BIXOLON®
SAMSUNG mini printers

SAMSUNG

User's Manual
STP-103

Thermal Printer
Rev. 1.02

http://www.samsungminiprinters.com
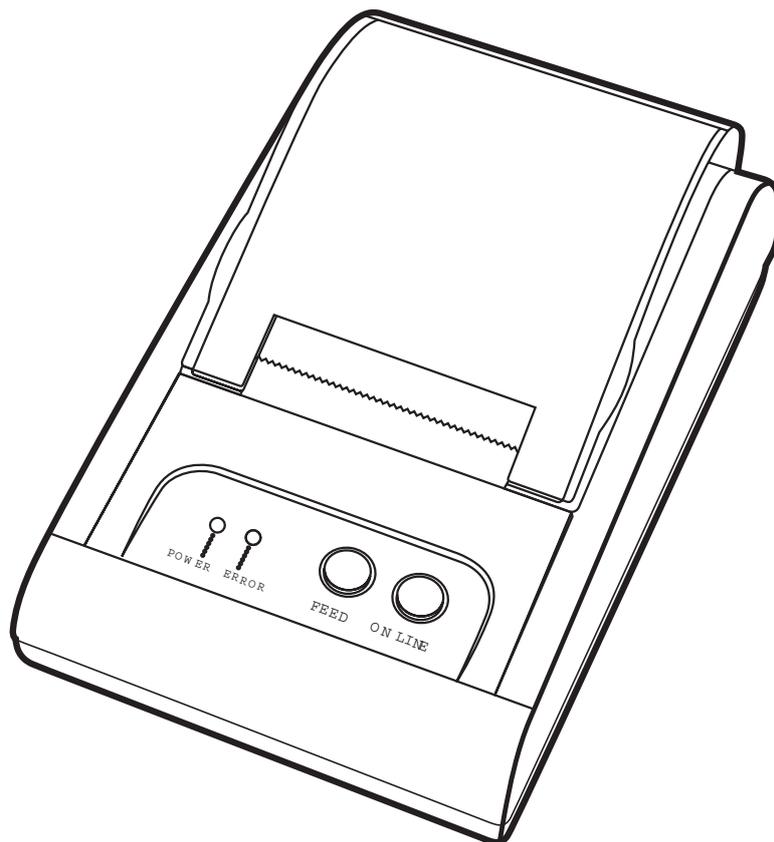
■ Safety Precautions

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
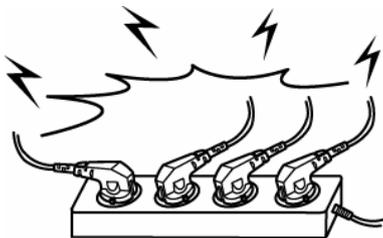
You must use only the supplied adapter.

• It is dangerous to use other adapters.

ONLY SUPPLIED ADAPTER

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
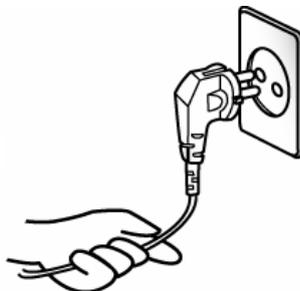
Keep the plastic bag out of children's reach.

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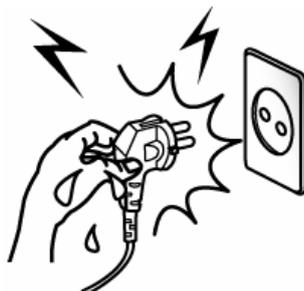
Do not bend the cable by force or leave it under any heavy object.

• A damaged cable can cause a fire.

PROHIBITED

Rev. 1.02
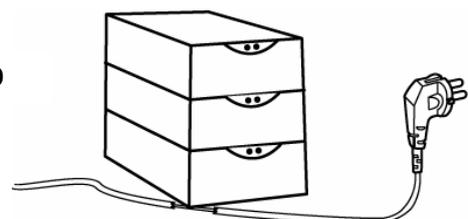
⚠ CAUTION

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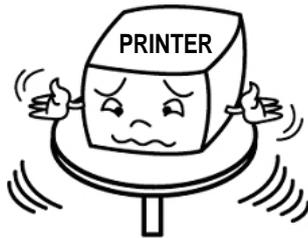
Use only approved accessories and do not try to disassemble, repair or remodel it for yourself.

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

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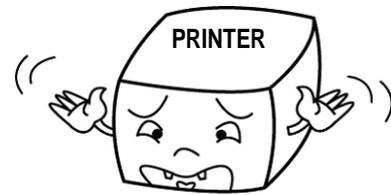
Do not let water or other foreign objects in the printer.

- 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

Rev. 1.02

■ Warning - U.S.A

This equipment has been tasted and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and uses in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This equipment has been tasted 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 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.

■ Notice - Canada

This Apparatus complies with class "A" limits for radio interference as specified in the Canadian department of communications radio interference regulations.

■ Waste Electrical and Electric Equipment (WEEE)

This marking shown on the product or its literature, indicates that is 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.

■ Label Material : PET

■ Introduction

* Printer Part Names

(1) Cover top
(2) Case top
(3) Case bottom
(4) Control panel
(5) Roller
(6) Power switch
(7) Interface connector (male)
(8) DC Jack
(9) Interface connector (female)
(10) Roll paper
(11) Detector switch
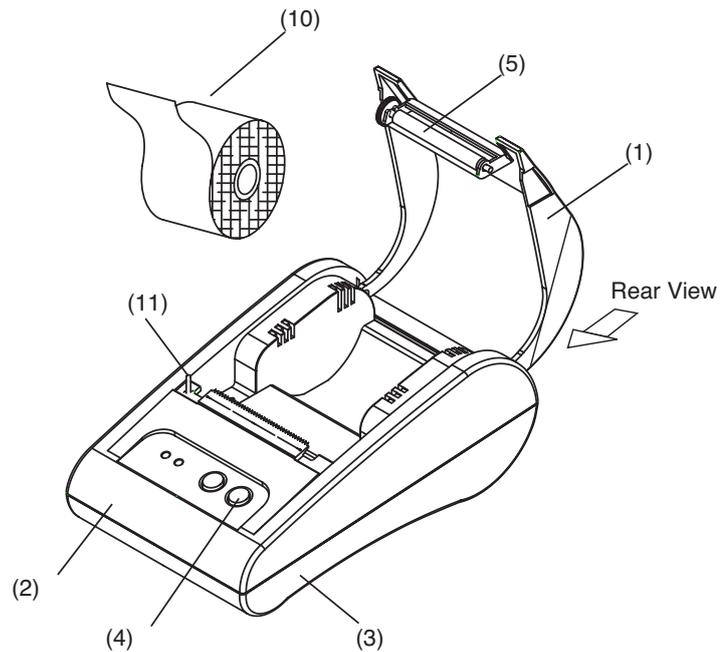
Rear View

Rear View
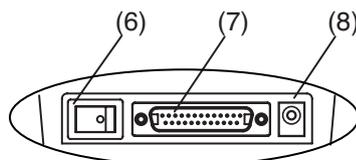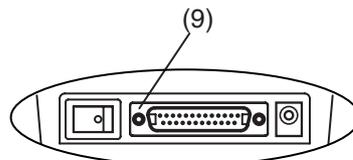
STP-103

STP-103P

The STP-103 and STP-103P Roll Printer are designed for use with electronic instruments such as system ECR, POS, banking equipment peripheral equipment, etc.
The main features of the printer are as follows:

1. High speed printing.

2. Low noise thermal printing.

3. RS-232 serial interface (STP-103), Parallel interface (STP-103P).

4. The data buffer allows the unit to receive print data even during printing.

5. Different print densities can be selected by DIP switches.

Please be sure to read the instruction in this manual carefully before using your new STP-103 and STP-103P.

※ NOTE
The socket-outlet shall be near the equipment and it shall be easy accessible.

※ All specifications are subjected to change without notice.

■ Table of Contents

1. Setting Up the Printer

1-1 Unpacking

The items illustrated below are included with your printer.
If any items are damaged or missing, please contact your dealer for assistance.

Roll paper   Power cord

Printer   Adaptor

Cable

Manual   **CD**
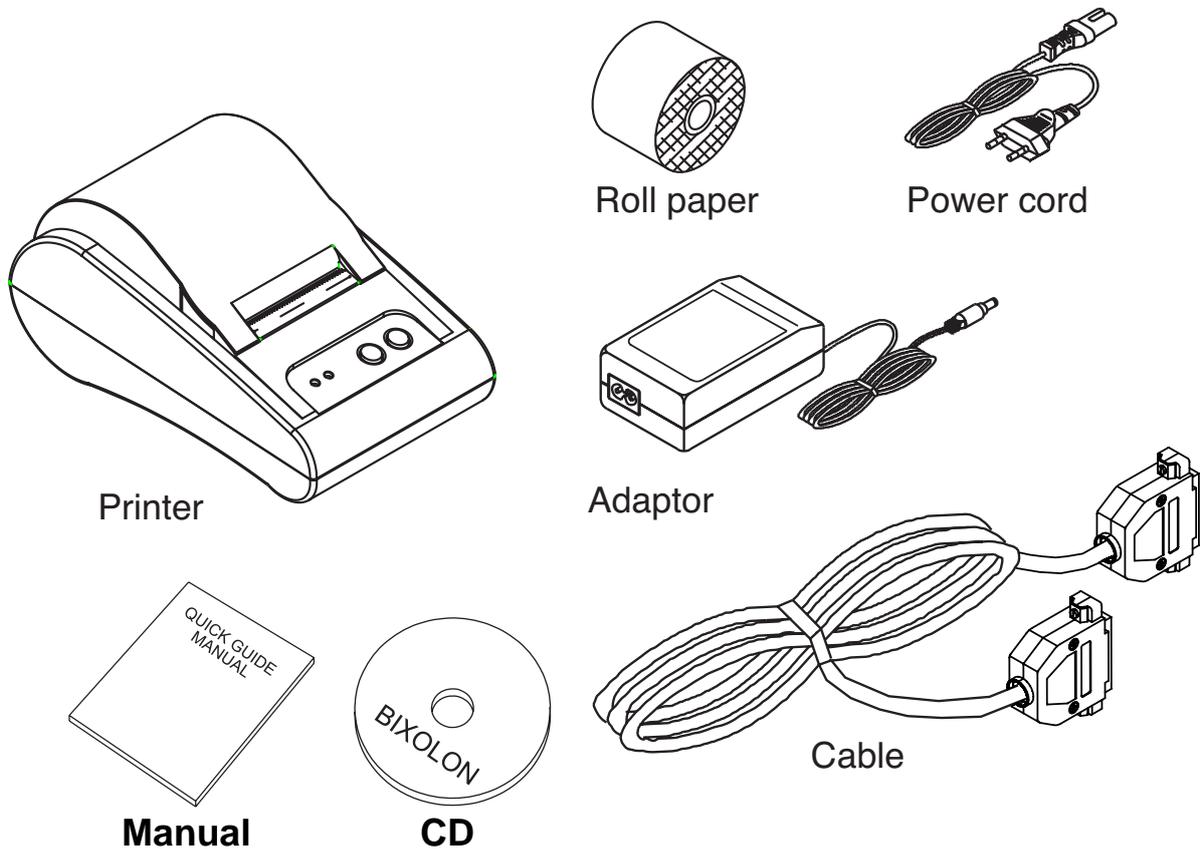
1-2 Locating the Printer

Avoid location in direct sunlight or excessive heat.
Avoid or storing the printer in the place subject to excessive moisture.
Do not use or store, horizontal surface for the printer.
Avoid places subject to intense vibration or shock.
Make sure that there is enough space around the printer so that it can be used easily.

1-3 Functions

The control panel has two buttons and two lights

Buttons
The control panel buttons perform paper feeding and on line function.

ON LINE
Press the ON LINE button to ready to receive data from the computer.

FEED
Press the FEED button once to advance paper one line.
You can also press the FEED button continuously to feed paper continuously.
Feed button is valid when ON LINE button is off.

Indicator Lights
The control panel lights provide information on printer conditions.

POWER (green)
The POWER light is on when the printer power is on.

ERROR (red)
The error LED blinks fast when paper is out.
The error LED blinks when the Near End Sensor triggered.

2. Connecting the cables

2-1 Connecting the AC adapter to the printer

When the printer is used, use the optional AC adapter.

※ **WARNING**
Using an incorrect power supply may cause fire or electrical.

※ **CAUTION**
When connecting or disconnecting the power supply from the printer, make sure that the power supply is not plugged into an electrical outlet ; otherwise you may damage the power supply or the printer

2-1-1 Make sure that the printer's power switch is turned off, and that the power supply's power cord is unplugged from the electrical outlet.

2-1-2 Check the label on the power supply to make sure that the required voltage matches that of your electrical outlet.

2-1-3 Plug the power supply's DC cable connector into the printer's power connector as shown below.

STP-103 / STP-103P
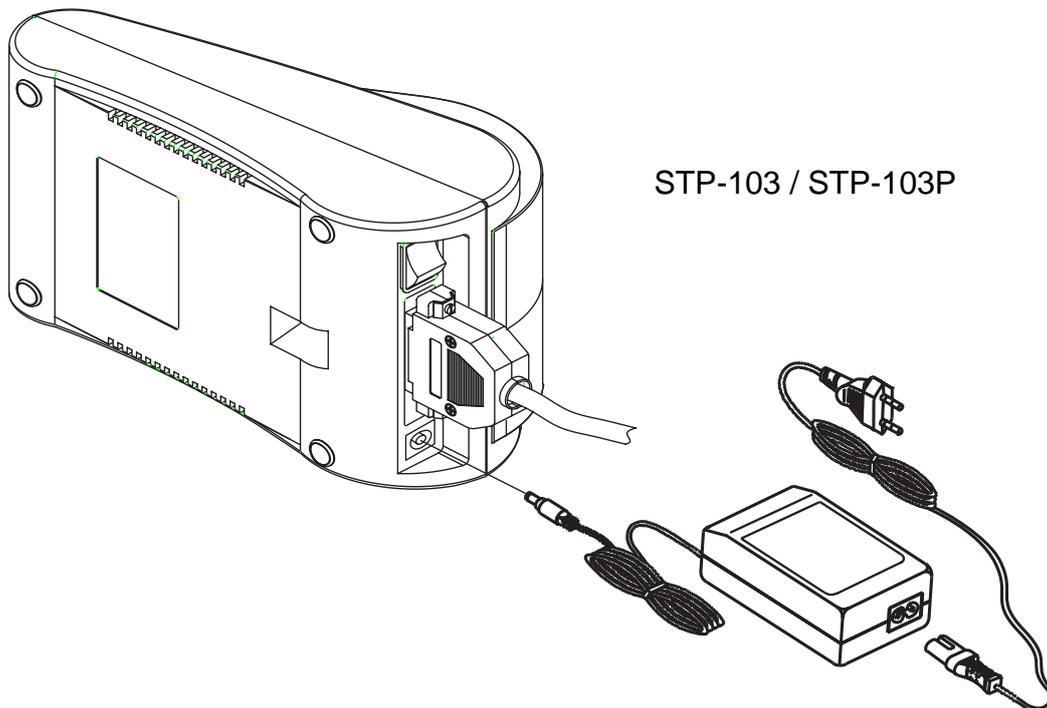
2-1-4 Plug the AC adapter's power cord into an electrical outlet.

※ **NOTE**
To remove the DC cable connector grasp the connector at the arrow and pull it straight out. Make sure that the main unit's power cord is unplugged before you disconnect the DC cable connector

2-2 Connecting the printer to your Computer

You need an appropriate serial or parallel interface cable to connect your computer to the printer's built-in interface.

- Make sure that both the printer and computer are turned off :
  then plug the cable connector securely into the printer's interface connector.

- Tighten the screws on both sides of the cable connector.

- Plug the other end of the cable into the computer.

25 Pin Female Type
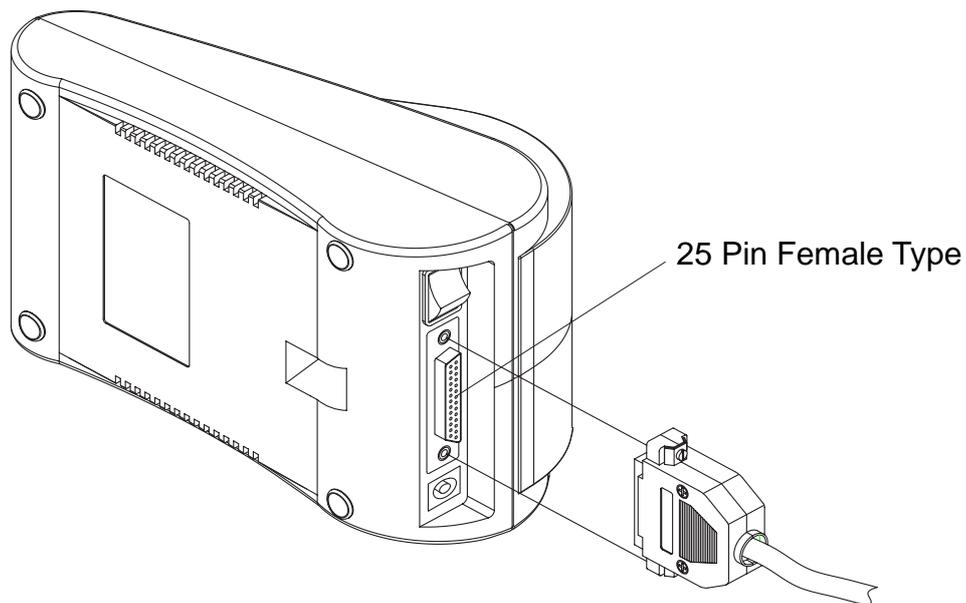
2-2-1 STP-103 Serial Interface

PRINTER			HOST	
20	TXD (O)	--------------------	2	RXD (I)
19	RXD (I)	--------------------	3	TXD (O)
21	CTS (I)	--------------------	7	RTS (O)
22~25	GND	--------------------	5	GND
18	RTS (O)	--------------------	8	CTS (I)
FGND		CONNECT	4	DTR (O)
25 PINE MALE			6	DSR (I)
			FGND	
			9 PINE FEMALE	

2-2-2 STP-103 Parallel Interface

PRINTER		HOST	
1	/STROBE (I/O)	1	/STROBE (I/O)
2	DATA0 (I/O)	2	DATA0 (I/O)
3	DATA1 (I/O)	3	DATA1 (I/O)
4	DATA2 (I/O)	4	DATA2 (I/O)
5	DATA3 (I/O)	5	DATA3 (I/O)
6	DATA4 (I/O)	6	DATA4 (I/O)
7	DATA5 (I/O)	7	DATA5 (I/O)
8	DATA6 (I/O)	8	DATA6 (I/O)
9	DATA7 (I/O)	9	DATA7 (I/O)
10	/ACK (I)	10	/ACK (I)
11	BUSY (I)	11	BUSY (I)
12	PE (I)	12	PE (I)
13	SLCT	13	SLCT
15	/ERROR (I)	15	/ERROR (I)
16~21	N.C	16	/INIT (O)
22~25	GND	18~25	GND
FGND		FGND	
25 PINE MALE		25 PINE MALE	

2-2-3 STP-103DK Serial Interface (Option)

PRINTER	
19	RXD (I)
20	TXD (O)
18	RTS (O)
21	CTS (I)

HOST	
3	TXD (O)
2	RXD (I)
8	CTS (I)
7	RTS (O)
4	DTR (O)
6	DSR (I)

CONNECT

FGND	
22~25	SG

FGND	
5	SG
9 PINE FEMALE	

22	SG
14	SOL1
16	COMPS/W
17	SLCT
22	SG
25 PINE MALE	

* RJ11 6P	
1	GND
2	SOL1
3	COMPS/W
4	SLCT
5	NC
6	GND

6
1
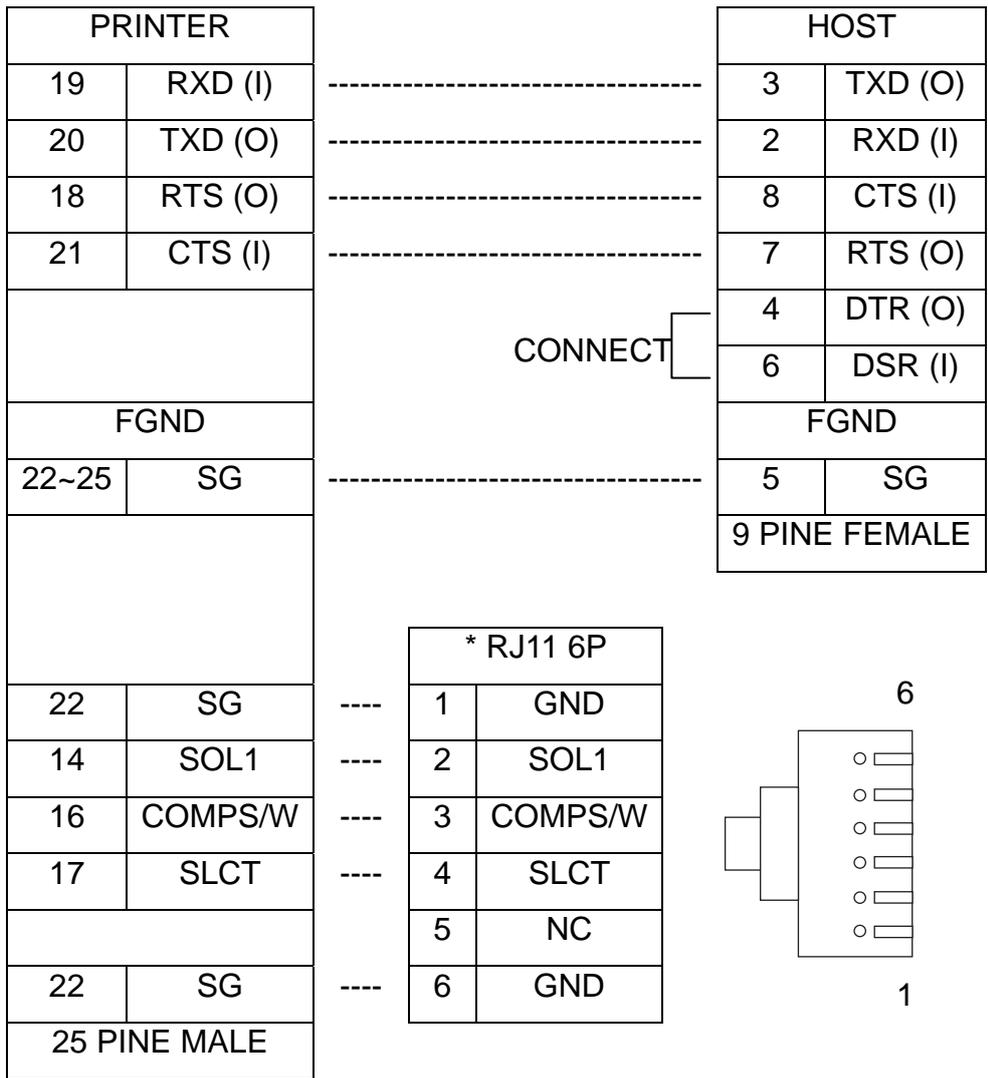
2-2-4 STP-103DK Parallel Interface (Option)

PRINTER	
1	/STROBE (I/O)
2	DATA0 (I/O)
3	DATA1 (I/O)
4	DATA2 (I/O)
5	DATA3 (I/O)
6	DATA4 (I/O)
7	DATA5 (I/O)
8	DATA6 (I/O)
9	DATA7 (I/O)
10	/ACK (I)
11	BUSY (I)
12	PE (I)
13	SLCT
15	/ERROR (I)
22~25	GND
FGND	

HOST	
1	/STROBE (I/O)
2	DATA0 (I/O)
3	DATA1 (I/O)
4	DATA2 (I/O)
5	DATA3 (I/O)
6	DATA4 (I/O)
7	DATA5 (I/O)
8	DATA6 (I/O)
9	DATA7 (I/O)
10	/ACK (I)
11	BUSY (I)
12	PE (I)
13	SLCT
15	/ERROR (I)
16	/INIT (O)
18~25	GND
FGND	
25 PINE MALE	

PRINTER			* RJ11 6P	
22	SG	----	1	GND
14	SOL1	----	2	SOL1
16	COMPS/W	----	3	COMPS/W
17	SLCT	----	4	SLCT
			5	NC
22	SG	----	6	GND
25 PINE MALE				

```
      6



      1
```

3. Setting the Dip Switches

※ **CAUTION**
Turn off the printer while setting the DIP switch to prevent an electrical short, which can damage the printer.

You can change your interface and printer density settings by changing the DIP switch setting.

3-1 Make sure the printer is turned off.

3-2 There are a switch. Notice that ON is marked on each set of switches.
    Use tweezers or another narrow tool to move the switches.
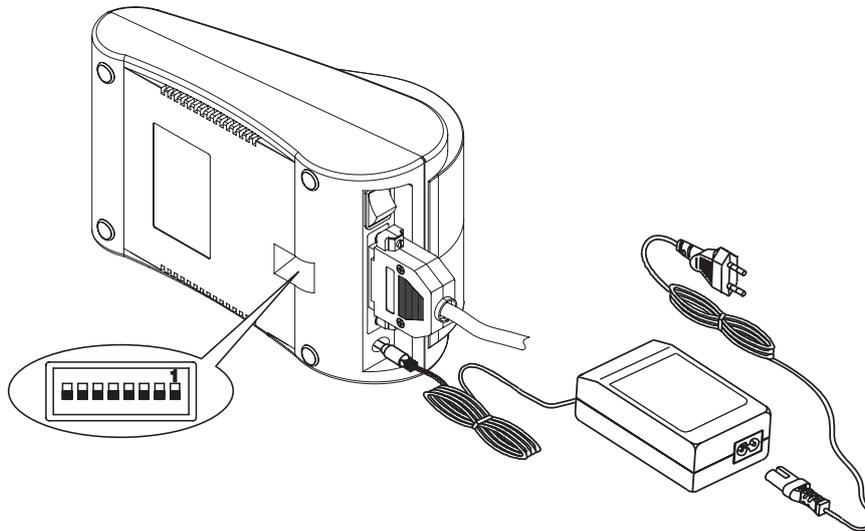
3-3 Use the following tables to set the DIP switches.

BPS	SW1	SW2	SW3	Default
2400 bps	On	Off	Off	
4800 bps	Off	On	Off	
9600 bps	Off	Off	On	
19200 bps	On	Off	On	9600
38400 bps	On	On	Off	
57600 bps	Off	On	On	
115200 bps	On	On	On	

SW	Function	On	Off	Default
SW4	Density	Dark	Normal	Normal
SW5	Handshaking	Xon/Xoff	RTS/CTS	RTS/CTS (DTR/DSR)
SW8	Firmware Download	Download	Printing	Printing

SW7		SW6		Default
Language		CPL		
On	English	On	24	English 32CPL
		Off	32	
Off	Korean	On	Johap	
		Off	Wansung	

4. Roll Paper Installation

Use a paper roll that matches the specifications.

※ **NOTE**
The printer must be turned off before installing the paper roll.

4-1 Open the printer cover and remove the used paper roll core if there is one.

4-2 Insert the paper roll as shown below.
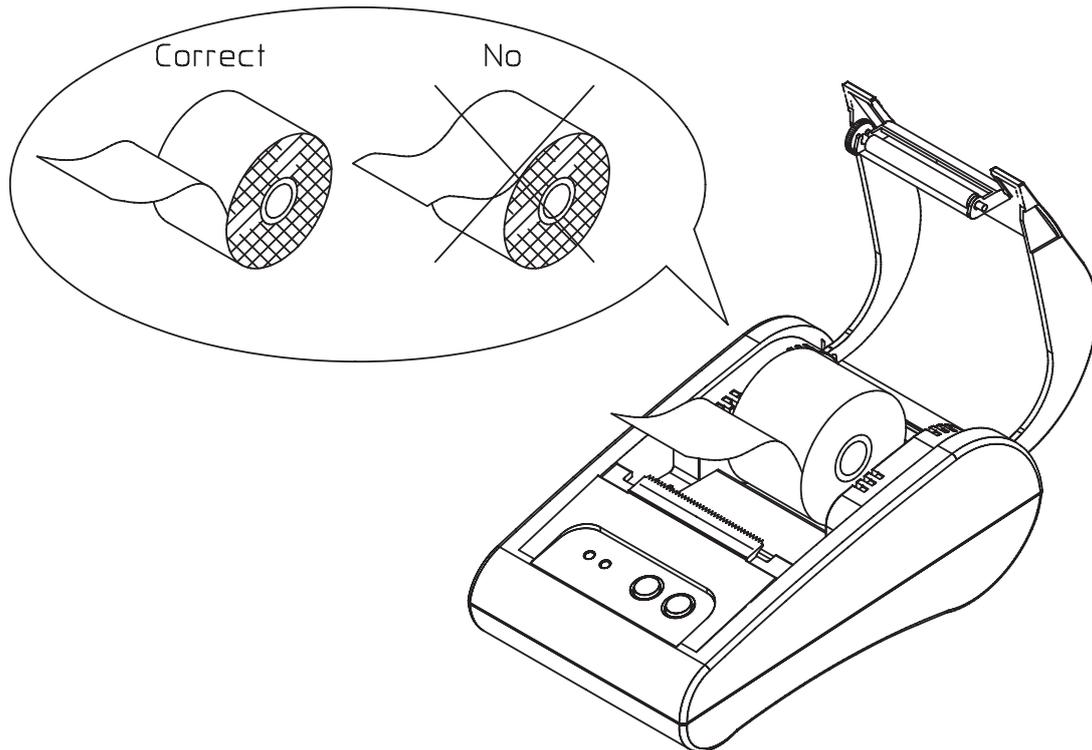
4-3 Pull out the paper roll until the paper comes out from the top of the printer.
  Then close the printer cover.

4-4 Turn on the Printer.

5. Self Test

5-1 Self-test printing

* Starting the self test

To start printing the self-test on a paper roll, hold down the PAPER FEED button and turn on the printer with the cover closed. The self-test prints the current printer settings, which provide the following information :

- control software version
- dip switch state

* Standby state

After printing the current printer status, the printer prints the message "Please press the FEED BUTTON.". The LED indicator blinks and the printer enter the test printing standby state.
Press the FEED BUTTON to start test printing.

5-2 Ending the self-test

After a number of lines are printed, the printer indicates the end of the self-test by printing " ** TEST COMPLETED ** ".
If the self-test is not completed, then you must reboot your printer.

6. 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 data in hexadecimal format along with a guide section to help you find specific commands.

To use the hexadecimal dump function, follow these steps:

6-1 After you make sure that the printer is off. Close the cover.

6-2 Turn on the printer, while holding down the FEED button and ONLINE button.

6-3 Then the printer enters the hexadecimal dump mode.

6-4 Run any software program that sends data to the printer. The printer will print 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 corresponds to the codes.

```
1B  21  00  1B  26  02  40  40        . ! . . & . @ @
1B  25  01  1B  63  34  00  1B        . % . . c4 . .
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.
- During the hex dumping, any commands other than DEL EOT and DLE ENQ do not function.

6-5 When the printing finishes, turn off the printer.

6-6 Turn on the printer and then the hexadecimal mode is off.

7. Specification

Printing method	Thermal line printing
Dot density	203 x 203 Dpi (8 dot/mm)
Printing width	48mm
Paper width	58.0±0.5mm
Characters per line	32 (Font A) (12x24) , 42 (Font B) (9x24)
Printing Speed	Approximately　1.97 inches / sec 　　　　　　　　　50 mm/sec at 25℃/printing duty 12.5%
Paper	Paper thickness : 0.062 ~ 0.075mm
	Roll size : Ø60mm
	Roll spool diameter 　- Inside : Ø12mm (0.47") 　- Outside : Ø18mm (0.71")
Receive buffer size	15K bytes
SMPS Supply voltage	100~240 VAC

Environmental conditions	Temperature	5 ~ 40℃ (operating) -10 ~ 50℃ (storage)
	Humidity	30 ~ 80% RH (operating) 10 ~ 90% RH (storage)
MCBF	Mechanical	30,000,000 line
	Head	100km