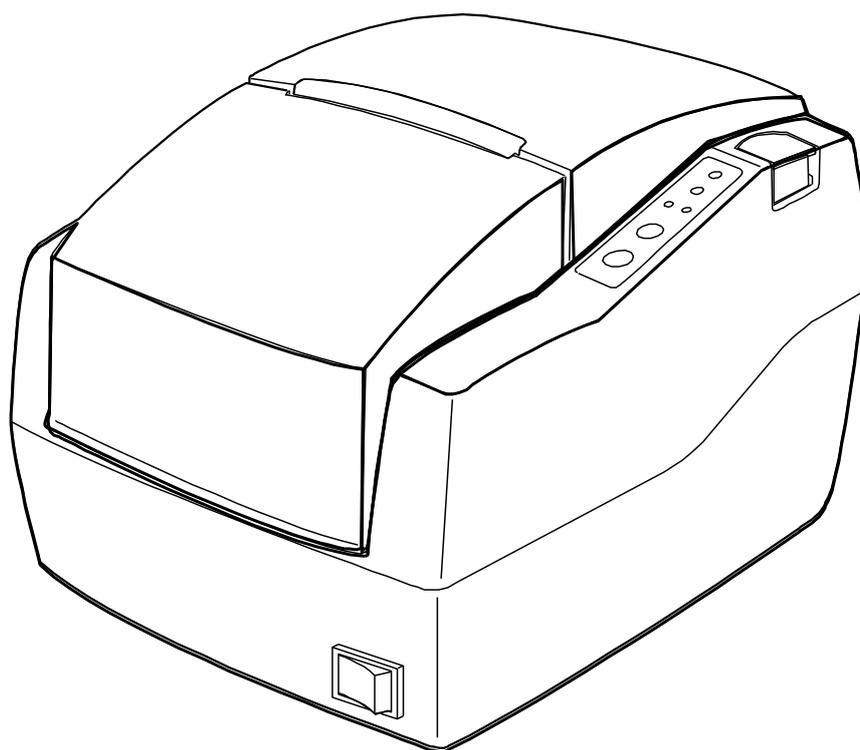


BIXOLON®

User's Manual
SRP-500

Inkjet Printer
Rev. 1.08



<http://www.bixolon.com>

■ Safety Precautions

In using the present appliance, please keep the following safety regulations in order to prevent any hazard or material damage.



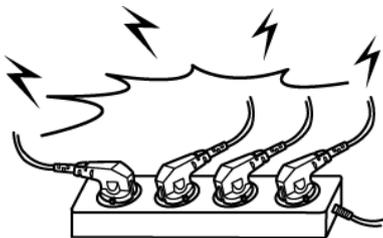
WARNING

Violating following instructions can cause serious injury or death.

Do not plug several products in one multi-outlet.

- This can provoke over-heating and a fire.
- If the plug is wet or dirty, dry or wipe it before usage.
- If the plug does not fit perfectly with the outlet, do not plug in.
- Be sure to use only standardized multi-outlets.

PROHIBITED



You must use only the supplied adapter.

- It is dangerous to use other adapters.

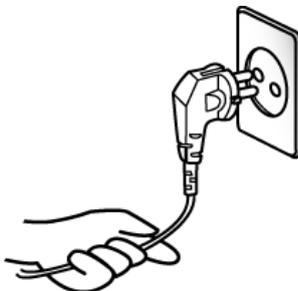
PROHIBITED



Do not pull the cable to unplug.

- This can damage the cable, which is the origin of a fire or a breakdown of the printer.

PROHIBITED



Keep the plastic bag out of children's reach.

- If not, a child may put the bag on his head.

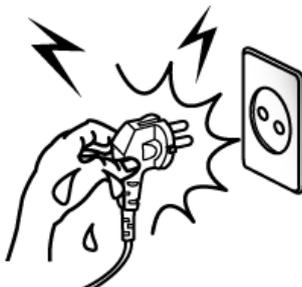
PROHIBITED



Do not plug in or unplug with your hands wet.

- You can be electrocuted.

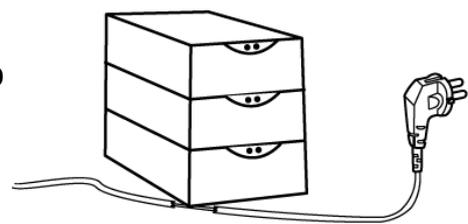
PROHIBITED



Do not bend the cable by force or leave it under any heavy object.

- A damaged cable can cause a fire.

PROHIBITED





CAUTION

Violating following instructions can cause slight wound or damage the appliance.

If you observe a strange smoke, odor or noise from the printer, unplug it before taking following measures.

- Switch off the printer and unplug the set from the mains.
- After the disappearance of the smoke, call your dealer to repair it.

TO UNPLUG



Keep the desiccant out of children's reach.

- If not, they may eat it.

PROHIBITED



Install the printer on the stable surface.

- If the printer falls down, it can be broken and you can hurt yourself.

PROHIBITED



Use only approved accessories and do not try to disassemble, repair or remodel it for yourself.

- Call your dealer when you need these services.
- Do not touch the blade of auto cutter.

DISASSEMBLING PROHIBITED



Do not let water or other foreign objects in the printer.

- If this happened, switch off and unplug the printer before calling your dealer.

PROHIBITED



Do not use the printer when it is out of order. This can cause a fire or an electrocution.

- Switch off and unplug the printer before calling your dealer.

TO UNPLUG



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■ Notice

We at BIXOLON maintain ongoing efforts to enhance and upgrade the functions and quality of all our products. In following, product specifications and/or user manual content may be changed without prior notice.

■ EMC and Safety standards Applied

Product Name : SRP-500

The following standards are applied only to the printers that are so labeled.

Europe :	CE marking, TUV/GS : EN60950 ; 1999
North America :	EMI : FCC Class A
Safety standards :	UL / C-UL : UL60950-3rd.
National : CB-scheme :	IEC 60950 ; 1999

■ Warning

The connection of a non-shielded printer interface cable to this printer will invalidate the EMC standards of this device.

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

■ CE Marking

The printer conforms to the following Directive and Norms

Directive 89/336/EEC	EN 55022 Class A :1998
	EN 55024 : 1998
	(EN 61000-4-2 : 1995+A1 : 1998)
	(EN 61000-4-3 : 1996)
	(EN 61000-4-4 : 1995)
	(EN 61000-4-5 : 1995)
	(EN 61000-4-6 : 1996)
	(EN 61000-4-11 : 1994)
	EN 61000-3-2 : 1995+A1 : 1998+A2 : 1998)
	EN 61000-3-3 : 1995
Directive 73/23/EEC	Safety : EN 60950 ; 1999

■ Waste Electrical and Electric Equipment (WEEE)



This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

■ Rating Label Symbol Information



■ ■ ■ DC (Direct current)

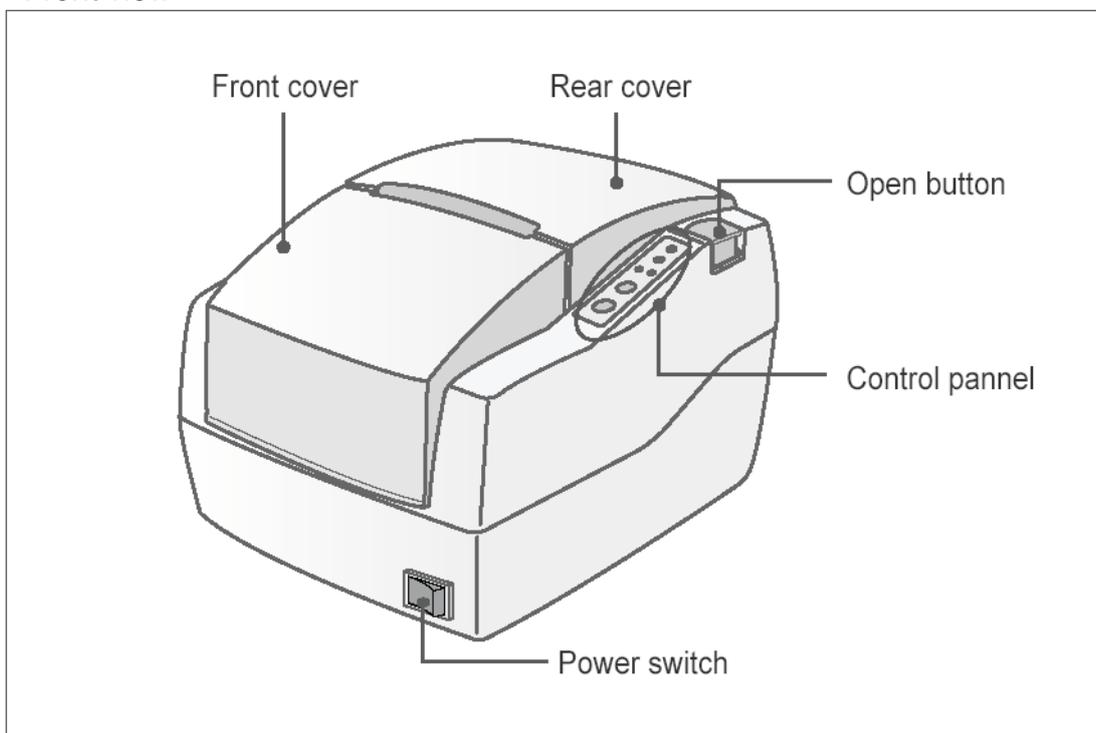
■ Label Material

* Control Label: PC

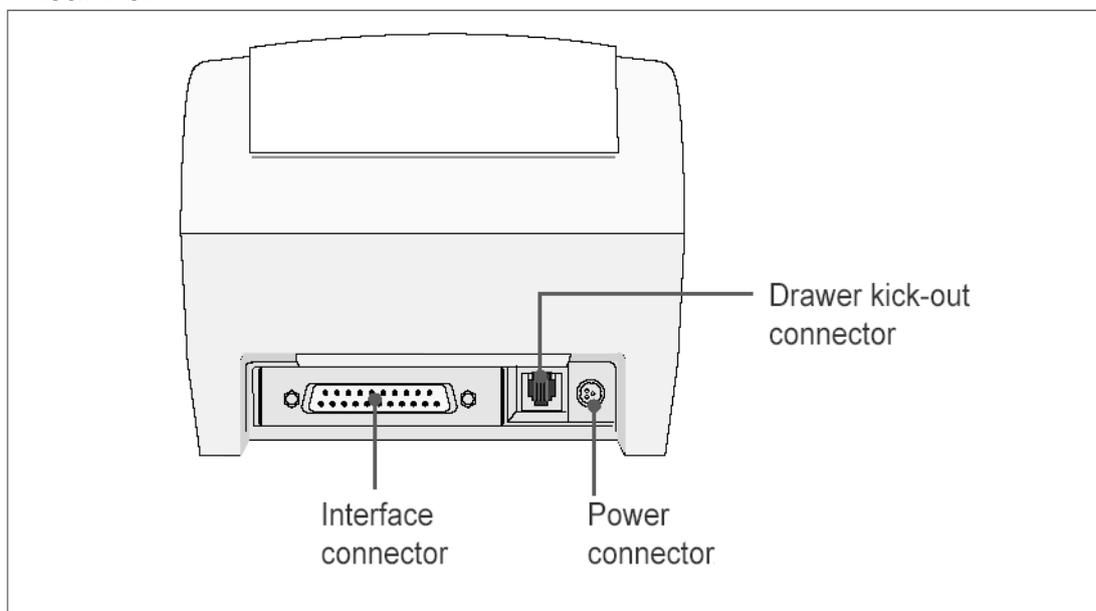
* Other Labels: PET

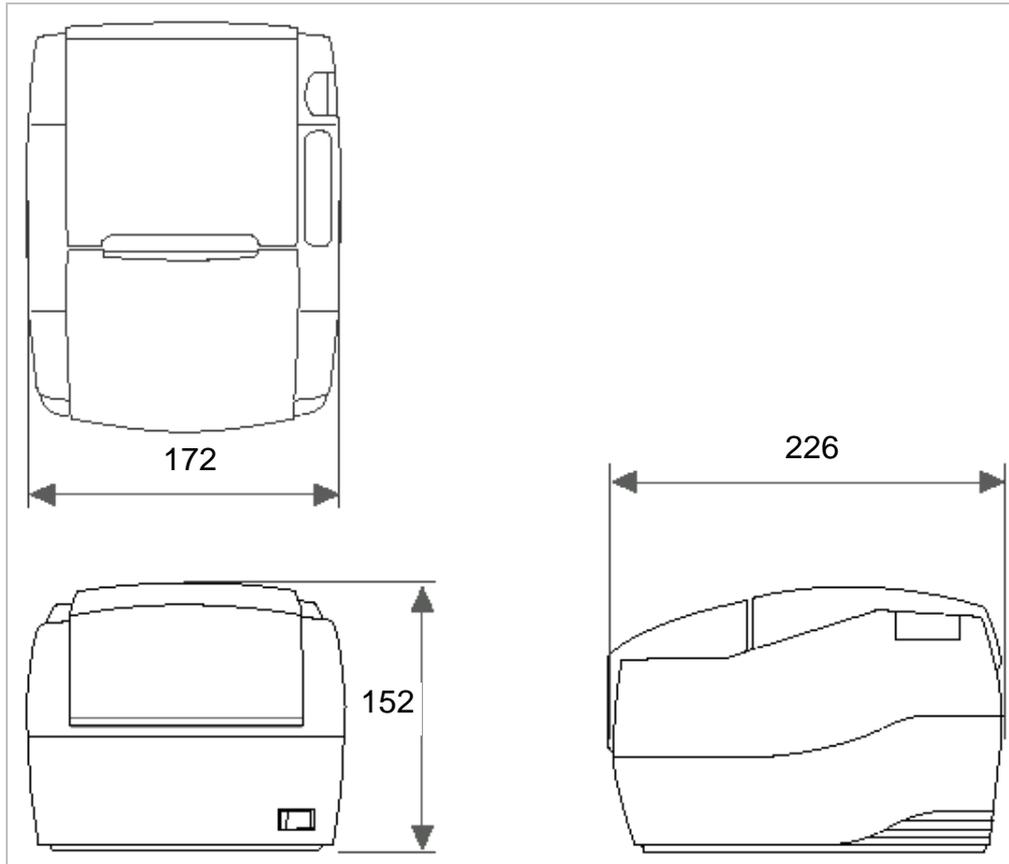
■ Introduction

* Front view



* Rear view



*** Dimension**

The SRP-500 is a high-quality inkjet POS printer.
This one-station printer has the following features.

1. Compact design and light-weight.
2. High-speed printing using logic-seeking.
3. Easy to use : clamshell mechanism.
4. High reliability and long life due to the use of stepping motors for both carriage return and paper feeding.
5. Two color printing (red/black/blue/green) available.
6. Various formats are possible because the paper feeding pitch is selectable.
7. 2 drawers can be driven due to the internal drawer interface.
8. Character font (12X12, 12X14) is selectable.
9. The auto cutter uses a circular method with a high-quality blade and a long life.
(Approximately 1,000,000 cuts)
10. Paper near end sensor is standard.

Please be sure to read the instructions in this manual carefully before using your new printer

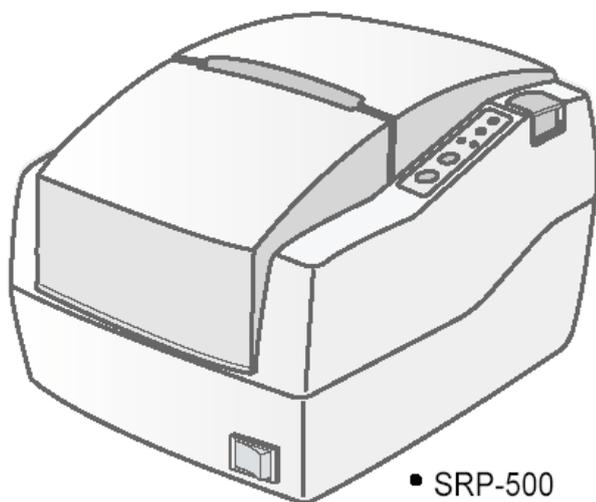
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1. Setting Up the Printer

1-1 Unpacking

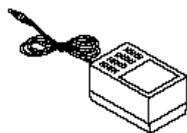
Your printer box should include the items shown in the illustration below. If any items are damaged or missing, please contact your dealer.



• SRP-500



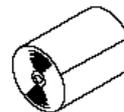
CD



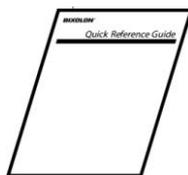
• AC adapter



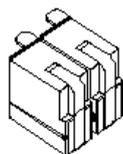
• Power code



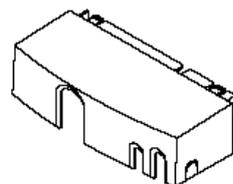
• Paper roll



• Operator's manual



• Ink cartridges



• Cable cover

1-2 Choosing a place for the printer

1-2-1 Avoid locations that are subject to direct sunlight or excessive heat.

1-2-2 Avoid using or storing the printer in a place subject to excessive temperature or moisture.

1-2-3 Do not use or store the printer in a dirty location.

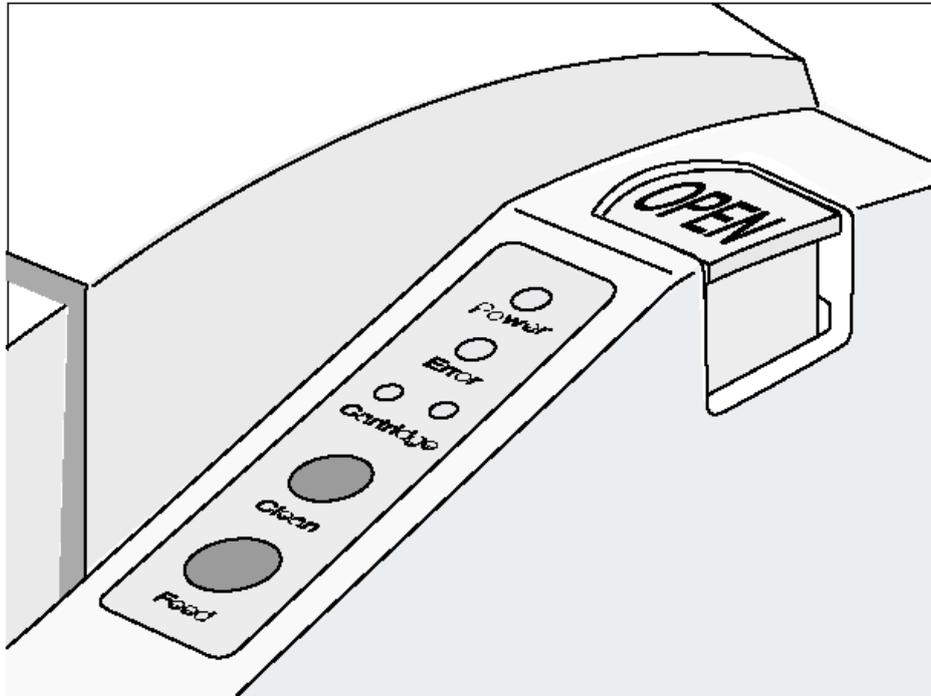
1-2-4 When setting up the printer, choose a stable, horizontal location.

1-2-5 Intense vibration or shock may damage the printer.

1-2-6 Ensure the printer has enough space to be used easily.

1-3 Using the control panel

Most of the functions of this printer are governed by software, but you can monitor the printer's status by looking at the lights on the control panel and for some procedures you will use the buttons.



- Power (LED)

This indicator light is on when the power is turned on. It blinks when the printer is in the self test printing standby state. Always wait until this indicator light stops blinking before you start using the printer and before you turn it off.

- Error (LED)

When this indicator light is on (but not blinking), it means that the printer is out of paper or almost out of paper or the printer covers are open. When this light is blinking, there is an error. If you see this light blinking, turn off the printer for a few seconds and then turn it back on. If the light is still blinking, call your supervisor or a service person.

- Cartridge (LED)

The right indicator is for the right cartridge and the left indicator for the left cartridge. If the printer is a single color printer, the left cartridge indicator will be used. In most cases, the left cartridge is black, and the right is a color.

- Clean (BUTTON)

Use this button to clean the printer head.

- Feed (BUTTON)

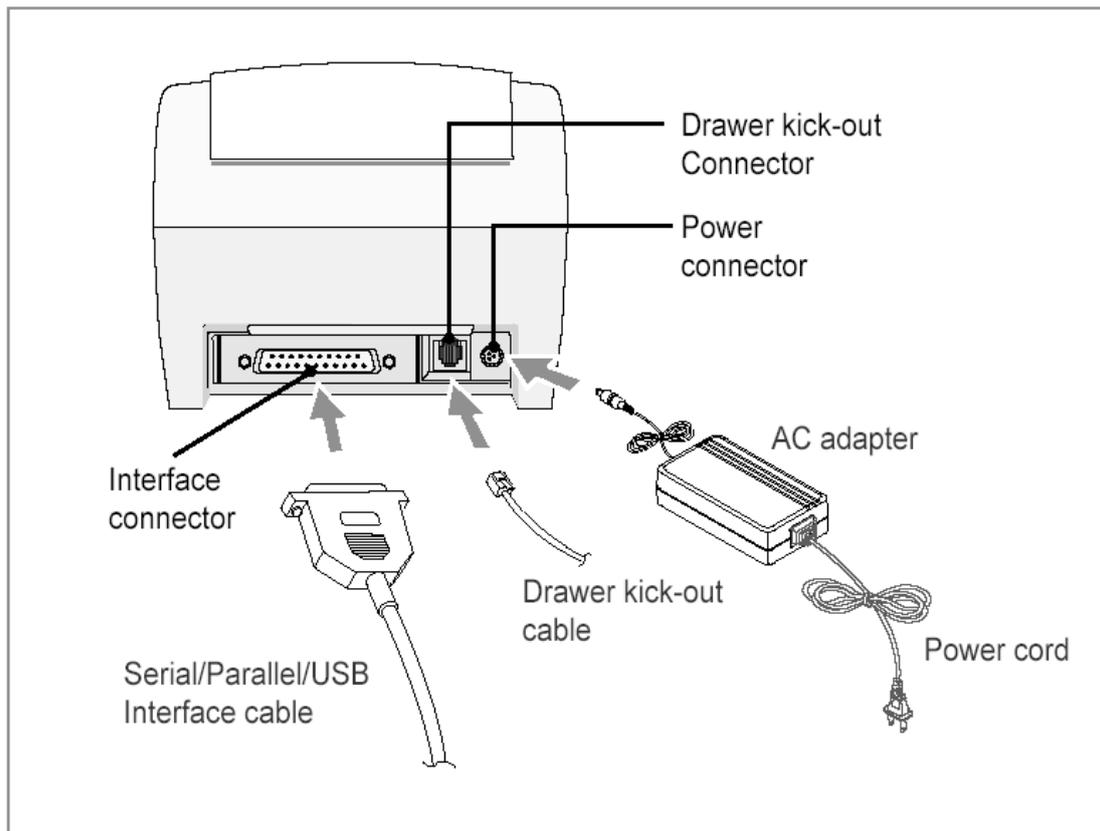
Use this button to feed paper or to start self test and for hexadecimal dump mode.

2. Connecting the cables

※ CAUTION

Before connecting the printer to the power supply, make sure that the voltage and power specifications match the printer's requirements. Using an incorrect power supply can cause serious damage to the printer.

2-1 Connect the AC adapter according to the following procedure



2-1-1 Make sure the printer is turned off.

2-1-2 Plug the AC adapter cable into the printer's power connector.

2-1-3 Plug the power cord into the outlet, and turn on the power.

2-2 Connecting the interface cable

Connect the printer to the host ECR (host computer) through an interface cable matching the specification of the printer and the host ECR (host computer).

Be sure to use a drawer that matches the printer's specification.

Depending on the interface your system uses, either connect the serial, parallel or USB communication cable to the appropriate connector on the back of the printer. Cables are provided by your dealer or system installer.

Connect the interface cable according to the following procedure.

2-2-1 Turn off printer and the ECR (host computer) host.

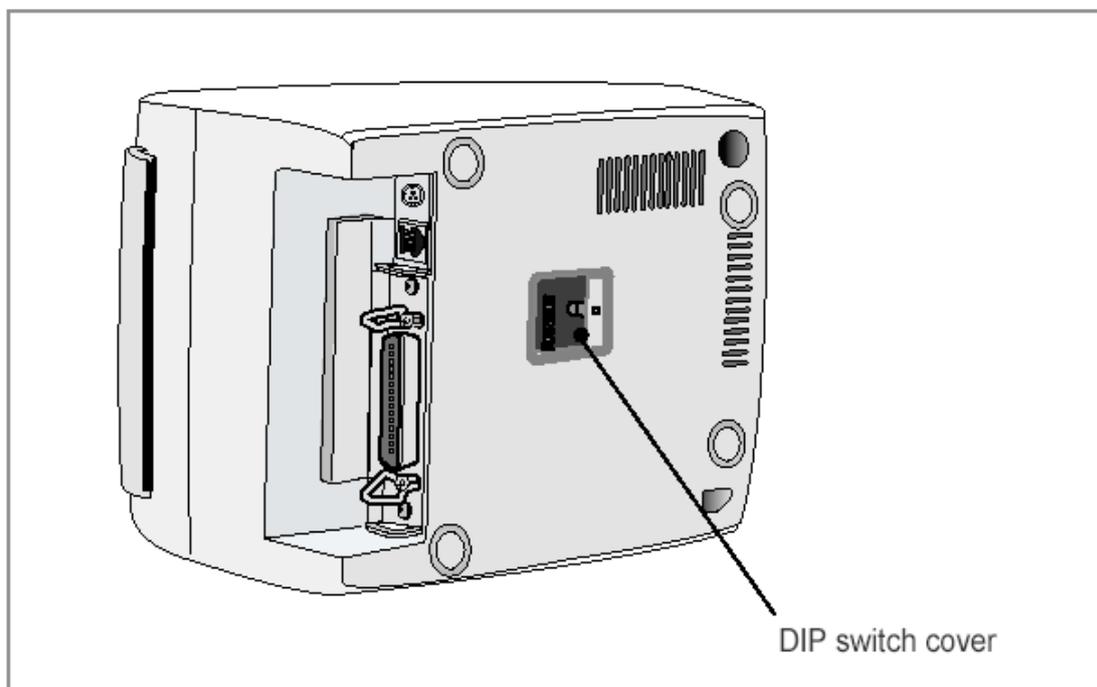
2-2-2 Plug the interface cable into the interface connector on the printer then fasten the screw on both sides of the connector.

2-2-3 Plug the drawer kick-out cable into the drawer kick-out connector on the printer.
(When removing the drawer kick-out cable, press on the connector's clip while pulling out.)

3. Setting the Dip Switches

Although the factory settings are best for almost all users, if you have special requirements, you can change the DIP switch. If you need to change settings, follow the steps below to make your changes.

- Make sure the printer is turned off.
- Remove the screw from the DIP switch cover. Then take off the DIP switch cover, which is shown in the illustration below.
- Set the switches using a pointed tool, such as tweezers or a small screwdriver.
- Replace the DIP switch cover. Then secure it with the screw.
- The new settings take effect when you turn on the printer.



※ NOTE

Turn off the printer before removing the DIP switch cover to prevent an electric short, which can damage the printer.

3-1 Serial Interface (RS232C)

Switch	Function	ON	OFF	Default
1-1	Emulation Selection	Refer to the following table		OFF
1-2				OFF
1-3	Auto cutter	Enable	Disable	ON
1-4	Cartridge	one cartridge	two cartridges	OFF
1-5	Density ^{*1)}	Bold	Normal	OFF
1-6	Special Function ^{*2)}	Enable	Disable	OFF
1-7	Near end sensor	Enable	Disable	ON
1-8	Undefined			OFF

DIP switch Setting 1 Function

Emulation	1-1	1-2
BXL/POS	OFF	OFF
STAR	OFF	ON
BXL/POS-KP ^{*3)}	ON	ON

Emulation Selection

Switch	Function	ON	OFF	Default
2-1	Data receive error	Print “?”	Ignore	OFF
2-2	Reserved			OFF
2-3	Hand Shaking	DTR/DSR	XON/XOFF	OFF
2-4	Word length	7bit	8bit	OFF
2-5	Parity check	Enable	Disable	OFF
2-6	Parity selection	EVEN	ODD	OFF
2-7	Baud rate selection	Refer to the following table		OFF
2-8				OFF

DIP switch Setting 2 Function

Transmission	2-7	2-8
2400 baud	ON	ON
4800 baud	OFF	ON
9600 baud	OFF	OFF
19200 baud	ON	OFF

Baud Rate selection

*1) : It may use in dark area. (like a restaurant). But printing speed to be slow down.

*2) : Enable = Automatically print NV bit image #1 after cutting.

*3) : Kitchen Printer mode : A alarm is generated by printer after auto-cutting and in paper-end error. (It needs buzzer accessory)

3-2 Parallel / USB Interface (Parallel-IEEE1284)

Switch	Function	ON	OFF	Default
1-1	Emulation Selection	Refer to the following table		OFF
1-2				OFF
1-3	Auto cutter	Enable	Disable	ON
1-4	Cartridge	one cartridge	two cartridges	OFF
1-5	Density ^{*1)}	Bold	Normal	OFF
1-6	Special Function ^{*2)}	Enable	Disable	OFF
1-7	Near end sensor	Enable	Disable	ON
1-8	Undefined			OFF

DIP switch Setting 1 Function

Emulation	1-1	1-2
BXL/POS	OFF	OFF
STAR	OFF	ON
BXL/POS-KP ^{*3)}	ON	ON

Emulation Selection

Switch	Function	ON	OFF	Default
2-1	Auto Line Feed	Enable	Disable	OFF
2-2	Undefined			OFF
2-3				OFF
2-4				OFF
2-5				OFF
2-6				OFF
2-7				OFF
2-8				OFF

DIP switch Setting 2 Function

*1) : It may use in dark area. (like a restaurant). But printing speed to be slow down.

*2) : Enable = Automatically print NV bit image #1 after cutting.

*3) : Kitchen Printer mode : A alarm is generated by printer after auto-cutting and in paper-end error. (It needs buzzer accessory)

※ NOTE

Changes in DIP switch settings are recognized only when the printer power is turned on or when the printer is reset by using the interface. If the DIP switch setting is changed after the printer power is turned on, the change does not take effect until the printer is turned on again or is reset.

4. Setting the memory switches

4-1 Setting methods

- 1) Memory switch setting utility (Please check out our bundle CD)
- 2) Control from emulation command (refer to command manual)

4-2 Memory switch description

SW no.	Description	remark
MSW1	Selection for the default code page	
MSW2	Reserved	
MSW3	Reserved	
MSW4	Reserved	
MSW5	Reserved	
MSW6	Reserved	
MSW7	Reserved	
MSW8	Reserved	

MSW1 details

1-5	1-4	1-3	1-2	1-1	1-0	Character Table
0	0	0	0	0	0	Page 0 (PC437 : U.S.A)
0	0	0	0	1	0	Page 2 (PC850 : Multilingual)
0	0	0	0	1	1	Page 3 (PC860 : Portuguese)
0	0	0	1	0	0	Page 4 (PC863 : Canadian-French)
0	0	0	1	0	1	Page 5 (PC865 : Nordic)
0	1	0	0	0	0	Page 16 (WPC1252 : Latin I)
0	1	0	0	0	1	Page 17 (PC866 : Cyrillic #2)
0	1	0	0	1	0	Page 18 (PC852 : Latin II)
0	1	0	0	1	1	Page 19 (PC858 : Euro)
0	1	0	1	0	1	Page 21 (PC862 : Hebrew DOS code)
0	1	0	1	1	0	Page 22 (PC864 : Arabic)
0	1	0	1	1	1	Page 23 (Thai character code 42)
0	1	1	0	0	0	Page 24 (WPC1253 : Greek)
0	1	1	0	1	0	Page 26 (WPC1257 : Baltic)
0	1	1	0	1	1	Page 27 (Farsi) ^{*1)}
0	1	1	1	0	1	Page 29 (PC737 : Greek)
0	1	1	1	1	1	Page 31 (Thai character code 14)
1	0	0	0	1	0	Page 34 (Thai character code 11)
1	0	0	0	1	1	Page 35 (Thai character code 18)
1	0	0	1	1	0	Page 38 (PC928 : Greek)

*1) Only Font B available

4-3 Star emulation

4-3-1 Setting methods

- 1) Memory switch setting utility (Please check out our bundle CD)
- 2) Control from emulation command (refer to command manual)

Memory Switches are from MSW 0 to MSW 8. They are stored in non-volatile memory (flash memory). To change the settings, send the following commands from the host.

[Name] Set Memory Switch
 [Code] ASCII ESC GS # *m {n1 n2 n3 0n4}₀ ... {n1 n2 n3 n4}₈* LF NUL
 Hexadecimal 1B 1D 23 *m {n1 n2 n3 0n4}₀ ... {n1 n2 n3 n4}₈* 0A 00
 Decimal 27 29 35 *m {n1 n2 n3 0n4}₀ ... {n1 n2 n3 n4}₈* 10 0

[Defined Region] *m* = "W", "T", ",", "+", "-", "@"
 "0" ≤ *n1, n2, n3, n4* ≤ "9",
 "A" ≤ *n1, n2, n3, n4* ≤ "F"

[Function] Sends command to write after defining Memory Switch using the definition command specified by the following classes to set the Memory Switch. The printer is automatically reset after writing the setting defined by that command to the non-volatile memory. Do not turn off the power to the printer while sending commands to the non volatile memory. Doing so will destroy the Memory Switch setting. It is also possible for all Memory Switch settings to become offset to their initial, default settings. Consider the life of the non-volatile memory and avoid over-use of this command.

Function	Class	<i>m</i>	<i>{n1 n2 n3 0n4}₀ ... {n1 n2 n3 n4}₈</i>
Data Definition (Data Specification)	Definition	","	<i>{n1 n2 n3 0n4}₀ ... {n1 n2 n3 n4}₈</i>
Data definition (set specified bit)	Definition	"+"	<i>{n1 n2 n3 0n4}₀ ... {n1 n2 n3 n4}₈</i>
Data definition (clear specified bit)	Definition	"-"	<i>{n1 n2 n3 0n4}₀ ... {n1 n2 n3 n4}₈</i>
Data Definition (clear all data)	Definition	"@"	Fixed at "0000"
Definition data write and reset	Write	"W"	Fixed at "0000"
Definition data write and reset and test print	Write	"T"	Fixed at "0000"

(Ex) Memory Switch 1-8 = 0; Memory Switch 2-7 = 1; Memory Switch 2-A =1 for a test print:

```
PRINT #1, CHR$(&H1B);CHR$(&H1D);CHR$(&H23);CHR$(&H2D); ' <ESC><GS> # -
PRINT #1, CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H30); ' 0000
PRINT #1, CHR$(&H30);CHR$(&H31);CHR$(&H30);CHR$(&H30); ' 0100
PRINT #1, CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H30); ' 0000
PRINT #1, CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H0A);CHR$(0); ' 0000 <LF><NUL>
PRINT #1, CHR$(&H1B);CHR$(&H1D);CHR$(&H23);CHR$(&H2B); ' <ESC><GS> # +
PRINT #1, CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H30); ' 0000
PRINT #1, CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H30); ' 0000
PRINT #1, CHR$(&H30);CHR$(&H34);CHR$(&H38);CHR$(&H30); ' 0480
PRINT #1, CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H30); ' 0000
PRINT #1, CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H30); ' 0000
PRINT #1, CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H30); ' 0000
PRINT #1, CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H30); ' 0000
PRINT #1, CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H30); ' 0000
PRINT #1, CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H0A);CHR$(0); ' 0000<LF><NUL>
PRINT #1, CHR$(&H1B);CHR$(&H1D);CHR$(&H23);CHR$(&H54); ' <ESC><GS> # T
PRINT #1, CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H0A);CHR$(&H0); ' 0000 <LF><NUL>
```

4-3-2 Memory switch description

SW no.	Description	remark
MSW0	Selection for the default code page	
MSW1	Reserved	
MSW2	Reserved	
MSW3	Reserved	
MSW4	Selection for Carriage return	
MSW5	Reserved	
MSW6	Reserved	
MSW7	Reserved	
MSW8	Reserved	

Default

SW no.	Factory Setting (n1 n2 n3 n4)
MSW 0	"0000"
MSW 1	"0000"
MSW 2	"0000"
MSW 3	"0000"
MSW 4	"0000"
MSW 5	"0000"
MSW 6	"0000"
MSW 7	"0000"
MSW 8	"0000"

MSW1 details

1-5	1-4	1-3	1-2	1-1	1-0	Character Table
0	0	0	0	0	0	Page 0 (PC437 : U.S.A)
0	0	0	0	1	0	Page 2 (PC850 : Multilingual)
0	0	0	0	1	1	Page 3 (PC860 : Portuguese)
0	0	0	1	0	0	Page 4 (PC863 : Canadian-French)
0	0	0	1	0	1	Page 5 (PC865 : Nordic)
0	1	0	0	0	0	Page 16 (WPC1252 : Latin I)
0	1	0	0	0	1	Page 17 (PC866 : Cyrillic #2)
0	1	0	0	1	0	Page 18 (PC852 : Latin II)
0	1	0	0	1	1	Page 19 (PC858 : Euro)
0	1	0	1	0	1	Page 21 (PC862 : Hebrew DOS code)
0	1	0	1	1	0	Page 22 (PC864 : Arabic)
0	1	0	1	1	1	Page 23 (Thai character code 42)
0	1	1	0	0	0	Page 24 (WPC1253 : Greek)
0	1	1	0	1	0	Page 26 (WPC1257 : Baltic)
0	1	1	0	1	1	Page 27 (Farsi) ^{*1)}
0	1	1	1	0	1	Page 29 (PC737 : Greek)
0	1	1	1	1	1	Page 31 (Thai character code 14)
1	0	0	0	1	0	Page 34 (Thai character code 11)
1	0	0	0	1	1	Page 35 (Thai character code 18)
1	0	0	1	1	0	Page 38 (PC928 : Greek)

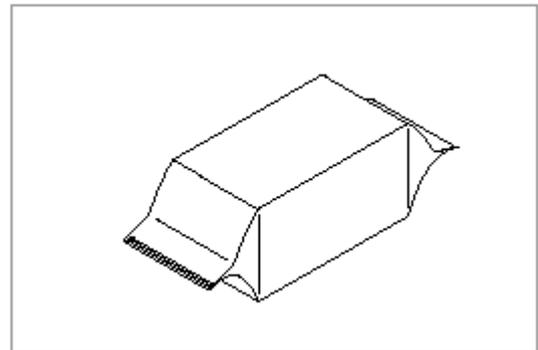
*1) Only Font B available.

MSW4 details

4-3	4-2	4-1	4-0	Function
0	0	0	0	<CR>Command : Ignore, <LF>Command : CR+LF
0	0	0	1	<CR>Command : CR, <LF>Command : LF
0	0	1	0	<CR>Command : CR+LF, <LF>Command : Ignore
0	0	1	1	<CR>Command : CR+LF, <LF>Command : LF
0	1	0	0	<CR>Command : CR, <LF>Command : CR+LF
0	1	0	1	<CR>Command : CR+LF, <LF>Command : CR+LF

5. Installing new Ink cartridge(s)

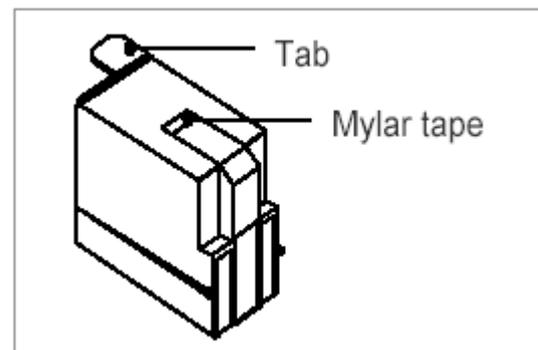
5-1 Remove new ink cartridge from sealed pouch.
(Hold cartridge by round plastic tab to avoid contamination)



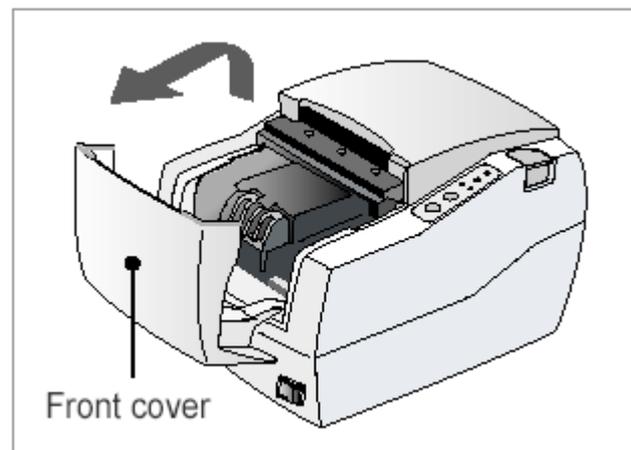
5-2 Remove Mylar from face of new cartridge.

※ CAUTION

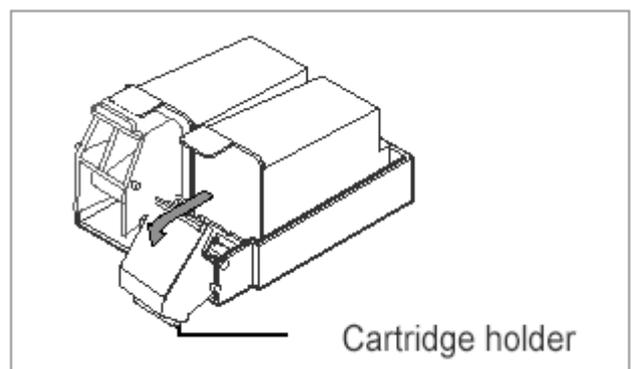
Do not touch ink cartridge's metallic connector surface with your fingers. Doing so will contaminate the connector and produce bad print quality.



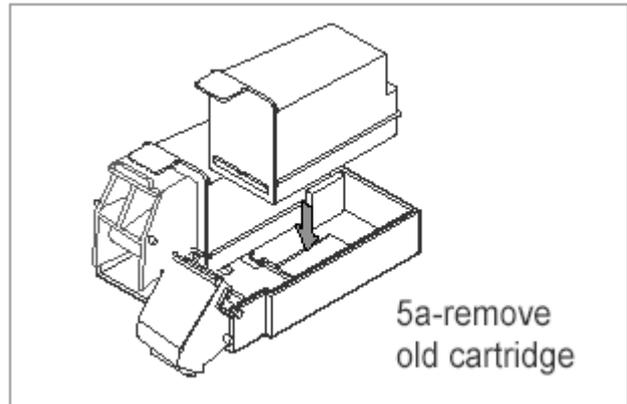
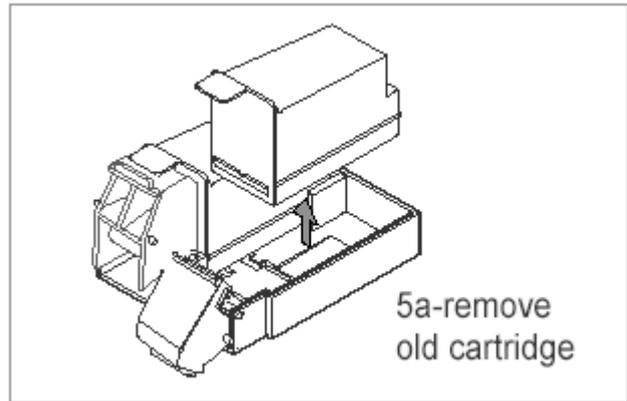
5-3 Turn the printer on and open the front cover of printer.



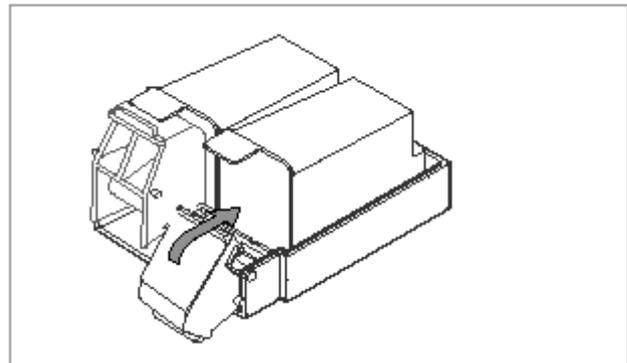
5-4 Pull down cartridge holder.



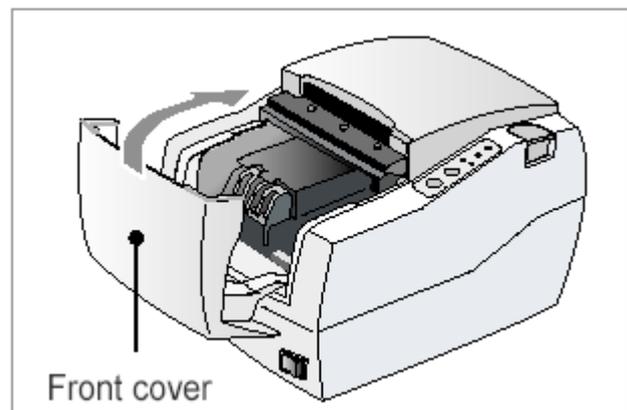
5-5 Take out old ink cartridge(s). Place new cartridge(s) into carriage. Hold plastic tab to ensure clean installation. Black cartridge goes into the left carriage. The color cartridge goes into right carriage. (tab faces front of printer.)



5-6 Close cartridge holder.



5-7 Close front cover of printer.



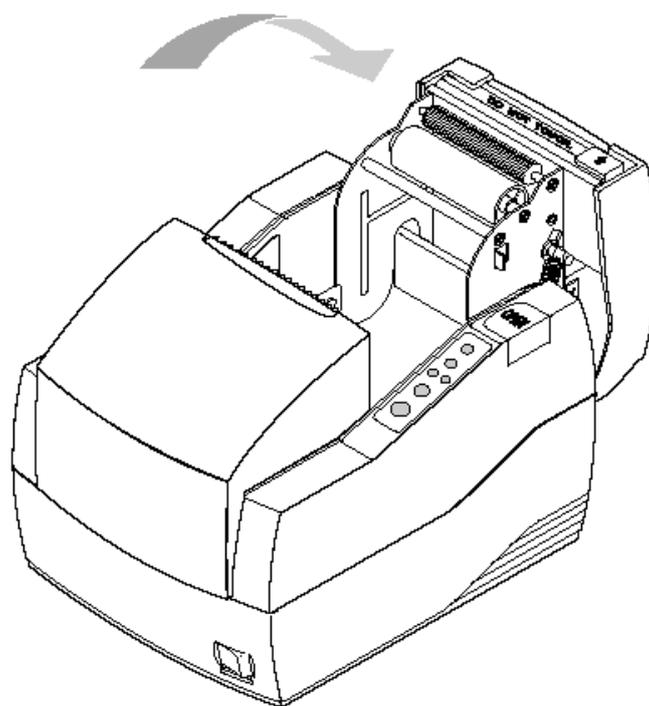
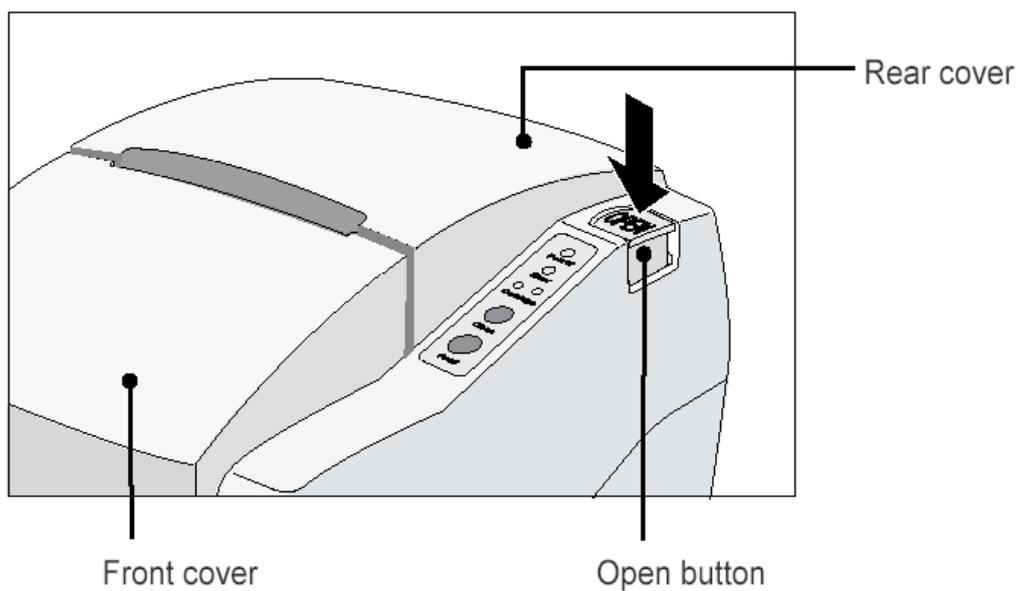
6. Installing or replacing paper roll

※ CAUTION

Notice the caution label and do not touch the auto cutter blade when you open rear cover.

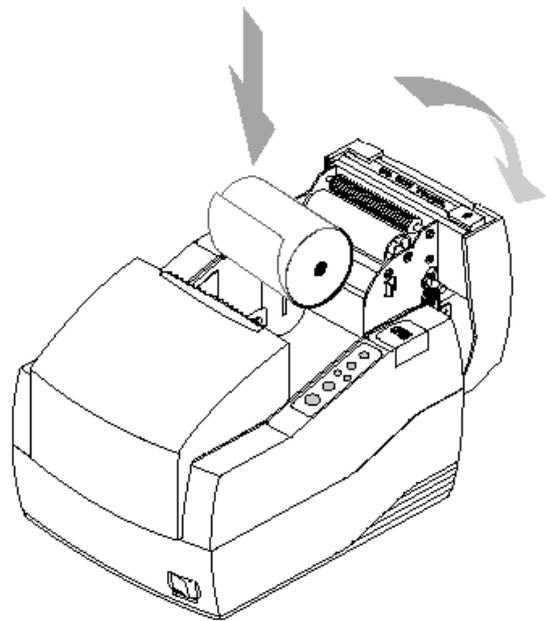
6-1 To prevent data loss, make sure that the printer is not receiving data.

6-2 Open the rear cover by pressing the open button and push the arrow mark back.

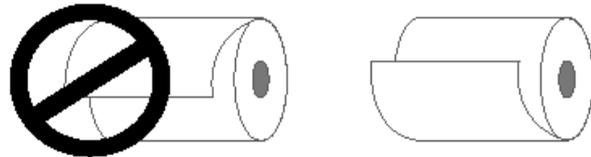


6-3 Remove the used paper roll core if there is one.

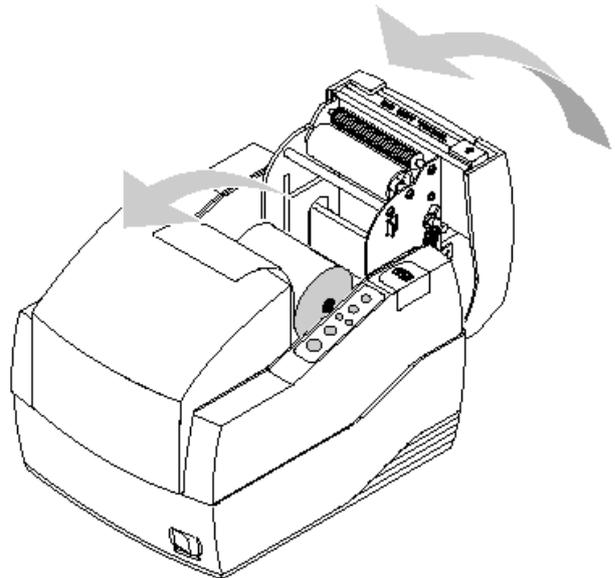
6-4 Insert the paper roll as shown.



6-5 Be sure to note the correct direction that the paper should come off the paper roll.



6-6 Pull out small amount of paper as shown. Then close the cover and tear off the extra paper by pulling it toward the front of the printer.



7. Self Test

The self test lets you know if your printer is operating properly. It checks the control circuits, printer mechanisms, print quality, ROM version, and DIP switch settings.

The test is independent of any other equipment or software, so it is a good idea to run it when you first set up the printer or if you have any trouble. If the self test works correctly, the problem is in the other equipment or the software, not the printer.

7-1 Make sure the printer is turned off and the printer cover is closed properly.

7-2 While holding down the Feed button, turn on the printer and continue to hold until the paper begins to feed. The self test prints the printer settings and cuts the paper and pauses. (The power light blinks.)

7-3 Press the Feed button to continue printing the rolling ASCII pattern. Repeat for the nozzle pattern, NV bit image(s).

7-4 The self test mode terminates after printing NV bit image(s) automatically.

8. Hexadecimal Dumping

This feature allows experienced users to see exactly what data is coming to the printer. This can be useful in finding software problems. When you turn on the hexadecimal dump function, the printer prints all commands and other data in hexadecimal format along with a guide section to help you find specific commands.

To use the hexadecimal dump feature, follow these steps:

8-1 After you make sure that the printer is off, open the front cover of the printer.

8-2 Hold down the Feed button while you turn on the printer.

8-3 Close the front cover.

8-4 Run any software program that sends data to the printer. The printer prints "Hexadecimal Dump" and then all the codes it receives in a two-column format. The first column contains the hexadecimal codes and the second column gives the ASCII characters that correspond to the codes.

Hexadecimal Dump	
1B 21 00 1B 26 02 40 40	. ! . . & . @ @
1B 25 01 1B 63 34 00 1B	. % . . c 4 . .
41 42 43 44 45 46 47 48	A B C D E F G H

- A period(.) is printed for each code that has no ASCII equivalent

8-5 When the printing finishes, turn off the printer.

9. Specification

Printing	Printing method	Serial ink jet matrix method
	Printing direction	Bidirectional(logic seeking) with friction feed
	Resolution	104 x 96(dpi): Text 208 x 96(dpi): Graphic
	Characters per line	Max 42(characters)
	Printing speed	6.5 LPS (Lines Per Second) at 40 columns
	Printing Width	61.5mm
	Line Interval	4.233mm (1/6")
	Character sets	Alphanumeric characters: 95 International characters: 32 Extended graphics : 128 x 12 pages
	Character font	14 x 12 / 12 x 12 (24 x 12 ; for Korea, 20 x 24 ; for GB2312)
Paper roll	Type	Normal paper
	Size	Width : 76 ± 0.5(mm)
	Thickness	0.06 to 0.085(mm)
	Maximum outside diameter	ø 83mm
	Paper core inside diameter	ø 10 to 12.5(mm)
Ink cartridge	Model	RIC-500B,R (HP 6602a,r)
	Firing frequency	3.0KHz – low density printing(Text) 1.5KHz – high density printing(Graphic)
	Operating Voltage	19.9 ± 0.5V
	Resistance	60 Ω
	Operating Temperature	0~45 °C
	Date of expiration	2 years after production (at normal temperature)
	* NOTE : Follow the laws or regulations of your country or community for disposing of used ink cartridges.	
Electrical characteristics	Supply voltage	24VDC
	Current consumption (at 24V,except for drawer kick-out driving)	Operating Mean : Approximately 0.5A Peak : Approximately 1.5A Standby Mean : Approximately 0.3A
	* NOTE : Maximum 1A for drawer kick-out driving.	
Reliability	Life Firing frequency	Mechanism : 18,000,000 lines Auto cutter : 1,500,000 cuts (End of Life is defined as the point at which the printer reaches the beginning of the Wear out Period.)
	MTBF	30,000 hours
Environmental condition	Operating	0 ° to 45 °C
	Storage	-20 ° to 60 °C
	Shipping	-40 ° to 70 °C
	Relative Humidity	Operating : 10 to 80% RH (non-condensing) Storage : 10 to 90% RH (non-condensing) Shipping : 5 to 90% RH (non-condensing)
* NOTE : Exposure to high or low temperatures for periods of greater than 48 hours will lead to significantly reduced cartridge life.		
Printer	Weight	Approx. Wt : 2.7Kg Shipping. Wt : 3.5Kg

* This equipment is indooruse and all the communication hiring are limited to inside of the building.

* The switch is the disconnecting device. Turn off switch from any hazard.

10. Appendix - Troubleshooting

This chapter gives solutions to some printer problems you may have.

10-1 The printer does not start printing

10-1-1 Are any of the control panel lights on?

If no control panel lights are on, check the following:

- Make sure that the printer is turned on.
- Make sure that the power supply cable is correctly plugged into the printer and to the power outlet.

10-1-2 If any of the lights are on, please check the following:

- If the Power light is blinking, the printer is not yet ready. Wait until the light quits blinking and the printer is ready to use.
- If the Error light is on (but not blinking), the printer is off line. Check to see that the covers are closed and check the paper state. See Chapter 6 for instructions on installing or replacing the paper roll.
- If the Error light is blinking, there is an error. In this case, turn off the printer for a few seconds and then turn it back on. If the light is still blinking, call your supervisor or service person.
- If the Cartridge lights (LH/RH) is on, check the cartridges in the printer. See chapter 5 for instruction on installing new ink cartridges.

10-2 The printer stops printing

- If the Error light is on (but not blinking), the printer is off line. Check to see that the covers are closed and check the paper state. See Chapter 6 for instructions on installing or replacing the paper roll.
- If the Error light is blinking, there is an error. In this case, turn off the printer for a few seconds and then turn it back on. If the light is still blinking, call your supervisor or a service person.
- Turn off the printer and check for a paper jam.
To clear paper jam, follow the steps below:
 - 1) Turn off the printer and open the rear cover of the printer.
 - 2) Remove the jammed paper and reload the paper roll as described in Chapter 6.
 - 3) Close the rear cover
 - 4) Turn on the printer.

10-3 You want to check the operation of the printer by itself

Try to run the self test to check that the printer works properly.

See the self test instructions in Chapter 7 to run the self test.

If the self test does not work, contact your supervisor or a service person.

If the self test works properly, check the following:

- Check the connection at both ends of the interface cable between the printer and the computer. Also make sure that this cable meets the specifications for both the printer and the computer.
- The data transmission settings may be different between the printer and computer. Make sure that the printer's DIP switch settings for data transmission are the same as the computer's. You can see the printer's interface settings on your self test printout.

If the printer still does not print, contact your dealer or a qualified service person.

10-4 Printing is poor

Obstructed ink nozzles in the print head will lower the print quality.

Try cleaning the print head as described below:

- Make sure that the printer is turned on.
- Press the Clean button.
The printer begins its self cleaning process, which takes less than 5 seconds.
- When the cleaning action is finished (Power light is ON), resume printing or run a self test (as described in Chapter 7).
- If the printing quality has not improved, repeat this process 2~3 more times. If the printing quality still has not improved, replace the ink cartridge. If, after the new ink cartridge has been installed, the printing quality has not improved, call your supervisor or a service person.