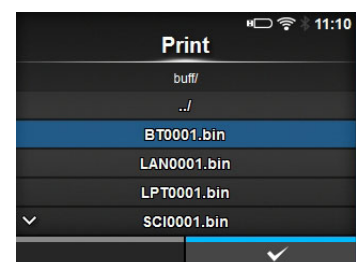
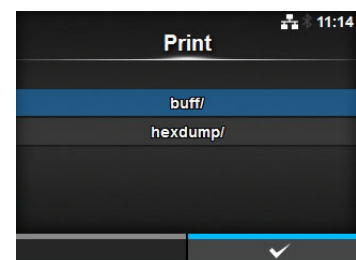
1. Select the file type to print.
 - **buff/**: The buffer data saved after you perform the **Buffer Dump**.
 - **hexdump/**: The received data created through **Hex Dump Mode**.
2. Select the file to print and press the  button or right soft button to perform the dump print.

CAUTION

Printing the contents of the file may use a lot of media.

Note

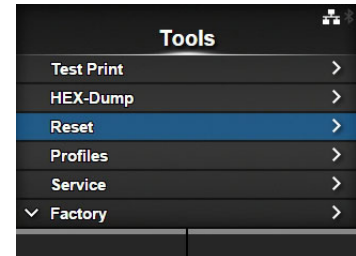
When **Hex Dump Mode** is set to **Enabled**, it may take some time before the files are shown.



Reset

Tools > Reset

Enter the screen for selecting the items to be initialized.

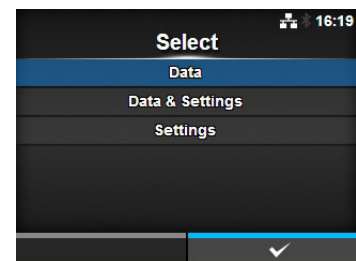


Select

Tools > Reset > Select

Select the items to be initialized.
The items are as follows:

1	Data	Initialize the data saved in the printer.
2	Data & Settings	Initialize the data and setting values of the printer.
3	Settings	Initialize the setting values of the printer.



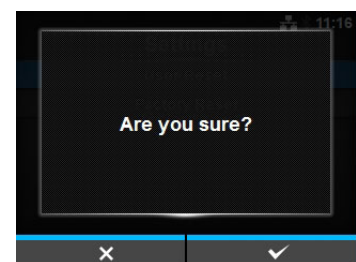
Data

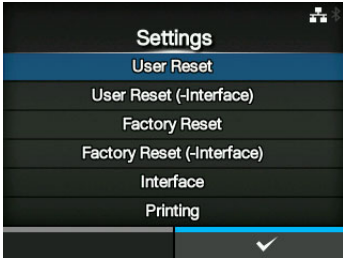
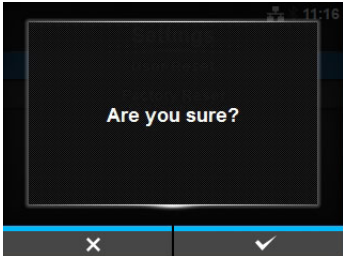
Tools > Reset > Select > Data

Initialize the data saved in the printer.
The data to be initialized are the fonts and graphics registered in the printer.
When you select **Data**, the confirmation screen shows.
Press the left soft button to cancel or right soft button to perform the initialization.
The printer will reboot after reset.

CAUTION

It is generally not necessary to perform the initialization. Doing so could change the print conditions.



Data & Settings	
<p><i>Tools > Reset > Select > Data & Settings</i></p> <p>Initialize the data and setting values of the printer. Select the setting items to be initialized. The options are as follows:</p> <ul style="list-style-type: none">• User Reset: Initialize the data and setting values.• User Reset (-Interface): Initialize the data and setting values that are not included in the Interface menu.• Factory Reset: Initialize to the status after factory shipment.• Factory Reset (-Interface): Initialize the items that are not included in the Interface menu to the status after factory shipment.• Interface: Initialize the data and setting values in the Interface menu.• Printing: Initialize the data and setting values in the Printing menu. <p>Select the item to be initialized using the ▲/ ▼ buttons, then press the right soft button to perform the initialization. The confirmation screen shows. Press the left soft button to cancel or right soft button to perform the initialization. The printer will reboot after reset.</p> <p>Refer to Section 7.1 List of Initial Values for the initial value of each setting items.</p> <hr/> <p>Note The data to be initialized are the fonts and graphics registered in the printer.</p>	 

Settings

Tools > Reset > Select > Settings

Select the setting items to be initialized.

The options are as follows:

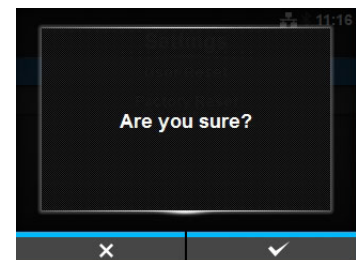
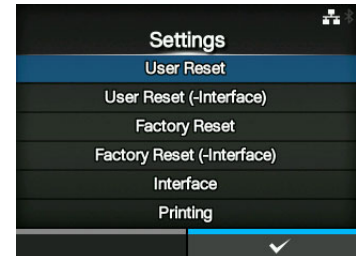
- **User Reset:** Initialize the setting values.
- **User Reset (-Interface):** Initialize the setting values that are not included in the **Interface** menu.
- **Factory Reset:** Initialize to the status after factory shipment.
- **Factory Reset (-Interface):** Initialize the items that are not included in the **Interface** menu to the status after factory shipment.
- **Interface:** Initialize the setting values in the **Interface** menu.
- **Printing:** Initialize the setting values in the **Printing** menu.

Select the item to be initialized using the ▲/▼ buttons, then press the right soft button to perform the initialization.

The confirmation screen shows.

Press the left soft button to cancel or right soft button to perform the initialization.

Refer to [Section 7.1 List of Initial Values](#) for the initial value of each setting item.



Profiles

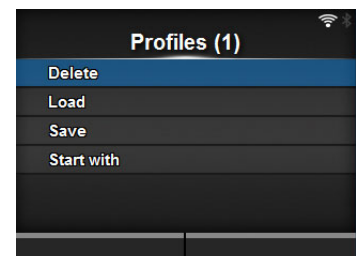
Tools > Profiles

Maintain the customized profile of the printer configurations.

The name of the last loaded profile is shown in the parenthesis.

The setting items are as follows:

1	Delete	Delete the profile of the printer. *Not available if no profile is saved.
2	Load	Load the profile of the printer. *Not available if no profile is saved.
3	Save	Save the current printer configurations as a new profile.
4	Start with	Select the profile to load at printer startup. *Not available if no profile is saved.



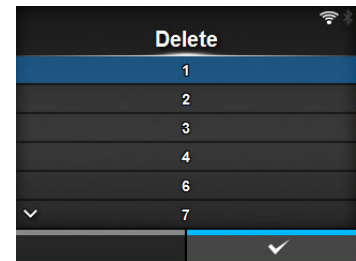
Delete

Tools > Profiles > Delete

Delete the profile of the printer.

The procedure to delete the profile is as follows:

1. Select the profile to be deleted using the ▲/▼ buttons.
2. Press the ← button or press the right soft button to confirm.
The profile name is deleted from the list.



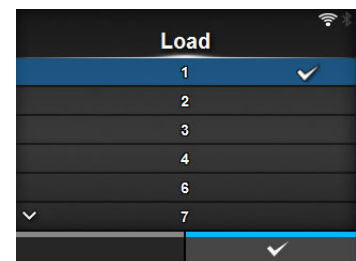
Load

Tools > Profiles > Load

Load the profile of the printer.

The procedure to load the profile is as follows:

1. Select the profile to be loaded using the ▲/▼ buttons.
2. Press the ← button or press the right soft button to confirm.
A checkmark shows on the right side of the loaded profile name. And the name of the loaded profile is shown on the **Profiles** menu in parenthesis.



Save

Tools > Profiles > Save

Save the current printer configurations as a new profile.

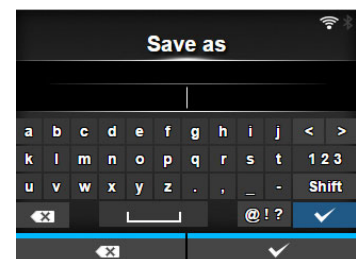
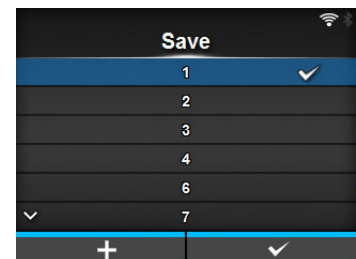
The screen shows a list of the profiles saved in the printer. If no profile is saved, the screen shows an empty list.

To save existing printer configurations as a new profile, press the left soft button and enter the name of the profile.

You can enter a maximum of thirty-two characters including alphabet (upper case and lower case), numbers and symbols.

Press the right soft button to confirm.

The new profile name is shown on the list and is loaded.



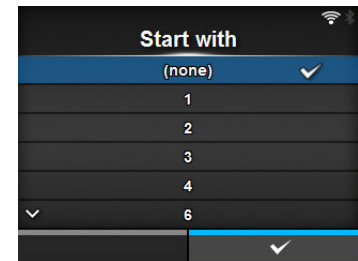
Start with

Tools > Profiles > Start with

Select the profile to be loaded at printer startup.

The procedure to load the profile at printer startup is as follows:

1. Select the profile to be loaded at printer startup using the ▲ / ▼ buttons.
2. Press the ◀ button or press the right soft button to confirm.



Certificates

Tools > Certificates

Install certificates used for Wi-Fi authentication and for HTTPS.

Available only if you have installed the USB memory.

The setting items are as follows:

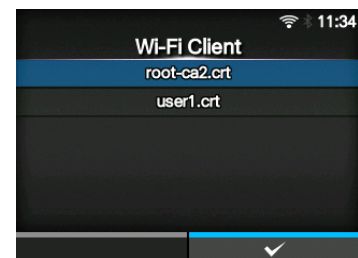
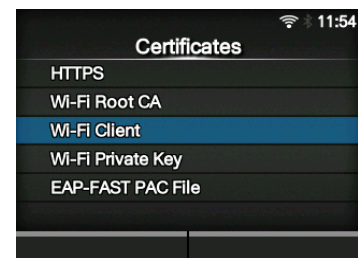
1	HTTPS	Installs the HTTPS certificates from the USB memory.
2	Wi-Fi Root CA	Installs the Wi-Fi Root CA certificates from the USB memory.
3	Wi-Fi Client	Installs the Wi-Fi client certificates from the USB memory.
4	Wi-Fi Private Key	Installs the Wi-Fi private key from the USB memory.
5	EAP-FAST PAC File	Installs the EAP-FAST PAC file from the USB memory.

The procedure to install the certificates and PAC files is as follows:

1. Save the certificate files to the USB thumb drive memory's root folder. Acceptable file extensions are:
 .pem, .crt, .cer, .der for Root CA and client certificate in PEM or DER format.
 .pfx and .p12 for client certificates in PKCS #12 format.
 .prv and .key for private keys in PEM/PKCS#8 format.
 .pac for PAC files.
2. Insert the USB thumb drive memory into the USB connector (Type A).
3. Go to the **Settings > Tools > Certificates** menu.
4. Select the certificate you want to install. Refer to the table above.
5. Select the certificate file from the list.

CAUTION

Be sure to perform a virus check for the USB memory before connecting it to the printer. SATO Corporation shall not be held responsible for a malfunction of the printer caused by a virus infection through the USB memory.



Barcode Reader

Tools > Barcode Reader

Set the barcode check function.

By connecting a barcode verifier to the USB connector (Type A) of the printer, you can verify the barcodes after printing.

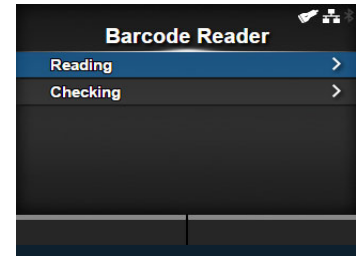
The setting items are as follows:

1	Reading	Set up the barcode verifier. *Available only if you have connected the barcode verifier.
2	Checking	Set the barcode check function.

Note

- It is recommended to use the print mode other than tear-off mode with this function.
- A bracket should be used to ensure proper alignment and highest readability.
- The barcode check function supports the following code formats. Check the specification of the barcode verifier to ensure compatibility with the available code types.

Code type	Available code format
1D Barcodes	CODABAR(NW-7) CODE39, CODE93, CODE128 JAN/EAN-13/8 UPC-A/UPC-E ITF Industrial 2 of 5 Matrix 2 of 5 MSI GS1-128 POSTNET IMB (USPS) GS1 DataBar Truncated GS1 DataBar Stacked GS1 DataBar Expanded GS1 DataBar Expanded Stacked GS1 DataBar Limited
2D Codes	PDF417 Micro PDF417 Maxi Code QR Code Micro QR Code Data Matrix Aztec Code

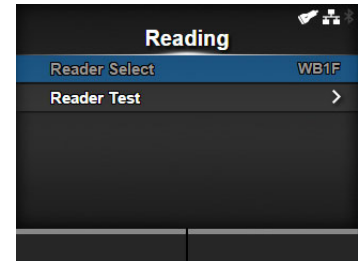


Reading

Tools > Barcode Reader > Reading

Set up the barcode verifier.
Available only if you have connected the barcode verifier.
The setting items are as follows:

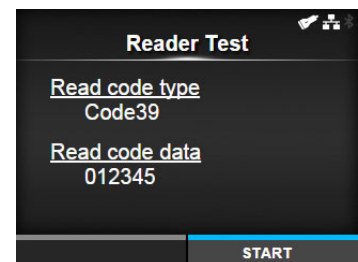
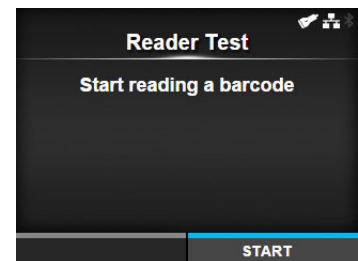
1	Reader Select	Shows the barcode verifier connected to the printer.
2	Reader Test	Perform a test read with the connected barcode verifier.

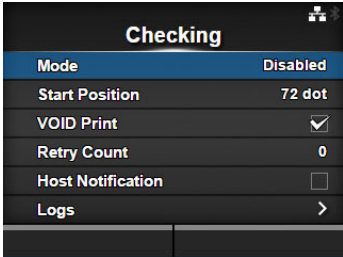


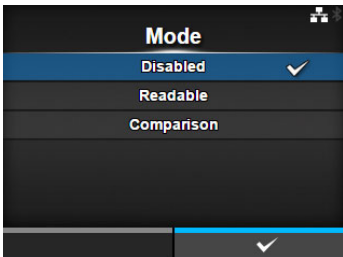
Reader Test

Tools > Barcode Reader > Reading > Reader Test

Perform a test read with the connected barcode verifier.
Available only if you have connected the barcode verifier.
Press the right soft button to start a test read, and check the test result displayed on the screen.



Checking			
<i>Tools > Barcode Reader > Checking</i> Set the barcode check function. The setting items are as follows:			
1	Mode	Select the check mode or disable the barcode check function.	
2	Start Position	Adjust the reading start position.	
3	VOID Print	Enable the printer to print error marks on the media when a barcode error is detected.	
4	Retry Count	Set how many times the printer will try to print the same barcode after a barcode error is detected. *Shows only if you have selected Enabled in the VOID Print menu.	
5	Host Notification	Set whether to return the barcode check results to the host.	
6	Logs	Manage the barcode check log file saved in the printer.	

Mode			
<i>Tools > Barcode Reader > Checking > Mode</i> Select the check mode or disable the barcode check function. The options are as follows: <ul style="list-style-type: none"> • Disabled: Disable the barcode check function. • Readable: Check if the printed barcodes are readable. • Comparison: Check if the read results of the printed barcodes match the command data sent from the host. 			

Start Position

Tools > Barcode Reader > Checking > Start Position

Adjust the reading start position.

The barcode verifier starts reading each media after the specified length passes from the printing start position.

This setting can be used to exclude first barcode(s) from the check target when multiple barcodes are printed on each media.

The setting range varies depending on the print resolution of the printer.

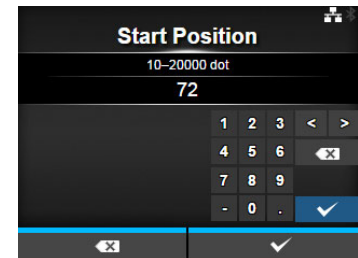
The setting range is as follows:

<CL4NX>

- 203 dpi: 10 to 20000 dots
- 305 dpi: 15 to 18000 dots
- 609 dpi: 30 to 9600 dots

<CL6NX>

- 203 dpi: 10 to 20000 dots
- 305 dpi: 15 to 18000 dots



VOID Print

Tools > Barcode Reader > Checking > VOID Print

Enable the printer to print error marks on the media when a barcode error is detected.

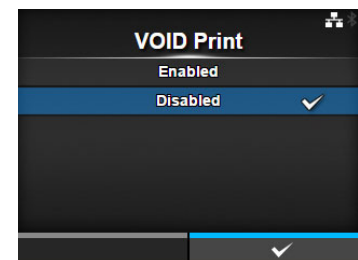
This function is to prevent the distribution of defective media with a barcode error.

The options are as follows:

- **Enabled:** Error marks are printed on the media when a barcode error is detected.
- **Disabled:** Do not print error marks on the media when a barcode error is detected.

Note

Printing of the VOID mark is not supported in dispenser and linerless (CL4NX only) modes.



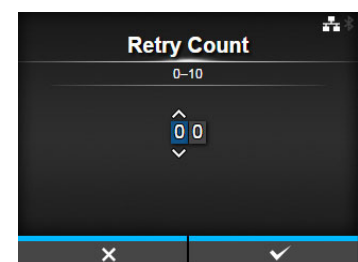
Retry Count

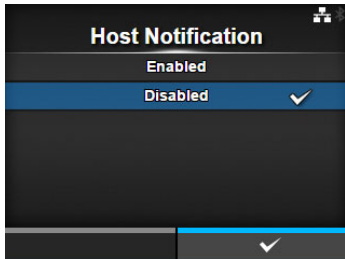
Tools > Barcode Reader > Checking > Retry Count

Set how many times the printer will try to print the same barcode after a barcode error is detected.

Shows only if you have selected **Enabled** in the **VOID Print** menu.

The setting range is from 0 to 10.



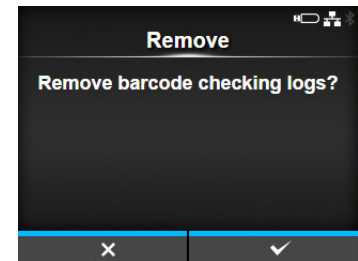
Host Notification		
<p><i>Tools > Barcode Reader > Checking > Host Notification</i></p> <p>Set whether to return the barcode check results to the host. The options are as follows:</p> <ul style="list-style-type: none">• Enabled: Return the barcode check results to the host.• Disabled: Do not return the barcode check results to the host.		

Logs		
Tools > Barcode Reader > Checking > Logs Manage the barcode check logs saved in the printer. Available only if there are barcode check logs in the printer. The log includes the operation date and time, the number of read barcodes, barcode data and their check results. Note that new logs are overwritten on older logs when the log file reaches its maximum size (1MByte). The setting items are as follows:		
1	Copy	Copy the barcode check log file to the USB memory. *Available only if you have installed the USB memory.
2	Remove	Remove the barcode check logs.
Copy		
Tools > Barcode Reader > Checking > Logs > Copy Copy the barcode check log file to the USB memory. Available only if you have installed the USB memory. Press the right soft button to copy the log file to the USB memory. --- **CAUTION** Be sure to perform a virus check for the USB memory before connecting it to the printer. SATO Corporation shall not be held responsible for a malfunction of the printer caused by a virus infection through the USB memory. ---		

Remove

Tools > Barcode Reader > Checking > Logs > Remove

Delete the barcode check log file.
Press the right soft button to delete the log file.



Clone

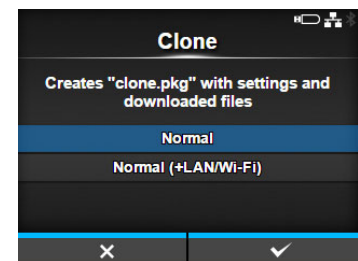
Tools > Clone

Copy the current printer settings and installed data to the USB memory. Available only if you have installed the USB memory. Use the clone configuration when the printer will be replaced with a new printer, or when you set up multiple printers with same settings. The options are as follows:

- **Normal:** Copy the printer settings and data excluding LAN/Wi-Fi settings to the USB memory. It is useful when you set up multiple printers already configured for network with same printer settings.
- **Normal (+LAN/Wi-Fi):** Copy the printer settings and data including LAN/Wi-Fi settings to the USB memory. It is useful when you take over the settings of the printer to be replaced to a new printer.

CAUTION

Be sure to perform a virus check for the USB memory before connecting it to the printer. SATO Corporation shall not be held responsible for a malfunction of the printer caused by a virus infection through the USB memory.



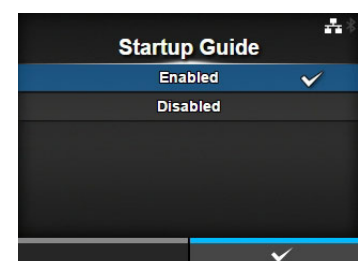
Startup Guide

Tools > Startup Guide

Enable or disable the startup guide.
The options are as follows:

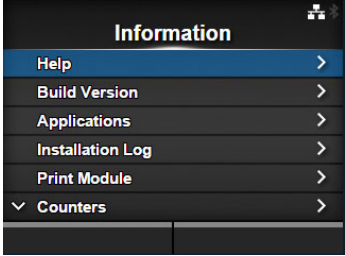
- **Enabled:** Enable the startup guide.
- **Disabled:** Disable the startup guide.

If you have selected **Enabled** in the **Startup Guide** menu, the startup guide shows the next time you power on the printer.



4.4.7 Information Menu

In the **Information** menu, there are setting items as follows:

Information			
1	Help	Shows the guidance video.	
2	Build Version	Shows the firmware version.	
3	Applications	Shows various application versions.	
4	Installation Log	Shows the installation log data. *Shows only if there is a log data in the printer.	
5	Print Module	Shows the print module information.	
6	Counters	Shows the counter information.	
7	IPv4 Address	Shows the IPv4 address.	
8	IPv6 Address	Shows the IPv6 address.	
9	LAN MAC	Shows the MAC address of the LAN. *Shows only if the LAN interface is selected.	
10	Wi-Fi MAC	Shows the MAC address of the wireless LAN. *Shows only if the optional wireless LAN is installed and the Wi-Fi interface is selected.	
11	Wi-Fi Region	Shows the region information of the wireless LAN. *Shows only if the optional wireless LAN is installed and the Wi-Fi interface is selected.	
12	Wi-Fi Status	Shows the status of the wireless LAN. *Shows only if the optional wireless LAN is installed and the Wi-Fi interface is selected.	
13	Wi-Fi Direct	Shows the connection information of Wi-Fi Direct. *Shows only if connected using Wi-Fi Direct.	
14	Wi-Fi Versions	Shows the version of the wireless LAN. *Shows only if the optional wireless LAN is installed and the Wi-Fi interface is selected.	

Help

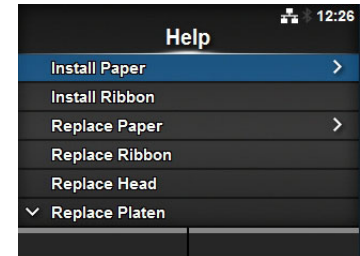
Information > Help

Shows the guidance video.

You can view the video for loading the media and ribbon, the cleaning method and replacement method of consumables. For the video list and playback method, refer to [Section 4.1.4 Guidance Video](#).

The list of videos are as follows:

1	Install Paper	Shows the video for loading the media.
2	Install Ribbon	Shows the video for loading the ribbon.
3	Replace Paper	Shows the video for replacing the media.
4	Replace Ribbon	Shows the video for replacing the ribbon.
5	Replace Head	Shows the video for replacing the print head.
6	Replace Platen	Shows the video for replacing the platen roller.
7	Cleaning	Shows the video of the cleaning method.



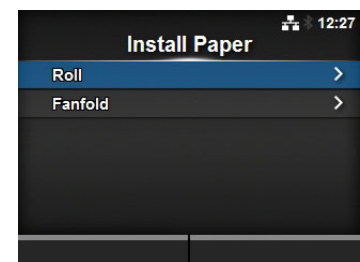
Install Paper

Information > Help > Install Paper

Shows the video for loading the media.

The setting items are as follows:

1	Roll	Shows the video for loading the media roll.
2	Fanfold	Shows the video for loading the fan-fold media.

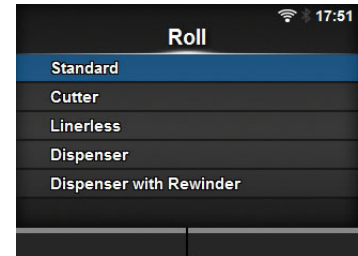


Roll

Information > Help > Install Paper > Roll

Shows the video for loading the media roll.
The setting items are as follows:

1	Standard	Shows the video for loading the media roll to a standard printer.
2	Cutter	Shows the video for loading the media roll to a printer installed with a cutter.
3	Linerless (CL4NX only)	Shows the video for loading the media roll to a printer installed with a linerless kit.
4	Dispenser	Shows the video for loading the media roll to a printer installed with a dispenser.
5	Dispenser with Rewinder	Shows the video for loading the media roll to a printer installed with a dispenser and liner rewinder.

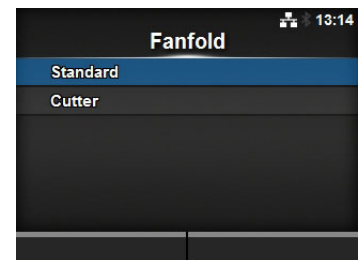


Fanfold

Information > Help > Install Paper > Fanfold

Shows the video for loading the fan-fold media.
The setting items are as follows:

1	Standard	Shows the video for loading the fan-fold media to a standard printer.
2	Cutter	Shows the video for loading the fan-fold media to a printer installed with a cutter.

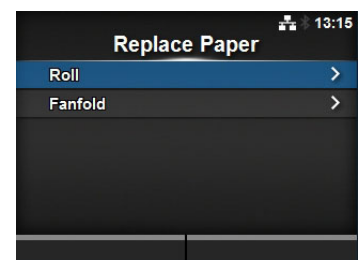


Replace Paper

Information > Help > Replace Paper

Shows the video for replacing the media.
The setting items are as follows:

1	Roll	Shows the video for replacing the media roll.
2	Fanfold	Shows the video for replacing the fan-fold media.

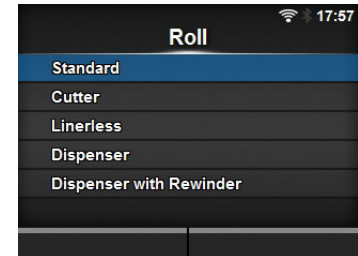


Roll

Information > Help > Replace Paper > Roll

Shows the video for replacing the media roll.
The setting items are as follows:

1	Standard	Shows the video for replacing the media roll in a standard printer.
2	Cutter	Shows the video for replacing the media roll in a printer installed with a cutter.
3	Linerless (CL4NX only)	Shows the video for replacing the media roll to a printer installed with a linerless kit.
4	Dispenser	Shows the video for replacing the media roll in a printer installed with a dispenser.
5	Dispenser with Rewinder	Shows the video for replacing the media roll in a printer installed with a dispenser and liner rewinder.

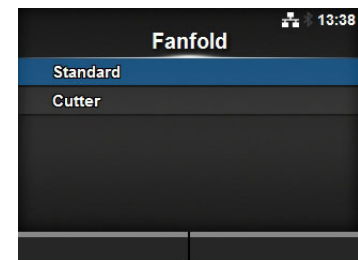


Fanfold

Information > Help > Replace Paper > Fanfold

Shows the video for replacement of fan-fold media.
The setting items are as follows:

1	Standard	Shows the video for replacing the fan-fold media in a standard printer.
2	Cutter	Shows the video for replacing the fan-fold media in a printer installed with a cutter.

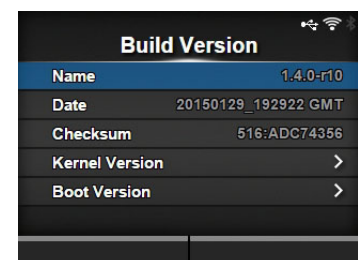



Build Version

Information > Build Version

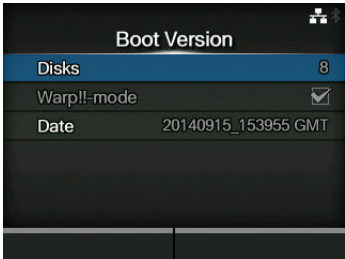
Shows the information and version of this printer.

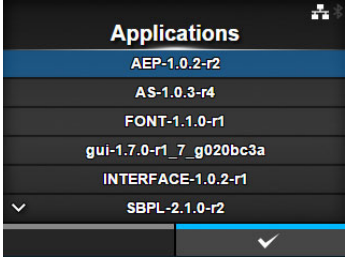
1	Name	Shows the name of the build version.
2	Date	Shows the build date.
3	Checksum	Shows the checksum of the build version.
4	Kernel Version	Shows the kernel version.
5	Boot Version	Shows the boot version.



Kernel Version	
<i>Information > Build Version > Kernel Version</i> Shows the kernel version of this printer.	

Boot Version		
<i>Information > Build Version > Boot Version</i> Shows the boot version of this printer. The setting items are as follows:		
1	Disks	Shows the Disks.
2	Warp!!-mode	A checked box shows enabled while an unchecked box shows disabled.
3	Date	Shows the build date of the boot version.



Applications	
<i>Information > Applications</i> Shows the versions of the installed applications in the printer, such as printer languages.	

Installation Log

Information > Installation Log

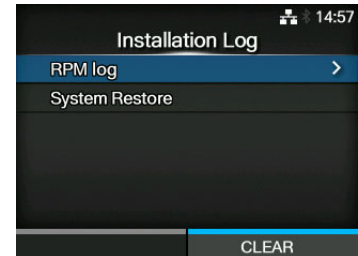
Show or clear the installation log data in this printer.
The setting items are as follows:

1	RPM Log	Shows the RPM log data.
2	System Restore	Shows the system restore log data.

Press CLEAR to clear the selected log data.

Note

This screen is not shown if there is no log data in the printer.



RPM Log

Information > Installation Log > RPM Log

Shows a list of RPM log files containing three sections: installed, updated and obsolete.

The RPM log file is created after installing a pkg-file containing rpm-files.
Press the right soft button to clear the selected RPM log file.

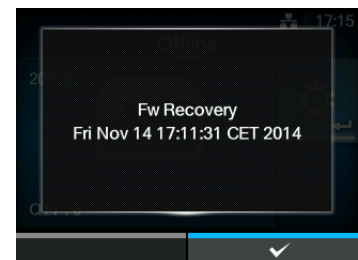


System Restore

Information > Installation Log > System Restore

Shows the system restore log.

The system restore log file is created after installing a pkg-file that incurs the inability to operate the printer LCD.

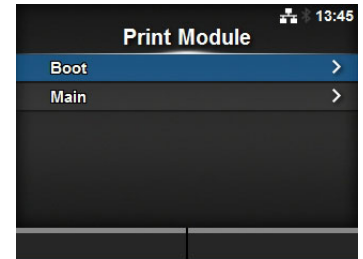


Print Module

Information > Print Module

Shows the information about the print module of this printer.
The setting items are as follows:

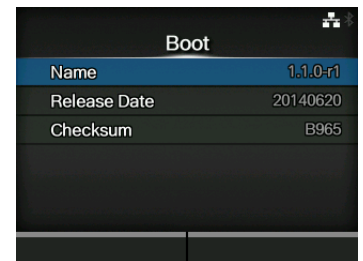
1	Boot	Shows the Boot firmware version.
2	Main	Shows the Main firmware version.



Boot

Information > Print Module > Boot

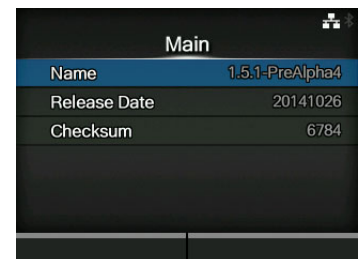
1	Name	Shows the Boot firmware version.
2	Release Date	Shows the Boot firmware release date.
3	Checksum	Shows the Boot firmware checksum.



Main

Information > Print Module > Main

1	Name	Shows the Main firmware version.
2	Release Date	Shows the Main firmware release date.
3	Checksum	Shows the Main firmware checksum.



Counters

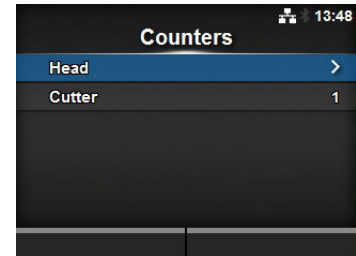
Information > Counters

Shows the counter information of this printer.
The setting items are as follows:

1	Head	Shows the head counter information of this printer.
2	Cutter	Shows the current number of cuts.

CAUTION

Only SATO authorized service personnel are permitted to clear the counter.



Head

Information > Counters > Head

Shows the head counter information of this printer.

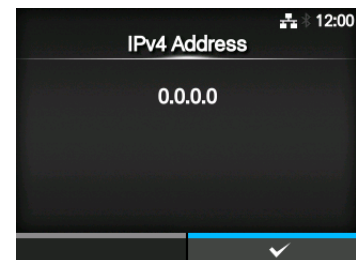
1	Life	Shows the current print distance.
2	Head 1	Head 1 shows the current print distance. When you replace the print head and the counter is cleared, the value of Head 2 is shown in Head 3 and the value of Head 1 is shown in Head 2. Head 1 will start to count from 0 again.
3	Head 2	
4	Head 3	

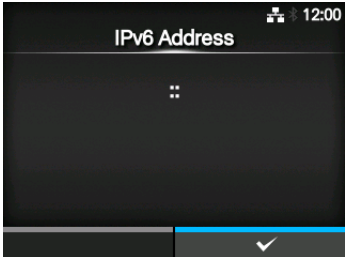


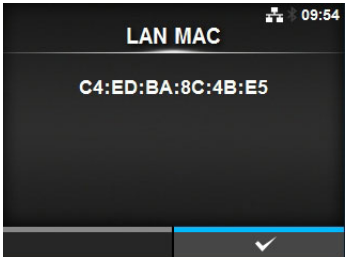
IPv4 Address

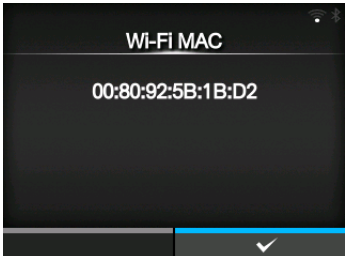
Information > IPv4 Address

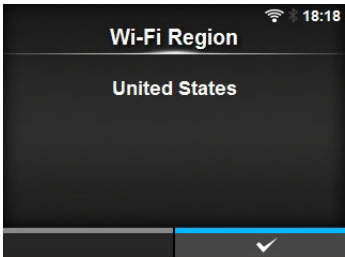
Shows the IPv4 address.



IPv6 Address	
<p><i>Information > IPv6 Address</i></p> <p>Shows the IPv6 address.</p>	
<p>Note</p> <p>When Wi-Fi Direct is active, this IPv6 address screen is not shown.</p>	

LAN MAC	
<p><i>Information > LAN MAC</i></p> <p>Shows the MAC address of the LAN. Shows only if LAN is the active interface.</p>	

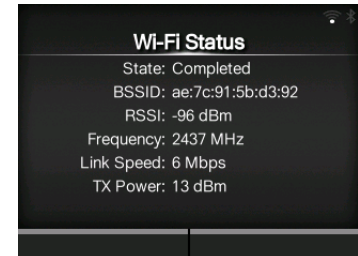
Wi-Fi MAC	
<p><i>Information > Wi-Fi MAC</i></p> <p>Shows the MAC address of the wireless LAN. Shows only if you have installed the optional wireless LAN and Wi-Fi is the active interface.</p>	

Wi-Fi Region	
<p><i>Information > Wi-Fi Region</i></p> <p>Shows the region information of the wireless LAN. Shows only if you have installed the optional wireless LAN and Wi-Fi is the active interface.</p>	

Wi-Fi Status

Information > Wi-Fi Status

Shows the status of the wireless LAN.
Shows only if you have installed the optional wireless LAN and Wi-Fi is the active interface.



Wi-Fi Direct

Information > Wi-Fi Direct

Shows the connection information of Wi-Fi Direct.
Shows only if Wi-Fi Direct is the active interface and you are connected using Wi-Fi Direct.



Wi-Fi Versions

Information > Wi-Fi Versions

Shows the version of the wireless LAN.
Shows only if you have installed the optional wireless LAN.



4.5 Web Configuration

The printer can be operated through a web configuration page using any browser. With an Ethernet LAN or WLAN connection, users can remotely get information from the printer or perform the printer configuration. You need the printer IP address to access the web configuration page. Refer to [Section 4.4.7 Information Menu](#) for the printer IP address. If the printer IP address is 192.168.143.123, open up browser and enter the following URL: https://192.168.143.123 When a security certificate is prompted, you must acknowledge and click Continue. The web configuration page will be shown as follows. On the upper right of each page, the model name, current resolution and MAC address are shown.


4.5.1 Dashboard

The Dashboard, which consists of smaller sections, is the default page of WebConfig. Each section shows specific information or status of the printer. You can view Dashboard and Certificates pages without logging in. However, login is required to view Settings and Tools pages.

Printer Status shows the current state (online, offline error) and current status icons.

Printing shows the print speed, darkness, sensor, print mode and backfeed setting.

Device shows the model, current resolution and options that are installed.

**WebConfig**

Model: SATO CL4NX
Resolution: 203 dpi (8 dpmm)
MAC Address: 00:80:92:50:9E:86

Dashboard Settings Tools Certificates Login

Printer Status

Offline

Printing

Speed: 6 ips

Darkness Range: A

Darkness: 5

Sensor Type: Gap

Print Mode: Tear-Off

Backfeed: Before

Device

Model: CL4NX 203dpi

Resolution: 203 dpi (8 dpmm)

Serial Number:

PCB Serial Number:

Installed Options: Bluetooth, Ext I/O, WLAN

Network

IPv4 Address: 192.168.143.123

MAC Address: 00:80:92:50:9E:86

System

Firmware version: 1.6.0-r5

Uptime: 18min

Contact:

Name:

Location:

Wi-Fi

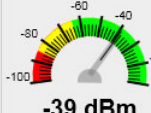
Mode: infra

SSID:

BSSID:

Channel: 1 (2412 MHz)

Wi-Fi Strength



-39 dBm

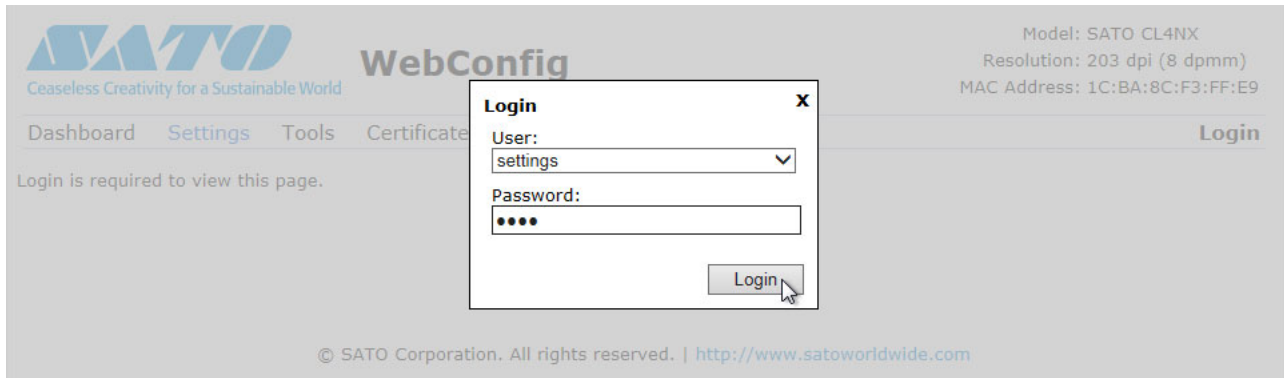
Network shows the current IP address and MAC address of the active interface.

System shows the current firmware version, uptime, SNMP contact, name and location.

This information are shown only if Wi-Fi is available and active. Wi-Fi Strength is not shown if the printer is P2P GO.

4.5.2 Settings

Login is required to view this page. Click Login and then enter the correct password to log in. The default password for the username *settings* is *0310*.




After logging in, the following page will be shown:



These six setting items are also available on the printer through the LCD screens. For details, refer to [Section 4.4 Details of the Settings Menu Screen](#).

Click on any icon on this Settings page to perform the settings.

The following page will be shown after clicking on Printing:





Ceaseless Creativity for a Sustainable World


WebConfig


Model: SATO CL4NX
Resolution: 203 dpi (8 dpmm)
MAC Address: 1C:BA:8C:F3:FF:E9


Dashboard **Settings** Tools Certificates Logout


 **Printing**

 Interface

 Applications

 System

 Tools

 Information

Label Length

20000

1~20000 dot

Label Width

832

1~832 dot

Auto Measure

☐

Ribbon

☒

Ribbon Near End

☒

Speed

6

Sensor Type

Gap

Auto-mode

☒

Print Mode

Tear-Off

Backfeed

Before

Darkness Range

A

Darkness

5

▶ Imaging

▶ Advanced

Printing

Refer to [Section 4.4.2 Printing Menu](#).

Interface

Refer to [Section 4.4.3 Interface Menu](#).

Applications

Refer to [Section 4.4.4 Applications Menu](#).

System

Refer to [Section 4.4.5 System Menu](#).

Tools

Refer to [Section 4.4.6 Tools Menu](#).

Information

Refer to [Section 4.4.7 Information Menu](#).

4.5.3 Tools

Login is required to view this page. Click Login and then enter the correct password to log in as in [Section 4.5.2 Settings](#).

The default password for the username *settings* is *0310*.

After logging in, the following page will be shown:

The screenshot displays the SATO WebConfig interface. At the top left is the SATO logo with the tagline "Ceaseless Creativity for a Sustainable World". To its right is the title "WebConfig". On the far right, system information is listed: "Model: SATO CL4NX", "Resolution: 203 dpi (8 dpmm)", and "MAC Address: 1C:BA:8C:F3:FF:E9". Below this is a navigation bar with links: "Dashboard", "Settings", "Tools" (which is highlighted), and "Certificates". A "Logout" link is positioned on the right side of the navigation bar. On the left side of the main content area, there is a vertical menu with icons and labels: "Upload" (highlighted), "Clone", "Install Package", "Logs", "Reset", "Passwords", "Test Print", and "Support Info". The main content area contains five sections, each with a "Browse..." button and an "Upload" button: "HTTPS Certificate", "Wi-Fi Root CA", "Wi-Fi Client Certificate", "Wi-Fi Private Key", and "Wi-Fi EAP-FAST PAC File". At the bottom of the page, a copyright notice reads: "© SATO Corporation. All rights reserved. | <http://www.satoworldwide.com>".

Upload

Refer to [Certificates on page 213](#).

Clone

Refer to [Clone on page 219](#).

Install Package

Refer to **Section 2.5 Downloading Firmware** of the CL4NX/CL6NX service manual.

Logs

Lists all log files in the log directory. Users can click to download the file.

Reset

Refer to [Select on page 209](#).

Passwords

Refer to [Change Password on page 197](#).

Test Print


Refer to [Test Print on page 199](#).

Support Info

List various information of the printer such as attached options, serial number, application versions and settings configuration. You can also get a screenshot of the current printer display.

4.5.4 Certificates

Shows the Root Certificate authority and client certificates installed on the printer.


WebConfig

Model: SATO CL4NX
Resolution: 203 dpi (8 dpmm)
MAC Address: 1C:BA:8C:F3:FF:E9

Dashboard Settings Tools **Certificates** Login

Installed Certificates

HTTPS (Pre-installed)

```

Certificate:
  Data:
    Version: 1 (0x0)
    Serial Number:
      cc:66:4b:54:a9:35:de:6a
    Signature Algorithm: sha1WithRSAEncryption
    Issuer: C=SE, ST=Vastergotland, L=Gothenburg, O=SATO Techno Lab Europe AB
    Validity
      Not Before: Jun 17 08:49:30 2014 GMT
      Not After : Jun 17 08:49:30 2024 GMT
    Subject: C=SE, ST=Vastergotland, L=Gothenburg, O=SATO Techno Lab Europe AB
    Subject Public Key Info:
      Public Key Algorithm: rsaEncryption
      Public-Key: (2048 bit)
      Modulus:
        00:ab:a9:b6:c4:35:3b:08:90:c0:b1:08:6b:db:5f:
        bc:a2:02:09:3e:3d:d4:55:23:0a:4d:ad:35:16:75:
        d1:02:1c:5c:1c:26:0e:5c:bf:1b:69:f8:69:b2:00:
        77:71:e6:a4:f8:45:11:55:03:93:c5:46:c9:5d:c9:
        6e:2b:d6:7c:e4:7f:60:44:0c:38:ad:cc:f7:9c:7c:
        d5:a1:cd:f4:38:6c:32:2c:98:40:7a:b2:97:c8:72:
        e0:fe:7c:2a:b3:cb:a6:da:1b:f2:af:63:d6:e9:cb:
        c6:d3:aa:7b:01:5e:a9:75:98:06:10:c9:a0:13:32:
        b2:30:7d:ac:84:00:33:f7:29:4c:48:4b:8c:f1:8d:
  
```

Note

The client certificate that is a PFX (PKCS #12) file will not be shown.

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5

Cleaning and Performing Printer Adjustments

5.1 Maintenance

A dirty print head or platen roller not only affects the print quality but also causes errors. Use a cleaning kit or cleaning sheet to clean the printer regularly.

CAUTION

- Do not touch the power button, connect or disconnect the power cord while your hands are wet. Doing so could cause an electric shock.
- Disconnect the power cord from the AC outlet before you begin cleaning.
The print head and its surroundings are hot after printing. Wait until the printer cools down.
- Touching the edge of the print head with your bare hand could cause injury.
- Be careful not to touch the cutter blade when cleaning the printer.
- Use a cleaning pen, cotton swab or cotton cloth from a cleaning kit to clean. Do not clean with a hard object. Doing so could cause damage.
- Remove the media and ribbon before cleaning.

CAUTION for CL4NX only (if installed with linerless kit)

- Open the print head if the printer is not used for printing for more than one day. Paper jam might occur the next time when you print if the print head is closed for a long period with linerless label loaded.
- When loading linerless label, make sure that the front end of the media extends about 3 cm (1.18") out the media discharge outlet.

Note

You can purchase a cleaning kit or cleaning sheet from a SATO reseller or technical service center.

5.2 Maintenance of the Print Head and Platen Roller

Maintenance should be performed at the following regular intervals:

- After you print one media roll or print media for one hundred and fifty meters.

Use the cleaning kit to clean these parts:

- Print head
- Media sensors
- Platen roller
- Media guide

- After you print six media rolls or print media for nine hundred meters.

Use the cleaning sheet to clean these parts:

- Print head
- Platen roller

Use the cleaning kit to clean these parts:

- Media route
- Ribbon route

Maintenance intervals for the optional linerless kit (CL4NX only):

- After you print one media roll or whenever there is any glue residue or paper dust on the media route.

Use the cleaning kit to clean these parts:

- Print head
- Media sensors
- Media guide
- Guide rollers

* There is no need of cleaning the linerless platen roller unless it is significantly soiled.

Note

The above maintenance intervals are only for reference. Perform the cleaning when necessary.

5.2.1 Maintenance using the Cleaning Kit

The maintenance procedure using the cleaning kit is as follows:

CAUTION

Never use organic solvents, such as thinner and benzene to clean the printer.

Note

For details on the cleaning kit, refer to the manual attached to the cleaning kit.

- 1 Make sure that the printer is in power off mode, then disconnect the power cord from the AC outlet.

2 Open the **top cover**.

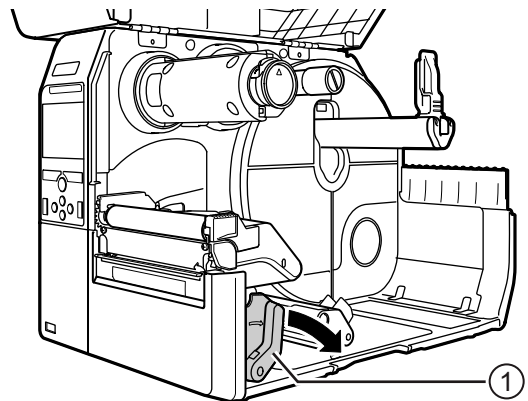
CAUTION

Open the top cover fully to prevent accidental drop of the cover.

3 Push the **head lock lever** ① towards the rear to unlock the print head.

CAUTION

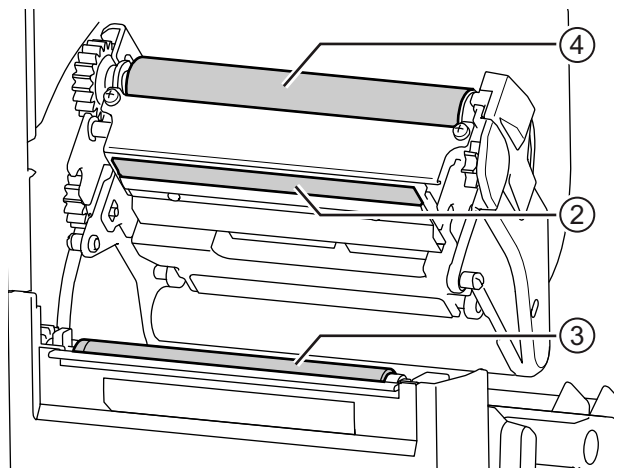
- The print head and its surroundings are hot after printing. Be careful not to touch it, to avoid being burned.
- Touching the edge of the print head with your bare hand could cause injury.



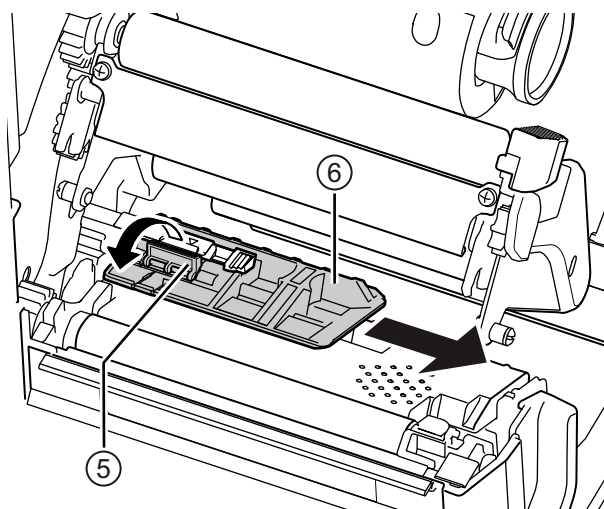
4 Remove the media and ribbon if they are already loaded.

Refer to [Section 3.3 Removing the Ribbon](#) and the reverse procedure in [Section 3.5 Loading Media](#).

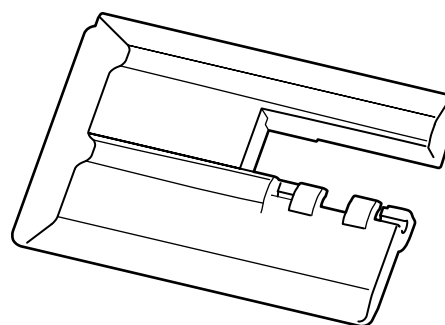
5 Clean the dirt on the **print head** ②, **platen roller** ③ and **ribbon roller** ④ using a cleaning pen or a cotton swab dabbed with cleaning liquid.



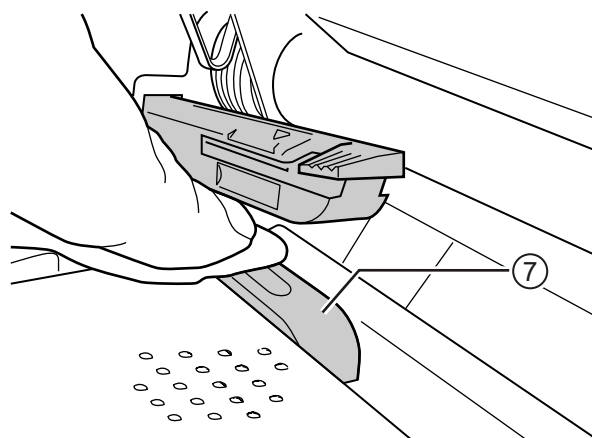
- 6** Tilt the **sensor guide lock** ⑤ down and pull out the **media sensor guide** ⑥.



- 7** Clean the bottom of the **media sensor guide** using the cotton cloth dabbed with cleaning liquid.



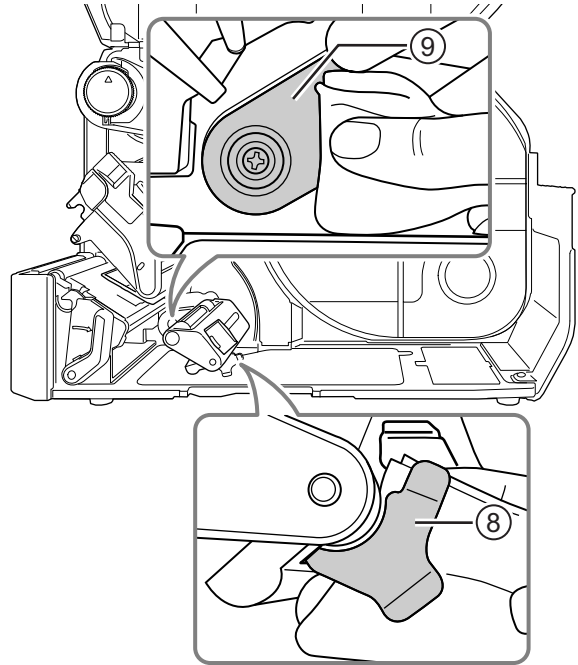
- 8** Clean the **media sensor** ⑦ using the cotton cloth dabbed with cleaning liquid.



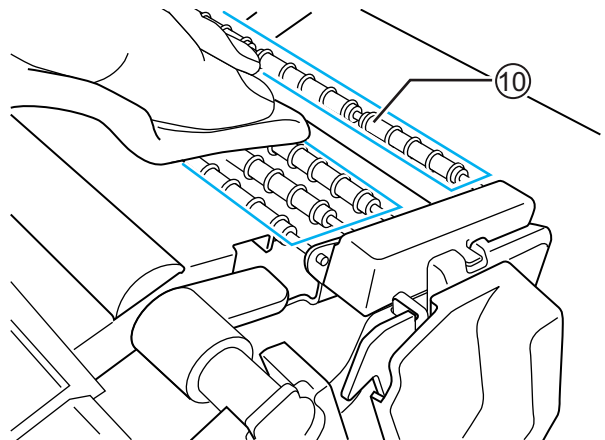
- 9** Return the **media sensor guide** to its original position and tilt the **sensor guide lock** up to the locked position.

5.2.2 Additional Procedure for the Optional Linerless Kit (CL4NX only)

- 1 After performing step 8 above, clean the **media guide** ⑧ and inner surface ⑨ that is in contact to the label edge. Use the cotton cloth dabbed with cleaning liquid to clean.



- 2 Clean the **guide rollers** ⑩ using the cotton cloth dabbed with cleaning liquid. Rotate the guide rollers to clean the whole areas of them.



5.2.3 Maintenance using the Cleaning Sheet

The maintenance procedure using the cleaning sheet is as follows:

1 Make sure that the printer is in power off mode, then disconnect the power cord from the AC outlet.

2 Open the **top cover**.

CAUTION

Open the top cover fully to prevent accidental drop of the cover.

3 Push the **head lock lever** ① towards the rear to unlock the print head.

CAUTION

- The print head and its surroundings are hot after printing. Be careful not to touch it, to avoid being burned.
- Touching the edge of the print head with your bare hand could cause injury.

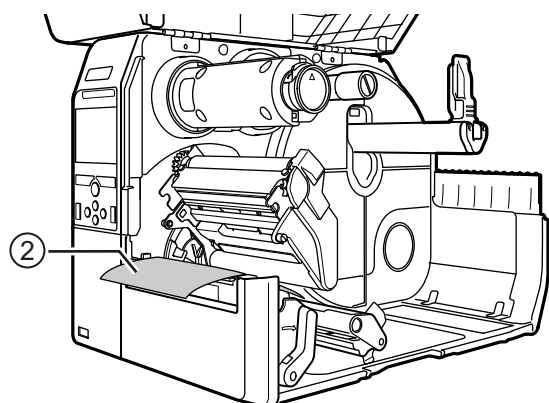
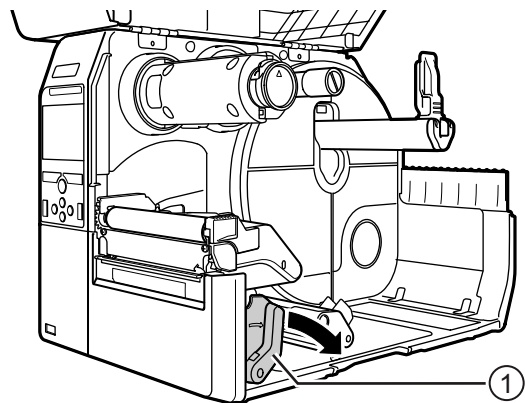
4 Remove the media and ribbon if they are already loaded.

Refer to [Section 3.3 Removing the Ribbon](#) and the reverse procedure in [Section 3.5 Loading Media](#).

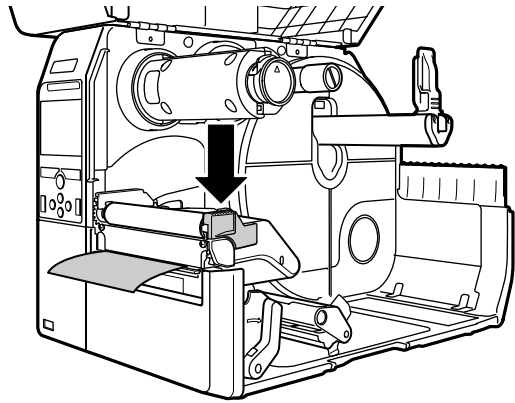
5 Place the **cleaning sheet** ② between the **print head** and the **platen roller**.

Note

Align the rough side of the cleaning sheet adjacent to the print head.



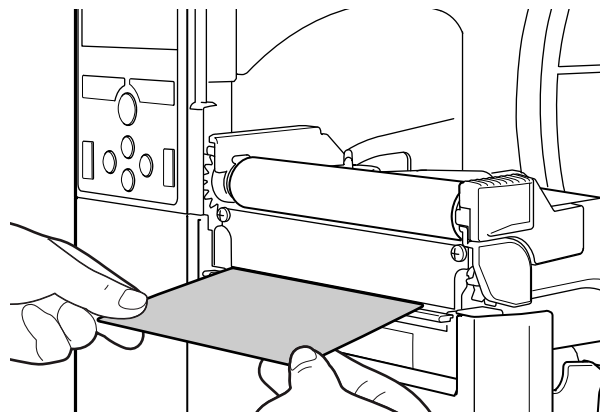
- 6** Press the **print head** down until you lock the **head lock lever** in place.



- 7** Using two hands, pull the **cleaning sheet** away from the printer.

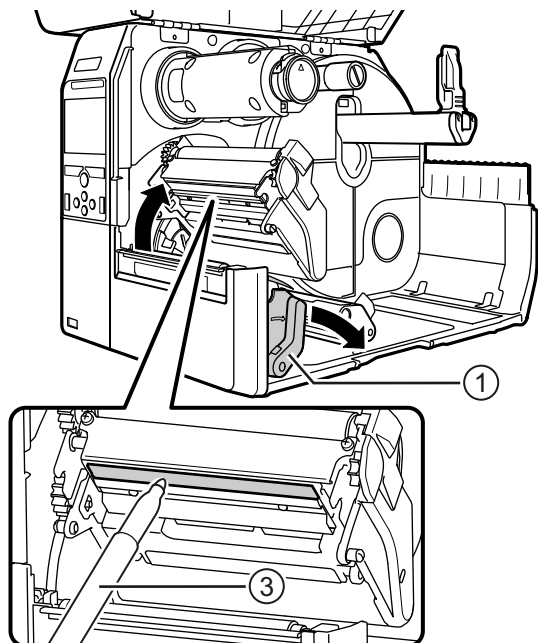
- 8** After you pull out the cleaning sheet, repeat steps 5 through 7, two or three more times.

When no more dirt appears on the cleaning sheet after you have pulled it out, stop repeating these steps.



- 9** Push the **head lock lever** ① towards the rear to unlock the **print head**.

- 10** Use a **cleaning pen** ③ to clean the dirt on the **print head**.

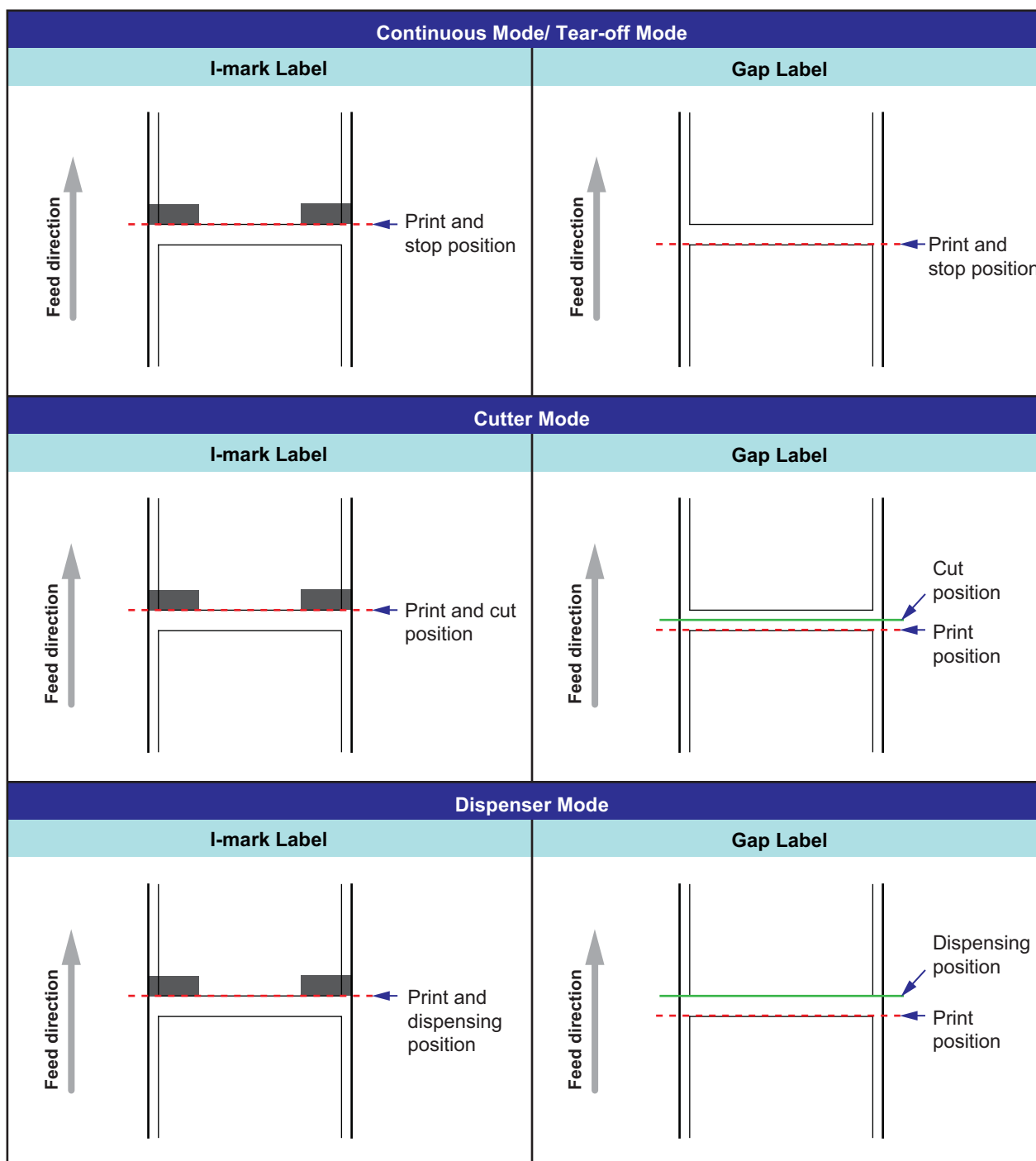


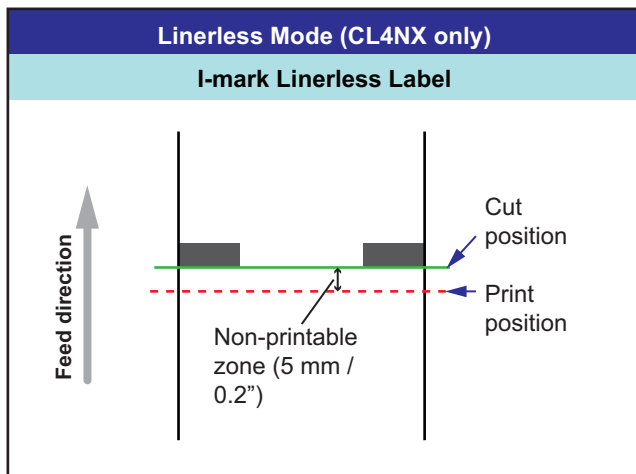
5.3 Adjusting the Base Reference Point

5.3.1 About the Base Reference Point

The base reference point is the point at which one determines the print position and stop/cut/dispensing position.

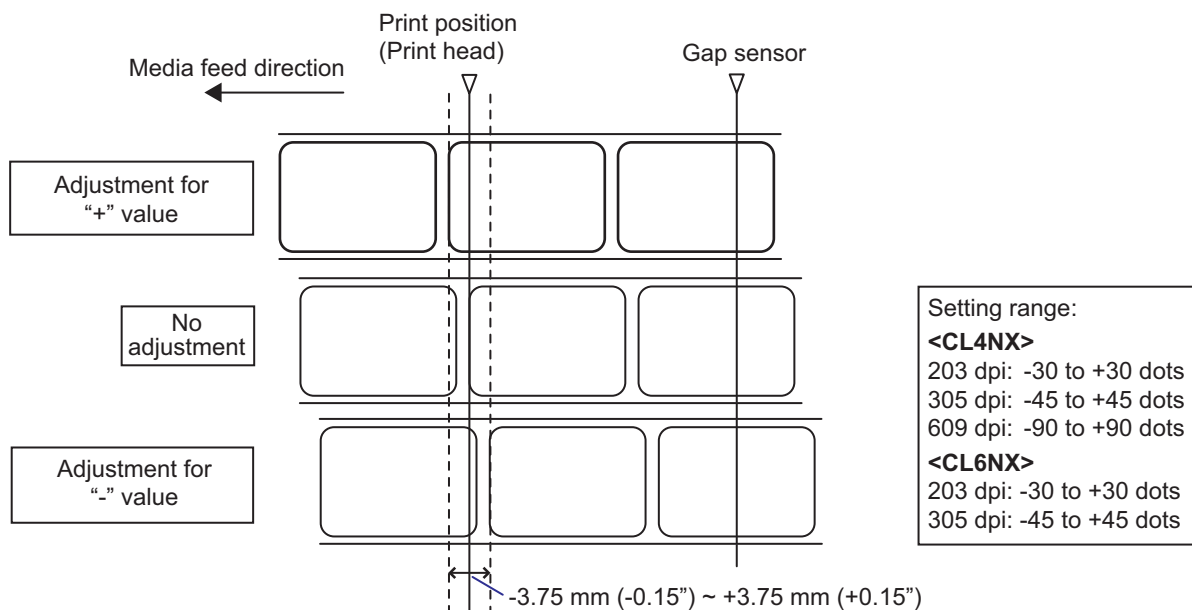
The base reference point differs depending on the operation mode or media sensor you use.





5.3.2 Adjusting the Print Position

Set the **Pitch** in the **Printing > Advanced > Adjustments** menu to adjust the print position.

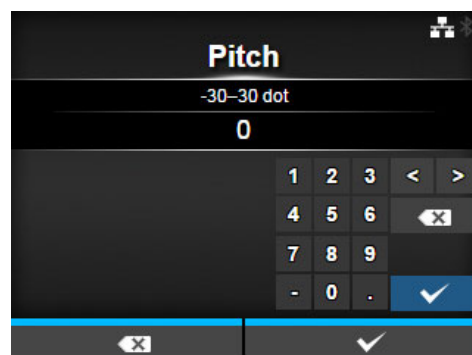
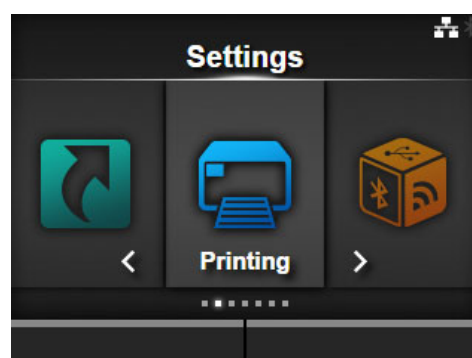


Note

The above base reference point (print position) will be the stop position when the sensor type is set to Gap sensor.

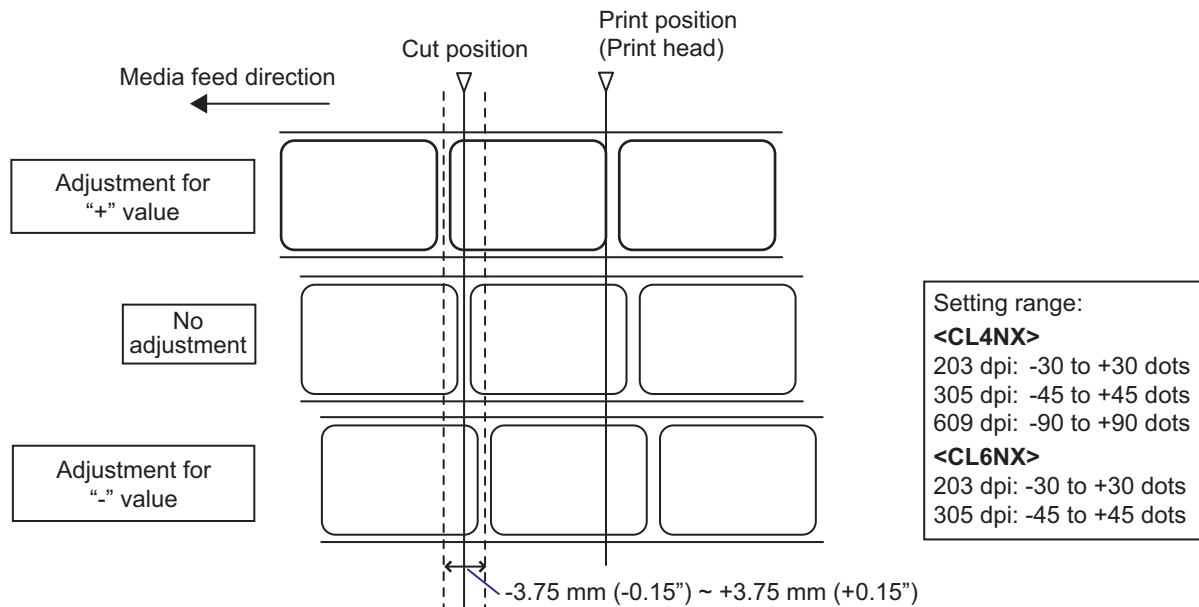
Adjust the print position using the following procedure:

- 1** When the printer is in online mode, press the **▶||** button on the operator panel to change to offline mode.
- 2** Press the **←** button to show the **Settings** menu.
- 3** Select **Printing** using the **◀/▶** buttons, then press the **←** button.
- 4** Select **Advanced > Adjustments > Pitch** using the **▲/▼** buttons, then press the **←** button.
The Pitch screen shows.
- 5** Change the setting value. Press the **◀/▶/▲/▼** buttons to select the number and then press the **←** button to enter the number to the text box.
The setting range is as follows:
<CL4NX>
 203 dpi: -30 to +30 dots
 305 dpi: -45 to +45 dots
 609 dpi: -90 to +90 dots
<CL6NX>
 203 dpi: -30 to +30 dots
 305 dpi: -45 to +45 dots
- 6** Press the right soft button to save the setting value.
- 7** Press the **▶||** button to change to offline mode.
- 8** Press the **▶||** button again to change to online mode.
You can perform printing to check the adjusted print position.



5.3.3 Adjusting the Media Stop Position

Set the **Offset** in the **Printing > Advanced > Adjustments** menu to adjust the media stop position.



Note

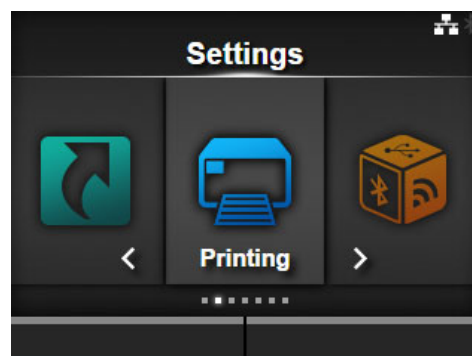
- The above cut reference position for printing indicates the label stop position when the media sensor is set to Gap sensor.
- You can also adjust when the operation mode is specified to Tear-off or Dispenser.

Adjust the stop position using the following procedure:

- 1 When the printer is in online mode, press the **▶||** button on the operator panel to change to offline mode.
- 2 Press the **←** button to show the **Settings** menu.

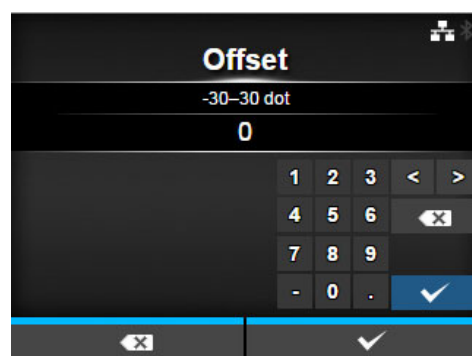


- 3 Select **Printing** using the ◀/▶ buttons, then press the ⏮ button.



- 4 Select **Advanced > Adjustments > Offset** using the ▲/▼ buttons and the ⏮ button.

The Offset screen shows.



- 5 Change the setting value. Press the ◀/▶/▲/▼ buttons to select the number and then press the ⏮ button to enter the number to the text box.

The setting range is as follows:

<CL4NX>

203 dpi: -30 to +30 dots

305 dpi: -45 to +45 dots

609 dpi: -90 to +90 dots

<CL6NX>

203 dpi: -30 to +30 dots

305 dpi: -45 to +45 dots

- 6 Press the right soft button to save the setting value.

- 7 Press the ▶|| button to change to offline mode.

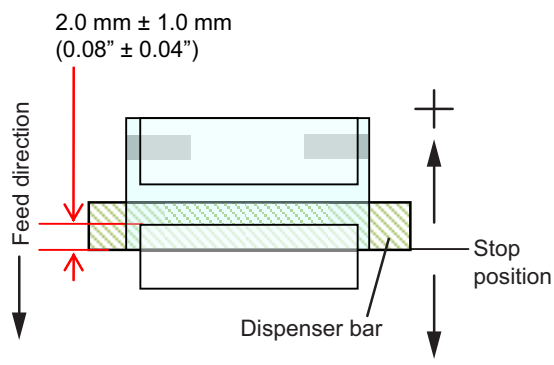
- 8 Press the ▶|| button again to change to online mode.

You can perform printing to check the adjusted stop position.

5.3.4 Notes on the Stop/Cut Position of Different Media

Stop position of the label in dispenser mode.

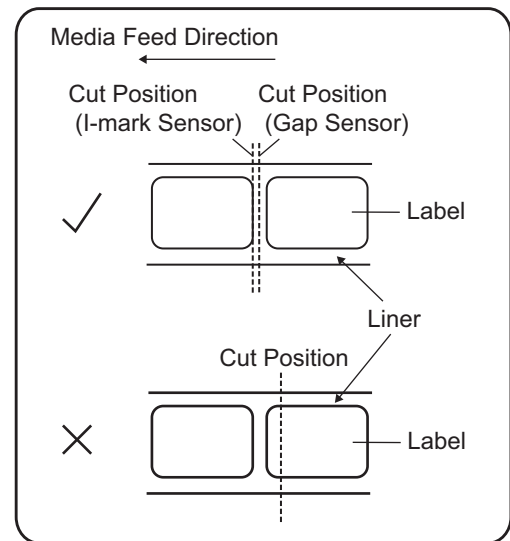
The regular position is to let the label stay about $2 \pm 1 \text{ mm}$ ($0.08'' \pm 0.04''$) on the liner.



Cut position when using the label in cutter mode.

The regular cut position is between labels (only cut on the liner).

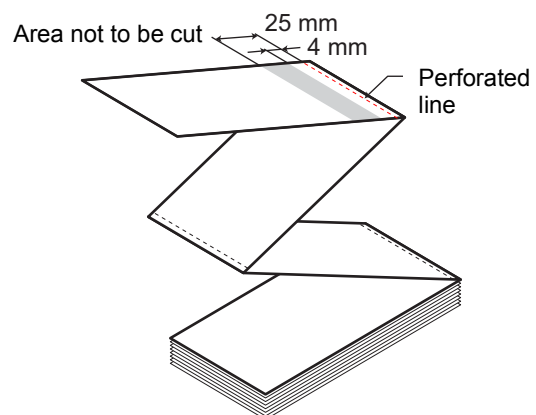
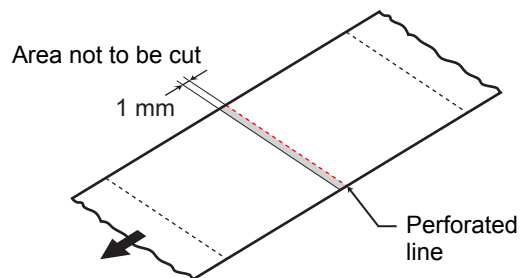
Do not cut on the label as the remaining adhesive on the blade will decrease the performance of the cutter.



Cut position when using the media with perforated line in cutter mode.

Do not cut on the perforated line or area from the perforated line towards you. Doing so may cause a paper jam or damage.

- Media roll
Do not cut on the perforated line or within 1 mm (0.04") from the perforated line towards you.
- Fan-fold media
Do not cut on the perforated line or within 4 mm to 25 mm (0.16" to 0.98") from the perforated line towards you.



5.4 Adjusting the Print Quality

You can adjust the print quality by adjusting the print darkness and print speed.

5.4.1 Adjustment of the Print Darkness

The adjustment procedure for the print darkness is as follows:

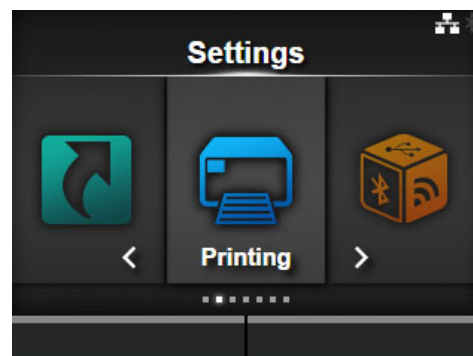
Note

- You can fine tune the print darkness by setting the **Darkness Adjust** in the **Printing > Advanced > Adjustments** menu.
- When **Prioritize** in the **Printing > Advanced** menu has been set to **Commands**, the data will be printed with the print darkness specified by command.
- To adjust the print darkness while pausing the print job, refer to [Section 4.1.5 How to Adjust the Print Settings During Printing](#).

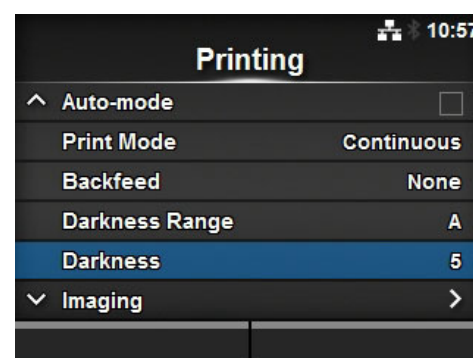
1 When the printer is in online mode, press the **▶||** button to change the printer to offline mode.

2 Press the **←** button to show the **Settings** menu.

3 Press the **◀/▶** buttons to select **Printing** and then press the **←** button.

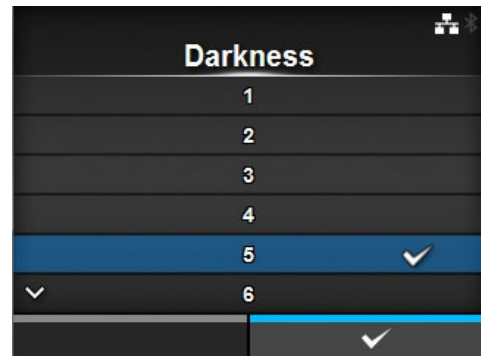


4 Press the **▲/▼** buttons to select **Darkness** and then press the **←** button.
The Darkness screen shows.



5 Press the ▲/▼ buttons to select a value.

The setting range is from 1 to 10. 1 is the lightest and 10 is the darkest.

6 Press the right soft button or ← button to save the value.**7** Press the ► button to change to offline mode.**8** Press the ► button again to change to online mode.

You can perform printing to check the print quality.

5.4.2 Adjusting the Print Speed

The adjustment of the print speed not only changes the speed of printing but also affects the print quality. The setting range of the print speed varies depending on the following print resolution:

<CL4NX>

- Resolution 203 dpi (8 dots/mm): 2 to 10 (inches/sec)
- Resolution 305 dpi (12 dots/mm): 2 to 8 (inches/sec)
- Resolution 609 dpi (24 dots/mm): 2 to 6 (inches/sec)

<CL6NX>

- Resolution 203 dpi (8 dots/mm): 2 to 10 (inches/sec)
- Resolution 305 dpi (12 dots/mm): 2 to 8 (inches/sec)

Note

- When **Prioritize** in the **Printing > Advanced** menu has been set to **Commands**, the data will be printed with the print speed specified by command.
- To adjust the print speed while pausing the print job, refer to [Section 4.1.5 How to Adjust the Print Settings During Printing](#).

Note (CL4NX only)

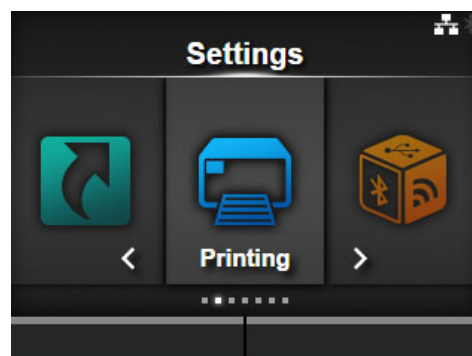
If the optional linerless kit is installed, the setting range will be from 2 to 6 ips (inches/sec) regardless of the print resolution of the printer.

The adjustment procedure for the print speed is as follows:

1 When the printer is in online mode, press the ► button to change the printer to offline mode.

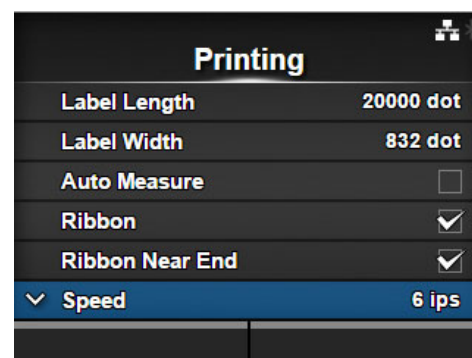
2 Press the **←** button to show the **Settings** menu.

3 Press the **◀/▶** buttons to select **Printing** and then press the **←** button.



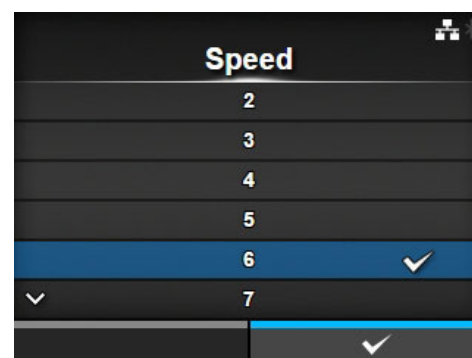
4 Press the **▲/▼** buttons to select **Speed** and then press the **←** button.

The Speed screen shows.



5 Press the **▲/▼** buttons to select a value.

6 Press the right soft button or **←** button to save the value.



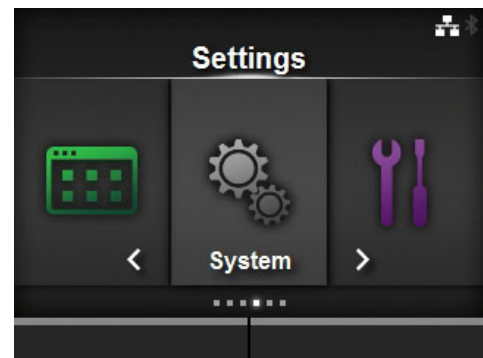
7 Press the **▶||** button to change to offline mode.

8 Press the **▶||** button again to change to online mode.
You can perform printing to check the print quality.

5.5 Adjusting the Buzzer Volume

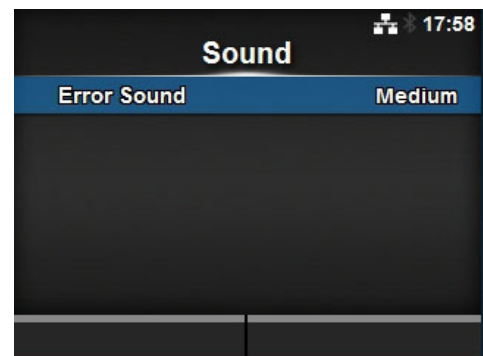
The adjustment procedure for the buzzer volume when an error occurs is as follows:

- 1 When the printer is in online mode, press the ► button on the operator panel to change to offline mode.
- 2 Press the ◀ button to show the **Settings** menu.
- 3 Press the ◀/▶ buttons to select **System** and then press the ◀ button.



- 4 Select **Sound > Error Sound** using the ▲/▼ buttons and then press the ◀ button.

The Error Sound screen shows.

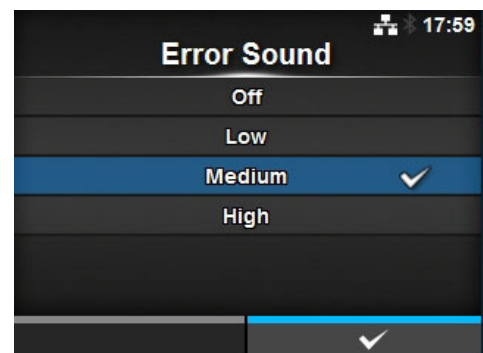


- 5 Press the ▲/▼ buttons to set the volume.

The options are as follows:

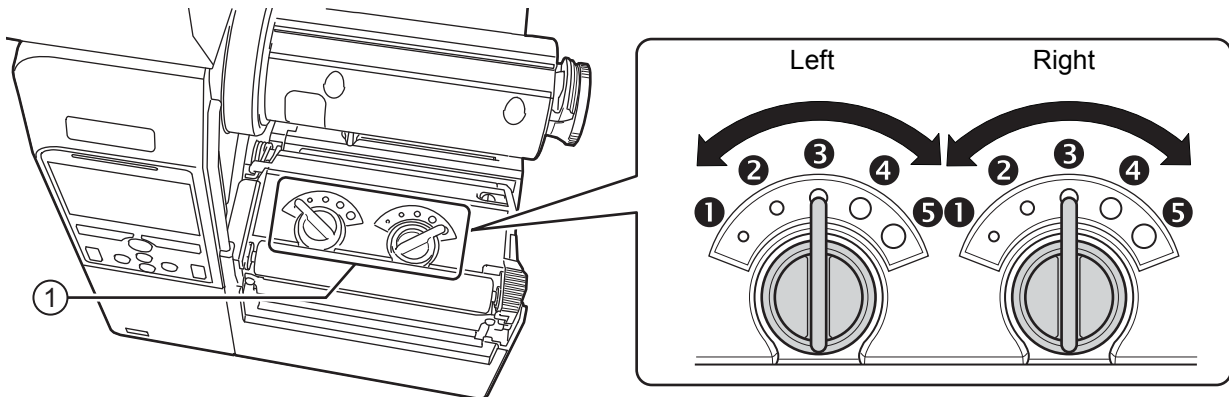
- **Off:** Mute the sound.
- **Low:** Low volume.
- **Medium:** Medium volume.
- **High:** High volume.

- 6 Press the right soft button or ◀ button to save the setting.



5.6 Adjusting the Head Pressure Balance

Print head balance refers to the equalization of pressure between the print head and the platen roller. If the print head balance is out of adjustment, the printed image will be darker on one side of the media than the other and the media will be prone to travel in the direction of greater pressure.



Setting the Criteria of the Head Pressure Balance

- Set the head pressure according to the media thickness, including the liner.
- Set the pressure balance according to the media width.

5.6.1 Head Pressure Setting

The adjustment procedure for the head pressure is as follows:

- 1** Open the **top cover** of the printer.
- 2** Find the **adjustment dials** ① on the top of the **print head assembly** as shown.
- 3** Turn the **adjustment dials** ① to match the media thickness.

Media Thickness (mm)	CL4NX: 0.080-0.200 CL6NX: 0.060-0.200	0.200 - 0.268
Adjustment dials	③ (Left and Right, CL4NX only) ③ to ④ (Left and Right, CL6NX only)	④ to ⑤ (Left and Right)
Reference	Thin paper/normal label, etc.	Thick paper/tag, etc.

- 4** Be sure to perform the pressure balance setting as explained below, after step 3.

Note

- The factory default setting is Left ③ and Right ③.
For CL6NX dispenser model, the factory default setting is Left ④ and Right ④.
- The thickness of the media includes the liner.

5.6.2 Pressure Balance Setting

The adjustment procedure for the pressure balance is as follows:

- 1** Open the **top cover** of the printer.
- 2** Find the **adjustment dials** ① on the top of the **print head assembly** as shown.
- 3** Turn the **adjustment dials** ① according to the media width and set the pressure balance.

For CL4NX:

Media Width (mm)	25 - 54	54 - 83	83 - 131
Adjustment dials	Left ③ Right ①	Left ③ Right ②	Left ③ Right ③

*First use the dial setting for the head pressure and then adjust according to the media width.
Above table shows an example when the head pressure is Left ③.

For CL6NX:

Media Width (mm)	50 - 120	120 - 140	140 - 160	160 - 180
Adjustment dials	Left ⑤ Right ①	Left ③ or ④ Right ①	Left ③ or ④ Right ②	Left ③ or ④ Right ③ or ④

*First use the dial setting for the head pressure and then adjust according to the media width.

Note

The factory default setting is Left ③ and Right ③.

For CL6NX dispenser model, the factory default setting is Left ④ and Right ④.

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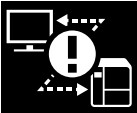
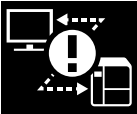


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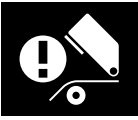


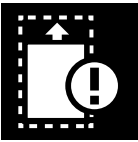

Troubleshooting





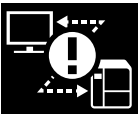

This chapter explains the errors that can occur on the printer and the displays for indicating the current status.



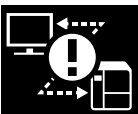

6.1 When an Error Message Occurs






When there is an error on the printer, the error message will show on the screen. The error message, its cause and the countermeasures are as follows:


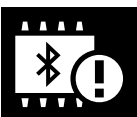
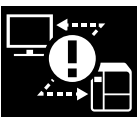



Error			
No.	Message	Cause	Countermeasure
1001	Machine error  To clear the error: Power off the printer.	Defective circuit board.	Replace the main board.
1003	Parity error  To clear the error: Press the Offline or ► button, or adjust the settings.	RS-232C settings are incorrect.	Adjust the interface settings correctly.
		The cable connection is incorrect.	Check and connect the cable correctly.
1004	Overrun error  To clear the error: Press the Offline or ► button, or adjust the settings.	RS-232C settings are incorrect.	Adjust the interface settings correctly.
		The cable connection is incorrect.	Check and connect the cable correctly.
1005	Framing error  To clear the error: Press the Offline or ► button, or adjust the settings.	RS-232C settings are incorrect.	Adjust the interface settings correctly.
		The cable connection is incorrect.	Check and connect the cable correctly.
1006	Buffer overflow  To clear the error: Press the Offline or ► button.	The size of the received data exceeds the size of the receive buffer.	Do not send data that exceeds the size of the receive buffer.
		The communication settings between the printer and the host are incorrect.	Set the communication between the printer and the host correctly.




Error			
No.	Message	Cause	Countermeasure
1007	Head open	The print head is unlocked.	Lock the print head.
	 To clear the error: Close the print head.	The sensor for sensing the open/close status of the print head is defective.	Replace the sensor for sensing the open/close status of the print head.
1008	Out of paper	The media is not loaded.	Load the media correctly.
	 To clear the error: Load the media and open/close the print head or press the Offline or ► button.	The media is not loaded correctly.	
		The sensitivity of the media sensor is not set correctly.	Adjust the sensor level.
		The media has jammed.	Remove the jammed media.
		The media sensor is dirty.	Clean the media sensor.
		The cable of the media sensor is disconnected.	Connect the cable of the media sensor correctly.
1009	End of ribbon	The ribbon is not loaded.	Load a new ribbon.
	 To clear the error: Load the ribbon correctly and close the print head or press the Offline or ► button.	The ribbon is damaged.	Load the ribbon correctly.
		The ribbon is not loaded correctly.	
1010	Media error	The configured media size and loaded media size are different.	Check the configured media size and loaded media size.
	 To clear the error: Press the Offline or ► button or open/close the print head.	The received print data is larger than the configured media size.	Check the print data.
		The media is fed a longer distance due to the incorrect sensor level.	Adjust the sensor level.
1012	Print head error	The print elements are worn out.	Change print head check conditions to only check for missing elements in barcodes and try to adjust missing elements to white bars.
	 To clear the error: Power off or change the head check conditions.	The print head is damaged.	Replace the print head.

Error			
No.	Message	Cause	Countermeasure
1013	 <p>USB write error</p> <p>To clear the error: Insert USB memory, remove USB memory or press the Offline or ► button.</p>	The USB memory is disconnected while writing.	Connect the USB memory.
		The copy area in the USB memory is not sufficient.	Make sure that the USB memory has sufficient copy area.
		Writing to the USB memory fails.	Replace the USB memory.
		The USB memory is not formatted.	Format the USB memory.
1014	 <p>USB memory full</p> <p>To clear the error: Use USB memory with sufficient space or press the Offline or ► button.</p>	The space in the USB memory is not sufficient.	Delete unwanted data from the USB memory.
1015	 <p>Cutter error</p> <p>To clear the error: Press the FEED button.</p>	A media jam has occurred in the cutter unit.	Remove the jammed media from the cutter unit.
		The cutter blade does not return to the specified position.	Press the FEED button to move the cutter blade back to the specified position.
1016	 <p>Cutter open</p> <p>To clear the error: Close the bracket of the cutter.</p>	The cutter-open lever is open.	Close and lock the cutter-open lever.
		The cable of the cutter unit is disconnected.	Connect the cable of the cutter unit correctly.
		The cutter open sensor is defective.	Replace the cutter open sensor.
1017	 <p>Command error</p> <p>To clear the error: Press the Cancel or ► button.</p>	Incorrect command or parameter in the print data. Caaa: position of error occurrence <bb>: error command name cc: error code	Check the print data.
1018	 <p>RFID tag error (CL4NX only)</p> <p>To clear the error: Press the Cancel button.</p>	Could not read/write to the RFID inlay.	Discard this tag.

Error			
No.	Message	Cause	Countermeasure
1019	RFID system error (CL4NX only)  To clear the error: Power off the printer.	RFID module is not operating correctly.	Contact the technical support center for repair of the RFID module.
1020	Calendar error  To clear the error: Change the calendar setting, press the Offline or ► button, or power off the printer.	The date and time of the calendar are incorrect.	Check if you have installed the RTC kit or replace the RTC PCB.
1021	BCC check error  To clear the error: Press the ► button or cancel the print job.	The BCC code of the data to be sent (one item) is incorrect.	Check the data to be sent and communication settings. ► button: Continue printing from the print data where the BCC error occurred. Send the SUB command: Clear the BCC error and continue printing from where it stopped.
1022	Overheat error  To clear the error: Stop the operation of the printer and wait until the temperature decreases.	The temperature of the printer has exceeded its tolerance value.	Stop the operation of the printer to let the temperature decrease.

Error			
No.	Message	Cause	Countermeasure
1023	NTP error	Could not connect to the time server and set the calendar clock.	Confirm that the address of the time server is correct.
	 <p>To clear the error: Press the Offline button or change the calendar setting.</p>		<p>Confirm that there is a connection to the time server.</p> <p>If RTC kit is installed, the calendar can be set manually and operation resumed without NTP functionality. To check or set the clock, go to the System settings menu and set the Date and Time.</p>
1024	Head density changed	The print head is not installed.	Install the print head.
	 <p>To clear the error: Confirm the prompted message.</p>	A new print head with a different resolution has been installed.	Install a print head with the same density as the old print head.
1028	Gap not found	Meandering media.	Clean and adjust the media path.
	 <p>To clear the error: Press the Offline button or open/close the print head.</p>	The sensor type is incorrect.	Use the correct sensor type.
		The media sensor level is incorrect.	Adjust the media sensor level.
1035	I-mark not found	Meandering media.	Clean and adjust the media path.
	 <p>To clear the error: Press the Offline button or open/close the print head.</p>	The sensor type is incorrect.	Use the correct sensor type.
		The media sensor level is incorrect.	Adjust the media sensor level.
1046	EAP authentication error (EAP failure)	EAP Authentication failure.	Use the correct Wi-Fi settings.
	 <p>To clear the error: Change the Wi-Fi settings or press the Offline button.</p>		

Error			
No.	Message	Cause	Countermeasure
1047	EAP authentication error (EAP timeout)  To clear the error: Press the Offline button.	EAP Authentication failure.	Use the correct Access Point (AP) and authentication server settings.
1050	Bluetooth error  To clear the error: Confirm the prompted message.	Bluetooth module is defective.	Contact the technical support center for repair of the Bluetooth module.
1058	CRC check error  To clear the error: Press the left or right soft button.	CRC has not been added to the data. CRC does not match.	Check transmitted data and interface settings. Right soft button: Continue printing from the print data where the CRC error occurred. Left soft button: Cancel the print data with the CRC error and continue printing from the next item.
1066	Paper jam error (CL4NX only)  To clear the error: Open the print head and load the media again.	The media has jammed.	Remove the jammed media. Load the media again.
1073	Non-RFID warning (CL4NX only)  To clear the error: Press the Cancel button.	With Non-RFID warning enabled and RFID tag loaded, the items received do not contain an RFID issue command.	Add an RFID issue command to the print job. Disable Non-RFID warning. Replace with non-RFID label.
1077	Barcode reader connection error  To clear the error: Press the Offline button.	The barcode verifier is not detected at printer startup when the barcode checking mode is enabled.	Check and connect the barcode verifier correctly.

Error			
No.	Message	Cause	Countermeasure
1078	Barcode reading error  To clear the error: Press the Offline or Cancel button.	Could not read the barcode normally.	Check the position of the barcode verifier and settings.
1079	Barcode reading error  To clear the error: Press the Offline button.	A value larger than the loaded media length is specified for checking start position.	Set a value smaller than the loaded media length for checking start position.
1080	Barcode comparison error  To clear the error: Press the Offline or Cancel button.	The read result of the barcode does not match the command data.	Check the layout for printing and barcode verifier settings.

6.1.1 More Information about Command Error

Printer motion when detecting a command error

When **Show Error** is set to ENABLE in Applications > SBPL, the command error information is shown on the error message (second line), and the print operation is paused.

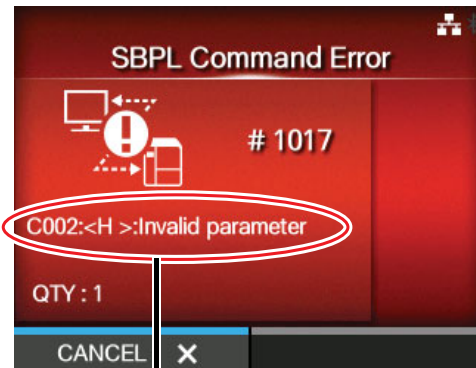
This error can be cleared by pressing the left soft button **CANCEL X**, but the data in which an error is detected is discarded and cannot be printed.

Location of error occurrence

“Caaa” in the command error message shows the location of command error.

The number of ESC commands from ESC+A is shown in “aaa”.

Note that the ESC+A command is not included in the number of ESC commands, which can be shown up to 999. If the number of ESC commands exceeds 999, it is shown as “999”.



Command error information

Example)

When a command error is detected by the Horizontal Print Position <H> command.

```
-----: [ESC]A
C001: [ESC]V100
C002: [ESC]H99999          => Location of the command error
C003: [ESC]L0202
C004: [ESC]M,ABCDEF
C005: [ESC]Q1
C006: [ESC]Z
```

In this case, C002 is the location of the error.

Error command name

The command name, in which an error is detected, is shown in “<bb>”.

* A one-byte command name is left aligned.

Error description

The cause of command error will be shown in “cc” in the error message (“Caaa:<bb>:cc”).

Description (“cc”)	Cause
Invalid command	Analyzed improper command.
Invalid parameter	Received improper parameter.
Command table read error	Failed to read the command table.
Invalid graphic data/ custom designed data	Analyzed improper graphic and external character data.
Invalid registration area	Specified memory area (card slot) is inappropriate. Tried to write to a write-protected media.
This number is already registered	Number specified by registration command has already been taken.
Over registration area limit	Exceeded the registration area. (Memory full).

Description ("cc")	Cause
Data is not registered	Data is not registered.
Printing position is out of printable area	The specified print start position is outside the printable area.
Barcode image is out of printable area	The printing image is outside the printable area. (Barcode only).

6.2 When the LED Lights Red/Blue

The LED will light or flash to show the current status of the printer.

The status when the LED lights or flashes is as follows:

LED	Printer Status	Countermeasure
Light off.	The power is off or the printer is in offline mode.	Power on the printer or change it to online mode.
Lights blue.	The printer is in online mode.	You can operate the printer.
Flashes blue. (At intervals of 2 seconds)	The printer is in sleep mode.	You can operate the printer.
Lights red.	An error has occurred.	Clear the error according to the message.

Note

If the printer enters sleep mode during a printer error status (LED lights red), the LED indicator will flash blue at intervals of two seconds.

6.3 Troubleshooting Table

Check the items below when the printer does not operate correctly.

WARNING

- Do not touch the power button, connect or disconnect the power cord while your hands are wet. Doing so could cause an electric shock.
- Disconnect the power cord from the AC outlet before you perform the cleaning.

Note

You can purchase a cleaning kit or cleaning sheet from a SATO reseller or technical service center.

6.3.1 No Power/Nothing on the Screen

No.	What to check	Countermeasure
1	Is the power cord fully connected to the AC outlet?	Connect the power cord to the AC outlet fully.
2	Is the power cord fully connected to the printer?	Connect the power cord to the AC input terminal of the printer fully.
3	Is the power cord damaged?	Replace the power cord. Contact a SATO reseller or technical service center for the specific power cord for this printer. Do not use power cords that are not designed specifically for this printer.
4	Is there electricity at the AC outlet that supplies the power to the printer?	Check if there is electricity at the AC outlet. Connect to another AC outlet.

6.3.2 Cannot Feed the Media

No.	What to check	Countermeasure
1	Are the media and ribbon designed for the printer?	Use media and ribbon designed for the printer.
2	Are the media and ribbon loaded correctly?	Load the media and ribbon correctly.
3	Is the media or ribbon deformed?	Use the media or ribbon that is not deformed. You cannot feed the media or ribbon that is deformed.
4	Is the media guide set correctly?	Adjust the media guide.
5	Is the correct sensor type set?	Set the correct sensor type.
6	Is the sensitivity of the sensor set correctly?	Adjust the sensor level.

No.	What to check	Countermeasure
7	Is the platen roller dirty?	If the platen roller is dirty, clean it with the cleaning kit. For printer cleaning, refer to Section 5.2 Maintenance of the Print Head and Platen Roller .
8	Is the platen roller damaged?	Replace the platen roller.
9	Does the interface operate correctly?	Check the interface according to the Interface Troubleshooting.
10	Is the data or signal sent from the computer incorrect?	Power on the device again. Check the data sent from the computer and communication conditions.
11	Is the main board defective?	Replace the main board.

6.3.3 Can Feed the Media but Cannot Print

No.	What to check	Countermeasure
1	Are the media and ribbon designed for use with the printer?	Use the media and ribbon designed for the printer.
2	Is the ribbon wound correctly.	If the knob of the ribbon rewinder is not set to its initial position, remove the wound ribbon then set the knob again.
3	Is the correct sensor type set?	Set a correct sensor type.
4	Is the print head installed correctly?	Install the print head correctly.
5	Is the pressure of the print head too strong or too weak?	Adjust the pressure of the print head with the head pressure adjustment dial.
6	Is the print head dirty or is there a label attached to it?	If the print head is dirty, clean it using the cleaning pen. If a label is attached to the print head, remove it. If the glue of label is attached to the print head, clean it using a cleaning kit. Do not clean using a hard object. Doing so could cause damage to the print head. For printer cleaning, refer to Section 5.2 Maintenance of the Print Head and Platen Roller .
7	Is the media sensor dirty?	If the media sensor is dirty, clean it using the cleaning kit. For printer cleaning, refer to Section 5.2 Maintenance of the Print Head and Platen Roller .
8	Does the interface operate correctly?	Check the interface according to the Interface Troubleshooting.
9	Is the data or signal sent from the computer incorrect?	Power on the device again. Check the data sent from the computer and communication conditions.

No.	What to check	Countermeasure
10	Is the print head defective?	Replace the print head and reset the counter.
11	Is the main board defective?	Replace the main board.

6.3.4 Bad Print Quality

No.	What to check	Countermeasure
1	Are the media and ribbon designed for use with the printer?	Use media and ribbon designed for the printer.
2	Are the media and ribbon loaded correctly?	Check if the media and ribbon are loaded correctly.
3	Is the tension of the ribbon correct?	Adjust the tension of the ribbon.
4	Is the print head installed correctly?	Install the print head correctly.
5	Is the pressure of the print head too strong or too weak?	Adjust the pressure of the print head with the head pressure adjustment dial.
6	Is the print speed too fast?	Adjust the print speed.
7	Is the print darkness too low or too high?	Adjust the print darkness.
8	Is the platen roller dirty?	If the platen roller is dirty, clean it using the cleaning kit. For printer cleaning, refer to Maintenance.
9	Is the print head dirty or is there a label attached to it?	If the print head is dirty, clean it using the cleaning pen. If a label is attached to the print head, remove it. If the glue of label is attached to the print head, clean it using a cleaning kit. Do not clean using a hard object. Doing so could cause damage to the print head. For printer cleaning, refer to Section 5.2 Maintenance of the Print Head and Platen Roller .
10	Is the print head defective?	Replace the print head and reset the counter.
11	Is the platen roller damaged?	Replace the platen roller.
12	Is the main board defective?	Replace the main board.

6.3.5 Incorrect Print Position

No.	What to check	Countermeasure
1	Are the media and ribbon designed for use with the printer?	Use media and ribbon designed for the printer.
2	Are the media and ribbon loaded correctly?	Check if the media and ribbon are loaded correctly.
3	Is the media or ribbon deformed?	Use the media or ribbon that is not deformed. You cannot feed the media or ribbon that is deformed.
4	Is the print head installed correctly?	Adjust the print head.
5	Is the media guide set correctly?	Adjust the media guide.
6	Is the correct sensor type set?	Set the correct sensor type.
7	Is the sensitivity of the sensor set correctly?	Adjust the sensor level.
8	Is the offset set correctly?	Adjust the offset.
9	Is the pitch offset or base reference point offset set correctly?	Adjust the pitch offset or base reference point offset.
10	Is the platen roller dirty?	If the platen roller is dirty, clean it using the cleaning kit. For printer cleaning, refer to Section 5.2 Maintenance of the Print Head and Platen Roller .
11	Is the media sensor dirty?	If the media sensor is dirty, clean it using the cleaning kit. For printer cleaning, refer to Section 5.2 Maintenance of the Print Head and Platen Roller .
12	Is the data or signal sent from the computer incorrect?	Power on the device again. Check the data sent from the computer and communication conditions.
13	Is the platen roller damaged?	Replace the platen roller.

6.4 Interface Troubleshooting

When an interface error occurs on the printer, check with the checklist related to that interface.

6.4.1 USB Interface

No.	Item to check
1	Check that the USB cable is connected correctly.
2	Check that the cable is not damaged.
3	Check the configuration of the printer. Check the setting of the USB interface through the Settings > Interface > USB menu.
4	If there are multiple USB ports on the computer, connect to another port.
5	Disconnect other USB devices from the computer.
6	Power on the printer and computer again.
7	Install the USB driver again.

6.4.2 LAN Ethernet Interface

No.	Item to check
1	Check that the LAN cable is connected correctly.
2	Check that the cable is not damaged.
3	Check the configuration of the printer. Check the setting of the LAN Ethernet interface through the Settings > Interface > Network menu.
4	Check that the allocated IP address is accessible by PING.
5	Check that the power of the HUB is on.
6	Check that the HUB is not defective.
7	Power on the printer again.

6.4.3 Bluetooth Interface

No.	Item to check
1	Check that the Bluetooth function is on.
2	Check that the devices using the same frequency band, such as wireless LAN enabled devices or microwaves are not in use.
3	Check that there is no obstacle such as a metal rack between the printer and the host.
4	Check the configuration of the printer. Check the setting of the Bluetooth interface through the Settings > Interface > Bluetooth menu.
5	Power on the printer and computer again.
6	Install the Bluetooth driver again.

6.4.4 RS-232C Interface

No.	Item to check
1	Check that the RS-232C cable is connected correctly.
2	Check that the cable is not damaged.
3	Check the configuration of the printer. Check the setting of the RS-232C interface through the Settings > Interface > RS-232C menu.
4	If there are multiple RS-232C ports on the computer, connect to another port.
5	Power on the printer and computer again.
6	Check that no other software is using the same RS-232C port.

6.4.5 IEEE1284 Interface

No.	Item to check
1	Check that the printer cable is connected to the LPT port of the computer correctly.
2	Check that the cable is not damaged.
3	If you are using a Windows printer driver, check that the correct port is selected.
4	Check the configuration of the printer. Check the setting of the IEEE1284 interface through the Settings > Interface > IEEE1284 menu.
5	Connect to another port.
6	Power on the printer again.

6.4.6 External Signal Interface (EXT)

No.	Item to check
1	Check that the printer and external device are connected with a cable correctly.
2	Check that the cable is not damaged.
3	Check that the power of the external device is on.
4	Check the configuration of the printer. Check the setting of the external signal (EXT) interface through the Settings > Interface > External I/O menu.
5	Power on the printer and external device again.

6.4.7 Wireless LAN Interface

No.	Item to check
1	Check that the wireless LAN function is on.
2	Check that the devices using the same frequency band, such as wireless LAN enabled devices or microwaves are not in use.
3	Check that there is no obstacle such as a metal rack between the printer and the host.
4	Check the configuration of the printer. Check the setting of the wireless LAN interface through the Settings > Interface > Network > Settings > Wi-Fi menu.
5	Power on the printer again.

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7

Appendix

7.1 List of Initial Values

The initial value refers to the setting value of the printer when it was shipped from the factory. If you reset the printer, the setting values of the printer will change back to the factory default values. The tables below show the initial value of each setting item and type of reset that changes the value back to the initial value.



CAUTION

It is generally not necessary to perform the initialization. Doing so will remove all the customer settings.

7.1.1 Printing Menu

Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Label Length	203 dpi: 20000 dots 305 dpi: 18000 dots 609 dpi: 9600 dots	203 dpi: 20000 dots 305 dpi: 18000 dots	Yes	Yes
Label Width	203 dpi: 832 dots 305 dpi: 1248 dots 609 dpi: 2496 dots	if Head Base Position is Standard 203 dpi: 1216 dots 305 dpi: 1984 dots if Head Base Position is Left-justify 203 dpi: 1340 dots 305 dpi: 2010 dots	Yes	Yes
Auto Measure	Disable		Yes	Yes
Ribbon	Use Ribbon		Yes	Yes
Ribbon Near End	Enable		Yes	Yes
Speed	203 dpi: 6 ips 305 dpi: 6 ips 609 dpi: 4 ips Linerless mode: 4 ips	203 dpi: 6 ips 305 dpi: 6 ips	Yes	Yes
Sensor Type	Gap None (When Print Mode is Linerless)	Gap	Yes	Yes
Auto-mode	Enabled		Yes	Yes

Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Print Mode	Tear-Off (No option is installed) Cutter (If cutter is installed) Dispenser (If dispenser is installed) Linerless (If linerless kit is installed)	Tear-Off (No option is installed) Cutter (If cutter is installed) Dispenser (If dispenser is installed)	Yes	Yes
Backfeed	Before (If Print Mode is set to Tear-Off or Linerless) After (If Print Mode is set to Dispenser or Cutter) None (If Print Mode is set to Continuous)	Before (If Print Mode is set to Tear-Off) After (If Print Mode is set to Dispenser or Cutter) None (If Print Mode is set to Continuous)	Yes	Yes
Eject Cut	0 s		Yes	Yes
Darkness Range	A		Yes	Yes
Darkness	5		Yes	Yes
Imaging	—		—	—
Vertical	0 dot		Yes	Yes
Horizontal	0 dot		Yes	Yes
Advanced	—		—	—
Calibrate	—		—	—
Auto-calibration*1	Gap + I-Mark		—	—
GAP Levels	Value adjusted by the factory.		No	No
GAP Slice Levels	Auto		No	No
I-Mark Levels	Value adjusted by the factory.		No	No
I-Mark Slice Level	Auto		No	No
Head Check	Off		Yes	Yes
Head Check Mode	Always		Yes	Yes
Every Page	1		Yes	Yes
Check Media Size	Disabled		Yes	Yes
Adjustments	—		—	—
Offset	0 dot		No	No
Pitch	0 dot		No	No
Darkness Adjust	50		No	No
Start Online	Enabled		Yes	Yes

*1 Auto-calibration is not available for linerless models.

Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Feed After Error	Disabled		Yes	Yes
Feed At Power On	Disabled		Yes	Yes
Finisher Feed	0 dot		Yes	Yes
Paper End	Using I-mark		Yes	Yes
Head Base Position	Standard		Yes	Yes
Prioritize	Commands		Yes	Yes
Reprint	Disabled		Yes	Yes
Print End Position	0 dot		Yes	Yes
Label Near End	Disabled		Yes	Yes

7.1.2 Interface Menu

Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Network	—		—	—
Settings	—		—	—
LAN	—		—	—
IPv4	—		—	—
Mode	DHCP		Yes/ Interface	Yes/ Interface
DHCP	—		—	—
IP Address	0.0.0.0		Yes/ Interface	Yes/ Interface
Netmask	255.255.255.0		Yes/ Interface	Yes/ Interface
Gateway	0.0.0.0		Yes/ Interface	Yes/ Interface
DNS	0.0.0.0		Yes/ Interface	Yes/ Interface
IPv6	—		—	—
Mode	Auto		Yes/ Interface	Yes/ Interface
DHCP	—		—	—
IP Address	::		Yes/ Interface	Yes/ Interface
Prefix Length	64		Yes/ Interface	Yes/ Interface
Gateway	::		Yes/ Interface	Yes/ Interface
DNS	::		Yes/ Interface	Yes/ Interface
Proxy	—		—	—
Enabled	Disabled		Yes/ Interface	Yes/ Interface
Server	—		Yes/ Interface	Yes/ Interface
Exclude	—		Yes/ Interface	Yes/ Interface
Wi-Fi	—		—	—
IPv4	—		—	—

Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Mode	DHCP		Yes/ Interface	Yes/ Interface
DHCP	—		—	—
IP Address	0.0.0.0		Yes/ Interface	Yes/ Interface
Netmask	255.255.255.0		Yes/ Interface	Yes/ Interface
Gateway	0.0.0.0		Yes/ Interface	Yes/ Interface
DNS	0.0.0.0		Yes/ Interface	Yes/ Interface
IPv6	—		—	—
Mode	Auto		Yes/ Interface	Yes/ Interface
DHCP	—		—	—
IP Address	::		Yes/ Interface	Yes/ Interface
Prefix Length	64		Yes/ Interface	Yes/ Interface
Gateway	::		Yes/ Interface	Yes/ Interface
DNS	::		Yes/ Interface	Yes/ Interface
Proxy	—		—	—
Enabled	Disabled		Yes/ Interface	Yes/ Interface
Server	—		Yes/ Interface	Yes/ Interface
Exclude	—		Yes/ Interface	Yes/ Interface
Wi-Fi Protected Setup	—		—	—
Button (PBC)	—		—	—
PIN	—		—	—
Wi-Fi Direct	—		—	—
Device Name	SATO_PRINTER		Yes/ Interface	Yes/ Interface
Connect	—		—	—
Start Group	—		—	—
Remove Group	—		—	—

Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Disconnect	—		—	—
SSID	DIRECT-xx-SATO_PRINTER		—	—
IP Address	x.x.x.x		—	—
Passphrase	xxxxxxx		—	—
SSID	SATO_PRINTER		Yes/ Interface	Yes/ Interface
Hidden SSID	Enabled		Yes/ Interface	Yes/ Interface
Mode	Ad-hoc		Yes/ Interface	Yes/ Interface
Channel	6		Yes/ Interface	Yes/ Interface
Security	None		Yes/ Interface	Yes/ Interface
WEP Conf.	—		—	—
Authentication	Open system		Yes/ Interface	Yes/ Interface
Key Index	1		Yes/ Interface	Yes/ Interface
Key #1 - Key #4	—		Yes/ Interface	Yes/ Interface
WPA Conf.	—		—	—
WPA Authentication	Personal (PSK)		Yes/ Interface	Yes/ Interface
PSK	—		Yes/ Interface	Yes/ Interface
EAP Conf.	—		—	—
EAP Conf.	—		—	—
EAP Mode	FAST		Yes/ Interface	Yes/ Interface
Inner Method	MSCHAPv2		Yes/ Interface	Yes/ Interface
Username	—		Yes/ Interface	Yes/ Interface
Password	—		Yes/ Interface	Yes/ Interface
Anon. Outer ID	—		Yes/ Interface	Yes/ Interface
Verify Server Cert.	Enabled		Yes/ Interface	Yes/ Interface

Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Private Key P/W	—		Yes/ Interface	Yes/ Interface
PAC Auto Provisioning	Disabled		Yes/ Interface	Yes/ Interface
PAC P/W	—		Yes/ Interface	Yes/ Interface
Interface	Auto		Yes/ Interface	Yes/ Interface
Services	—		—	—
Ports	—		—	—
Port1	1024		Yes/ Interface	Yes/ Interface
Port2	1025		Yes/ Interface	Yes/ Interface
Port3	9100		Yes/ Interface	Yes/ Interface
Flow Control	Status4 ENQ		Yes/ Interface	Yes/ Interface
BCC	Disabled		Yes/ Interface	Yes/ Interface
NTP	—		—	—
Enable	Disabled		No	Yes
Error	Disabled		No	Yes
Time Server IP	0.0.0.0		No	Yes
LPD	Enabled		Yes/ Interface	Yes/ Interface
FTP	—		—	—
Enable	Disabled		Yes/ Interface	Yes/ Interface
FTP Timeout	300		Yes/ Interface	Yes/ Interface
SNMP	—		—	—
sysContact	—		Yes/ Interface	Yes/ Interface
sysName	—		Yes/ Interface	Yes/ Interface
sysLocation	—		Yes/ Interface	Yes/ Interface
Agent	—		—	—

Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Enable	Disabled		Yes/ Interface	Yes/ Interface
Read-Only	—		—	—
SNMP Version	1 2c 3		Yes/ Interface	Yes/ Interface
Community	public		Yes/ Interface	Yes/ Interface
User	rouser		Yes/ Interface	Yes/ Interface
User Security	None		Yes/ Interface	Yes/ Interface
Authentication Protocol	MD5		Yes/ Interface	Yes/ Interface
Authentication Passphrase	mypassword		Yes/ Interface	Yes/ Interface
Privacy Protocol	DES		Yes/ Interface	Yes/ Interface
Privacy Passphrase	mypassword		Yes/ Interface	Yes/ Interface
Read-Write	—		—	—
SNMP Version	1 2c 3		Yes/ Interface	Yes/ Interface
Community	private		Yes/ Interface	Yes/ Interface
User	rwuser		Yes/ Interface	Yes/ Interface
User Security	None		Yes/ Interface	Yes/ Interface
Authentication Protocol	MD5		Yes/ Interface	Yes/ Interface
Authentication Passphrase	mypassword		Yes/ Interface	Yes/ Interface
Privacy Protocol	DES		Yes/ Interface	Yes/ Interface
Privacy Passphrase	mypassword		Yes/ Interface	Yes/ Interface
Traps	—		—	—
Enable	Disabled		Yes/ Interface	Yes/ Interface
SNMP Version	1		Yes/ Interface	Yes/ Interface

Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
IP Version	4		Yes/ Interface	Yes/ Interface
Destinations	1		Yes/ Interface	Yes/ Interface
Destination 1	0.0.0.0		Yes/ Interface	Yes/ Interface
Destination 2	0.0.0.0		Yes/ Interface	Yes/ Interface
Destination 3	0.0.0.0		Yes/ Interface	Yes/ Interface
Community	trapcom		Yes/ Interface	Yes/ Interface
User	trapuser		Yes/ Interface	Yes/ Interface
Engine ID	Number generated from MAC address		Yes/ Interface	Yes/ Interface
Security	None		Yes/ Interface	Yes/ Interface
Authentication Protocol	MD5		Yes/ Interface	Yes/ Interface
Authentication Passphrase	mypassword		Yes/ Interface	Yes/ Interface
Privacy Protocol	DES		Yes/ Interface	Yes/ Interface
Privacy Passphrase	mypassword		Yes/ Interface	Yes/ Interface
Advanced	—		—	—
ARP Announcement	—		—	—
Additional	Enabled		Yes/ Interface	Yes/ Interface
Periodic	0		Yes/ Interface	Yes/ Interface
IEEE1284	—		—	—
Flow Control	Status4 Multi		Yes/ Interface	Yes/ Interface
BCC	Disabled		Yes/ Interface	Yes/ Interface
RS-232C	—		—	—
Baudrate	115200		Yes/ Interface	Yes/ Interface

Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Parameters	8-N-1		Yes/ Interface	Yes/ Interface
Flow Control	STATUS4		Yes/ Interface	Yes/ Interface
BCC	Disabled		Yes/ Interface	Yes/ Interface
USB	—		—	—
Flow Control	Status4		Yes/ Interface	Yes/ Interface
BCC	Disabled		Yes/ Interface	Yes/ Interface
Bluetooth	—		—	—
Enable	Enabled		Yes/ Interface	Yes/ Interface
Name	SATO PRINTER_xxxxxxxxxx (BD address)		Yes/ Interface	Yes/ Interface
Pin Code	0000		Yes/ Interface	Yes/ Interface
BD Address	xxxxxxxxxx		Yes/ Interface	Yes/ Interface
Firm Version	spp3_vX.YY		Yes/ Interface	Yes/ Interface
Host BD Addr	—		Yes/ Interface	Yes/ Interface
Authentication	None		Yes/ Interface	Yes/ Interface
ISI	2048		Yes/ Interface	Yes/ Interface
ISW	18		Yes/ Interface	Yes/ Interface
PSI	2048		Yes/ Interface	Yes/ Interface
PSW	18		Yes/ Interface	Yes/ Interface
CRC Mode	Disabled		Yes/ Interface	Yes/ Interface
Flow Control	Status4 Multi		Yes/ Interface	Yes/ Interface
Ignore CR/LF	Disabled		Yes/ Interface	Yes/ Interface

Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Ignore CAN/DLE	Disabled		Yes/ Interface	Yes/ Interface
External I/O	—		—	—
Enable	Disabled		Yes/ Interface	Yes/ Interface
Signals	—		—	—
EXT 9PIN	MODE1		Yes/ Interface	Yes/ Interface
EXT Mode	TYPE4		Yes/ Interface	Yes/ Interface
Inputs	—		—	—
Start Print	PIN5		Yes/ Interface	Yes/ Interface
Reprint	PIN7		Yes/ Interface	Yes/ Interface
Outputs	—		—	—
Paper End/ Paper/Ribbon End (If RFID is installed)	PIN1		Yes/ Interface	Yes/ Interface
Ribbon End/ RFID Tag Error (If RFID is installed)	PIN3		Yes/ Interface	Yes/ Interface
Machine Error/ Machine/RFID Error (If RFID is installed)	PIN4		Yes/ Interface	Yes/ Interface
Print Done	PIN6		Yes/ Interface	Yes/ Interface
Qty/Offline	PIN9		Yes/ Interface	Yes/ Interface
Ribbon Near End	PIN10		Yes/ Interface	Yes/ Interface
Dispenser	OFF		Yes/ Interface	Yes/ Interface
Label Near End	OFF		Yes/ Interface	Yes/ Interface
EXT I/O Re-print	Disabled		Yes/ Interface	Yes/ Interface
RFID	—	—	—	—
Antenna Pitch	Standard	—	Yes/ Interface	Yes/ Interface

Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Write Power	10 dBm	—	Yes/ Interface	Yes/ Interface
Read Power	10 dBm	—	Yes/ Interface	Yes/ Interface
Tag Offset	0 mm	—	Yes/ Interface	Yes/ Interface
Reader Model	XXXXXXXXXXXXXXXXXX	—	—	—
Reader Version	XXXXXXXXXXXXXXXXXX	—	—	—
View	—	—	—	—
Memory Bank	EPC (UHF)/USER (HF)	—	Yes	Yes
Retry Mode	Retry	—	Yes/ Interface	Yes/ Interface
Retries	1	—	Yes/ Interface	Yes/ Interface
Mark bad tags	Enabled	—	Yes/ Interface	Yes/ Interface
MCS	—	—	—	—
MCS	Disabled	—	Yes/ Interface	Yes/ Interface
Chip Manufacturer	IMPINJ	—	Yes	Yes
Pre-Encoded Tag	Disabled	—	Yes/ Interface	Yes/ Interface
Assign Prefix	Auto	—	Yes/ Interface	Yes/ Interface
MCS Prefix Digit	3 bits	—	Yes/ Interface	Yes/ Interface
Input Prefix	0	—	Yes/ Interface	Yes/ Interface
Non-RFID Warning	Disabled	—	Yes/ Interface	Yes/ Interface
Log RFID Data	Disabled	—	Yes/ Interface	Yes/ Interface
Data To Record	EPC and TID	—	Yes/ Interface	Yes/ Interface
Output Error Mode	Level	—	Yes/ Interface	Yes/ Interface
Pulse Length	100 ms	—	Yes/ Interface	Yes/ Interface
Counters	—	—	—	—
Lifetime	—	—	—	—

Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Count Success	000000	—	No	Yes
Count Failure	000000	—	No	Yes
Count Total	000000	—	No	Yes
User	—	—	—	—
Count Success	000000	—	Yes	Yes
Count Failure	000000	—	Yes	Yes
Count Total	000000	—	Yes	Yes

7.1.3 Applications Menu

Setting Items	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Protocol	AUTO		Yes	Yes
SBPL	—		—	—
Show Error	Disabled		Yes	Yes
Standard Code	Enabled		Yes	Yes
Orientation	Portrait		Yes	Yes
Font Settings	—		—	—
Zero Slash	Enabled		Yes	Yes
Kanji	—		—	—
Kanji Set	GB18030		Yes	Yes
Character Code	GB18030		Yes	Yes
Kanji Style	Gothic		Yes	Yes
Proportional	Enabled		Yes	Yes
Code Page	858		Yes	Yes
€	d5		Yes	Yes
Compatible	—		—	—
CODE128(C) Zero Fill	Disabled		Yes	Yes
Kanji Command	Disabled		Yes	Yes
Call Font/Logo	Disabled		Yes	Yes
SZPL	—		—	—
Label	—		—	—
Shift	0 dot		Yes	Yes
Top	0 dot		Yes	Yes
Caret	94 (^)		Yes	Yes
Delimiter	44 (,)		Yes	Yes
Tilde	126 (~)		Yes	Yes
Clock Format	(none)		Yes	Yes
SIPL	—		—	—
Font Settings	—		—	—
Code Page	1252		Yes	Yes
c20 Proportional Pitch	Disabled		Yes	Yes
0 Slash	Disabled		Yes	Yes
Format Save	Enabled		Yes	Yes

Setting Items	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
STCL	—		—	—
Command Head	—		—	—
Control Code	Auto		Yes	Yes
1st Byte Code	27		Yes	Yes
2nd Byte Code	10		Yes	Yes
3rd Byte Code	0		Yes	Yes
Font Settings	—		—	—
Zero Slash	Disabled		Yes	Yes
€	d5		Yes	Yes
Code Page	850		Yes	Yes
SDPL	—		—	—
Control Code	—		—	—
Code Type	Standard		Yes	Yes
SOH	01		Yes	Yes
STX	02		Yes	Yes
CR	0D		Yes	Yes
CNTBY	5E		Yes	Yes
Label Rotation	Disabled		Yes	Yes
Format Attribute	XOR		Yes	Yes
Pause Mode	Disabled		Yes	Yes
SOP Emulation	Auto		Yes	Yes
1 Byte Codepage	CP 850		Yes	Yes
SDPL Measure Unit	Inch		Yes	Yes
Compatible Mode	—		—	—
TTF	Disabled		Yes	Yes
AEP	—		—	—
Enable	Disabled		No	Yes
Start Application	Standard (rom/standalone/sa.lua)		No	Yes

7.1.4 System Menu

Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Regional	—		—	—
Messages	English, US		Yes	Yes
USB Keyboard	English, US		Yes	Yes
Locale	English, US		Yes	Yes
Unit	dot		Yes	Yes
Time	00:00		No	No
Date	(2000-01-01)		No	No
Time Zone	—		Yes	Yes
Region	Europe		Yes	Yes
City	London		Yes	Yes
Notifications	—		—	—
Clean Printhead	—		—	—
Clean Printhead	Disabled		Yes	Yes
Cleaning Interval	400 m		Yes	Yes
Change Printhead	—		—	—
Change Printhead	Disabled		Yes	Yes
Printhead Interval	100 km		Yes	Yes
Change Cutter	—		—	—
Change Cutter	Disabled		Yes	Yes
Cutter Life	1000 Kcuts		Yes	Yes
Change Platen	—		—	—
Change Platen	Disabled		Yes	Yes
Platen Interval	100 km		Yes	Yes
Sound	—		—	—
Error Sound	Medium		Yes	Yes
Energy Saving	—		—	—
Sleep Timeout	60 min		Yes	Yes
LCD Brightness	7		No	Yes
Show Total Count	Disabled		Yes	Yes
Password	—		—	—
Password Enable	Disabled		No	Yes
Install Security	Disabled		No	Yes

Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Start on AC	Disabled		No	Yes

7.1.5 Tools Menu

Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Test Print	—		—	—
Factory	—		—	—
Label Width	Large		—	—
Pitch	0 dot		No	No
Offset	0 dot		No	No
Darkness Adjust	50		No	No
Configure List	—		—	—
Label Width	Small		—	—
Label Length	203 dpi: 800 dots 305 dpi: 1200 dots 609 dpi: 2400 dots	203 dpi: 800 dots 305 dpi: 1200 dots	Yes	Yes
Pitch	0 dot		No	No
Offset	0 dot		No	No
Darkness Adjust	50		No	No
Configure QR	—		—	—
Label Width	Small		—	—
Label Length	203 dpi: 800 dots 305 dpi: 1200 dots 609 dpi: 2400 dots	203 dpi: 800 dots 305 dpi: 1200 dots	Yes	Yes
Pitch	0 dot		No	No
Offset	0 dot		No	No
Darkness Adjust	50		No	No
Paper Sensor	—		—	—
Label Width	Small		—	—
Label Length	203 dpi: 800 dots 305 dpi: 1200 dots 609 dpi: 2400 dots	203 dpi: 800 dots 305 dpi: 1200 dots	Yes	Yes
Pitch	0 dot		No	No
Offset	0 dot		No	No
Darkness Adjust	50		No	No
HEX-Dump	—		—	—
Hex Dump Mode	Disabled		Yes	Yes
Reset	—		—	—

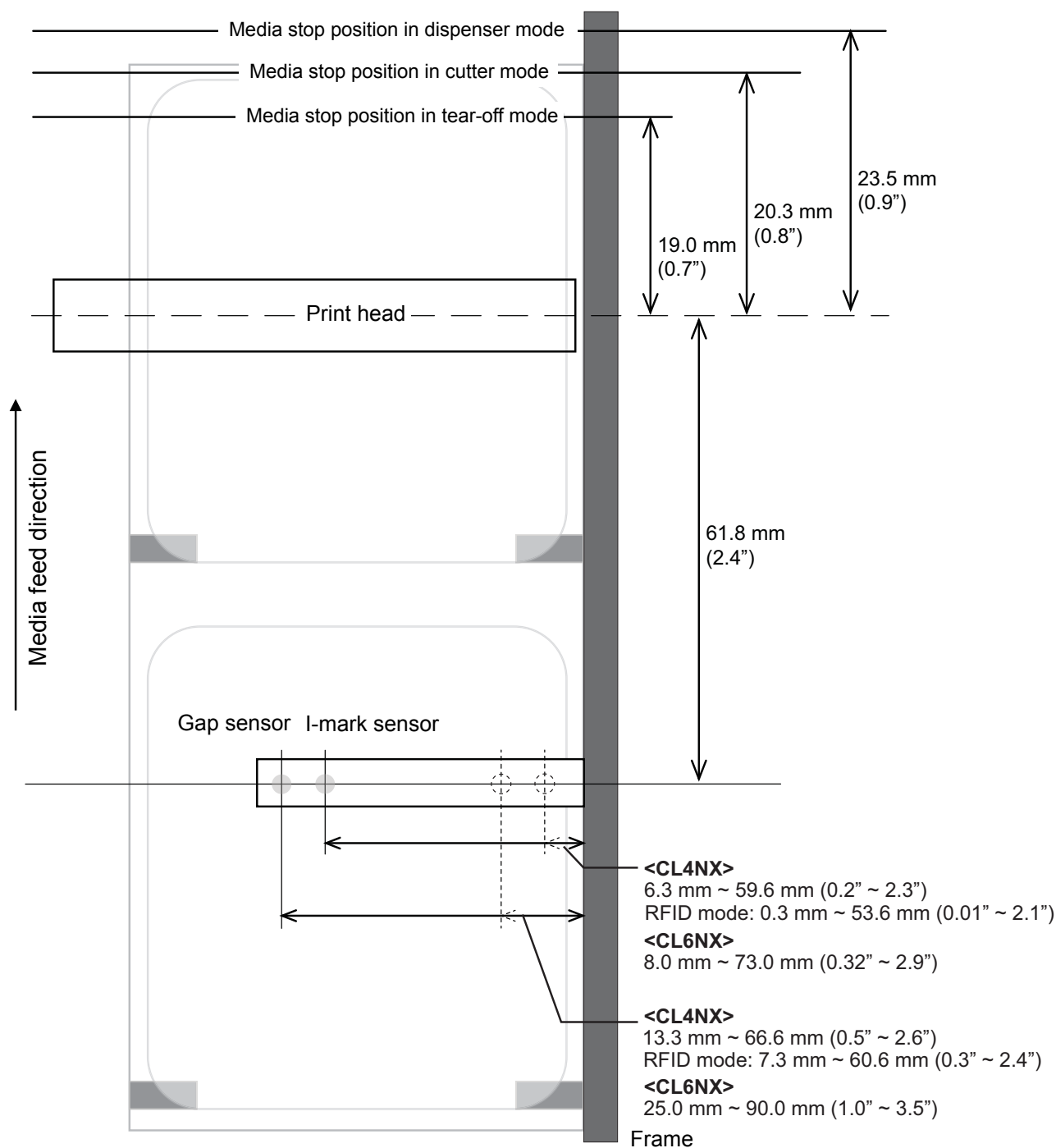
Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Profiles	—		—	—
Delete	—		—	—
Load	—		—	—
Save	—		—	—
Start with	—		Yes	Yes
Certificates	—		Yes/ Interface	Yes
Barcode Reader	—		—	—
Checking	—		—	—
Mode	Disabled		Yes	Yes
Start Position	203 dpi: 72 dots 305 dpi: 108 dots 609 dpi: 216 dots	203 dpi: 72 dots 305 dpi: 108 dots	Yes	Yes
VOID Print	Disabled		Yes	Yes
Retry Count	0		Yes	Yes
Host Notification	Disabled		Yes	Yes
Logs	—		—	—
Copy	—		—	—
Remove	—		—	—
Clone	Normal		No	No
Startup Guide	Enabled		No	Yes

7.1.6 Information Menu

Setting Item	Initial Value		User Reset	Factory Reset
	CL4NX	CL6NX		
Help	—		—	—
Build Version	—		—	—
Applications	—		—	—
Installation Log	—		—	—
Print Module	—		—	—
Counters	—		—	—
Head	—		—	—
Life	Measured value		No	No
Head 1	Measured value		No	No
Head 2	Measured value		No	No
Head 3	Measured value		No	No
Cutter	0		No	No

7.2 Media Sensor Positions and Media Stop Positions

The media stop positions with the media sensor and various operation modes are as follows:



CAUTION

For the CL4NX RFID model, the position of the I-mark sensor becomes 0.3 mm at minimum when the position of the gap sensor is adjusted to around 7.3 mm. Because of this, the paper end may be frequently detected when **Paper End** in the **Printing > Advanced** menu is set to **Using I-mark** (the default), affected by meandering of the media or other causes. When you have adjusted the position of the Gap sensor to around 7.3 mm, change **Paper End** to **Using Gap**.

7.3 Replacing the Print Head

You can easily remove and replace a damaged or worn print head.

WARNING

- Do not touch the power button, connect or disconnect the power cord while your hands are wet. Doing so could cause an electric shock.
- Disconnect the power cord from the AC outlet before you replace the print head.
- Wear gloves before replacing the print head, to prevent damage to the print head.

1 Make sure that the printer is in power off mode, then disconnect the power cord from the AC outlet.

2 Open the top cover.

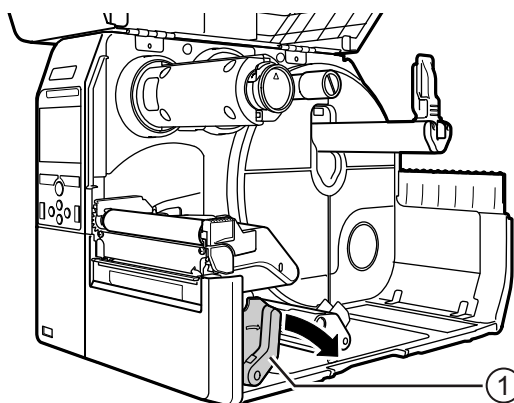
CAUTION

Open the top cover fully to prevent accidental drop of the cover.

3 Push the **head lock lever** ① towards the rear to unlock the **print head**.

CAUTION

- The print head and its surroundings are hot after printing. Be careful not to touch it, to avoid being burned.
- Touching the edge of the print head with your bare hand could cause injury.



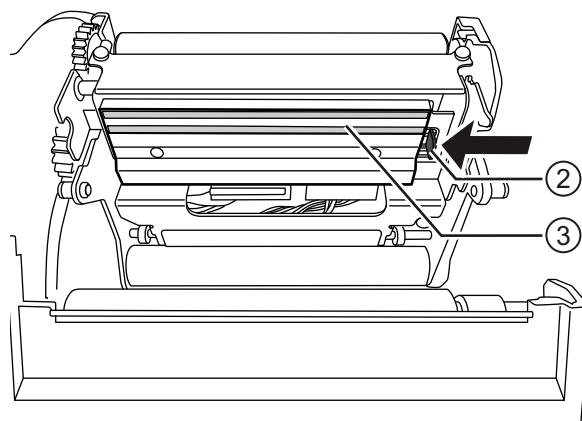
4 Remove the media and ribbon if they are already loaded.

Refer to [Section 3.3 Removing the Ribbon](#) and the reverse procedure in [Section 3.5 Loading Media](#).

5 Press the **lever** ② to remove the **print head** ③.

⚠ **CAUTION (for CL4NX only)**

For UHF RFID models, the UHF RFID antenna is installed on the print head. Be careful not to overly pull the antenna cable when replacing the print head. Contact your SATO reseller or technical support center for more information.



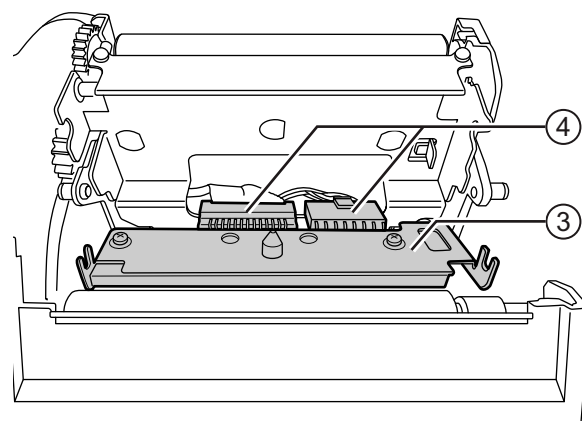
6 Disconnect all the **connectors** ④ from the defective **print head** ③.

In total, there are two connectors for CL4NX and three connectors for CL6NX.

7 Connect all the **connectors** ④ to the new **print head**.

⚠ **CAUTION**

Handle the print head with care.
Do not contaminate or scratch the sensitive print head surface.



8 Install the new **print head**.

Install the print head so that it is locked with a click sound.

9 Load the media and ribbon back if you remove them in step 4.

Refer to [Section 3.5 Loading Media](#) and [Section 3.2 Loading the Ribbon](#).

7.4 Replacing the Platen Roller

You can easily remove and replace a damaged or worn platen roller.

WARNING

- Do not touch the power button, connect or disconnect the power cord while your hands are wet. Doing so could cause an electric shock.
- Disconnect the power cord from the AC outlet before you replace the platen roller.

1 Make sure that the printer is in power off mode, then disconnect the power cord from the AC outlet.

2 Open the top cover.

CAUTION

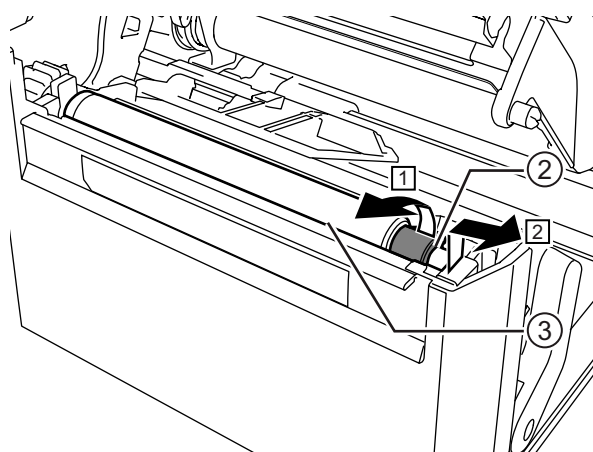
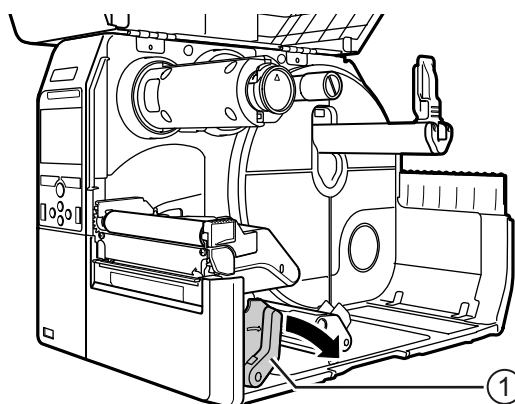
Open the top cover fully to prevent accidental drop of the cover.

3 Push the **head lock lever** ① towards the rear to unlock the **print head**.

CAUTION

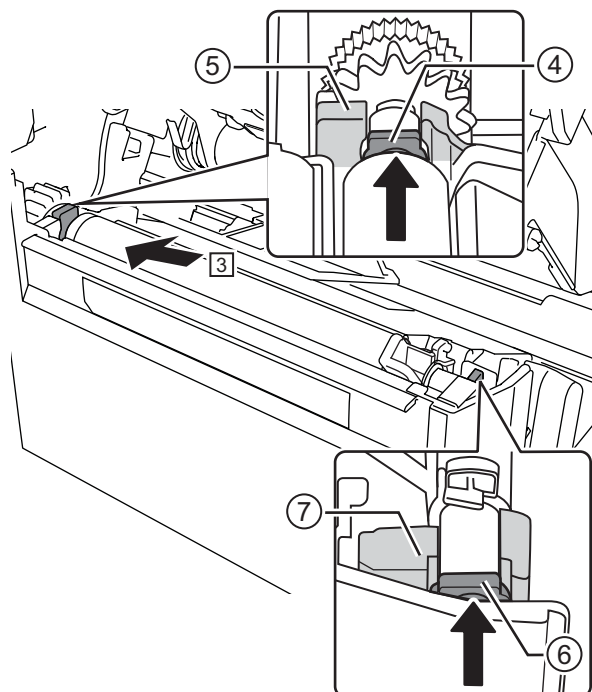
- The print head and its surroundings are hot after printing. Be careful not to touch it, to avoid being burned.
- Touching the edge of the print head with your bare hand could cause injury.

4 Lift the **lever** ② in the direction ① to unlock the **platen roller** ③, then pull out the **platen roller** ③ in the direction ②.



5 Install the new platen roller. Make sure that the first **tab** ④ on the driving end of the platen roller is pointing upward. Then push the platen roller in the direction ③ so that the first **tab** ④ is fixed in the **groove** ⑤ at the driving side.

6 Next, make sure that the second **tab** ⑥ on the driven end of the platen roller is pointing upward. And then push the platen roller again in the direction ③ so that the second **tab** ⑥ is fixed in the **groove** ⑦ at the driven side.



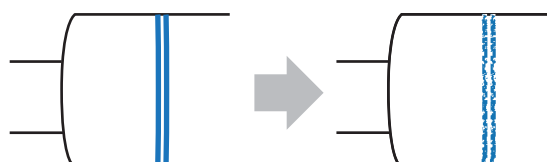
7 Turn the **lever** ② back to lock the platen roller.



7.4.1 Guideline to Replace the Linerless Platen Roller (CL4NX only)

The linerless platen roller has a blue striped marking on the left side. When the blue striped marking started to fade off, it indicates that you should replace the linerless platen roller.

This is only a general guideline, the condition of the platen roller wears out varies depending on the used media. In any cases, replace the worn platen roller when it affected the printing quality of the printer.



7.5 Optional RFID Configuration (CL4NX only)

This chapter explains the procedures on how to configure the printer to encode your inlays.

1 Examine the media to determine the printer settings.

Refer to the **CL4NX Inlay Configuration Guide*** for the measurements you should take and what they mean, as well as a list of inlays and their required configurations.

* To see the CL4NX Inlay Configuration Guide, access the following URL:
<http://www.satoworldwide.com/rfid/>

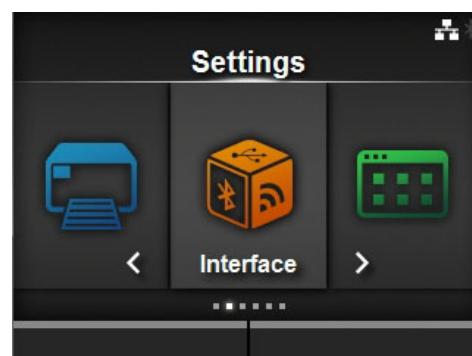
2 Press the power button on the operator panel for more than one second to power on the printer.

3 When the printer is in online mode, press the button on the operator panel to change to offline mode.

4 Press the button to show the **Settings** menu.

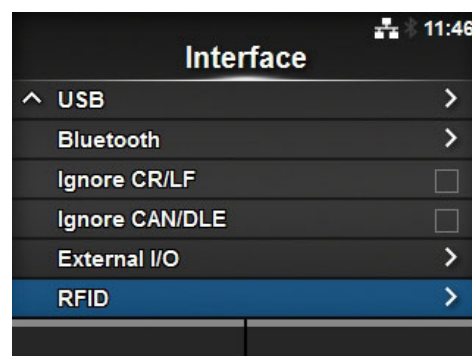


5 Press the / buttons to select **Interface** and then press the button.



6 Press the / buttons to select **RFID** and then press the button.

The RFID screen shows.



- 7** Press the ▲/▼ buttons to select the item you want to set. Then press the ← button to go to the adjustment screen.

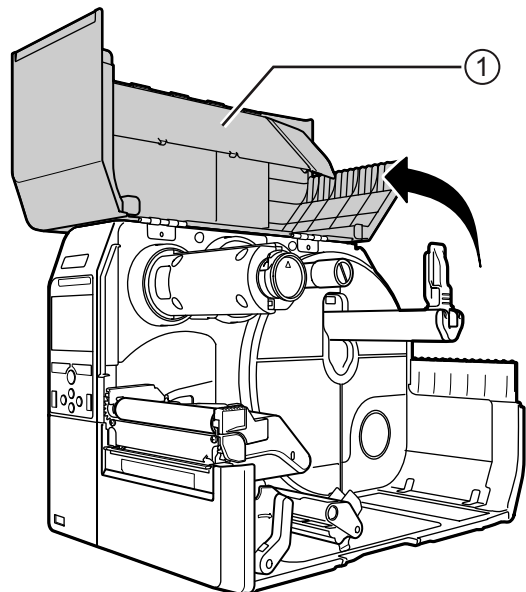
Refer to **Interface > RFID (CL4NX only)** menu of **Section 4.3 Settings Menu Tree Structure** for details on the configuration items.

RFID	
Antenna Pitch	Standard
Write Power	10 dBm
Read Power	10 dBm
Tag Offset	0 mm
Reader Model	M6e Micro
▼ Reader Version	01.01.00.EA

- 8** Open the **top cover** ①.

⚠ CAUTION

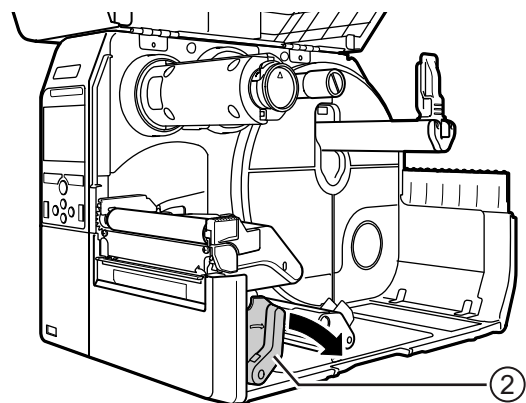
Open the top cover fully to prevent accidental drop of the cover.



- 9** Push the **head lock lever** ② towards the rear to unlock the print head.

⚠ CAUTION

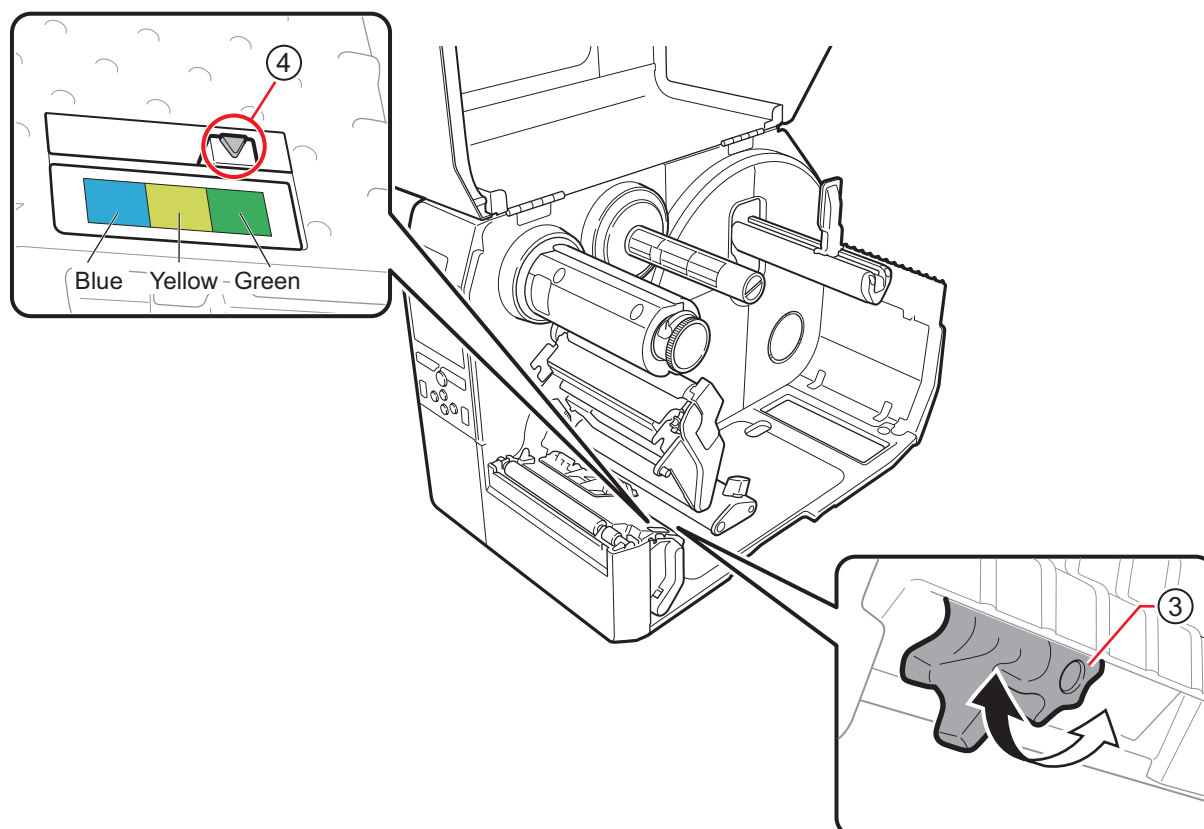
- The print head and its surroundings are hot after printing. Be careful not to touch it, to avoid being burned.
- Touching the edge of the print head with your bare hand could cause injury.



10 Adjust the position of the RFID antenna. Rotate the **dial** ③ to align the **pointer** ④ with the media being used.

When the **Antenna Pitch** is set to **Standard** in the **Interface > RFID** menu, adjust the physical position of the antenna according to the settings required for the specific media and inlay used. Refer to the “**Antenna Position**” of the **Inlay Placement & Configuration Table** in the **CL4NX Inlay Configuration Guide***.

* To see the CL4NX Inlay Configuration Guide, access the following URL:
<http://www.satoworldwide.com/rfid/>



11 Load the media and ribbon.

Refer to [Section 3.2 Loading the Ribbon](#) and [Section 3.5 Loading Media](#) for details.

12 Confirm the operation by printing/encoding a media.

Make sure that you read the data and check that it is correctly encoded.

7.5.1 Printing RFID Tag Errors

If the recorded data on a tag is incomplete due to writing on a defective tag, the printer will print an RFID tag error to the defective media. This function is to prevent the distribution of defective media with a tag error.

When an RFID tag error occurs, the printer prints a slash and the error message, such as “WRITE TAG ERROR” or “TAG NOT FOUND”. The position to print the message and slash is set using the specified media size command <A1>.

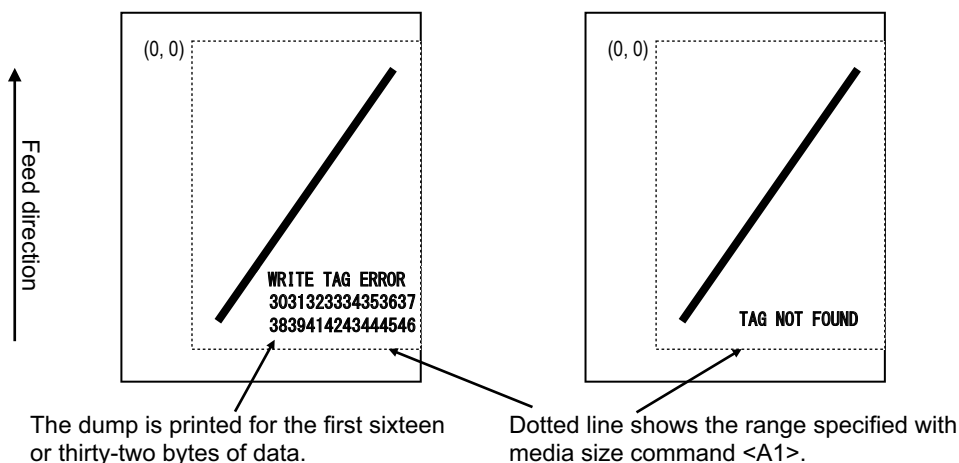
For a write error such as “WRITE TAG ERROR”, the printer continues to print the first sixteen or thirty-two bytes of the write data.

The diagram below shows the message and slash printed on the position based on the media size specified by the normal print.

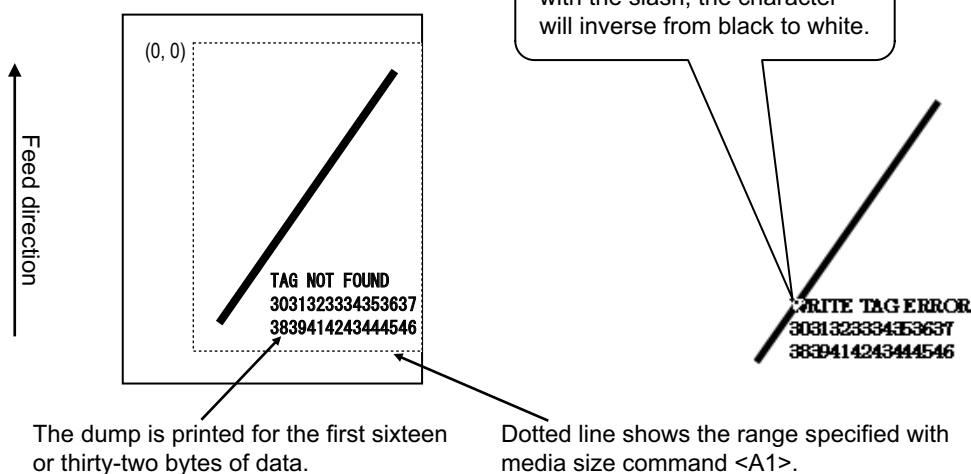
WRITE TAG ERROR in RFID write command

For other errors, the printer prints the error message accordingly.

Read error in UID/EPC/IDm print command <TU> or TAG NOT FOUND error

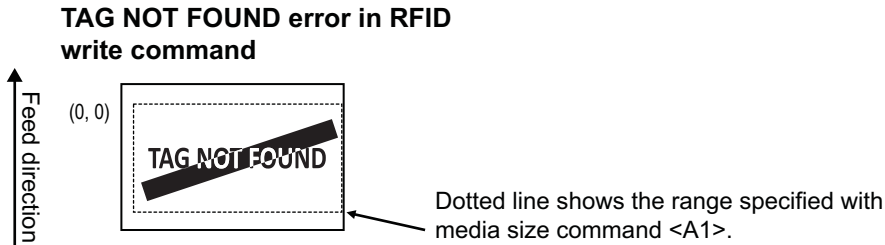


TAG NOT FOUND error in RFID write command

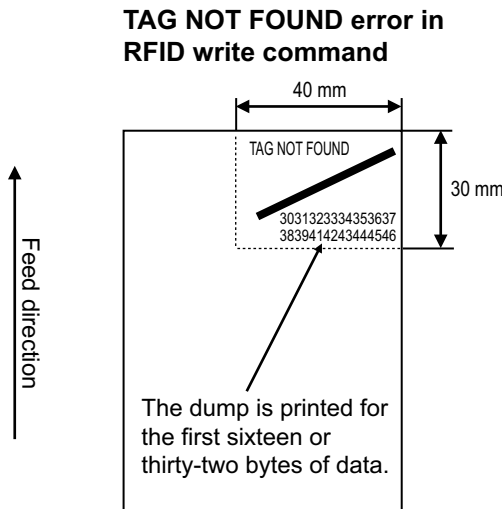
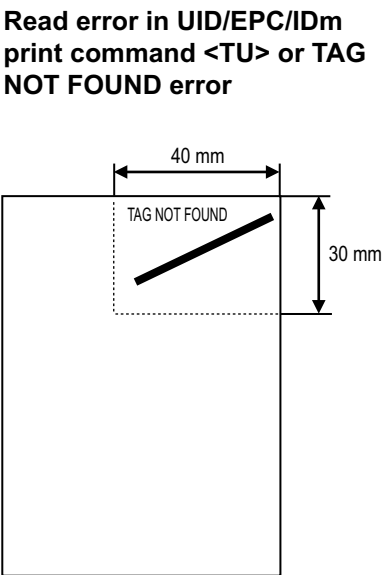
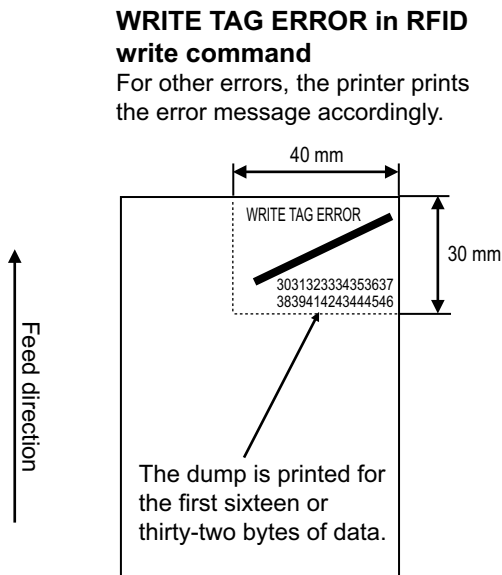


*(0,0): The origin of the range specified by the media size command <A1>

When using a small-size label (about the size of P30 X W40 mm, for example) or not enough for setting margin, the slash and error message are printed overlap on each other. The overlapped area are inverse from black to white. There is no dump printing.



If not specified by the media size command <A1>, the printer prints the RFID error using a fixed size of P30 X W40 mm. When a character overlaps with the slash, the character will inverse from black to white.



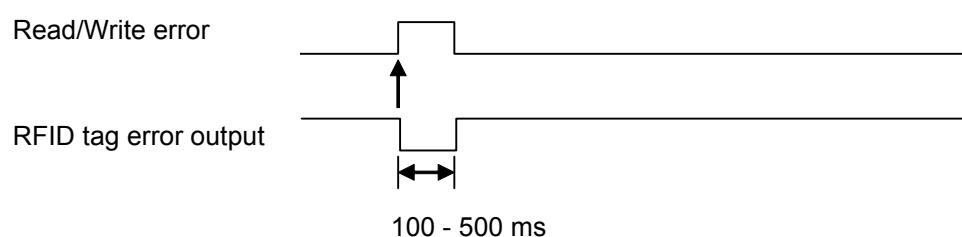
The types of errors to print are as follows:

Message	Cause and Countermeasure	
TAG NOT FOUND	Cause:	Did not find the tag to print, or failed to read the tag.
	Countermeasure:	Confirm the inlay operation and check the printer/antenna configuration.
WRITE TAG ERROR	Cause:	Failed to write the tag.
	Countermeasure:	Confirm the inlay operation and check the printer/antenna configuration.
PROTECT (TAG) ERROR	Cause:	1. Tried to write to a locked tag. 2. Tried to write to an address that is not permitted.
	Countermeasure:	Use media that is not locked.
VERIFY TAG ERR(OR)	• Only for ISO/IEC 15693, ISO/IEC 14443 Type A	
	Cause:	The written data and read data do not match.
	Countermeasure:	Confirm the inlay operation and check the printer/antenna configuration.
	• Only for FeliCa	
	Cause:	The written data and read data do not match. A value greater than original data was written to subtraction register.
	Countermeasure:	Write an appropriate value to subtraction register.
LOCKING ERROR	Cause:	Failed to lock the tag.
	Countermeasure:	Check the media.
WRONG TID ERROR	• Only for ISO/IEC 15693	
	Cause:	Read the UID of the tag other than the specified tag.
	Countermeasure:	Check the tag type setting and the label.
MULTI TAGS ERROR	• Only for ISO/IEC 15693, ISO/IEC 14443 Type A	
	Cause:	Multiple tags detected at a time.
	Countermeasure:	Confirm the inlay operation and check the printer/antenna configuration.
	• Only for FeliCa	
	Cause:	The captured IDm of the card is inconsistent between processes. (Tried to write to a wrong card.)
	Countermeasure:	Confirm the inlay operation and check the printer/antenna configuration.
DIFFER EPC ERROR	• Only for UHF	
	Cause:	Detected inconsistent EPC during a series of processes.
	Countermeasure:	Check the media.

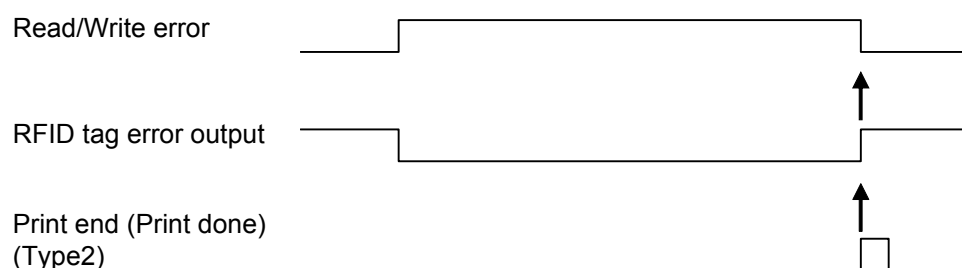
Message	Cause and Countermeasure	
CHIP MAKER ERR.	• Only for UHF	
	Cause:	Incorrect tag chip maker is specified when specifying the MCS setting and encoding the SGTIN96.
	Countermeasure:	Check the media, and correct the tag chip maker.
MCS NOT SUPPORT	• Only for UHF	
	Cause:	Unsupported inlay (IC chip) is used when specifying the MCS setting and encoding the SGTIN96.
	Countermeasure:	Check the media, and change it to supported inlay.

7.5.2 RFID Error and Reset Timing

Error signal output with one-shot pulse

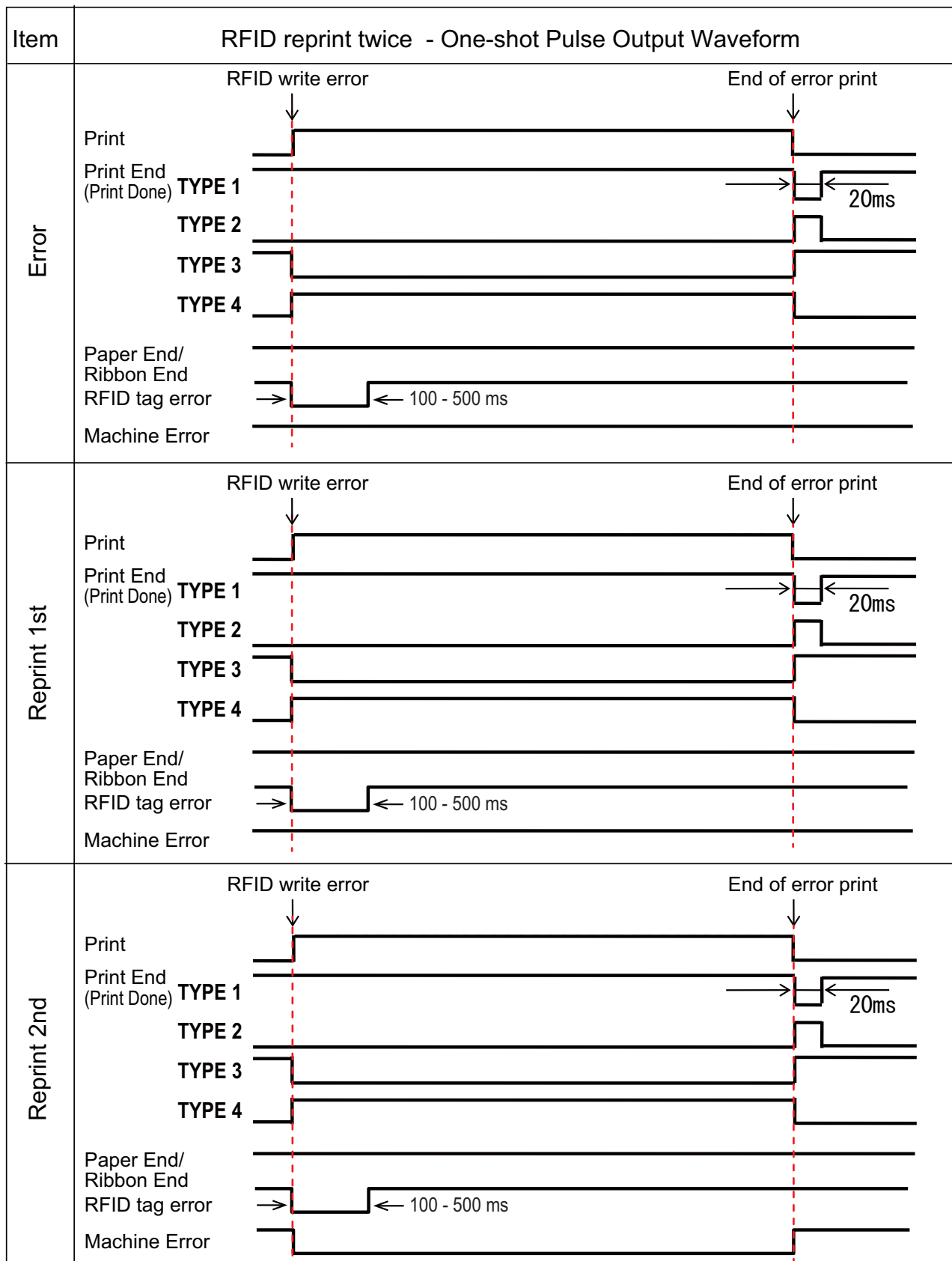


Error signal output with long pulse

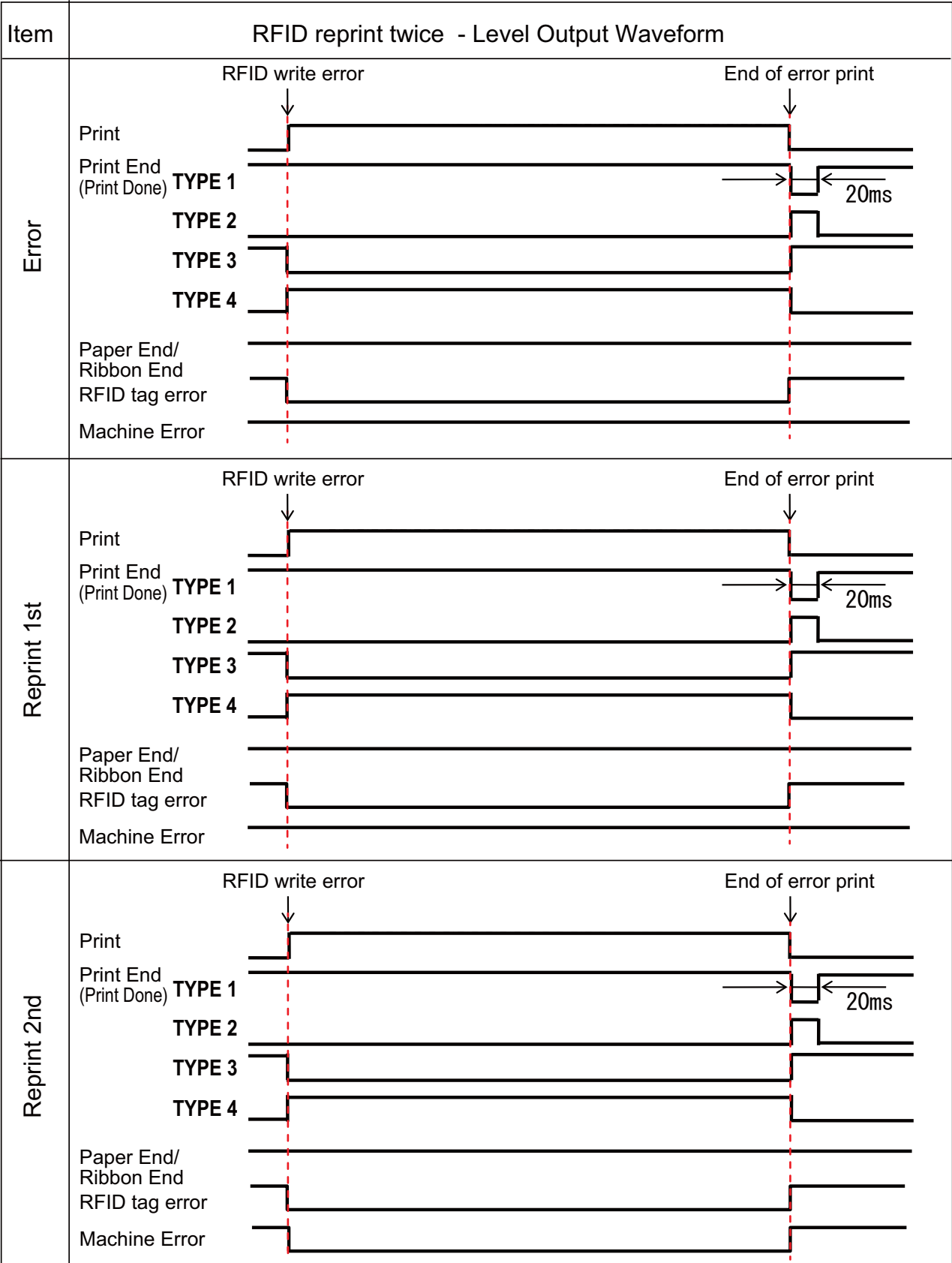


When the reprint count reaches the specified number, the RFID tag error and Machine error are outputted at a time. The machine error output is always a long pulse.

Timing chart of error signal output with one-shot pulse



Timing chart of error signal output with long pulse



7.5.3 External (EXT) Signal Interfaces when RFID Mode is Enabled

Comparison of EXT signal between RFID Mode is disabled or enabled.

RFID Mode disabled.

Pin No.	Signal	I/O
1	Paper End	Output
2	Ground	-
3	Ribbon End	Output
4	Machine Error	Output
5	Print Start (PRIN)	Input
6	Print Done/End (PREND)	Output
7	Reprint (PRIN2)	Input
8	External Power Supply	Input
9	Online	Output
10	Ribbon Near End	Output
11	N/A	-
12	+24V	Output
13	+5V	Output
14	Frame Ground	-

RFID Mode enabled.

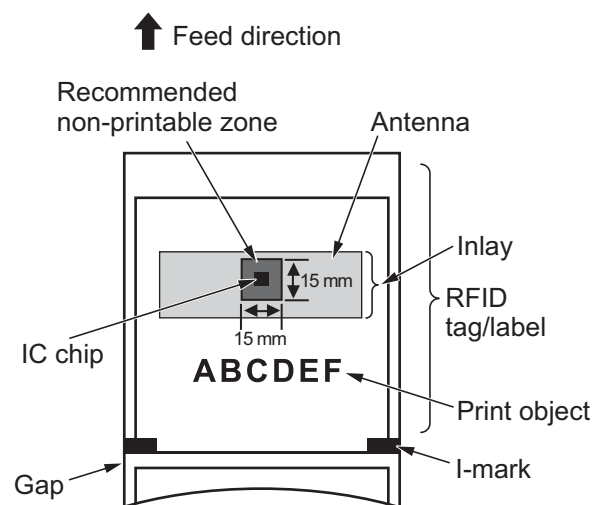
Pin No.	Signal	I/O
1	Paper End + Ribbon End	Output
2	Ground	-
3	RFID Tag Error	Output
4	Machine Error/RFID Error	Output
5	Print Start (PRIN)	Input
6	Print Done/End (PREND)	Output
7	Reprint (PRIN2)	Input
8	External Power Supply	Input
9	Online	Output
10	Ribbon Near End	Output
11	N/A	-
12	+24V	Output
13	+5V	Output
14	Frame Ground	-

Standard specification is applied when the RFID Mode is set to Disabled. Functions shown by shading are applied when the RFID Mode is set to Enabled.

7.5.4 RFID Printing Tips

Recommended non-printable zone

Avoid printing barcodes or characters directly on top of an RFID chip. The uneven surface will negatively affect the print quality.



7.6 Printer Specifications

Specifications are subject to change without notice.

7.6.1 Hardware

Model	CL4NX	CL6NX
Dimensions and Weight		
Width	271 mm (10.67")	338 mm (13.31")
Height	321 mm (12.64")	321 mm (12.64")
Depth	457 mm (18.00")	457 mm (18.00")
Weight	Approximately 15.1 kg (33.28 lbs.)	Approximately 20.3 kg (44.75 lbs.)
Power Supply		
Input Voltage	AC 100 V - 240 V ±10%	
Frequency	50 - 60 Hz	
Power Consumption	At peak: 180 W / 190 VA (Print ratio 30%) Standby: 20 W / 40 VA	At peak: 240 W / 308 VA (Print ratio 30%) Standby: 23 W / 63 VA
Processing		
Flash ROM	CPU1: 2 GB, CPU2: 4 MB	
SDRAM	CPU1: 256 MB, CPU2: 64 MB	
User Registration Area	Maximum 679 MB	
Receive Buffer	Maximum: 2.95 MB Near full: 2 MB	
Operation		
LCD	TFT color 3.5 inch (88.9 mm)	
LED	STATUS: Blue/Red	
Display Language	English / German / French / Spanish / Italian / Portuguese / Czech / Danish / Dutch / Finnish / Greek / Hungarian / Norwegian / Polish / Romanian / Russian / Slovak / Swedish / Turkish / Chinese (Simplified) / Chinese (Traditional) / Korean / Japanese / Arabic / Thai / Vietnamese / Persian / Indonesian / Hindi / Bulgarian	

Model	CL4NX	CL6NX
Environmental Conditions (Without Media and Ribbon)		
Operating Temperature	Continuous/Cutter/Tear-off mode: 0 to 40 °C (32 to 104 °F) Dispenser/Linerless mode: 5 to 35 °C (41 to 95 °F)	Continuous/Cutter/Tear-off mode: 0 to 40 °C (32 to 104 °F) Dispenser mode: 5 to 35 °C (41 to 95 °F)
Storage Temperature	-20 to 60 °C (-4 to 140 °F)	
Operating Humidity	Continuous/Dispenser/Cutter/ Tear-off mode: 30 to 80% RH (Non-condensing) Linerless mode: 30 to 75% RH (Non-condensing)	30 to 80% RH (Non-condensing)
Storage Humidity	30 to 90% RH (Non-condensing)	
Print		
Print Method	Direct thermal and thermal transfer	
Print Speed	203 dpi: 2 to 10 inch/sec (50.8 to 254 mm/sec) 305 dpi: 2 to 8 inch/sec (50.8 to 203.2 mm/sec) 609 dpi: 2 to 6 inch/sec (50.8 to 152 mm/sec) Linerless mode: 2 to 6 inch/sec (50.8 to 152 mm/sec)	203 dpi: 2 to 10 inches/sec (50.8 to 254 mm/sec) 305 dpi: 2 to 8 inches/sec (50.8 to 203.2 mm/sec)
Resolution	203 dpi (8 dots/mm) 305 dpi (12 dots/mm) 609 dpi (24 dots/mm)	203 dpi (8 dots/mm) 305 dpi (12 dots/mm)
Non-printable Area	Pitch direction (Excludes liner) Top: 1.5 mm (0.06"), Bottom: 1.5 mm (0.06") Width direction (Excludes liner) Left: 1.5 mm (0.06"), Right: 1.5 mm (0.06")	
Printable Area	203 dpi: Length 2500 mm (98.42") x Width 104 mm (4.09") 305 dpi: Length 1500 mm (59.05") x Width 104 mm (4.09") 609 dpi: Length 400 mm (15.75") x Width 104 mm (4.09")	203 dpi: Length 2500 mm (98.42") x Width 152 mm (5.98") 305 dpi: Length 1500 mm (59.05") x Width 165.3 mm (6.50") * When Head Base Position is set to Left-justify: maximum print width 167.5 mm (6.59").
Print End Position	203 dpi: 1 to 20000 dots 305 dpi: 1 to 18000 dots 609 dpi: 1 to 9600 dots	203 dpi: 1 to 20000 dots 305 dpi: 1 to 18000 dots
Print Darkness	Darkness level: 1 to 10 Darkness range: A	

Model	CL4NX	CL6NX
Sensors		
I-mark (Reflective Type)	Position and sensitivity: Adjustable	
Gap (Transmissive Type)	Position and sensitivity: Adjustable	
Head Open	Fixed	
Paper End Sensor	Detect with I-mark sensor or Gap sensor	
Ribbon End/ Ribbon Near End	Fixed	
Dispenser	Fixed * If linerless kit or dispenser unit is installed.	Fixed * If the dispenser unit is installed.
Cutter	Fixed * If cutter unit or linerless kit is installed.	Fixed * If the cutter unit is installed.

7.6.2 Ribbon and Media

Model	CL4NX	CL6NX
Ribbon (Use genuine ribbon made by SATO.)		
Size	Length: maximum 600 m (1968.5 ft.) Width: 39.5 mm to 128 mm (1.55" to 5.04") *When the width is 39.5 mm (1.55"), the maximum length is 450 m (1476.4 ft.). * The maximum length varies depending on the ribbon type. * Use the ribbon that is wider than the media.	Length: maximum 600 m (1968.5 ft.) Width: 59 mm to 177 mm (2.32" to 6.98") * The maximum length varies depending on the ribbon type. * Use the ribbon that is wider than the media.
Wind Direction	Face-out/Face-in	
Winding Method	Coreless	
Media (Use genuine media made by SATO.)		
Type	Media roll (Face-in wound/face-out wound), Fan-fold media	
Size		
Continuous		
Pitch (With Liner)	203 dpi: 6 to 2497 mm (0.24" to 98.30") 305 dpi: 6 to 1497 mm (0.24" to 58.94") 609 dpi: 6 to 397 mm (0.24" to 15.63") RFID mode: 13 to 240 mm (0.51" to 9.45") 203 dpi: 9 to 2500 mm (0.35" to 98.42") 305 dpi: 9 to 1500 mm (0.35" to 59.05") 609 dpi: 9 to 400 mm (0.35" to 15.75") RFID mode: 16 to 243 mm (0.63" to 9.57")	203 dpi: 16 to 2497 mm (0.63" to 98.30") 305 dpi: 16 to 1497 mm (0.63" to 58.94") 203 dpi: 19 to 2500 mm (0.75" to 98.42") 305 dpi: 19 to 1500 mm (0.75" to 59.05")
Width (With Liner)	22 to 128 mm (0.87" to 5.04") 25 to 131 mm (0.98" to 5.16")	47 to 177 mm (1.85" to 6.96") 50 to 180 mm (1.97" to 7.01")

Model	CL4NX	CL6NX
Media (Use genuine media made by SATO.)		
Size		
Tear-off/Cutter		
Pitch (With Liner)	203 dpi: 17 to 2497 mm (0.67" to 98.30") 305 dpi: 17 to 1497 mm (0.67" to 58.94") 609 dpi: 17 to 397 mm (0.67" to 15.63") RFID mode: 17 to 240 mm (0.67" to 9.45") 203 dpi: 20 to 2500 mm (0.79" to 98.42") 305 dpi: 20 to 1500 mm (0.79" to 59.05") 609 dpi: 20 to 400 mm (0.79" to 15.75") RFID mode: 20 to 243 mm (0.79" to 9.57") * When Print Mode is set to Cut & Print, the minimum pitch for each print speed is the following value: 2 ips: 40 mm (1.57"), 3 ips: 58 mm (2.28"), 4 ips: 75 mm (2.95"), 5 ips: 93 mm (3.66"), 6 ips: 110 mm (4.33"), 7 ips: 125 mm (4.92"), 8 ips: 140 mm (5.51"), 9 ips: 156 mm (6.14"), 10 ips: 171 mm (6.73")	203 dpi: 17 to 2497 mm (0.67" to 98.30") 305 dpi: 17 to 1497 mm (0.67" to 58.94") 203 dpi: 20 to 2500 mm (0.79" to 98.42") 305 dpi: 20 to 1500 mm (0.79" to 59.05") * When Print Mode is set to Cut & Print, the minimum pitch for each print speed is the following value: 2 ips: 40 mm (1.57"), 3 ips: 58 mm (2.28"), 4 ips: 75 mm (2.95"), 5 ips: 93 mm (3.66"), 6 ips: 110 mm (4.33"), 7 ips: 125 mm (4.92"), 8 ips: 140 mm (5.51"), 9 ips: 156 mm (6.14"), 10 ips: 171 mm (6.73")
Width (With Liner)	22 to 128 mm (0.87" to 5.04") 25 to 131 mm (0.98" to 5.16")	47 to 177 mm (1.85" to 6.96") 50 to 180 mm (1.97" to 7.01")
Dispenser		
Pitch (With Liner)	203/305/609 dpi: 27 to 397 mm (1.06" to 15.63") RFID mode: 27 to 240 mm (1.06" to 9.45") 203/305/609 dpi: 30 to 400 mm (1.18" to 15.75") RFID mode: 30 to 243 mm (1.18" to 9.57")	203/305 dpi: 27 to 397 mm (1.06" to 15.63") 203/305 dpi: 30 to 400 mm (1.18" to 15.75")
Width (With Liner)	22 to 128 mm (0.87" to 5.04") 25 to 131 mm (0.98" to 5.16")	47 to 177 mm (1.85" to 6.97") 50 to 180 mm (1.97" to 7.01")
Diameter of Liner Winding	Maximum 120 mm (4.72")	
Linerless		
Pitch	30 to 120 mm (1.18" to 4.72")	—
Width	60 to 118 mm (2.36" to 4.65")	—
Roll Diameter (Media Roll)	Maximum 220 mm (8.66") When using a dispenser with liner rewinder: maximum 220 mm (8.66")	

Model	CL4NX	CL6NX
Media (Use genuine media made by SATO.)		
Core Diameter (Media Roll)	76 mm, 101 mm (3", 4") When using a dispenser with liner rewinder: 76 mm (3") * Recommend to use 4" core for thick paper (more than 150 µm), non-adhesive media and RFID tags (CL4NX only)/labels.	
Height (Fan-fold Media)	Maximum 200 mm (7.87") * When the printer and media are configured to the same height.	
Thickness	0.08 to 0.268 mm (0.0031" to 0.011")	0.06 to 0.268 mm (0.0024" to 0.011")

Note

The usable media sizes, the print speed and print quality vary depending on the media specification, media and ribbon combination, printer settings and printing environment. It is recommended to perform a test print with the media and ribbon to be used in advance.

7.6.3 Interface

Model	CL4NX	CL6NX
Interface		
Standard	Built-in	USB Interface (Type B) LAN Interface Bluetooth Interface USB Interface (Type A) x 2
	Extension Board	RS-232C Interface IEEE1284 Interface External Signal Interface (EXT)
Option Board		Wireless LAN Interface
RFID	UHF (920 MHz)	ISO/IEC 18000-6 Type C Gen2 —
	HF (13.56 MHz)	ISO/IEC 15693 (ICODE SLI/SLIX/ SLIX-S, Tag-it HF-I, my-d) ISO/IEC 14443 Type A (NTAG203, NTAG210, NTAG213/215/216, MIFARE UltraLight, MIFARE UltraLight C, my-d move NFC) ISO/IEC 18092 (FeliCa Lite-S) —

7.6.4 Built-in Functions

Model	CL4NX	CL6NX
Functions		
Built-in Functions	Status return Graphic Sequential number Form overlay Character modification Black/white inversion Ruled line Dump list Format registration Outline font Outline modification Zero slash switching Guidance Video	
Self-diagnosis Functions	Broken head element check Head open detection Paper end detection Ribbon end detection Ribbon near-end detection Test print Cutter open check (If cutter unit is installed) Label detection at dispensing (If dispenser unit is installed)	
Adjustment Functions	Print Darkness Print Position Media Stop Position Buzzer LCD Brightness	

7.6.5 Printer Languages

Model	CL4NX	CL6NX
Printer Languages		
	SBPL (Includes XML support) SZPL SDPL SIPL STCL AEP	

7.6.6 Fonts/Symbols/Barcodes

Model	CL4NX	CL6NX
Fonts		
Bitmap Fonts		
U	9 dots H x 5 dots W	
S	15 dots H x 8 dots W	
M	20 dots H x 13 dots W	
WB	30 dots H x 18 dots W	
WL	52 dots H x 28 dots W	
XU	9 dots H x 5 dots W	
XS	17 dots H x 17 dots W	
XM	24 dots H x 24 dots W	
XB	48 dots H x 48 dots W	
XL	48 dots H x 48 dots W	
X20	9 dots H x 5 dots W	
X21	17 dots H x 17 dots W	
X22	24 dots H x 24 dots W	
X23	48 dots H x 48 dots W	
X24	48 dots H x 48 dots W	
OCR-A	203 dpi: 22 dots H x 15 dots W 305 dpi: 33 dots H x 22 dots W 609 dpi: 66 dots H x 44 dots W	203 dpi: 22 dots H x 15 dots W 305 dpi: 33 dots H x 22 dots W
OCR-B	203 dpi: 24 dots H x 20 dots W 305 dpi: 36 dots H x 30 dots W 609 dpi: 72 dots H x 60 dots W	203 dpi: 24 dots H x 20 dots W 305 dpi: 36 dots H x 30 dots W
JIS208 Kanji Fonts (Mincho/Gothic)	16 dots H x 16 dots W 24 dots H x 24 dots W 22 dots H x 22 dots W 32 dots H x 32 dots W 40 dots H x 40 dots W	
JIS0213 Kanji Fonts (Gothic)	16 dots H x 16 dots W 24 dots H x 24 dots W 22 dots H x 22 dots W 32 dots H x 32 dots W 40 dots H x 40 dots W	
Compatible Kanji Fonts (Mincho)	16 dots H x 16 dots W 24 dots H x 24 dots W	
Simplified Chinese Characters	16 dots H x 16 dots W 24 dots H x 24 dots W	

Model	CL4NX	CL6NX
Fonts		
Bitmap Fonts		
Traditional Chinese Characters	24 dots H x 24 dots W	
Korean Fonts	16 dots H x 16 dots W 24 dots H x 24 dots W	
Scalable Fonts		
Rasterized Font	SATO CG Sleek SATO CG Stream SATO 0 SATO Alpha Bold Condensed SATO Beta Bold Italic SATO Folio Bold SATO Futura Medium Condensed SATO Gamma SATO OCR-A SATO OCR-B SATO Sans SATO Serif SATO Vica SATO Hebe Sans SATO Hebe Sans Arabic SATO Hebe Sans Thai SATO Hebe Sans Hebrew SATO Hebe Sans Hindi SATO Gothic Traditional Chinese SATO Gothic Japanese SATO Gothic Simplified Chinese SATO Gothic Korean SATO Silver Serif SATO Mincho Traditional Chinese SATO Mincho Japanese SATO Mincho Simplified Chinese SATO Mincho Korean SATO Roman Arabic SATO Symbol Set SATO WingBats	
Outline Fonts	Helvetica Outline Font	
	JIS208 Kanji Outline Fonts	

Model	CL4NX	CL6NX
Barcodes		
1D Barcodes	UPC-A/UPC-E JAN/EAN-13/8 CODE39, CODE93, CODE128 GS1-128(UCC/EAN128) CODABAR(NW-7) ITF Industrial 2 of 5 Matrix 2 of 5 MSI Customer Barcode POSTNET UPC add-on code USPS BOOKLAND GS1 DataBar Omnidirectional GS1 DataBar Truncated GS1 DataBar Stacked GS1 DataBar Stacked Omnidirectional GS1 DataBar Limited GS1 DataBar Expanded GS1 DataBar Expanded Stacked	
2D Codes	QR Code Micro QR Code PDF417 Micro PDF Maxi Code GS1 Data Matrix Data Matrix (ECC200) Aztec Code	
Composite Symbols	EAN-13 Composite (CC-A/CC-B) EAN-8 Composite (CC-A/CC-B) UPC-A Composite (CC-A/CC-B) UPC-E Composite (CC-A/CC-B) GS1 DataBar Composite (CC-A/CC-B) GS1 DataBar Truncated Composite (CC-A/CC-B) GS1 DataBar Stacked Composite (CC-A/CC-B) GS1 DataBar Expanded Stacked Composite (CC-A/CC-B) GS1 DataBar Expanded Composite (CC-A/CC-B) GS1 DataBar Stacked Omnidirectional Composite (CC-A/CC-B) GS1 DataBar Limited Composite (CC-A/CC-B) GS1-128 Composite (CC-A/CC-B/CC-C)	

7.6.7 Options

Model	CL4NX	CL6NX
Options		
	1) Cutter unit 2) Linerless cutter kit 3) Dispenser unit (with internal liner rewinder) 4) Simple dispenser kit 5) Internal liner rewinder kit 6) RTC (Calendar) kit 7) UHF RFID kit 8) HF RFID kit 9) Wireless LAN interface kit 10) Combo interface board (RS- 232C, IEEE1284, and EXT) 11) External rewinder (RWG-500)	1) Cutter unit 2) Dispenser unit (with internal liner rewinder) 3) Simple dispenser kit 4) Internal liner rewinder kit 5) RTC (Calendar) kit 6) Wireless LAN interface kit 7) Combo interface board (RS- 232C, IEEE1284, and EXT) 8) External rewinder (RWG-500)

7.6.8 Accessories

Model	CL4NX	CL6NX
Accessories		
	1) Power cord 2) Documentations (Quick Guide, Global Warranty Program leaflet, etc.)	

7.6.9 Standards

Model	CL4NX	CL6NX
Standards		
Safety Standards	UL 60950-1 CSA C22.2 No.60950-1 EN60950-1 CCC KC RCM IRAM BIS EAC	
EMC Standards	FCC-B, FCC-C ICES-003, IC EN55022 Class A, EN55024, R&TTE CCC, SRRC KC IDA SIRIM PTQC NTC DGPT RCM IRAM, CNC ANATEL WPC	
Environmental Standard RoHS	RoHS directive (six hazardous) restricts the use of six hazardous materials listed below. Hexavalent chromiumMax. 0.1% Lead and lead compoundsMax. 0.1% Mercury and mercury compoundsMax. 0.1% Cadmium and cadmium compoundsMax. 0.01% Polybrominated biphenyls (PBB)Max. 0.1% Polybrominated diphenyl ethers (PBDE)Max. 0.1%	
Energy Saving	International ENERGY STAR program	

7.7 Interface Specifications

For data communication with the host, this printer supports the following interfaces:

You can set the various interface settings of the printer through **Interface** in the **Settings** menu.

- USB (USB type B)
- LAN Ethernet
- Bluetooth
- RS-232C (DB 9 pins, female)
- IEEE1284 (Amphenol 36 pins)
- External signal (EXT) (Amphenol 14 pins)
- Wireless LAN

CAUTION

Do not connect or disconnect the interface cables (or use a switch box) with power supplied to either the printer or host. This may cause damage to the interface circuitry in the printer or host and is not covered by warranty.

Note

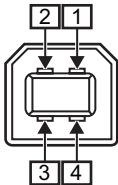
- Wireless LAN is an optional interface.
 - You cannot use the wireless LAN interface and LAN interface at a time.
-

7.7.1 USB Interface

This interface complies with the USB2.0 standard.
Install the USB driver to the computer before use.

Basic Specifications	
Connector	USB Type B connector
Protocol	Status4, Status5
Power Supply	BUS Power through cable

Pin Assignments	
Pin No.	Description
1	VBus
2	-Data
3	+Data
4	GND



Cable Specifications	
Cable Connector	USB Type B connector
Cable Length	5 m (16.4 feet) or less

7.7.2 LAN Ethernet Interface

Basic Specifications	
Connector	RJ-45 Receptacle
Protocol	Status3 Status4 Status5
IP Address	IPv4 IPv6
Subnet Mask	IPv4 IPv6
Gateway Address	IPv4 IPv6

Cable Specifications	
Cable	10BASE-T/100BASE-TX Category 5
Cable Length	100 m (328 feet) or less

Software Specifications	
Supported Protocol	TCP/IP
Network Layer	IP, ICMP
Session Layer	TCP
Application Layer	LPD, FTP, DHCP, HTTPS, SNMP, NTP

7.7.3 Bluetooth Interface

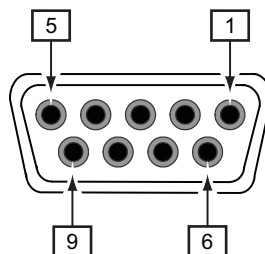
This interface complies with the Bluetooth3.0+EDR standard.

Basic Specifications	
Signal Level	Class 2
Communication Distance	10 m (32.8 feet)
Profile	Serial Port Profile
Security Level	None, level 2, 2-1, 2-2, level 3, level 4
PIN Code	1 to 16 characters consisting of ASCII code (20H, 21H, 23H to 7EH)
Disconnect Timeout (LMP layer)	60 seconds

7.7.4 RS-232C Interface

This interface complies with the RS-232C standard.

Basic Specifications	
Asynchronous ASCII	Half-duplex communication Bi-Directional Communication
Data Transmission Rate	2400, 4800, 9600, 19200, 38400, 57600, 115200 bps
Transmission Form	Start, b1, b2, b3, b4, b5, b6, b7, b8, Stop "b8" will be omitted if using 7 bit oriented.
Data Length	7 or 8 bit (selected)
Stop Bit	1 or 2 bit (selected)
Parity Bit	ODD, EVEN, NONE (selected)
Codes Used	ASCII Character Codes: 7 bits, Graphics: 8 bits
Control Codes	STX (02H), ETX (03H), ACK (06H), NAK (15H)
Connector	DB-9 Female or equivalent
Signal Levels	High = +5 to +12 V, Low = -5 to -12 V
Protocol	Ready/Busy, XON/XOFF, Status3, Status4, Status5



Connector Pin Specifications		
Pin No.	I/O	Description
1	-	Data Carrier Detect
2	Input	Receive Data
3	Output	Transmit Data
4	Output	Data Terminal Ready
5	Reference	Signal Ground
6	Input	Data Set Ready
7	Output	Request To Send
8	Input	Clear To Send
9	-	Not connected

Cable Specifications	
Cable Connector	DB-9 Male or equivalent
Cable Length	5 m (16.4 feet) or less

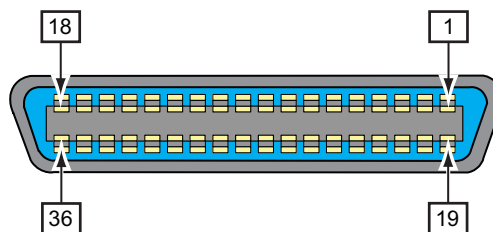
Note

- When using the READY/BUSY control, make sure that the printer is in power on mode before you send the data from the host.
 - With communication protocols such as XON/XOFF, STATUS3, STATUS4 or STATUS5, a receive buffer full error will occur when the received data is more than the receive buffer size (2.95 MB). Send data that is less than 2.95 MB while monitoring the status of the printer.
 - A parity error will be detected if this error occurs after the reception of ESC+A.
-

7.7.5 IEEE1284 Interface

This interface complies with the IEEE1284 standard.

Basic Specifications	
Connector	Amphenol 36 pins, female
Signal Levels	High-level: +2.4 to +5.0 V Low-level: +0.0 to +0.4 V
Receive Mode	Single-item buffer, Multi-item buffer



Connector Pin Specifications		
Pin No.	I/O	Description
1	Input	STROBE
2-9	Input	DATA 1 - DATA 8 DATA1: LSB DATA8: MSB
10	Output	ACK
11	Output	BUSY
12	Output	PAPER EMPTY/PAPER ERROR
13	Output	SELECT
14	Input	AUTO FEED
15	-	Not in use
16	-	LOGIC Ground
17	-	Frame Ground
18		+5 V
19	-	STROBE RETURN
20-27	-	DATA 1 - DATA 8 RETURN
28	-	ACK RETURN
29	-	BUSY RETURN
30	-	PAPER EMPTY RETURN
31	Input	INITIALIZE

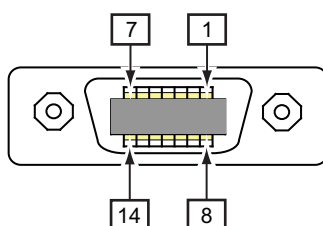
Connector Pin Specifications		
32	Output	FAULT
33-35	-	Not in use
36	Input	SELECT INPUT

Cable Specifications	
Cable Connector	Amphenol 36 pins, male
Cable Length	1.5 m (5 feet) or less

7.7.6 External Signal Interface (EXT)

This interface is designed to connect the printer with other peripherals.

Basic Specifications	
Connector	Centronics IDC Type 14 pins (female)
Signal Levels	High-level: +4.2 to +5.0 V Low-level: +0.0 to +0.7 V



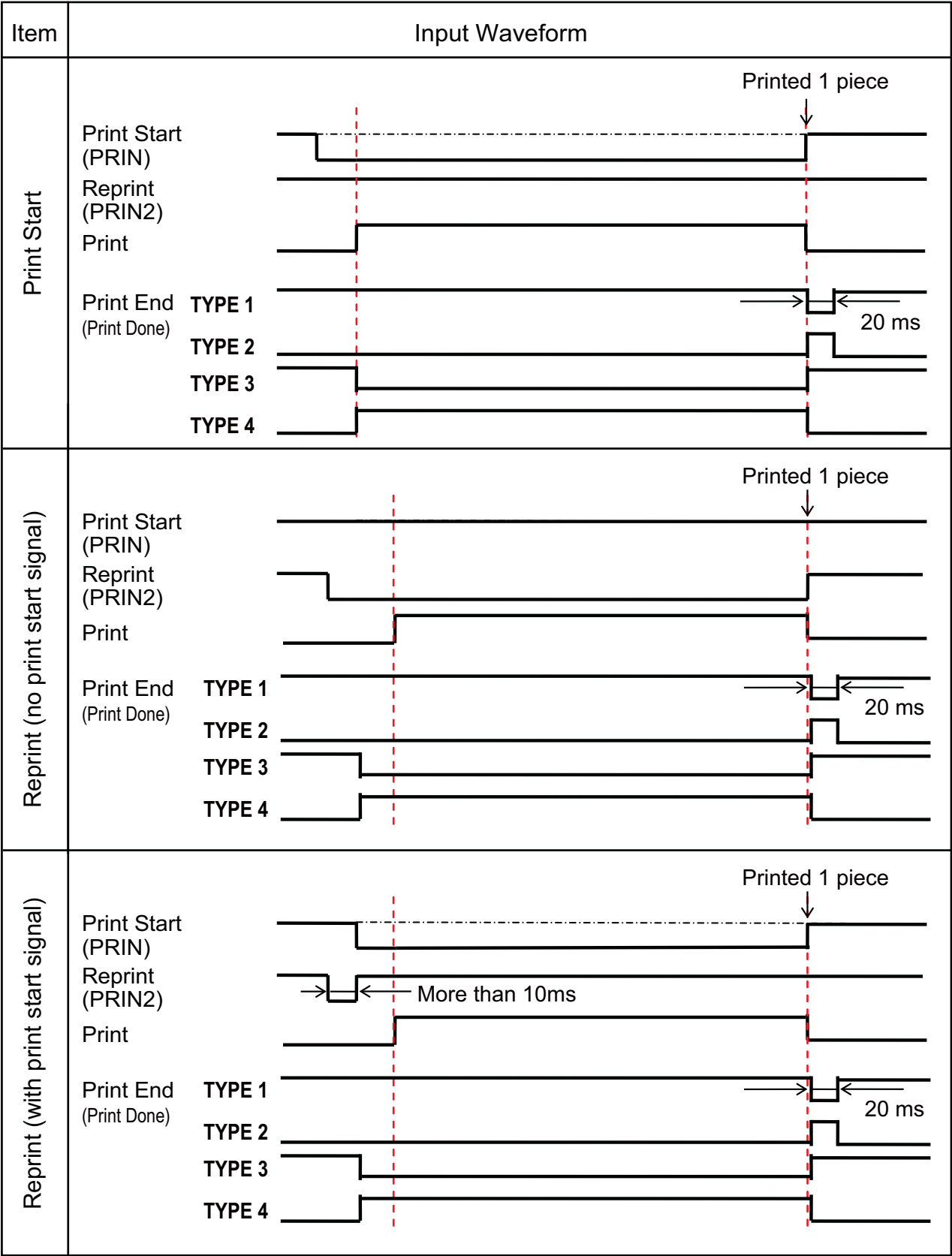
Connector Pin Specifications			
Pin No.	I/O	Description	Electric Conditions (Voltage, Current (Max))
1	Output	Paper End: Outputs a low signal when the paper end is detected.	Withstand voltage 50 V Sink current 50 mA
2	-	GND: Reference Signal Ground	-
3	Output	Ribbon End: Outputs a low signal when the ribbon end is detected.	Withstand voltage 50 V Sink current 50 mA
4	Output	Machine Error: Outputs a low signal when an error such as the head open error is detected.	Withstand voltage 50 V Sink current 50 mA
5	Input	Print start signal (PRIN): Prints one media when a low signal is detected.	High: high impedance Low: more than -15 mA, 0 V
6	Output	Print Done/Print end signal (PREND): Outputs a signal when the media print is completed.	Withstand voltage 50 V Sink current 50 mA
7	Input	Reprint signal (PRIN2): Prints the previously printed content again when a low signal is detected.	High: high impedance Low: more than -15 mA, 0 V
8	Input	External power supply	5 V
9	Output	<ul style="list-style-type: none"> MODE1: The output signal becomes "Active" when there is remaining print data without error in online mode. MODE2: The output signal becomes "Active" when the printer is Online. 	Withstand voltage 50 V Sink current 50 mA

Connector Pin Specifications			
10	Output	Ribbon Near End: Outputs a high signal when the ribbon near end is detected.	Withstand voltage 50 V Sink current 50 mA
11	-	-	-
12	-	+24 V \pm 10%	2 A
13	-	Vcc +5 V	500 mA
14	-	-	-
*	Output	Dispense completion waiting signal: Outputs a low signal when the dispense is completed. You can set the pin number for output through the Settings > Interface > External I/O > Signals > Outputs menu.	Withstand voltage 50 V Sink current 50 mA

Note

- You can set the external signal (EXT) type (TYPE1 to TYPE4) for Print Done output signal of pin No. 6. Refer to the **EXT Mode** screen of the **Interface > External I/O > Signals** menu for details.
- You can set the pin number for input and output through the **Settings > Interface > External I/O > Signals > Inputs** and **Outputs** menu.
- The Print Done signal of pin No. 6 is not outputted when 0 is specified in the number of cuts in the command specifying the number of cuts during the cutter operation.

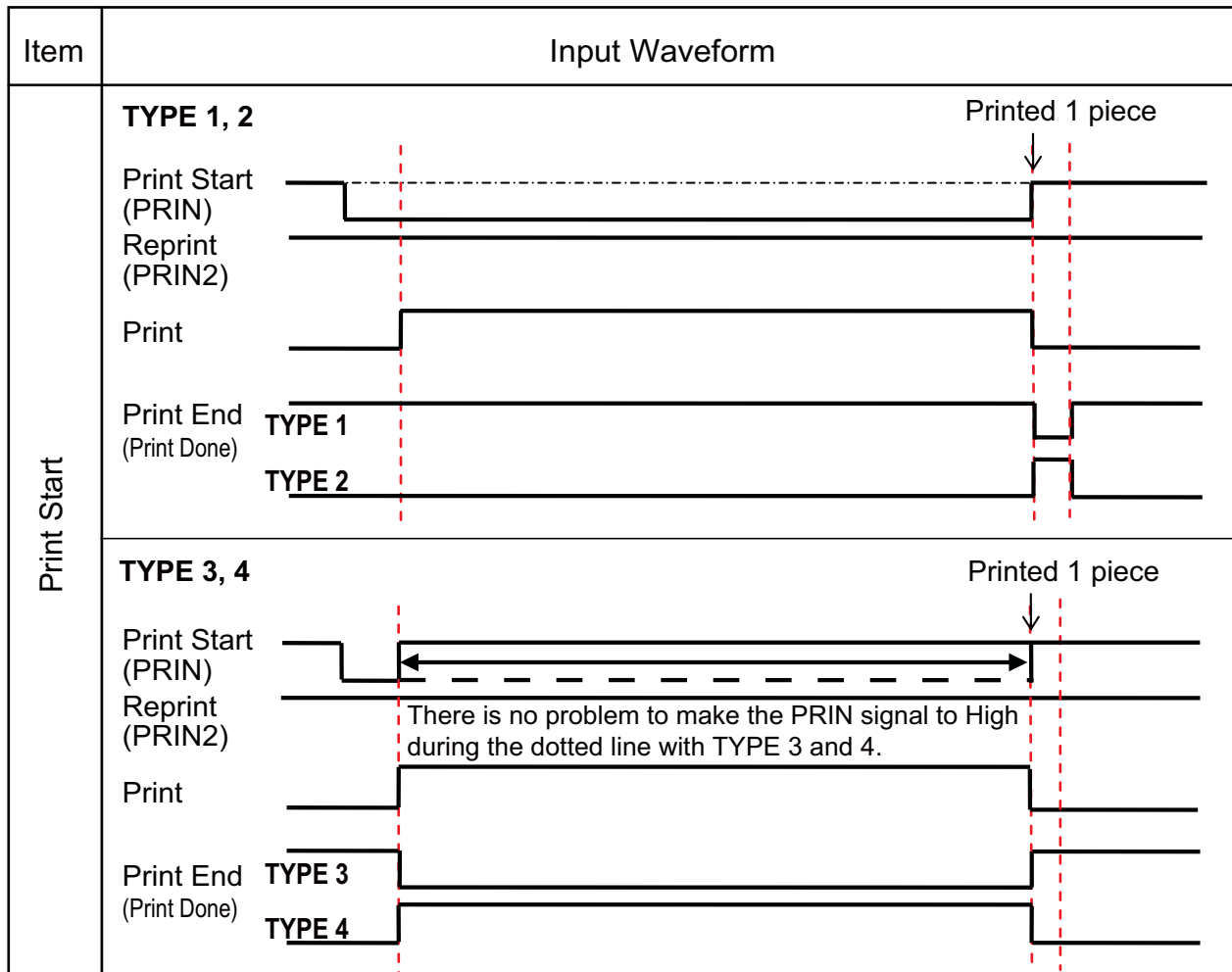
Timing Chart of the EXT Input Signal

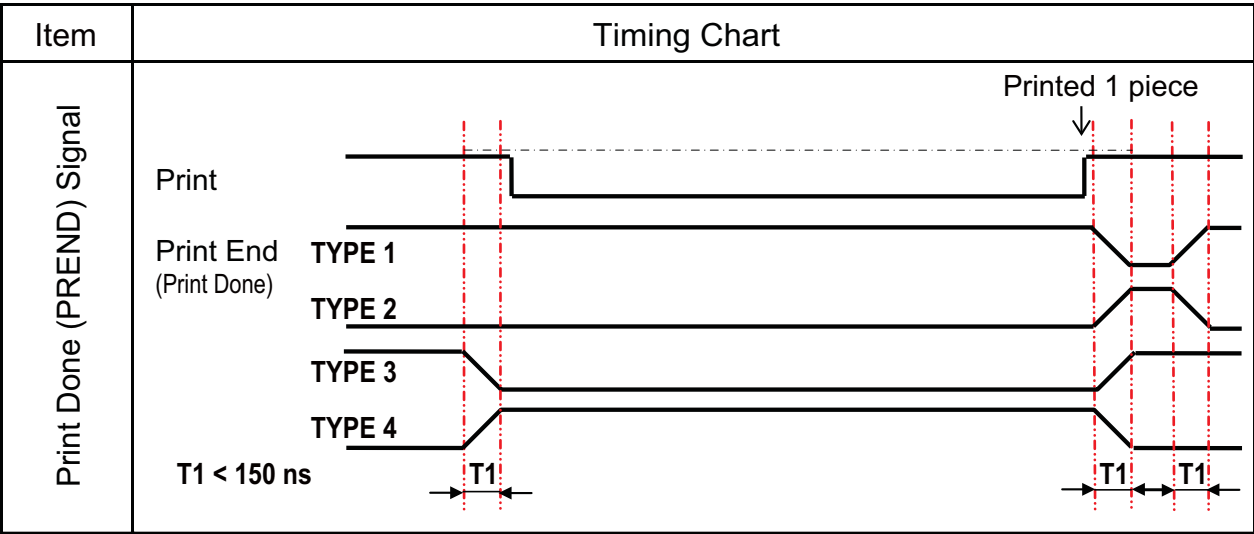


Supplementary explanation

- Keep the print start signal (PRIN) to “Low” until print end signal (Print done) is outputted. Refer to the below [Maintaining the Print Start Signal \(PRIN\)](#) timing chart.
- Keep the output reprint signal (PRIN2) for more than 10 ms. When signal is outputted for shorter than 10 ms, and reprint signal is not acknowledged, the printer does not perform reprinting.

Maintaining the Print Start Signal (PRIN)



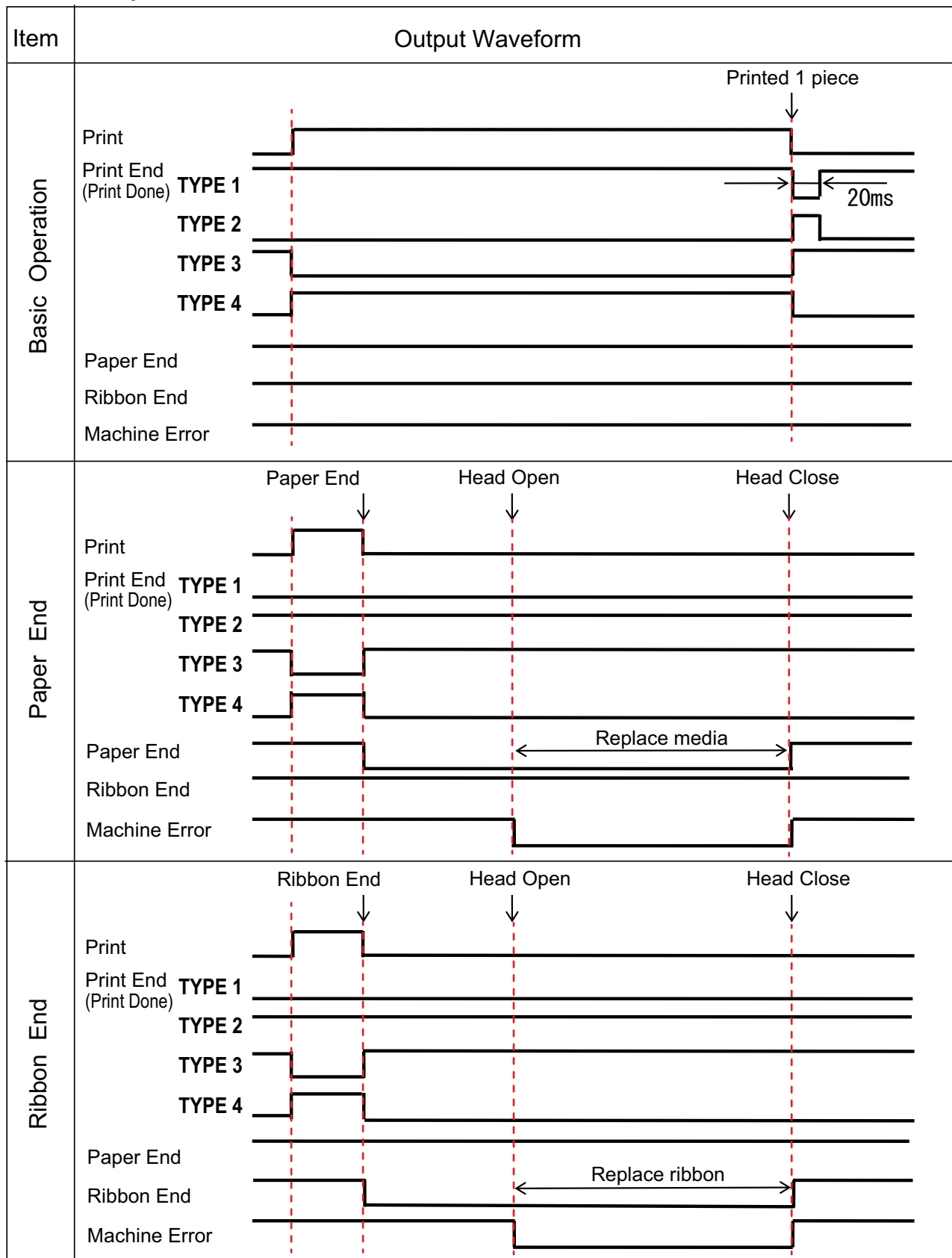


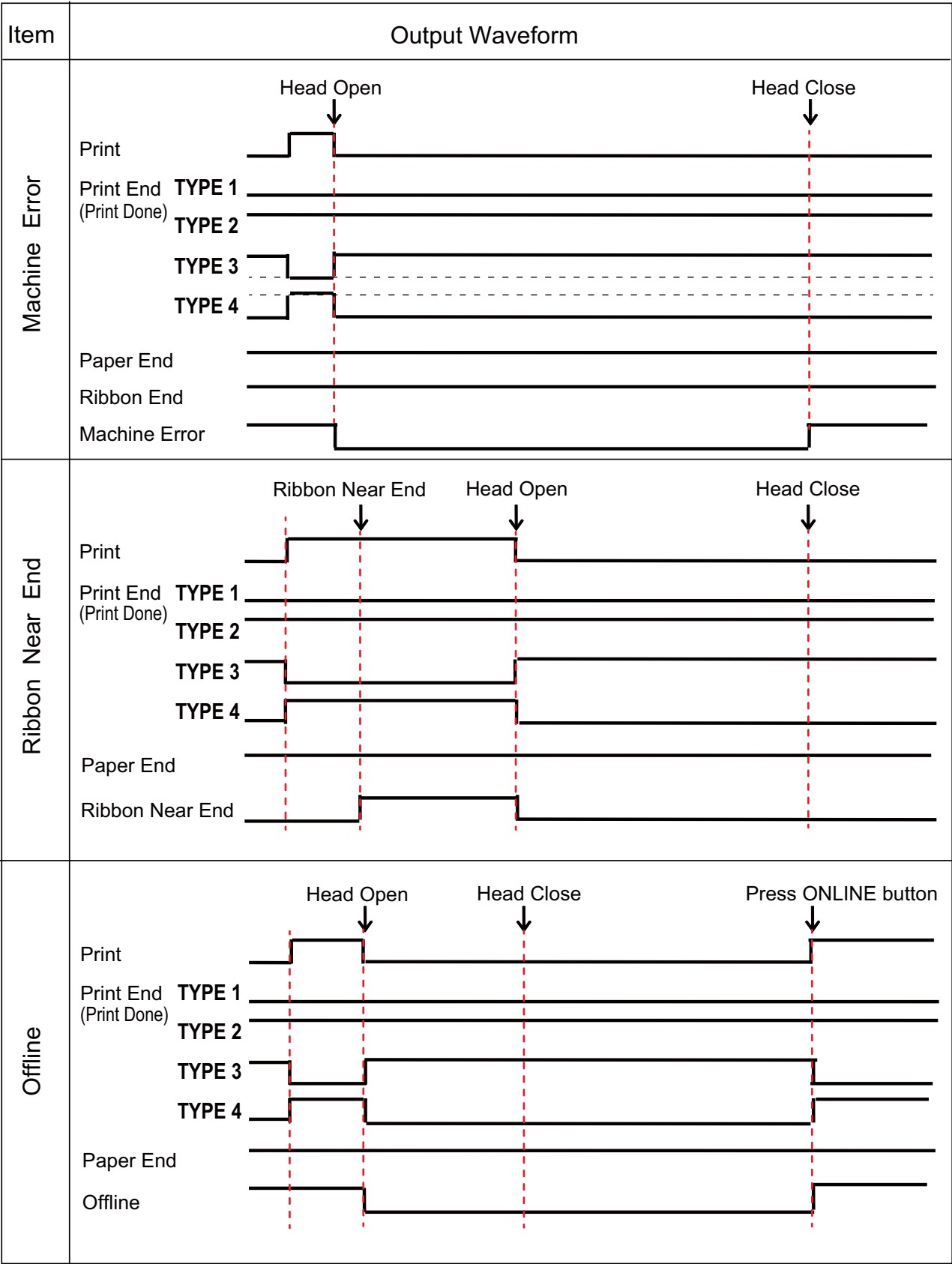
Rise or fall time (T1) of Print Done signal is less than 150 ns. You have to consider the time when outputting the signal from the connected devices.

- When the print start signal and reprint signal are outputted simultaneously, the print start signal is enabled and the printer does not perform reprinting.
- The reprint signal is valid only from the time of the print operation end (QTY=0) until the next print data reception. Other than that, the printer does not perform reprinting.

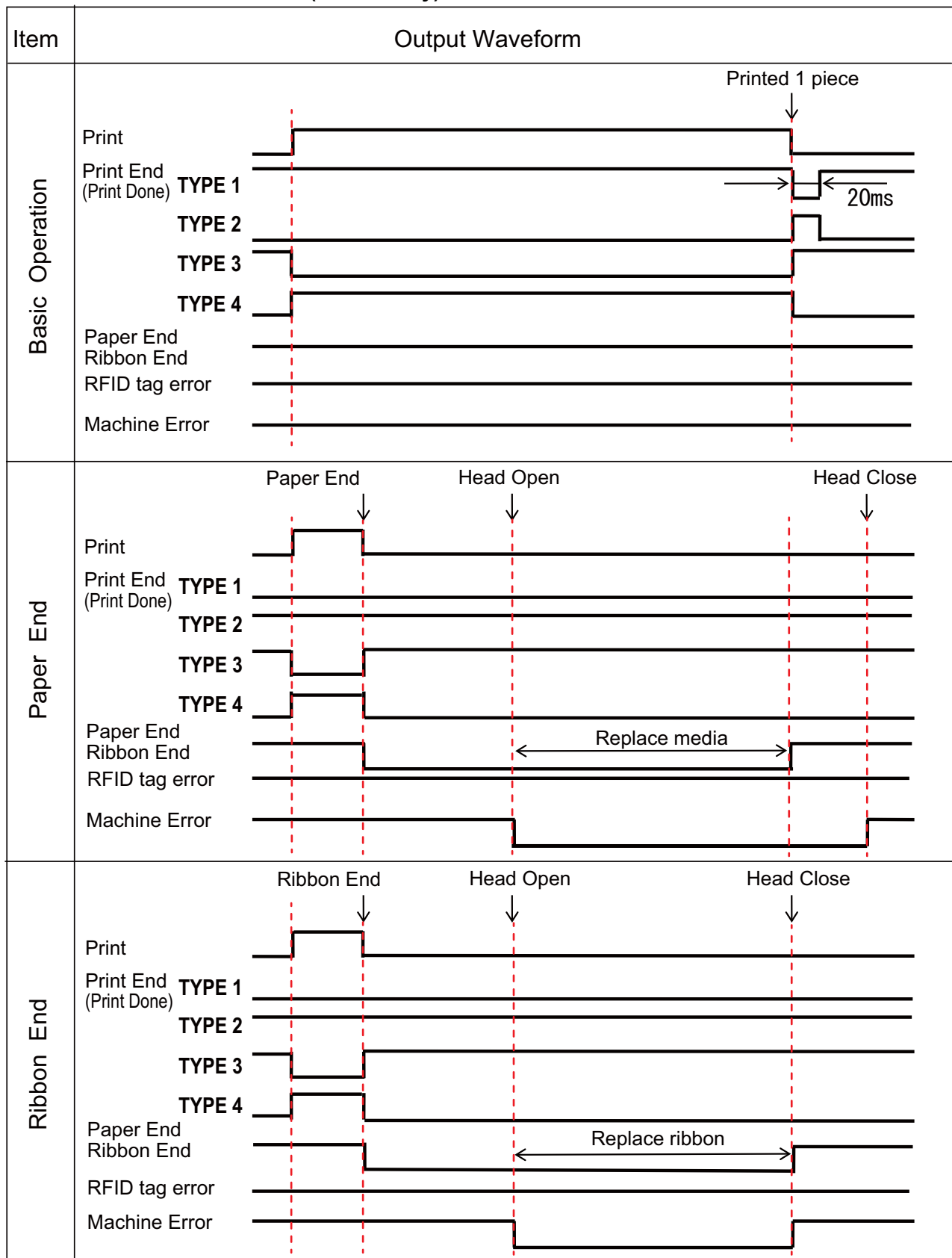
Timing Chart of the EXT Output Signal

- Standard specification

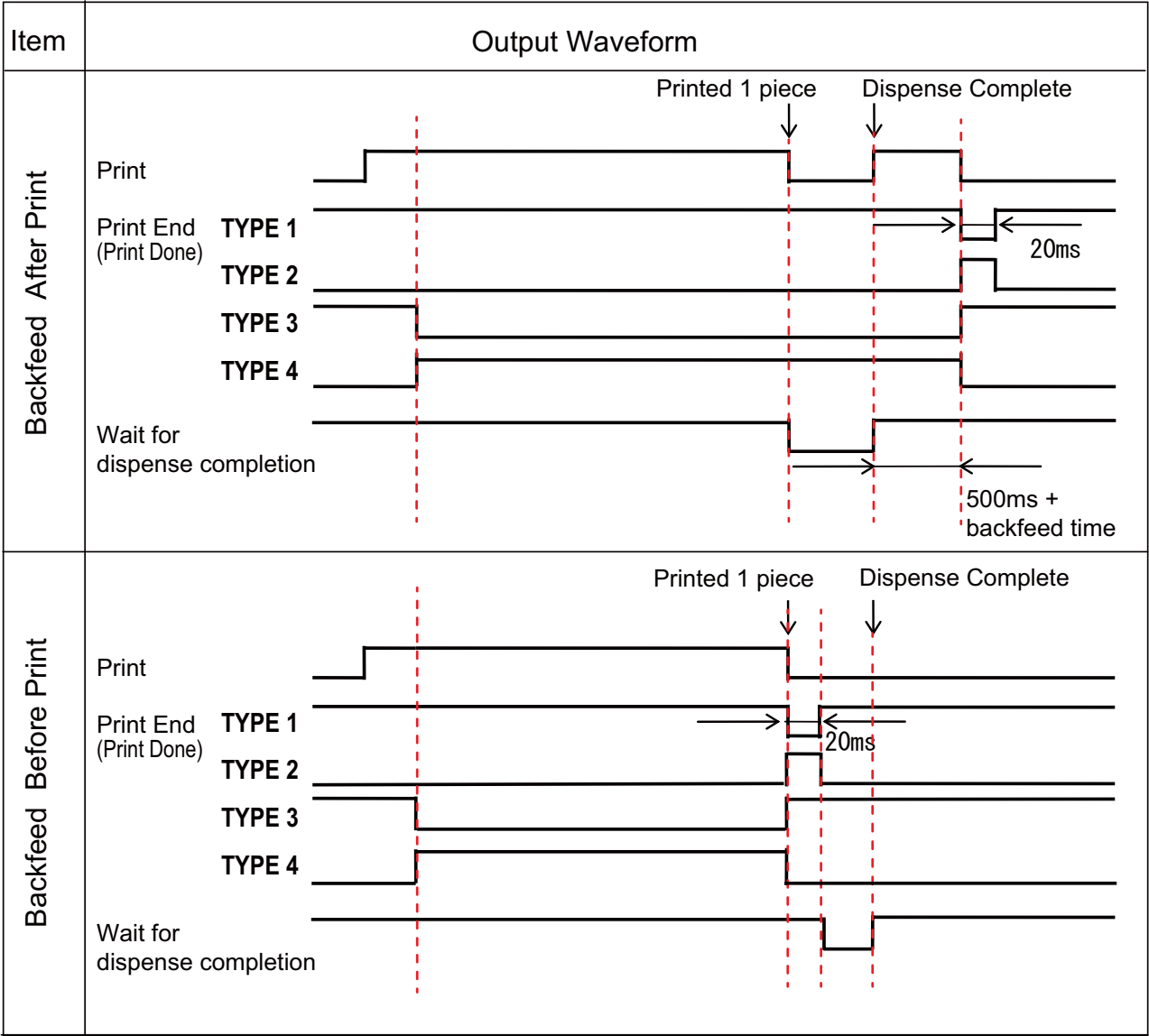




• When RFID Mode is enabled (CL4NX only)



Timing Chart (Wait signal for dispense completion)



7.7.7 Wireless LAN Interface

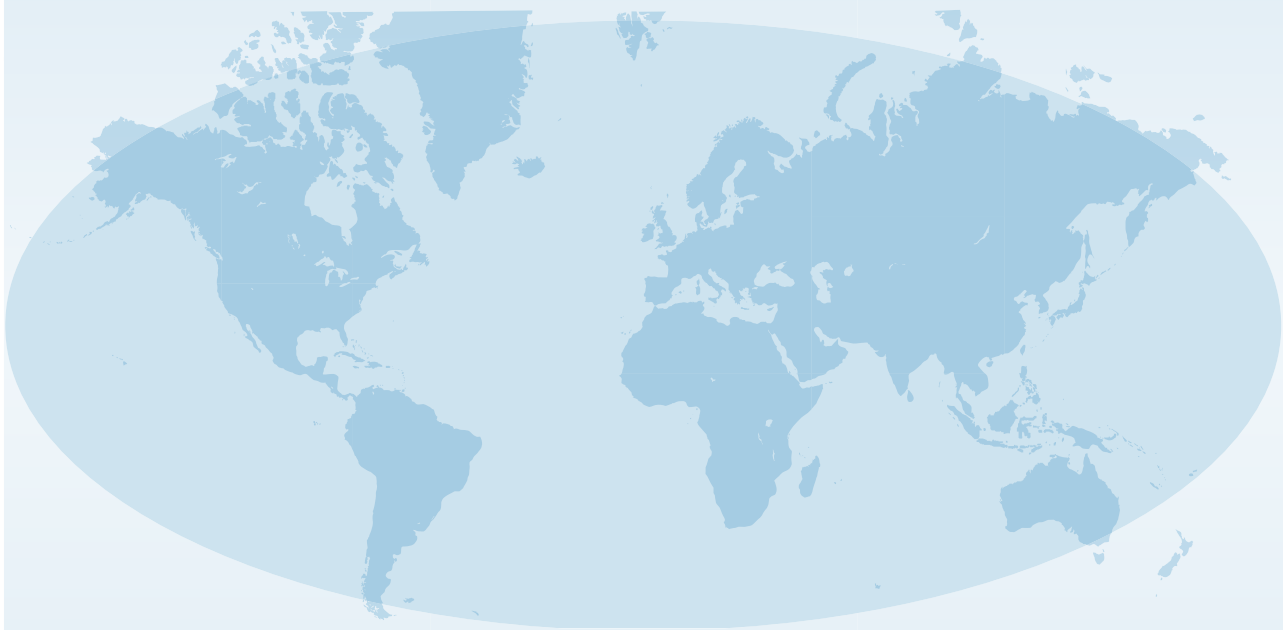
This interface complies with the IEEE802.11a/b/g/n standard.

CAUTION

Before using wireless LAN near medical devices and facilities, consult your system administrator.

Basic Specifications	
Protocol	Status3, Status4, Status5
IP Address	IPv4 IPv6
Subnet Mask	IPv4 IPv6
Gateway Address	IPv4 IPv6
Data Transfer Method	802.11a: max 54 Mbps 802.11n: max 135 Mbps 802.11b: max 11 Mbps 802.11g: max 54 Mbps Note These are the logical values based on the wireless LAN specifications and are not the actual data transfer speeds.
Frequency Band	2.4 GHz (2.412 to 2.485 GHz) 5 GHz
Communication Channel	The number of channels you can set varies depending on the region where you use the printer.
SSID	Any alphanumeric character (maximum 32)
Authentication	Open System Shared Key WPA/WPA2 Perform the RADIUS server authentication using 802.1x (EAP-TLS, LEAP, EAP-TTLS, EAP-PEAP, EAP-FAST protocol)
Encryption	None WEP (64 bits/128 bits) AES (WPA-PSK/WPA2-PSK, WPA-802.1x/WPA2-802.1x authentication)
Communication Mode	Infrastructure Ad Hoc

Software Specifications	
Supported Protocol	TCP/IP
Network Layer	IP, ICMP
Session Layer	TCP
Application Layer	LPD, FTP, DHCP, HTTPS, SNMP, NTP



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