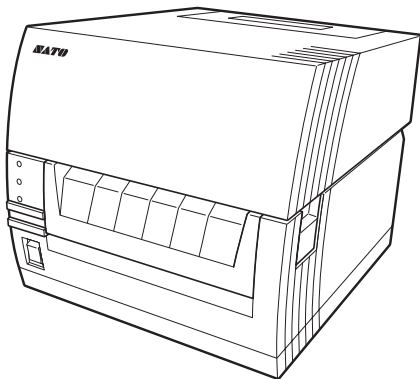




CT4-ex-RF

Operator Manual



SATO CORPORATION

Before You Start

Thank you for purchasing this SATO CT4-ex-RF 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.

Regulatory Approval

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.

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.

EN55032 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.

EN55032 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 电池组	×	○	○	○	○	○
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)	○	○	○	○	○	○

本表格依据 SJ/T 11364 的规定编制。

- ：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GB/T 26572 “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GB/T 26572 “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 “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)：标志中的年数为“环保使用期限”，不是产品的质量保证金期限。对于同一包装内包含电池组、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。

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1 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.

 Warning	The Warning symbol indicates that you can cause death or serious injury if you do not follow the instruction or procedure.
 Caution	The Caution symbol indicates that you can cause injury or property damage if you do not follow the instruction or procedure.






























Pictographic Symbols

 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>■ Do not use other than the specified voltage.</p> <ul style="list-style-type: none"> Do not use other than the specified voltage. Doing so could result in fire or electric shock. 	 	<p>■ Do not use the printer when something is abnormal about it</p> <ul style="list-style-type: none"> Continuing to use the printer in the event something is abnormal about it, such as smoke or unusual smells coming from it, could result in fire or electric shock. Immediately turn off the power switch, unplug the power cord from the outlet, and contact your SATO reseller or technical support center for repairs. It is dangerous for the customer to try to repair it, so absolutely do not attempt repairs on your own.
  	<p>■ Do not put objects inside the printer.</p> <ul style="list-style-type: none"> Do not insert or drop in metal or burnable objects inside the printer's openings (cable outlets, etc.). If foreign objects do get inside the printer, immediately turn off the power switch, unplug the power cord from the outlet, and contact your SATO reseller or technical support center. Using the printer in this condition could cause a fire or electric shock. 		<p>■ Print head</p> <ul style="list-style-type: none"> The print head is hot after printing. Be careful not to get burned when replacing media or cleaning immediately after printing. Touching the edge of the print head with bare hands could result in injury. Be careful not to become injured when replacing media or cleaning. The customer should not replace the print head. Doing so could result in injury, burns or electric shock.
 	<p>■ Handling the power cord</p> <ul style="list-style-type: none"> Do not damage, break, or modify the power cord. Also, do not place heavy objects on the power cord, heat it, or pull it because doing so could damage 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 modify, excessively bend, twist, or pull the power cord. Using the power cord in such a condition could cause a fire or electric shock. 	  	<p>■ Handling the AC Adapter</p> <ul style="list-style-type: none"> Do not damage, break, or change the AC adapter. If you place a heavy object on the AC adapter or heat, bend too much, twist, or pull the AC adapter, the AC adapter may be damaged, which may cause fire or electric shock. If the AC adapter is damaged (the wires exposed or broken), contact your SATO reseller or technical support center. If you operate the printer in this condition, it may cause fire or electric shock.
  	<p>■ When the printer has been dropped or broken</p> <ul style="list-style-type: none"> If the printer is dropped or broken, immediately turn off the power switch, unplug the power cord from the outlet, and contact your SATO reseller or technical support center. Using the printer in this condition could cause a fire or electric shock. 		<p>■ Do not disassemble the printer</p> <ul style="list-style-type: none"> Do not disassemble or modify the printer. Doing so could result in fire or electric shock. Ask your SATO reseller or technical support center to conduct internal inspections, adjustments, and repairs.
	<p>■ Do not use in hazardous locations</p> <ul style="list-style-type: none"> The printer is not explosion proof certified. Do not use in a potentially explosive environment or atmosphere. 		<p>■ Do not operate with wet hands</p> <ul style="list-style-type: none"> Do not operate the power switch or unplug the power cord or cable with wet hands. Doing so increases the risk of electric shock.
	<p>■ Do not set on an unstable area</p> <ul style="list-style-type: none"> Do not set on an unstable area, such as a wobbly table or slanted area or an area subject to strong vibration. If the printer falls off or topples over, it could injure someone. 	 	<p>■ Regarding the cutter</p> <ul style="list-style-type: none"> Do not touch the cutter with your hands or do not put something into the cutter. Doing so could result in an injury.
  	<p>■ Do not place containers full of water or other liquid on the printer</p> <ul style="list-style-type: none"> Do not place flower vases, cups, or other containers holding liquids, such as water or chemicals, or small metal objects near the printer. If they are spilled and get inside the printer, immediately turn off the power switch, unplug the power cord from the outlet, and contact your SATO reseller or technical support center. Using the printer in this condition could cause a fire or electric shock. 	 	<p>■ Using the head cleaning fluid</p> <ul style="list-style-type: none"> Use of flame or heat around the head cleaning fluid is prohibited. Absolutely do not heat it or subject it to flames. Keep the fluid out of reach of children to prevent them from accidentally drinking it. If a child accidentally drinks the fluid, immediately consult with a physician.
 	<p>■ AC Adapter</p> <ul style="list-style-type: none"> Use only the specified AC adapter. Using a different one may create the danger of fire or electric shock. 		

⚠ CAUTION

  	<p>■ Carrying the Printer</p> <ul style="list-style-type: none"> Do not carry the printer with media loaded in it. The media could fall out and cause an injury. When moving the printer, always unplug the power cord from the outlet and check to make sure all external wires are disconnected before moving it. Moving the printer with the wires still connected could damage the cords or connecting wires and result in a fire or electric shock. 	 <p>■ Handling the SD card</p> <ul style="list-style-type: none"> Be careful not to impart shock to the SD card by dropping or distorting. Doing so could erase stored data. Do not wet the SD card with water. Doing so could erase stored data. Do not place the SD card under direct sunlight or near a heater. Do not touch the connector of the SD card directly. Also, do not use the SD card with its connector dusty. Doing so could erase stored data. Keep the SD card out of high temperature and humidity. When carrying or storing the SD card, be sure to put it in a case for static protection.
	<p>■ Do not place in areas with high humidity</p> <ul style="list-style-type: none"> Do not place the printer in areas with high humidity or where condensation forms. If condensation forms, immediately turn off the power switch and do not use the printer until it dries. Using the printer while condensation is on it could result in electric shock. 	 <p>■ Top cover</p> <ul style="list-style-type: none"> Be careful not to get your fingers pinched when opening or closing the top cover. Also be careful the top cover does not slip off and drop.
 	<p>■ AC adapter</p> <ul style="list-style-type: none"> When disconnecting the AC adapter from the outlet, be sure to grip it by the plug. Pulling on the cord may expose or break the wires and possibly cause fire or electric shock. Do not put the AC adapter near a hot device. Leaving the AC adapter near a hot device could cause the adapter's housing to melt and possibly cause fire or electric shock. 	 <p>■ Loading media</p> <ul style="list-style-type: none"> When loading media roll, be careful not to get your fingers pinched between the media roll and the supply unit.
 	<p>■ Handling the AC adapter when moving</p> <ul style="list-style-type: none"> On the occasion of carrying, first disconnect the AC adapter from the outlet. If the AC adapter is not disconnected, it may be damaged, which may cause fire or electric shock. 	 <p>■ When not using the printer for a long time</p> <ul style="list-style-type: none"> When not using the printer for a long time, unplug the power cord from the outlet to maintain safety.
	<p>■ Fan-fold media loading</p> <ul style="list-style-type: none"> Be careful not to be injured when opening or closing the window. 	 <p>■ During maintenance and cleaning</p> <ul style="list-style-type: none"> When maintaining and cleaning the printer, unplug the power cord from the outlet to ensure safety.

2 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 CT4-ex-RF 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.

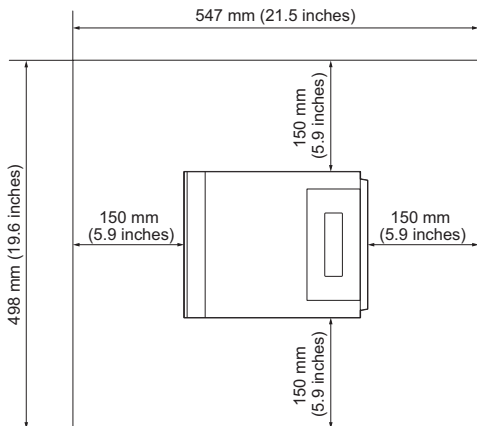
Supply a stable source of electricity to the printer.

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.

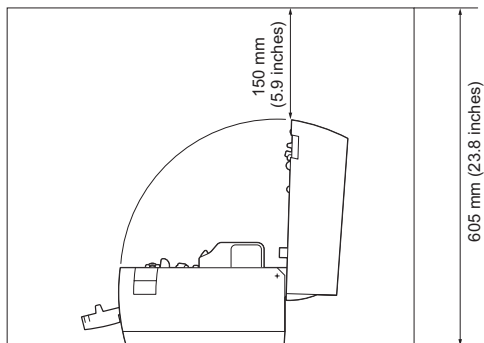
Installation Space

Make sure that there is sufficient space for operation, replacement of consumables, cleaning, etc. around the printer as the following illustrations.

Top View

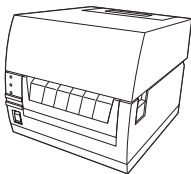


Side View



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.



Printer



**AC adapter and
power cord**



**Quick Guide and
Safety Instructions**



Ribbon adapter (2)

* The ribbon adapters are bundled with the thermal transfer model only.



**Global Warranty
Program leaflet**



Tuning driver

* The tuning driver is attached within the printer.

4 Parts Identification

Appearance of the Printer

Front View

Window

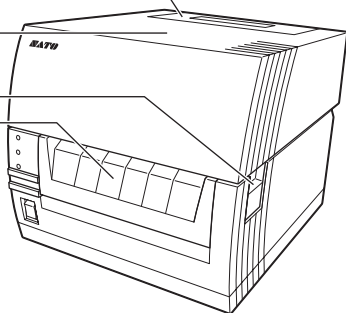
Open it to use the fan-fold media.

Top Cover

Cover open/close latch

Front cover

Open it to operate the DIP switches or potentiometers, and to check the error code.



Operator Panel

POWER indicator

Lights (green) when the Power switch is turned on.

ERROR indicator

Lights or flashes (red) when an error occurs.

ON LINE indicator

The printer can receive data when it lights (green).

ON LINE button

Press to stop and restart dispensing, or to stop receiving data.

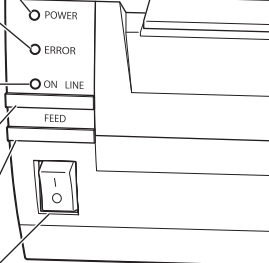
FEED button

Pressing it feeds the media when the printer is in Offline mode.

Power switch

"I" is ON.

"O" is OFF.



Rear View

LAN connector (Page 31)

USB connector (Page 31)

SD card slot

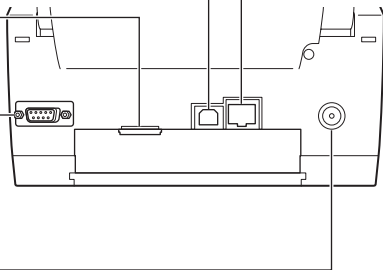
(Page 33 and 45)

SD card is used for backup of printer setting information.

RS-232C connector

(Page 31 and 45)

DC input connector



When the Top Cover Is Open

Direct Thermal Model

Upper blade of the cutter

Print head (Consumables)

Prints on the media.

Clean the print head regularly.

Media holder

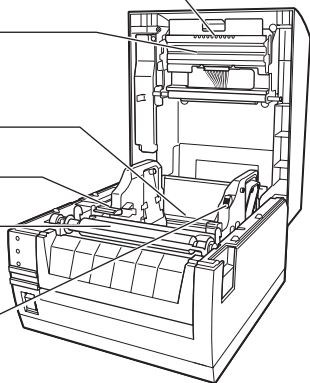
Media sensor

Platen roller (Consumables)

Feeds the printed media.

Clean the platen roller regularly.

Media guide slide lever

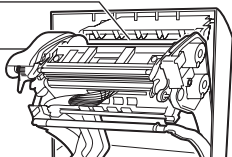


Thermal Transfer Model

Upper blade of the cutter

Ribbon unit

Load the carbon ribbon here.



When the Front Cover Is Open

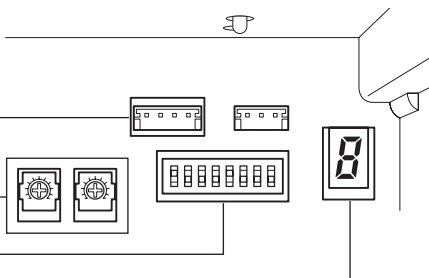
Inside the Front Cover

Cutter unit connector

Potentiometers

DIP switches

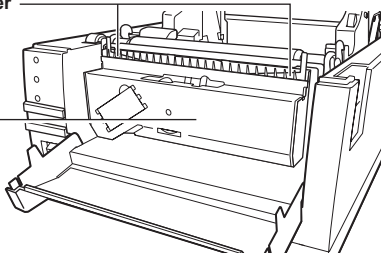
ERROR status LED



Cutter Section

Lower blade of the cutter

Cutter unit



The upper blade of the cutter is installed inside the top cover.

5 Power On the Printer

Setting the Power Supply (AC adapter)

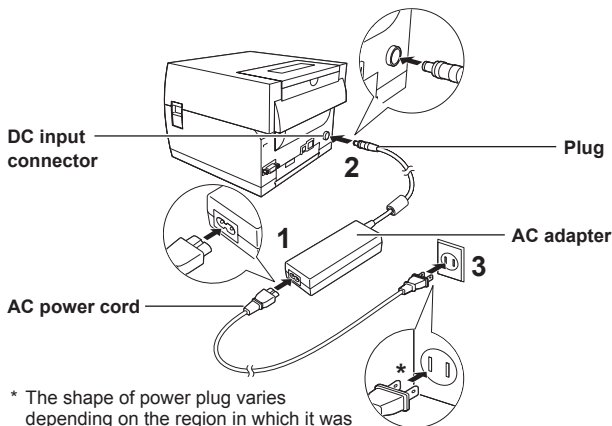
WARNING

- The AC adapter and power cord bundled with the printer is for exclusive use. You must not use them for other electrical equipment. Also, be sure not to connect another AC adapter to this printer. Doing so may cause trouble.

CAUTION

- Do not operate the power switch or unplug the power cord with wet hands. Doing so could cause electric shock.

- 1** Connect the AC power cord to the AC adapter.
- 2** Connect the plug of the AC adapter to the DC input connector of the printer.
- 3** Connect the AC power cord to an AC outlet.



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

Setup of the power supply is complete. Proceed to "Power On the Printer".

Power On the Printer

Flip the Power switch of the printer.

“I” is ON.

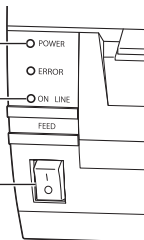
When the Power switch is turned on, the POWER indicator lights.

(The ON LINE indicator also lights.)

POWER indicator

ON LINE indicator

Power switch



Power Off the Printer

After checking the power is properly turned on, power off the printer.

“O” is OFF.

ON



OFF



CAUTION

When you turn on the power sequentially after turning off the power, wait about 5 seconds before turning on the power again.

6 Loading the Label and the Carbon Ribbon

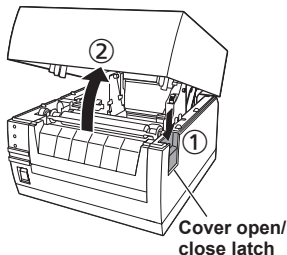
Use genuine media and ribbons for the printer, for optimum print quality.
See page 20 for how to replace the carbon ribbon.

Setting the Carbon Ribbon (Thermal transfer model only)

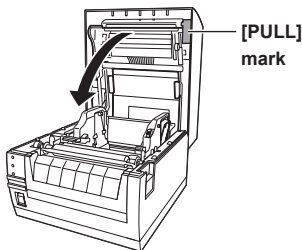
CAUTION

- The print head and its surroundings are hot after printing. Be careful not to get burned when replacing the carbon ribbon immediately after printing.
- Touching the edge of the print head with your bare hand could cause injury.
- When closing the top cover, be careful not to pinch your fingers.
- Be careful not to touch the upper blade of the cutter to avoid being hurt when you set the ribbon unit inside the top cover.

- 1** ① Press the Cover open/close latch downward to release the lock, and ② open the top cover.



- 2** Pull the [PULL] mark of the ribbon unit to draw it forward.

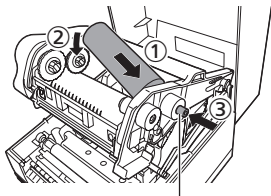


The loading procedure for the carbon ribbon differs depending on its width.

- For the carbon ribbon over 92 mm (3.6 inches) wide, see steps 3 to 6 and 12 to 13.
- For the carbon ribbon up to 76 mm (3.0 inches) wide, see steps 7 to 13. (→ Page 18)

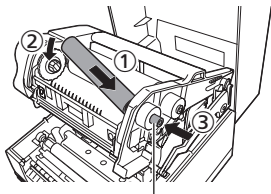
Carbon Ribbon of over 92 mm (3.6 inches) Wide

- 3** ①② Set the carbon ribbon from the right side of the ribbon supply spindle (in the back), and ③ push the core guide to lock.



Core guide of the ribbon supply spindle

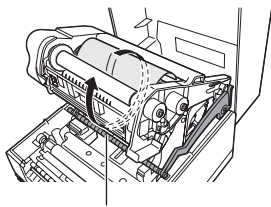
- 4** ①② Set the ribbon core from the right side of the ribbon rewriter (in the front), and ③ push the core guide to lock.



Core guide of the ribbon rewind spindle

- 5** Pass the carbon ribbon from the ribbon supply spindle (in the back) under the print head to reach the ribbon rewriter (in the front).

Be sure to pass the carbon ribbon between the print head and the label stopper. Do not pass it under the label stopper.

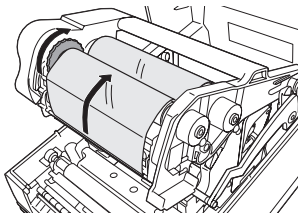


Label stopper

- 6** Attach the carbon ribbon to the ribbon core with adhesive tape or the like, and wind them in the direction of the arrow a few rounds.

Proceed to step 12.

(☞ Page 19)

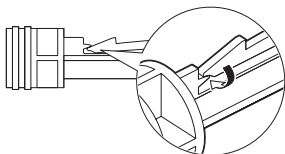


Carbon Ribbon of up to 76 mm (3.0 inches) Wide

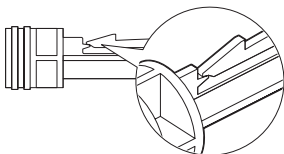
Set the carbon ribbon with the bundled ribbon adapter in the ribbon unit.

- 7** When you use the carbon ribbon of 76 mm (3.0 inches) or 59 mm (2.3 inches) wide, move the tab of the ribbon adapter as shown by the arrow to set it in the lower position.

When you use the carbon ribbon of 45 mm (1.8 inches) wide, you do not need to move the tab.



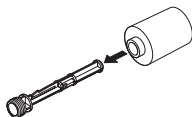
For 76 mm (3.0 inches) or 59 mm (2.3 inches) wide



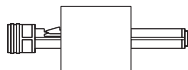
For 45 mm (1.8 inches) wide

- 8** Set the carbon ribbon and the ribbon core individually to the ribbon adapters.

■Carbon ribbon

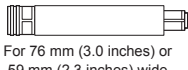
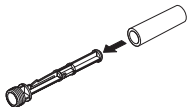


For 76 mm (3.0 inches) or
59 mm (2.3 inches) wide

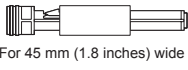


For 45 mm (1.8 inches) wide

■Ribbon core

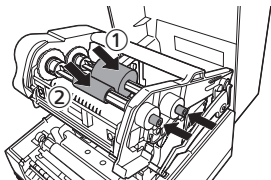


For 76 mm (3.0 inches) or
59 mm (2.3 inches) wide



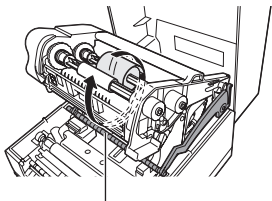
For 45 mm (1.8 inches) wide

- 9** ① Set the ribbon adapter with the carbon ribbon from the right side of the ribbon supply (in the back), and push the core guide to lock.
- ② Set the ribbon adapter with ribbon core from the right side of the ribbon rewinder (in the front), and push the core guide to lock.



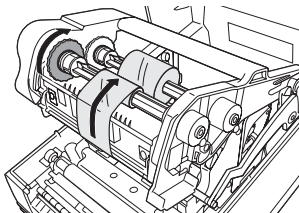
- 10** Pass the carbon ribbon from the ribbon supply (in the back) under the print head to reach the ribbon rewinder (in the front).

Make sure to pass the carbon ribbon between the print head and the label stopper. Do not pass under the label stopper.

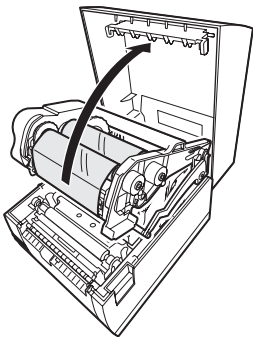


Label stopper

- 11** Attach the carbon ribbon to the ribbon core with adhesive tape or the like, and wind them in the direction of the arrow a few rounds.



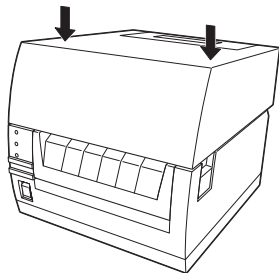
- 12** Set the ribbon unit inside the top cover.



CAUTION

- Be sure to set the ribbon unit inside the top cover first then close the top cover. If you close only the ribbon unit, the top cover may not close properly.
- Be careful not to touch the upper blade of the cutter to avoid being hurt when you set the ribbon unit inside the top cover.

- 13** Close the top cover.
Press the points on the top,
as shown by the arrows, until
the top cover closes with a
click.



Setup of the carbon ribbon is complete.

Replacement of the Carbon Ribbon

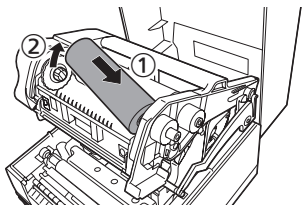
When the printer is in the middle of printing, replace it while the power is on.

CAUTION

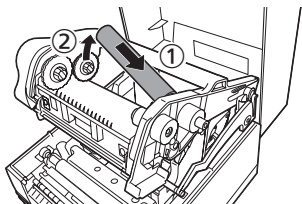
Be careful not to touch the upper blade of the cutter to avoid being hurt when you set the ribbon unit inside the top cover.

- 1** Open the top cover and draw the ribbon unit forward.
(☞ Page 16, steps 1 and 2)

- 2** ① Press the used carbon ribbon (in the front) toward the right, and ② lift and remove it from the left side.



- 3** Remove the ribbon core (in the back) by the same procedure as step 2.



- 4** Insert the ribbon core removed in step 3 and a new carbon ribbon in the printer. (☞ Page 17 to 19)

- 5** Press the **ON LINE** button to switch to Online mode.

Loading Labels

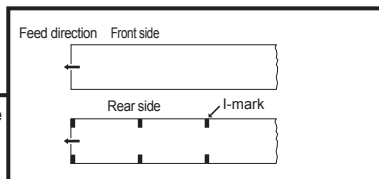
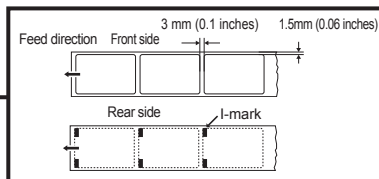
The media roll and fan-fold media can be used for printing in the printer. The media roll and fan-fold media each require a special way of loading. Use genuine media for the printer, for optimum print quality. Keep media out of direct sunlight, high temperature and humidity, desiccation, etc.

Media roll

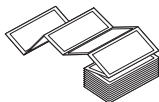


Label type

Without adhesive

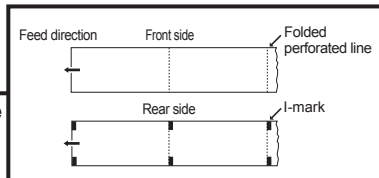
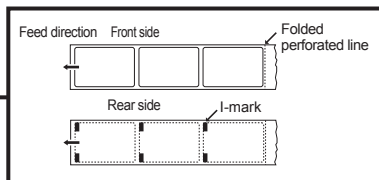


Fan-fold media



Label type

Without adhesive



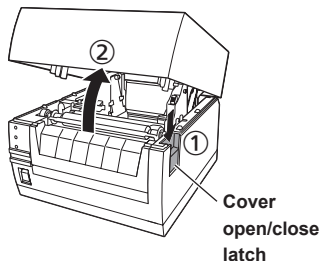
Loading Media Roll

When you use the fan-fold media, see the explanations on page 24.

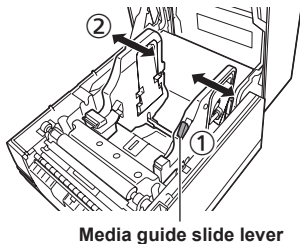
CAUTION

- The print head and its surroundings are hot after printing. Be careful not to get burned when replacing the media immediately after printing.
- Touching the edge of the print head with your bare hand could cause injury.
- When closing the top cover, be careful not to pinch your fingers.
- Be careful not to touch the upper blade of the cutter to avoid being hurt.

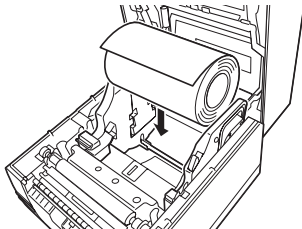
- 1** ① Press the Cover open/close latch downward to release the lock, and ② open the top cover.



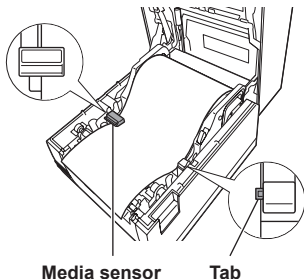
- 2** ① While holding the media guide slide lever pressed, ② adjust the width of the media holder.



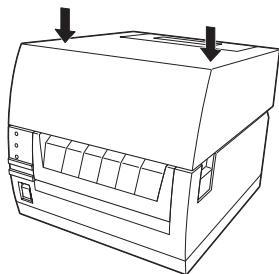
- 3** Load the media in the media holder.



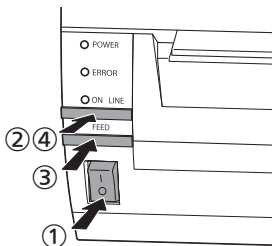
- 4** Draw in the media and pass it through the media sensor and under the tab.



- 5** Close the top cover.
Press the points on the top, as shown by the arrows, until the top cover closes with a click.



- 6**
- ① Power on the printer.
 - ② Press the **ON LINE** button to change to Offline mode.
 - ③ Press the **FEED** button to adjust the top position of the media.
 - ④ Press the **ON LINE** button again to change to Online mode.



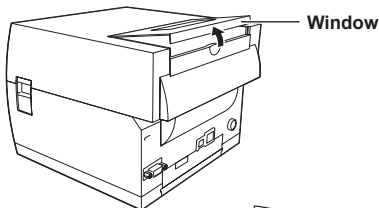
Setup of the media roll is complete.

Loading Fan-Fold Media

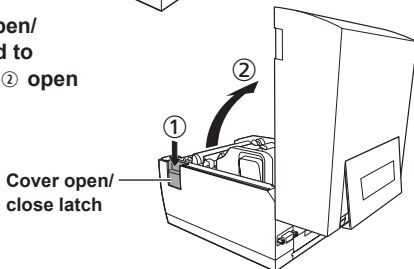
CAUTION

- The print head and its surroundings are hot after printing. Be careful not to get burned when replacing the media immediately after printing.
- Touching the edge of the print head with your bare hand could cause injury.
- When closing the top cover, be careful not to pinch your fingers.
- Be careful not to touch the upper blade of the cutter to avoid being hurt.

1 Open the window from the rear.

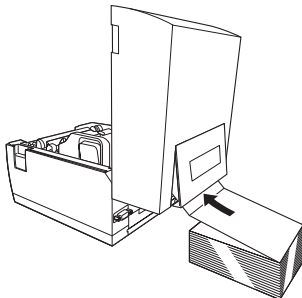


2 Press the Cover open/close latch downward to release the lock, and open the top cover.



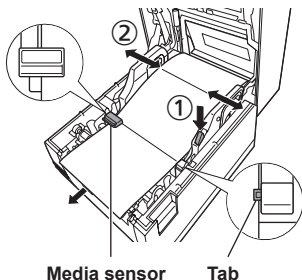
3 Pass the media from the opening window.

The height of folded fan-fold media must be up to 100 mm (3.9 inches) from the mounting surface of the printer.

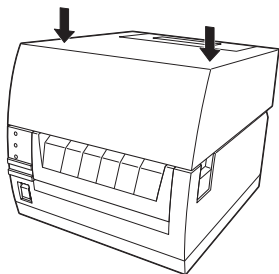


- 4** ① While holding the media guide slide lever pressed,
② adjust the width of the media holder to fit to the size of the media.

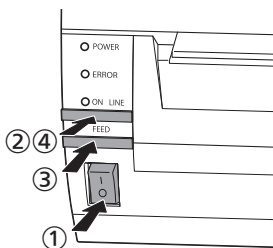
Draw in the media and pass it through the media sensor and under the tab.



- 5** Close the top cover.
Press the points on the top, as shown by the arrows, until the top cover closes with a click.



- 6** ① Power on the printer.
② Press the **ON LINE** button to change to Offline mode.
③ Press the **FEED** button to adjust the top position of the media.
④ Press the **ON LINE** button again to change to Online mode.



Setup of the fan-fold media is complete.

Fine-tuning the Print Position and Stop Position of the Label

Fine-tuning the Print Position

If the standard print position is not adequate, fine-tune it with the “Print position potentiometer” inside the front cover. Use the cross slot side of the attached tuning driver alongside the media holder.

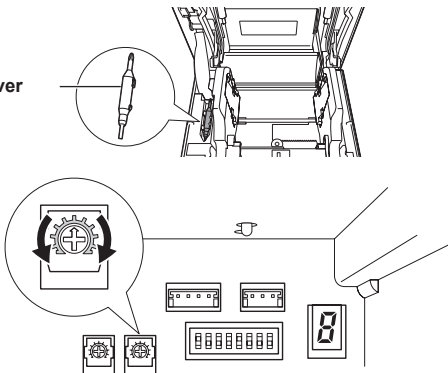
Counterclockwise: Print position moves in the same direction that the media flows (apart from the printer).

Clockwise: Print position moves in the opposite direction from that in which the media flows (approaching the printer).

Tuning driver

Print position potentiometer (VR2)

* Tuner on the right

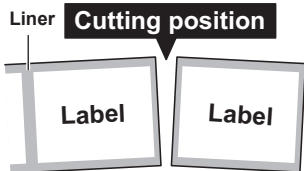


Label Stop Position and Label Cutting Position

■ For the model with cutter

The proper cutting position for the labels is the space between labels.

Do not set it to cut a label itself to avoid making the cutter blade dull by adhesive of the label.

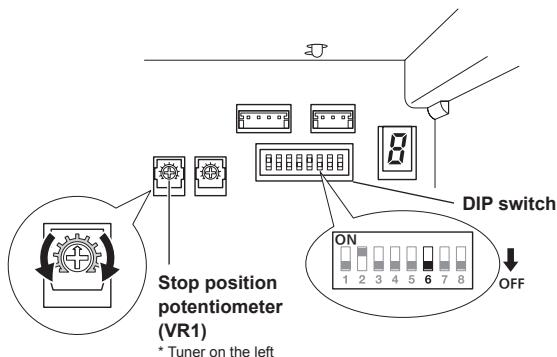


Fine-tuning the Label Stop Position and Label Cutting Position

If the label stop position and label cutting position is not adequate, fine-tune it with the “Stop position potentiometer” inside the front cover. Before fine-tuning the stop position, set the number 6 of the DIP switches on the right side of the potentiometer to OFF (lower position). Use the attached tuning driver alongside the media holder. Move the DIP switch with the straight slot side and turn the potentiometer with the cross slot side of the tuning driver.

Counterclockwise: The label will stop earlier than the present position (in the position nearer the printer).

Clockwise: The label will stop later than the present position (in the position apart from the printer)



If the stop position potentiometer is moved while number 6 of the DIP switches is ON, the darkness level is altered. Please note it.

Before use, check the following that shows the specifications of usable media in the printer.

- ① Thickness (including liner) is from 0.08 to 0.19 mm (0.003 to 0.007 inches).
For details, contact your SATO reseller or technical support center.
- ② Cutting accuracy is ± 1.5 mm (0.06 inches).
- ③ Workable cutting pitch of the cutter unit is from 20 to 400 mm (0.79 to 3.9 inches).
However, cutting size could be limited depending on some printing conditions.
- ④ After fine-tuning, the cutting position levels off by dispensing 2 to 5 labels.

Cutting the Media with Perforated Line

As for the media roll, cutting must be avoided on the perforated line and in the area within 1 mm (0.04 inches) near side from the perforated line (gray area of figure 1).

As for the fan-fold media, cutting must be avoided in the area from 4 to 25 mm (0.16 to 1.0 inches) apart from the folded perforated line (gray area of figure 2). Cutting on these areas causes a malfunction.

If the media is cut in the perforated line or a position before it, fine-tune the stop position with the cross slot side of the tuning driver to cut on a position behind the perforated line. (Page 27)

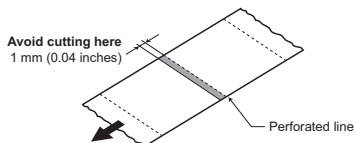


Figure 1 Media roll

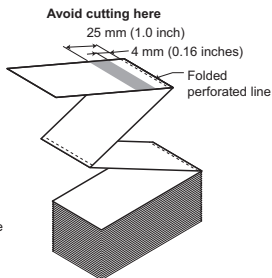


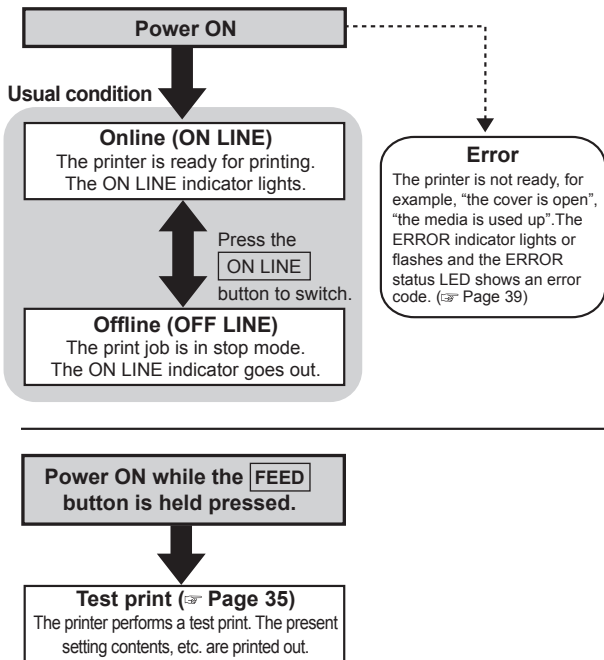
Figure 2 Fan-fold media

7 Starting Up the Printer

Note the operations and functions necessary to use the printer.

Before Use

The following is a basic flow of the work of the printer.



Setting the DIP Switch

The DIP switches inside the front cover are important for selecting among the functions of the printer.

If the setting of the DIP switch is not correct, the printer does not work correctly. If you need to set the DIP switches, try to understand the functions of the printer well before setting.

Setting List of the DIP Switch

Print mode	SW1	SW2	SW3
Continuous	OFF	OFF	OFF
Cutter	OFF	ON	OFF
Partial cut	ON	ON	ON

Interface	SW7	SW8
USB	-	-
LAN	OFF	OFF
RS-232C	OFF	ON
Key-Bo	ON	ON

Print Method	SW4
Thermal transfer	ON
Direct thermal	OFF

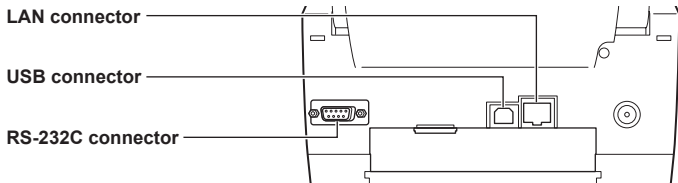
Head Check	SW5
Enabled	ON
Disabled	OFF

Selection of VR1 adjustment	SW6
Adjustment of print darkness	ON
Adjustment of offset	OFF

- Partial cut is the cutting function to cut the media and leave a part of it intact. There are notes to use it. For details, contact your SATO reseller or technical support center.
- The head check is just for a reference to check a broken element of the print head, and it is not a function to guarantee barcode readability. Check readability regularly. (When a void of printing goes up, the head check function may not work at the same time).
- You can use the USB connector without reference to the setting of the DIP switch.

Connecting the Interface

You may need to set a DIP switch inside the front cover depending on the selected interface. (☞ Page 30)



Using the USB Connector

Connect the printer and computer with the USB cable, and power on the printer while the computer is powered on.

- * It is not necessary to set the DIP switch.
- * When number 7 of the DIP switches inside the front cover is set to ON, it is fixed that only the USB is used as the interface.

Using the LAN Connector

Set number 7 and 8 of the DIP switches inside the front cover to OFF.

- * Do not connect the USB cable.

Using the RS-232C Connector

Set number 7 of the DIP switches inside the front cover to OFF and number 8 to ON.

- * Do not connect the USB cable.

Automatic Adjusting of the Media Sensor

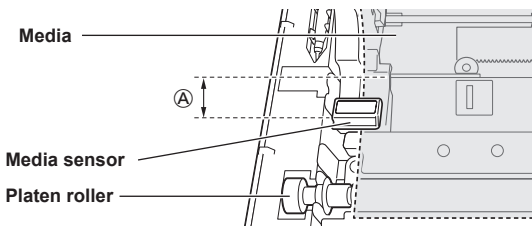
The printer has level adjustment function of the media sensor (reflective sensor and transmissive sensor). Perform it when the media is not detected adequately, for example, in the case feeding does not stop. The media sensor can be adjusted automatically by the following operations. Use genuine media for the printer, for optimum print quality. As for the label with the I-mark (black mark) on the liner, use the one of more than 30 mm (1.2 inches) long.

- ① Open the top cover.
- ② Open the front cover, and make notes about the settings of number 1, 2 and 3 of the DIP switches.
- ③ Set number 1 of the DIP switches to ON, number 2 to OFF, and number 3 to OFF.
- ④ Peel the label about 8 cm (3.1 inches) long on the leading end of the media, and pass the liner removed label through the media sensor. Load the media so that its leading end reaches the platen roller.
Also, align the position of the media so that I-mark is not on the area ① of Figure 1.
- ⑤ Close the top cover.
- ⑥ Turn on the power while holding the **ON LINE** button and **FEED** button pressed. Keep the **ON LINE** button and **FEED** button pressed until "b" appears on the ERROR status LED.
- ⑦ When the ERROR status LED becomes "0" after releasing the button, press the **FEED** button. (Performing the sensor adjustment)
- ⑧ The media is automatically fed, and the buzzer sounds once to signify the adjustment has finished properly.
- ⑨ Turn off the power and set the DIP switches as they were according to the notes made in step ②.
- ⑩ Power on the printer again.
- ⑪ Press the **ON LINE** button to change to Offline mode.
- ⑫ Press the **FEED** button to adjust the top position of the media.
- ⑬ Press the **ON LINE** button to change to Online mode.

The process for automatic adjusting of the media sensors is complete.

If an error occurs during automatic adjustment of the sensor, the short buzzer sounds 3 times and one of the numbers "0", "1" or "2" appears on the ERROR status LED. Try again to perform automatic adjustment of the sensor. And if the error occurs again, contact your SATO reseller or technical support center.

Figure 1



Using the SD Card

After you store the setting contents of the printer in an SD card, they can be read out in another CT4-ex-RF.

Be sure to use an SD card initialized in the printer. (☞ Page 34)

Use the recommended SD card for the printer, for optimum performance.

Storing the Setting Contents of the Printer in the SD Card

The setting contents of the printer are automatically stored in the SD card when the printer is powered off (factory preset). Also, you can store them manually by the following procedure.

- ① Insert the SD card in the SD card slot.
- ② Open the top cover.
- ③ Open the front cover, and make notes about the settings of number 1, 2 and 3 of the DIP switches.
- ④ Set number 1 of the DIP switches to ON, number 2 to ON, and number 3 to OFF.
- ⑤ Close the top cover.
- ⑥ Turn on the power while holding the **ON LINE** button and **FEED** button pressed. Keep the **ON LINE** button and **FEED** button pressed until “d” appears on the ERROR status LED.
- ⑦ When the ERROR status LED becomes “0” after releasing the button, press the **ON LINE** button.
- ⑧ When the ERROR status LED becomes “1”, press the **FEED** button. (Changing to manual storing)
- ⑨ When the ERROR status LED becomes “n”, press the **ON LINE** button.
- ⑩ When the ERROR status LED becomes “y”, press the **FEED** button. (Performing manual storing)
- ⑪ The setting contents of the printer are stored in the SD card.
- ⑫ The buzzer sounds once to signify that storing has finished properly, and the ERROR status LED goes off.
- ⑬ Power off the printer.
- ⑭ Set the DIP switches as they were according to the notes made in step ③.

Storing the setting contents of the printer is complete.

In step ⑦, the present setting status is displayed on the ERROR status LED (0: automatic storing, 1: Manual storing). After changing the ERROR status LED from “1” to “0” with the **ON LINE** button in step ⑦, pressing the **FEED** button can select automatic storing again instead of manual storing.

Reading Out the Setting Contents of the Printer Stored in the SD Card

The printer can read out the setting contents stored in the SD card by the following procedure.

- ① Insert the SD card in the SD card slot.
- ② Open the top cover.
- ③ Open the front cover, and make notes about the settings of number 1, 2 and 3 of the DIP switches.
- ④ Set number 1 of the DIP switches to OFF, number 2 to OFF, and number 3 to OFF.
- ⑤ Close the top cover.
- ⑥ Turn on the power while holding the **ON LINE** button and **FEED** button pressed. Keep the **ON LINE** button and **FEED** button pressed until “a” appears on the ERROR status LED.
- ⑦ When the ERROR status LED becomes “n” after releasing the button, press the **ON LINE** button.
- ⑧ When the ERROR status LED becomes “y”, press the **FEED** button. (Performing the reading out)
- ⑨ The printer reads out the setting contents stored in the SD card.
- ⑩ After the reading out is complete, the printer is automatically powered on and performs the test print. If the media is not loaded at the time, a paper-end error occurs.
- ⑪ The printer goes to Online mode after the test print.
- ⑫ Power off the printer.
- ⑬ Set the DIP switches as they were according to the notes made in step ③.

The setting contents of the printer have been read out.

Initializing the SD Card

The SD card can be initialized by the following procedure.

- ① Insert the SD card in the SD card slot.
- ② Open the top cover.
- ③ Open the front cover, and make notes about the settings of number 1, 2 and 3 of the DIP switches.
- ④ Set number 1 of the DIP switches to OFF, number 2 to OFF, and number 3 to ON.
- ⑤ Close the top cover.
- ⑥ Turn on the power while holding the **ON LINE** button and **FEED** button pressed. Keep the **ON LINE** button and **FEED** button pressed until “e” appears on the ERROR status LED.
- ⑦ When the ERROR status LED becomes “n” after releasing the button, press the **ON LINE** button.
- ⑧ When the ERROR status LED becomes “y”, press the **FEED** button. (Performing initialization)
- ⑨ The buzzer sounds once to signify initialization has finished.
- ⑩ Power off the printer.
- ⑪ Set the DIP switches as they were according to the notes made in step ③.

The SD card has been initialized.

Printing the HEX (hexadecimal) Dump

"Printing the HEX dump" means to print hexadecimally the data transferred from the computer to the printer. The function is helpful to check if the data from computer is properly transferred to the printer, for example.

- 1 Power off the printer and open the top cover.
- 2 Leave the top cover open, and power on the printer while holding the **FEED** button pressed. The printer is in the data reception standby mode.
- 3 After closing the top cover, press the **ON LINE** button to light the ON LINE indicator.
- 4 When the printer receives the data from the computer, it begins to print the HEX dump.
- 5 After printing, power off the printer.

Printing the Setting Contents

Print out the present setting contents of the printer to check the printing operation.

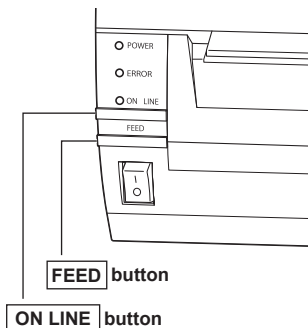
- 1 Power on the printer while holding the **FEED** button pressed.

- 2 When a buzzer sounds, press one of the following buttons.

ON LINE button: To print in large size

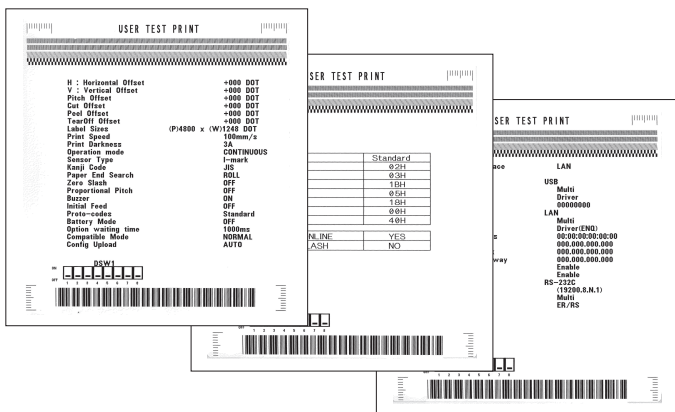
FEED button: To print in small size

The printing stops or restarts when the **FEED** button is pressed during printing.



- 3** To finish printing, press the **FEED** button to stop printing and power off the printer.

Samples of Test Print



* The printing contents may differ depending on the specifications of the printer.

8 Initial Values

The initial values of the principal items in the printer are listed as follows.
The setting items and setting values can be checked by the test print. (Page 35)

1. Print method	Direct thermal/ Thermal transfer
2. Head density	305 dpi
3. Print speed	4 inches/sec (100 mm/sec)
4. Printing operations	Continuous, cutter
5. Cutter operation	Operation 1 (head position)
6. Print darkness	A (direct thermal) B (thermal transfer)
7. Print darkness level	Level 3, normal
8. Type of sensor	Reflective sensor type: I-mark
9. Zero slash	Disable
10. Kanji code	JIS code
11. Type of media	Adhesive label
12. Initial feed	Disabled
13. Proportional pitch	Fixed pitch
14. Length of the media	400.0 mm (15.7 inches)
15. Width of the media	104.0 mm (4.1 inches)
16. Base reference point correction of the vertical position	0 dot
17. Base reference point correction of the horizontal position	0 dot
18. Continuous operation offset	0 dot
19. Cutter operation offset	0 dot
20. Gap between labels	36 dots
21. Buzzer	ON
22. Print position compatibility	No compatibility
23. Head check	Enable
24. Head check area	Normal
25. Head check method	Each page
26. Head check number of media	1
27. LAN setting	Use RARP Use DHCP Communication protocol: Status 4 (ENQ response)

28. RS-232C setting	Portrait: 19200 Data bit: 8 bits Parity: None Stop bit: 1 bit Flow control: Status 4
29. Non-standard setting	Setting of standard or non-standard: Standard code
30. Other setting	USB serial number return: Return serial number

9 Troubleshooting

Error Code List

When the printer cannot print depending on some trouble, an error code appears in the ERROR status LED. Error codes, causes, and countermeasures are listed as follows.

Error code	Cause	Countermeasure
0	Write/read over or write frequency over of FLASH ROM	Contact your SATO reseller or technical support center.
2	Trouble in the base plate	Contact your SATO reseller or technical support center.
3	Read/write error of setting contents	Contact your SATO reseller or technical support center.
4	The print head is defective.	Contact your SATO reseller or technical support center.
5	The print head or the top cover is unlocked.	Press both sides on the top until the top cover closes with a click.
6	The media is used up.	Load new media.
7	Type of the sensor is inadequate. Or the sensor level is not suitable.	Set an adequate sensor with the printer setting tool. Or perform the automatic adjusting of the media sensor. If the trouble persists, contact your SATO reseller or technical support center.
8	The cutter is not connected. Or cutting was not performed properly.	Contact your SATO reseller or technical support center.
8.	Error of the program	Contact your SATO reseller or technical support center.
9	The carbon ribbon is used up. Or the carbon ribbon is broken.	Load a new carbon ribbon correctly.
Ab	Excessive data is coming from the computer.	Power on the printer again. Coordinate the amount of software data from the computer to suit to the communicating condition.
cd	The setting condition for communication with the computer is inadequate.	If the trouble persists, check the communication condition.
E	Error of the SD card	Insert or change the SD card, or cancel the write protect of the SD card. Use an SD card initialized in the printer.

Error code	Cause	Countermeasure
E	The printer cannot communicate with the computer.	Contact your SATO reseller or technical support center.
F	Error of the SD card or download	Insert the SD card that has setting contents of the printer stored in it. Use an SD card initialized in the printer. If the trouble persists or the SD card is not used, contact your SATO reseller or technical support center.
h (flash- ing)	The overheating protection is active in the print head.	Wait until the ERROR status LED goes out.
H	Read out from Kanji ROM was not performed properly.	Contact your SATO reseller or technical support center.
P (flash- ing)	The AC adapter protection is active.	Wait until the ERROR status LED goes off.
r	Could not read/write to the RFID inlay.	When the ON LINE button is pressed, the print job is performed again. When the FEED button is pressed, 1 item of the print requests is canceled. When the ON LINE and FEED buttons are pressed at the same time, the printer comes into the mode that enables you to select whether to cancel the job or not. When the FEED button is pressed while "r" is on the display, the job is not canceled. To cancel the job, press the ON LINE button to display "y" and press the FEED button.

In the Following Cases

If the printer does not work as you intend or the print out is not satisfactory, check the following items.

■The indicator does not light even though the printer is turned on.

	[Check it]	[Solution]
1	Is the power cord fully connected to the AC outlet?	Connect again the power cord fully to the AC outlet.
2	Is the power cord fully connected to the printer?	Connect again the power cord fully to the DC input connector of the printer.
3	Is the power cord damaged?	Use a new power cord. Purchase a new power cord certainly exclusively for the printer from the SATO reseller where you purchased the printer. Be absolutely sure not to use any power cord other than one exclusively made for the printer.
4	Is electricity being supplied to the AC outlet that supplies power to the printer?	Check the source of the AC outlet. If there is no problem in the source, check if electricity is supplied to the whole building where you use the printer. Also check if there is a power failure.
5	Is the fuse blown or the circuit breaker tripped in your building?	Replace the fuse of the building, or set the circuit breaker to ON.



CAUTION

- Do not operate the power switch or unplug the power cord with wet hands. Doing so could cause electric shock.

■Nothing is printed out even though the media is fed.

	[Check it]	[Solution]
1	Is the print head dirty or is there a label attached to it?	If the print head is dirty, wipe it with the printer cleaning kit.* If there is a label attached to the print head, peel it off. Do not use a metallic tool to peel off the label (the print head may be damaged). If the adhesive of the label is attached to the print head, wipe it with the printer cleaning kit.* See "Daily Cleaning." (☞ Page 46)
2	Are the media and carbon ribbon of SATO product designed for the printer loaded?	Use genuine media and carbon ribbon for the printer.
3	Is the media sensor dirty?	If the media sensor is dirty, wipe it with the printer cleaning kit.* See "Daily Cleaning." (☞ Page 46)
4	Are the contents of the data or signals from the computer correct?	Check the software or the communication condition in the computer.

*The printer cleaning kit is optional. Contact your SATO reseller or technical support center to purchase it.



Caution

- Disconnect the power cord from the AC outlet before cleaning.

■Print quality is bad.

	[Check it]	[Solution]
1	Are the media and carbon ribbon loaded correctly?	Check that the media and carbon ribbon are loaded correctly. Also open the top cover and check if the media is placed in the correct position.
2	Is the print too light or too dark?	Set again the print darkness with the printer setting tool or the command.
3	Is the platen roller dirty?	If the platen roller is dirty, wipe it with the printer cleaning kit.* See "Daily Cleaning." (☞ Page 46)
4	Is the print head dirty or is there a label attached to it?	<p>If the print head is dirty, wipe it with the printer cleaning kit.* If there is a label attached to the print head, peel it off.</p> <p>Do not use a metallic tool to peel off the label (the print head may be damaged).</p> <p>If the adhesive of the label is attached to the print head, wipe it with the printer cleaning kit.* See "Daily Cleaning." (☞ Page 46)</p>
5	Is the media dirty?	Use the clean media.
6	Are the media and carbon ribbon of SATO product designed for the printer loaded?	Use genuine media and carbon ribbon for the printer.

*The printer cleaning kit is optional. Contact your SATO reseller or technical support center to purchase it.

Caution

- Disconnect the power cord from the AC outlet before cleaning.

■Print position is incorrect.

	[Check it]	[Solution]
1	Are the media and carbon ribbon loaded correctly?	Check that the media and carbon ribbon are loaded correctly. Also open the top cover and load the media and carbon ribbon again to put them in the correct position.
2	Is the platen roller dirty?	If the platen roller is dirty, wipe it with the printer cleaning kit.* See "Daily Cleaning". (Page 46)
3	Is misshapen media or carbon ribbon loaded?	If the fringe of the media or carbon ribbon became misshapen, it cannot be fed correctly. Use media or carbon ribbon that is not misshapen.
4	Are media and carbon ribbon of SATO product designed for the printer loaded?	Use genuine media and carbon ribbon for the printer.
5	Is the media sensor dirty?	If the media sensor is dirty, wipe it with the printer cleaning kit.* See "Daily Cleaning." (Page 46)
6	Are the contents of the data or signals from the computer correct?	Power on the printer again. If the same message still appears, check the contents sent from the computer or the communication condition.
7	Are the contents of the pitch correction or base point correction (printer setting) set properly?	Set again the contents of the pitch correction or base point correction (print setting).

*The printer cleaning kit is optional. Contact your SATO reseller or technical support center to purchase it.



Caution

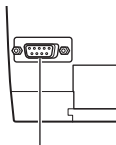
- Disconnect the power cord from the AC outlet before cleaning.

10 Options

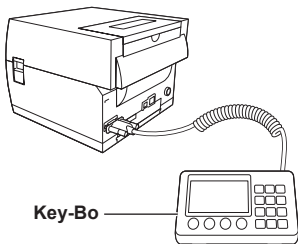
Connecting the Simple Input Device Key-Bo (Optional)

Before you connect the Simple Input Device Key-Bo to the printer, set number 7 and 8 of the DIP switches inside the front cover to ON.

While the Simple Input Device Key-Bo is connected, the other interface cannot be used.



RS-232C Connector

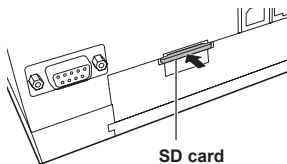


Inserting/Removing the SD Card

Inserting the SD Card

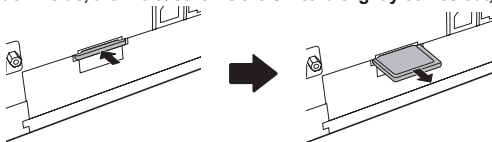
- ① Power off the printer.
- ② Check the inserting direction of the SD card and insert it all the way in the SD card slot on the rear side of the printer.

* When you insert the SD card, the ERROR status LED shows “.”.



Removing the SD Card

- ① Power off the printer.
- ② Push the SD card inserted in the SD card slot on the rear side of the printer all the way back inside, then release it. As the SD card slightly comes out, pull it out.



11 Daily Cleaning

The printer is designed to print out barcodes including important information and to print out letters. If some of the parts are dirty, the printer cannot print precise barcodes and letters clearly, and besides, the dirt causes some trouble in the printer. Clean the printer regularly using the printer cleaning kit* or cleaning sheet.*



WARNING

- Be sure to power off the printer before cleaning the print head or platen roller. Failing to do so could cause electric shock.

When to Clean

Rough indications for cleaning are as follows.

■Cleaning using the printer cleaning kit*

(Print head, platen roller, media sensor)

- By 1 roll of media, or by 50 m (164 ft.) of printing in the media

■Cleaning using the cleaning sheet*

(Print head)

- By 6 rolls of media, or by 300 m (984 ft.) of printing in the media

* Read them as guides. If the parts become dirty, clean them any time.

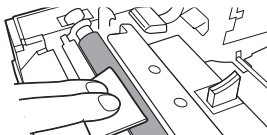
Notes for Cleaning

- Use the printer cleaning kit* or cleaning sheet* for cleaning.
 - If you use a hard tool like a screwdriver for cleaning, it may damage the part. Especially, be sure not to use it to clean the print head.
 - Be sure to power off the printer before cleaning.
- * The printer cleaning kit and cleaning sheet are optional. Contact your SATO reseller or technical support center to purchase them.

How to Clean (1)

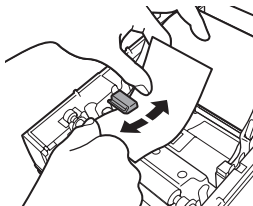
Clean the following parts with a printer cleaning kit.*
Before cleaning, remove the media and carbon ribbon.

Cleaning of the platen roller



* Wipe the platen roller with a cotton cloth soaked with the printer cleaning fluid.

Cleaning of the media sensor



* Wipe the media sensor with a cotton cloth soaked with the printer cleaning fluid.

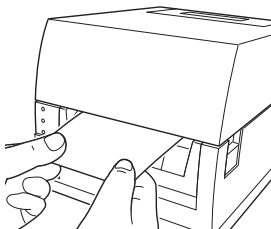
* The printer cleaning kit and cleaning sheet are optional. Contact your SATO reseller or technical support center to purchase them.

How to Clean (2)

Clean the print head with a cleaning sheet.*

Align the rough side of the cleaning sheet* adjacent to the print head.

Using the cleaning sheet



- 1** Open the top cover, and remove the label and carbon ribbon to expose the print head.
- 2** Place the cleaning sheet* between the print head and platen roller, and close the top cover.
- 3** Pull the cleaning sheet* with both hands away from the printer. Repeat these steps twice or thrice to clear waste from the print head. If some waste still remains, repeat these steps several more times.

* The cleaning sheet is optional. Contact your SATO reseller or technical support center to purchase it.

12 Basic Specifications

Print Method	Direct thermal/thermal transfer combination
Head Density (resolution)	12 dots/mm (305 dpi)
Printable Area	Length 400 mm (15.7") × Width 104 mm (4.1") maximum
Print Speed	2 to 4 inches/sec (50.8 to 101.6 mm/sec)
	* Print speed could be limited depending on the type of the printing layout, media or carbon ribbon.
Non-printable Area	Pitch direction (Excludes liner) Top: Up to 1.5 mm (0.06"), Bottom: Up to 1.5 mm (0.06")
	Width direction (Excludes liner) Left: Up to 1.5 mm (0.06"), Right: Up to 1.5 mm (0.06")
Form of Media	Media roll, Fan-fold media * Use genuine media for the printer.
Thickness	80 to 190 µm (0.08 to 0.19 mm (0.003 to 0.007"))
Media size	<p>Continuous Length: 15 to 397 mm/0.6 to 15.6" (18 to 400 mm/0.7 to 15.7") Width: 25 to 115 mm/1.0 to 15.6" (28 to 118 mm/1.1 to 4.6")</p> <p>Cutter Length: 20 to 397 mm/0.8 to 15.6" (23 to 400 mm/0.9 to 15.7") Width: 25 to 115 mm/1.0 to 15.6" (28 to 118 mm/1.1 to 4.6")</p> <p>Partial cut Length: 20 to 397 mm/0.8 to 15.6" (23 to 400 mm/0.9 to 15.7") Width: 25 to 115 mm /1.0 to 15.6" (28 to 118 mm/1.1 to 4.6")</p> <p>* Values in parenthesis show the size of the liner. * Size could be limited depending on the number to dispense, media or operating condition.</p>
Outside Diameter/ Core size	<p>Media roll Outside Diameter: 115 mm (15.6") maximum Inside Diameter: 40 mm (1.5") Winding Direction: Face-out</p> <p>Fan-fold media Maximum Piling Height: 100 mm (3.9") maximum</p>
Type of Ribbon	Use genuine ribbon for the printer.

Size of Ribbon/ Form of Ribbon/ Winding Direction of Ribbon	Ribbon Length: 100 m (328 ft.) winding maximum Ribbon width: 111 mm (4.4") maximum Winding Direction: Face-out Type of Winding: Winding with Core
Dispensing Mode	Continuous, Cutter, Partial Cut
Size/ Weight	Width 198 mm (7.8") × Depth 247 (9.7") mm × Height 181 mm (7.1") /Approximately 3.2 kg (7.1 lb) (Except AC adapter)
Power Supply	Power requirements (AC adapter) ① Input voltage: AC 100 - 240 V ±10 %, 50 - 60 Hz ② Output: DC 25 V, 2.1 A Power consumption Input power voltage condition: AC 100 V, 50 Hz At peak: 120 VA / 70 W (at 30 % printing ratio) Standby: 13 VA / 6 W
Environmental Conditions (Temperature/ Humidity)	Operating Temperature 5 to 35 °C (41 to 95 °F) Humidity 30 to 80 %RH (Non-condensing) Storage Temperature -5 to 60 °C (23 to 140 °F) Humidity 30 to 90 %RH (Non-condensing) * Conditions above may differ depending on the media or ribbon.
Interface	USB, LAN, RS-232C
Option	① SD card ② Simple Input Device Key-Bo
Operating buttons	Button: ON LINE, FEED Indicator: POWER, ON LINE, ERROR, ERROR status LED
Level Adjustments	① Media sensor adjustment ② Print position adjustment ③ Print darkness adjustment ④ Cutter stop position adjustment * DSW6 switches between Print darkness adjustment and Cutter stop position adjustment.
Media Length Detecting Sensors	① I-mark sensor (Reflective type) ② Gap sensor (Transmissive type)

Barcodes		UPC-A/UPC-E, JAN/EAN, CODE39, CODE93, CODE128, GS1-128 (UCC/EAN128), CODABAR (NW-7), ITF, Industrial 2 of 5, Matrix 2 of 5, Customer barcode, UPC add-on code, GS1 DataBar Omnidirectional, GS1 DataBar Truncated, GS1 DataBar Stacked, GS1 DataBar Stacked Omnidirectional, GS1 DataBar Limited, GS1 DataBar Expanded, GS1 DataBar Expanded Stacked * GS1 DataBar means RSS.
2D Codes		QR code, Micro QR, Security QR, PDF417, Micro PDF, MAXI code, GS1 data matrix (ECC200)
Composite Symbols		EAN-13 Composite, EAN-8 Composite, UPC-A Composite, UPC-E Composite, GS1 DataBar Composite, GS1 DataBar Truncated Composite, GS1 DataBar Stacked Composite, GS1 DataBar Stacked Omnidirectional Composite, GS1 DataBar Limited Composite, GS1 DataBar Expanded Composite, GS1 DataBar Expanded Stacked Composite, GS1-128 Composite * GS1 DataBar means RSS. * GS1-128 means UCC/EAN128.
Standard Installed Fonts	Bitmap Fonts	X20 letters 5 × 9 dots (alphanumeric, symbols, kana) X21 letters 17 × 17 dots (alphanumeric, symbols, kana) X22 letters 24 × 24 dots (alphanumeric, symbols, kana) X23 letters 48 × 48 dots (alphanumeric, symbols, kana) X24 letters 48 × 48 dots (alphanumeric, symbols, kana)
		Kanji 16 × 16 dots (JIS first standard, second standard Kaku gothic) Kanji 22 × 22 dots (JIS first standard, second standard Kaku gothic) Kanji 24 × 24 dots (JIS first standard, second standard Kaku gothic) * Japanese (conforming to JIS X208)
		OCR-A 22 × 33 dots (alphanumeric, symbols) OCR-B 30 × 36 dots (alphanumeric, symbols)
	Outline Fonts	Alphanumeric, Symbols, Katakana
Printing Dircetion		Letter : 0°, 90°, 180°, 270° Barcode : Parallel 1 (0°), Parallel 2 (180°), Serial 1 (90°), Serial 2 (270°)

Barcode Ratio	1:2, 1:3, 2:5 Selectable arbitrarily
Magnification Ratio (Letters, Barcodes)	Letters: Length 1 to 12 times larger, Width 1 to 12 times larger Barcodes: 1 to 12 times larger
Built-in Functions	<ul style="list-style-type: none"> ① Status return function ② Graphic function ③ Continuous number function ④ Form overlay function ⑤ External character registration function ⑥ Character modification function ⑦ Black/white inversion function ⑧ Ruling function ⑨ Zero slash switching function ⑩ JIS/shift JIS switching function ⑪ Dump list function ⑫ Outline font function ⑬ Outline modification function
Self-diagnosis Functions	<ul style="list-style-type: none"> ① Broken head element check ② Cover open detection ③ Paper end detection ④ Ribbon end detection (Thermal transfer model only) ⑤ Ribbon near end detection (Thermal transfer model only) ⑥ Test print ⑦ Kanji ROM check ⑧ Print head overheat protection function ⑨ AC adapter protection function

Trademarks

- QR Code is a registered trademark of DENSO WAVE INCORPORATED.
- Secure Digital (SD) Card is a registered trademark of the SD Card Association.

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