

Label printer

User's Manual

Declaration

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Warnings and Cautions

-  Warning: Must comply with warning to avoid bodily harm or damage to device.
-  Caution: Provides important information and prompts for printer operation.

SNBC has passed the following certifications:

ISO9001 Quality Control System Certification

ISO14001 Environmental Management System Certification

OHSAS18001 Occupational Health and Safety Management System Certification

IECQ QC 080000 Hazardous Substance Process Management System Certification

Safety Instructions

Before installing and using the printer, please read the following items carefully.

1 Safety warning



The print head is a thermal element and it is at a high temperature during printing or just after operation, therefore do not touch it or its peripherals for reasons of safety.



The print head is an ESD-sensitive device. To prevent damage, do not touch either its printing parts or connecting parts.

2 Caution

- 1) Install the printer on a flat and stable place.
- 2) Reserve adequate space around the printer so that the operation and maintenance can be performed conveniently.
- 3) Keep the printer far away from water source and do not expose the printer to direct sunlight, strong light and heater.
- 4) Do not use or store the printer in a place exposed to heat of fire, moisture and serious pollution.
- 5) Do not place the printer on a place exposed to vibration and impact.
- 6) No dew condensation is allowed to the printer. In case of such condensation, do not turn on the power until it has completely gone away.
- 7) Connect the AC adaptor to an appropriate earthing outlet. Avoid sharing the same one outlet with large power motors and other devices that may cause voltage fluctuation.

- 8) Disconnect the printer power when the printer is deemed to spare for a long time.
- 9) Avoid water or other electric materials entering into the printer. In case that this happens, turn off the power immediately.
- 10) Do not allow the printer to printing without recording paper in, otherwise the TPH and platen roller will be damaged a lot.
- 11) To ensure print quality and normal lifetime, use recommended consumables or the ones with same quality.
- 12) Turn off the printer before connecting or disconnecting interfaces connectors to prevent control board from damages.
- 13) Set the print darkness to a lower grade as long as the print quality is acceptable. This will help to keep the TPH durable.
- 14) Avoid turning on and off the printer frequently. After the printer is turned off, turn on the printer at least two seconds later.
- 15) Do not disassemble the printer without permission of a technician for repairing purpose.
- 16) Keep this manual carefully at hand for ready reference.

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1 Overview

1.1 Outline

BTP-2200E Plus printer has a smart appearance and high performance, which is an ideal label printer for office use. It can apply to many fields, such as real-time label printing, product label batch printing, transportation and logistics label printing, ticket printing at railway, airports and stations, postal bag tab printing, etc. This product can be connected with the peripheral equipments via serial or other interfaces, at the same time it can provide common drivers for the operation systems as W WINDOWS95 / 98 / 2000 / NT4.0 / VISTA / Win 7 / Win8 and a software package based on DLL.

Main features:

- Thermal / thermal transfer printing.
- Low noise and high-speed thermal printing.
- Easy and quick paper loading.
- Use 32 bit hi-speed micro-processor.
- Use Auto-suitable control of heat history and temperature.
- Use new THP which has long lifetime and hi-quality of printout.
- Support continuous paper, label paper, marked paper and perforated paper.

1.2 Unpacking and checking

Unpacking the printer carton and check whether the parts is short or damaged according to the packing list. If there is, please contact the agent or the manufacturer. (Parallel cable or USB cable shall be

used depending on corresponding interface type.)

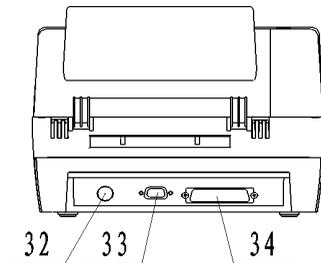
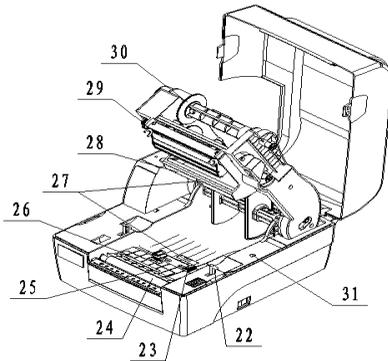
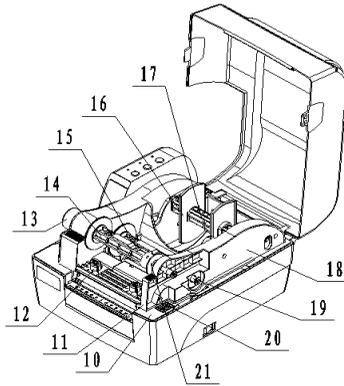
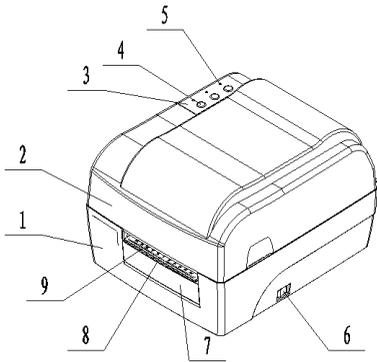


Figure 1.2.1

1.3 Appearance and parts

- | | |
|-------------------------|--------------------------------|
| 1—Bottom cover | 2—Top cover |
| 3—Left cover | 4—Button |
| 5—LED | 6—Power switch |
| 7—Peel-off turnplate | 8—Tear-off bar (Peel-off bar) |
| 9—Scale label | 10—Platen roller holder |
| 11—Ribbon holder | 12—THP pressure adjusting knob |
| 13—Ribbon baffle | 14—Ribbon rewinding shaft |
| 15—Ribbon release shaft | 16—Paper guide |
| 17—Paper roll holder | 18—THP cable cover |

- | | |
|--------------------------|-------------------------------|
| 19—Manual ribbon bushing | 20—THP lift-up button |
| 21—Ribbon end cap | 22—Locking hook |
| 23—Paper guide block | 24—Platen roller |
| 25—Reflective sensor | 26—Sensor top cover |
| 27—Transmissive sensor | 28—Transmissive sensor cover |
| 29—THP | 30—Ribbon rotation thumbwheel |
| 31—THP micro-switch | 32—Power adaptor interface |
| 33—Serial interface | 34—Parallel interface |



1.4 Main modules

1) Button and LED (4, 5)

Indicate the printer status and execute its print functions.

2) Power switch (6)

Turn off the power when pressing “O”, and turn on the power when pressing “—”.

3) Paper roll holder (17) and Paper guide (16)

Hold paper roll and prevent it sliding in paper output path.

4) Paper guide block (23)

Prevent paper sliding in paper output path.

5) Reflective sensor (25)

Verify and position the black marked paper.

6) Transmissive sensor (27)

Verify and position the label paper.

7) THP micro-switch (31)

Check THP open or closed status.

2 Printer mount

2.1 Printer installation position

The printer should be placed on the flat table surface where water, moisture or dust should be prevented. When mounting it, the slanting extent shall not exceed 15°.

2.2 Loading paper

- 1) Push up the top cover with two hands according to the arrows in figure 2.2.1 and open it;
- 2) Press down TPH lift-up button. After ribbon holder is lifted, turn it at the angle shown as below (stop it until a slight sound “pa” is prompted) (see figure 2.2.2);

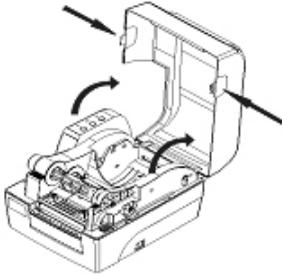


Figure 2.2.1

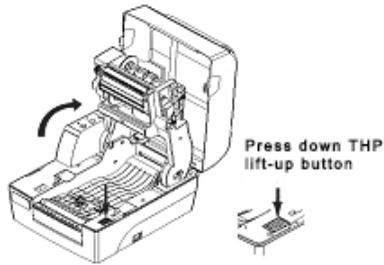


Figure 2.2.2

- 3) Load a paper roll on paper roll holder and add one paper roll guide on each side of paper roll;
- 4) Place paper roll on the paper holder to the paper cabinet, then pull out the front end of the paper and place it in the print path flatly, and also make the paper guide to hold it. (See figure 2.2.3);

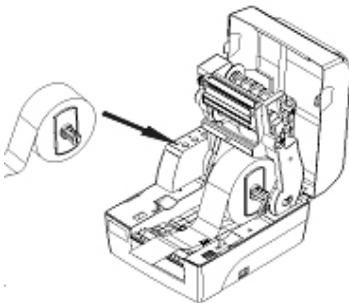


Figure 2.2.3

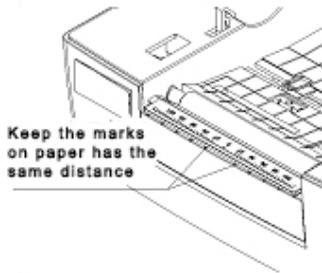


Figure 2.2.4

- 5) Paper roll has two sizes of I/D: 25mm (1 inch) and 38mm (1.5 inch). When paper roll ID is different, the method of loading paper holder into paper cabinet will be different. Operation method is as below (See figure 2.2.5 and figure 2.2.6).

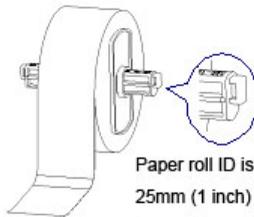


Figure 2.2.5

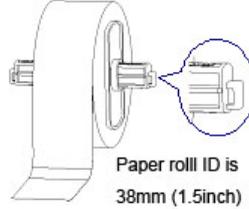


Figure 2.2.6



Caution:

- ✧ The print side should be upside. If it is the marked paper, please place black mark downwards.
- ✧ The front end of paper roll should be in the middle of the platen roll as possible as it can. This could be positioned with the mark of peel-off plate(see figure 2.2.4).

2.3 Assembling ribbon

- 1) Pull the manual bushing of ribbon release shaft slightly, then take off ribbon release shaft and put it into ribbon core axis according to the arrow in the figure as below. (See figure 2.3.1);
- 2) Lift up the ribbon holder at about 30° (When a slight sound “pa” is prompted, the ribbon holder will keep this position). Pull the manual bushing out slightly until the ribbon release shaft is at the original position, then release the manual bushing. The mount of ribbon release shaft is finished. (See figure 2.3.2);

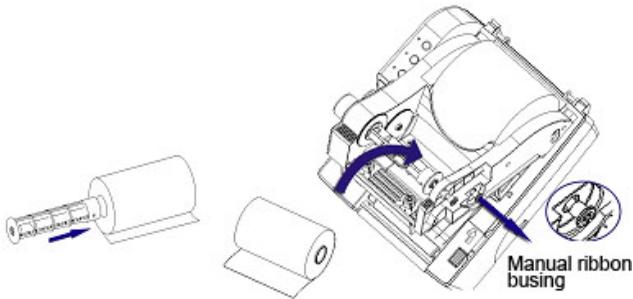


Figure 2.3.1

Figure 2.3.2

- 3) Lead the ribbon front end pass under the bottom of THP and rewind it on the ribbon retraction shaft (see figure 2.3.3). Turn the ribbon wheel to tight it up (the loaded paper roll and ribbon see figure 2.3.4);



Figure 2.3.3

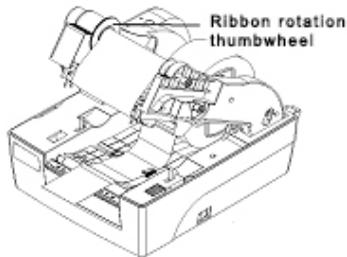


Figure 2.3.4

- 4) Press down the ribbon holder until it is locked, then close the top cover (see figure 2.3.5);

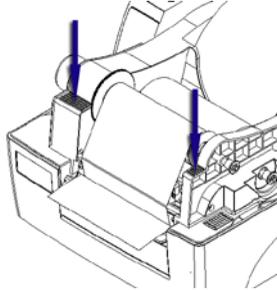


Figure 2.3.5

 **Caution:**

- ✧ Select the print mode: To select thermal transfer mode, ribbon is needed to mount. To select thermal mode, ribbon is not needed.
- ✧ In normal condition, ribbon width should be bigger than the paper width.
- ✧ During this mount, the ribbon should not be cockled or damaged.

2.4 Connecting power adapter

- 1) Ensure the printer is turned off;
- 2) Connect one end of the AC power input cable to power adapter, and then insert the other end of the power adapter into the power adapter interface on the back of printer;
- 3) Insert the other end of AC power input cable into the 220V power socket.

 **Caution:**

- ✧ If leaving the printer idle for a long time, please disconnect the power of printer.

2.5 Connecting communication cable

- 1) Ensure the printer is turned off;
- 2) Insert the communication cable into the suitable interface, and

fix it with screw or latch spring of the plug;

- 3) Connect the other end of the communication cable to the host.



Caution:

- ✧ Don't connect or disconnect the serial/parallel communication cable when the power has not been turned off.

2.6 Starting the printer

2.6.1 Turn on the printer and conduct self-test

- 1) Be sure that power adapter and communication cable are connected, then turn on the printer power switch;
- 2) The printer starts self-test. After the self-test, buzzer will beep one time;
- 3) If power-on action is set, the printer will perform power-on action.

Note: The power-on action refers to the actions performed automatically after the printer is turned on, including feeding one label, starting calibration automatically (only valid when non-continuous paper is used).

The power-on action can be set via commands or configuration tool.



Caution:

- ✧ If the printer cannot start or work normally, please contact with the distributors or manufacturer.

2.6.2 Print self-test page

- 1) Install the media, and turn on the printer. The printer will feed paper and print self-test page (see Appendix 2.1) through button operations (for the detailed operation methods, please refer to 3.1.3 FEED button function);

- 2) The self-test page lists the current configuration information of the printer.

2.7 Installing the driver

The installation program of the driver is included in the CD packed with the printer, which can also be downloaded from the website www.newbeiyang.com.

- The 32-bit operating systems supported by the driver are as follows:

Windows 2000/Windows XP/Windows server 2003/Windows Vista/Windows server 2008/Windows 7/Windows 8.

- The 64-bit operating systems supported by the driver are as follows:

Windows XP/Windows server 2003/Windows Vista/Windows server 2008/Windows 7/Windows 8.

- 1) Run "Setup.exe" in the driver package, and read the related software license agreement carefully. If you accept the items in the license agreement, please click "I accept the items in the software license agreement", and then click "Next" button;
- 2) Select printer type and model to be installed. If you want to set the printer as default printer, please check "Set As Default Printer" and click "Next";
- 3) Select setup type, and click "Next";
- 4) The driver will select the current system type automatically, and click "Next";

Set printer port. "LPT1" is set as the default print port, but users can select it according to actual needs. If it is a serial port driver,

please select "BYCOMx" (x equals to 1, 2, 3, 4, 5, 6, 7 or 8); if it is Ethernet port, please select "NET"; if it is USB port, please select "USB_BTP-3200E_x" (if USB port printer is connected correctly to the computer under power-on status, the driver setup program will set USB port as default port automatically). Then click "Install" to end the installation.

3 Printer operation

3.1 LED, buzzer, feed button and LCD function

3.1.1 LED function

LED name	Status	Explanation
Power LED (green)	Always on	Printer is in idle or working status.
	Flashes quickly	Printer is busy (printer is processing the commands)
Stop LED (Yellow)	Always off	Printer is in standby status.
	Always on	Printer is in pause status.
		Wait to confirm the label have been taken away in tear-off / peel-off mode.
Error LED (red)	Always off	Printer is in standby status.
	Flashes	Printer has errors.

3.1.2 Button function

Button	Function	Explanation
FEED	Feed paper	In standby status, after press down "Feed" button for a short time, the printer will feed one label for non-continuous paper and it will feed paper all the time until releasing the button for continuous paper.
	Set function	The LED flashes quickly when press the FEED button for a long time, and the LED flash times indicates the selected function when release the button. Details refer to section 3.1.3 FEED button function.

PAUSE	Pause	In standby status, press down "Pause" button, the printer enters pause status. When pressing down "Pause" again, the printer shall be back to standby status.
		Press down "Pause" button during printing, then the current print job shall pause. When pressing down "Pause" button again, the printer shall continuous last print job.
	Confirm label is taken away	In tear-off/peel-off mode, when paper existence sensor is not configured, the "Stop" LED will on after print one label, and user can press down "Pause" to confirm that the label has been taken away, then the printer shall retract paper and start to print next label.
CANCEL	Cancel print job	Press "Pause" button to stop current print job, then press "Pause" button again to cancel the print job.

3.1.3 FEED button function

LED flash times	Button function
Power LED flashes once	Print the self-test page information
Power LED flashes twice	Calibrate the paper
Power LED flashes for three times	Recover the default baud rate of serial interface
Power LED flashes for four times	Recover the factory settings
Power LED flashes for five times	Print the sensor waveform

Note: Short press means the duration from pressing down the button to the time when the button uplifts is less than 0.5s. Long press means the duration of pressing down the button is more than 1s.

3.1.4 Buzzer function

- 1) The buzzer beeps for a short time when the printer is turned on or reset;
- 2) The buzzer beeps many times when an exception occurs. For the details, please refer to [5.1 Troubleshooting](#).

3.2 Print head pressure adjustment

THP pressure adjustment device has two adjusting knobs, each of which has four levels indicating different THP pressures. When turning the knob in clockwise, the THP pressure increases along with level number. (See figure 3.2.1). In normal print, follow the pressure level of factory default settings, normally at level 2 or 3.

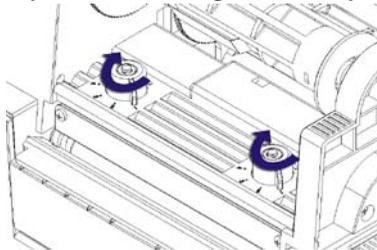


Figure 3.2.1

In following cases, you need to do the adjustment:

- 1) When the THP pressure in using doesn't meet the requirement (for example, rewinding ribbon not smoothly), turn the adjusting knob to increase it.
- 2) In using different width label for the print, different level can be selected (only for reference, please see the table as below)

Label width	Left level	Right level
25mm	1	1

51mm	2	2
75mm	3	3
110mm	4	4

 **Caution:**

- ◇ It is recommended to use the THP pressure as low as possible under the condition that the printout meets the requirement.

3.3 Sensor position adjustment

When the paper width is changed, the sensor position can be adjusted according to the following methods:

- 1) According to the marked position of the media, measure the sensor position required in advance.
- 2) Push the latch according to the arrow on top cover, then turn and take off top cover of the sensor (see figure 3.3.1).
- 3) Pull the sensor latch to move the sensor to the required position (refer to the direction shown in the figure 3.3.2).
- 4) Press down top cover latch and assemble the top cover;

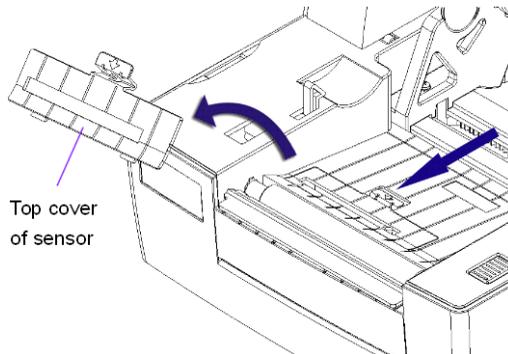


Figure 3.3.1

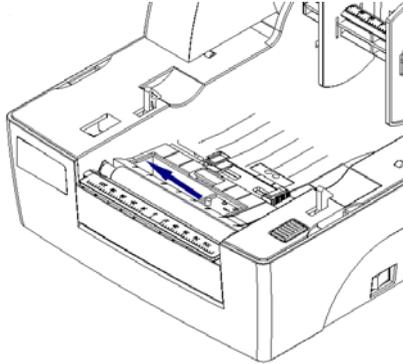


Figure 3.3.2

3.4 Print position adjustment

1) Adjust vertical print position

When the situation like figure A or B occurs, adjust the vertical print position to figure C.

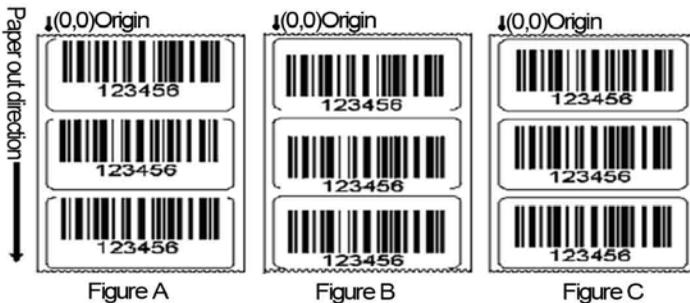


Figure 3.4.1

Caution:

- ✧ Figure A indicates that the print position is upper than the correct position. Adjust it in the negative direction (The data symbol in the option “Vertical position adjustment” is “+”);
- ✧ Figure B indicates that the print position is lower than the correct

position. Adjust it in the positive direction. (The data symbol in the option “Vertical position adjustment” is “-”).

2) Adjust horizontal print position

When the situation like figure D or E occurs, adjust the horizontal print position to figure F .

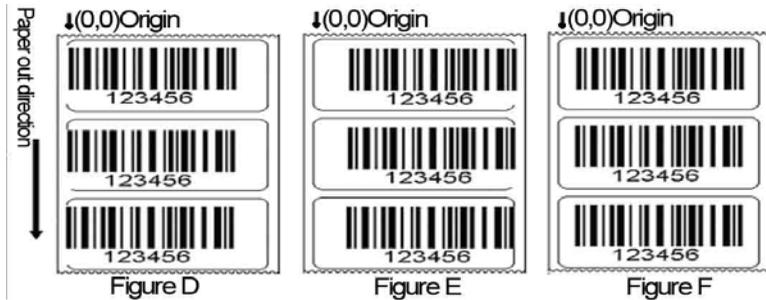


Figure 3.4.2

⚠ Caution:

- ✧ Figure D indicates that the print position is on the left of the correct position. Adjust it in the positive direction (The data symbol in the option “Horizontal position adjustment” is “+”);
- ✧ Figure E indicates that the print position is on the right of the correct position. Adjust it in the negative direction. (The data symbol in the option “Horizontal position adjustment” is “-”).

3) Adjust tear-off position

When the situation like figure G or H occurs, adjust the tear-off position to figure J..

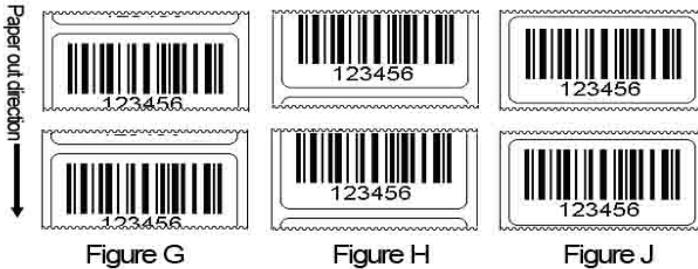


Figure 3.4.3

Caution:

- ✧ Figure G indicates that the tear-off position is upper than the correct position. Adjust it in negative direction; (The data symbol in the option “Tear-off position adjustment” is “-”);
- ✧ Figure H indicates that the tear-off position is lower than the correct position. Adjust it in positive direction. (The data symbol in the option “Tear-off position adjustment” is “+”).

4 Routine maintenance

Clean the print head, platen roller and sensor every month according to the following steps. If the printer works in a tough environment, the maintenance times can be properly increased.

4.1 Cleaning print head

When any of the following cases occurs, the print head should be cleaned:

- Printout is not clear;
- Feed or retract paper with big noise;
- Something else sticks onto the print head.

Follow the steps below to clean the print head:

- 1) Turn off the printer and open the top cover;
- 2) Lift up the top cover and find the print head. Wait for print head to cool down completely if it has just finished the printing;
- 3) Wipe off the dust and stains on the surface of the print head with alcohol cotton ball (it should be wrung out);
- 4) Wait for 5 to 10 minutes until the alcohol evaporates completely, press down print head module, and close the top cover.

4.2 Cleaning the sensor

When any of the following cases occurs, the mark sensor should be cleaned:

- During printing, the printer sometimes misinforms paper end;
- The printer does not alarm when paper end;
- The printer cannot identify marks effectively.

Follow the steps below to clean the mark sensor:

A. Transmissive sensor

- 1) Turn off the printer and open the top cover;
- 2) Wipe off the dust and stains on the surface of the transmissive sensor with alcohol cotton ball (it should be wrung out);
- 3) Wait for 5 to 10 minutes until the alcohol evaporates completely, and close top cover.

B. Reflective sensor

- 1) Turn off the printer and open the top cover;
- 2) Find the reflective sensor and take off the top cover board of it;
- 3) Wipe off dust and stains on the surface of sensor with alcohol cotton ball (it should be wrung out);
- 4) Wait for 5 to 10 minutes until the alcohol evaporates completely, close the top cover board of the sensor, and close the top cover.

4.3 Cleaning platen roller

When any of the following cases occurs, the platen roller should be cleaned:

- Printout is not clear;
- Feed and retract paper with big noise;
- Something else sticks onto the platen roller.

Follow the steps below to clean the platen roller:

- 1) Turn off the printer and open the top cover;
- 2) Uplift the top cover and find the platen roller. Wait for the platen roller to cool down completely if it has just finished printing;

- 3) Wipe off the dust and stains on the surface of the platen roller with alcohol cotton ball (it should be wrung out) while turning the platen roller;
- 4) Wait for 5 to 10 minutes until the alcohol evaporates completely, and close the top cover.



Caution

- ✧ Before starting routine maintenance of printer, make sure the printer is turned off;
- ✧ Do not touch the surface of print head with hands or metal. Do not use forceps in case it scratches the surface of the print head, platen roller and sensor;
- ✧ Do not use organic solvent like gasoline, acetone etc. to clean the print head or platen roller;
- ✧ Do paper calibration again after cleaning the paper end sensor;
- ✧ Please wait for alcohol to evaporate completely before starting printing.

5 Troubleshooting

When the printer has a malfunction, please handle it with reference to this charter. If it still can not be cleared, please contact SNBC or your local dealer.

5.1 Troubleshooting

The error LED flashes and the buzzer beeps when an error or exceptional status occurs. At this time, the printer stops the printing. Please handle it with reference to the following method:

Error indication mode:

Error message	Buzzer	Error LED
Print head up	2 beeps	Flash 2 times circularly
Paper end	3 beeps	Flash 3 times circularly
Ribbon out	4 beeps	Flash 4 times circularly
Abnormal temperature of print head	No beep	Flash 5 times circularly
Mark location failure	No beep	Flash 6 times circularly
Mark calibration error	No beep	Flash 7 times circularly

Troubleshooting methods:

Error LED status	Reason analysis	Solutions
Print head up	Print head is lifted up.	Please press down the print head.
	The micro switch has a failure.	Contact the maintainer.
Paper end	Paper roll is used up or no paper roll is installed.	Install a paper roll.
	Paper jam	Clear the paper jam.
	Paper roll surface is	Please skip the dirty or damaged

	dirty or damaged.	part.
	Paper roll breaks away from the mark sensor.	Install a paper roll again.
	The surface of mark sensor is dirty.	Clean mark sensor surface.
	The position of reflective sensor is not correct.	Adjust the sensor position according to the description in 3.5.
	Paper roll type does not match with mark sensor type.	Set the paper type in printer driver to make it consistent with actual paper type.
Lack of ribbon	Ribbon is used up	Install ribbon
	Ribbon is jammed	Clear up the ribbon
	Ribbon sensor has failures	Replace the ribbon sensor
Print head temperature abnormal	Operating environment temperature is too high, causing overheating print head.	Please improve ventilation condition. The printer can return to normal with the fall of temperature.
	Print darkness is too high.	Lower the print darkness properly.
	Paper is jammed in the path, causing heat accumulation and overheating print head.	Clear paper jam. Check if the print head test pattern is normal or not after the temperature of print head drops. If normal, the printer can continue to work; otherwise please replace the print head.

Mark location failure or mark calibration failure	Paper type does not match with sensor type.	Set the paper type in printer driver to make it consistent with actual paper type.
	Something wrong with marked paper (for example: no mark or unclear mark)	Use the required media.
	Mark height is less than the required height.	

Table 5.1.1

5.2 Print quality problems

Malfunction	Reason	Solution
Printout is unclear or has stains.	Print head or platen roller is dirty.	Clean the print head or platen roller.
	Paper does not meet the requirement.	Use recommended paper.
	Print darkness is too low.	Increase print darkness.
	Paper is not installed correctly.	Install paper roll correctly.

Table 5.2.1

Appendix

Appendix 1 Technical specification

Appendix 1.1 Main technical specifications

Item		Parameters
Printing	Resolution	203DPI
	Print method	Thermal/Thermal transfer
	Print width (Max.)	104mm
	Print speed (Max.)	125mm/s
	CPU	32bit RISC microprocessor
	Memory	FLASH:4MB SDRAM:64MB Extended FLASH: 8MB
	Print head temperature detection	Thermal resistor
	Print head position detection	Micro switch
	Paper mark detection	Photoelectric sensor
	Paper existence detection	Photoelectric sensor
	Communication interface	Standard configuration: RS-232 Serial interface; Optional: CENTRONICS, USB and Ethernet, WLAN, or bluetooth.
Media	Paper type	Continuous paper, label paper, marked paper, etc.

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	Paper roll OD (Max.)	127mm(5寸)
	Paper roll width (Max.)	118mm
	Paper roll ID	25mm(1 inch) /38mm(1.5 inch)
	Ribbon length(Max.)	300m
	Ribbon ID	25mm
	Paper out mode	Rewinding, tear off, peel off (optional)

Character Barcode Graphics	Character enlargement/rotation	Support four types of rotation printing (0°, 90°, 180°, 270°) Bitmap fonts can be enlarged up to 10 times. Vector fonts can be zoomed without scale.
	Character set	7 bitmap fonts and 1 vector font are built-in.
		User-defined bitmap and vector fonts can be downloaded into the printer.
Graphics	Plain bitmaps in binary system, HEX, PCX, BMP and IMG files can be downloaded to FLASH or RAM.	

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	Barcode	<p>1D barcode: Code39, Code93, Codabar, Code128(Subsets A, B, and C), EAN-13, EAN-8, UPC-A, UPC-E, UPC/EAN Extensions, Planet Code, Standard 2 of 5, Industrial 2 of 5, Interleaved 2 of 5, LOGMARS, GS1 DataBar(RSS)</p> <p>2D barcode: PDF 417, MicroPDF417, QR Code, DataMatrix, MaxiCode, GS1 Composite</p>
Operation interface	Button, LED	3 buttons, 3 LEDs
Power adapter	Input	AC 110~240V, 50/60Hz
	Output	DC 24V, 2.5A
Environmental requirements	Operating environment	+5°C~45°C, 20%~90%(40°C)
	Storage environment	-40°C~60°C, 20%~93%(40°C)
Physical features	Overall size	300mm(L) x252mm(W)x190mm(H)
	Weight	About 3.5 Kg

Table appendix 1.1.1

Appendix 1.2 Technical specifications of paper

1) Specifications of continuous paper (unit: mm)

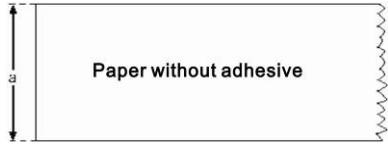
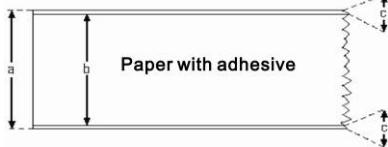
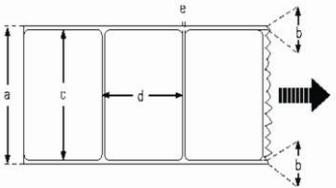
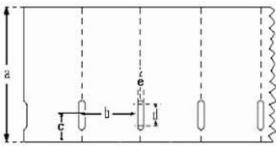
Type	Illustration	Index
Continuous paper without adhesive	 <p>Paper without adhesive</p>	Print paper width: $18 \leq a \leq 120$
Continuous paper with adhesive	 <p>Paper with adhesive</p>	Base paper width: $18 \leq a \leq 120$ Print paper width: $18 \leq b \leq 118$ Paper margin width: $c \leq 1$

Table appendix 1.2.1

2) Discontinuous paper specifications (unit: mm)

Type	Illustration	Index
Discontinuous label paper with adhesive		Base paper width: $18 \leq a \leq 120$ Paper margin width: $b \leq 1$ Label width: $18 \leq c \leq 118$ Label height: $d \geq 10$ Gap width: $e \geq 2$
Discontinuous punched paper without adhesive		Punched paper width: $18 \leq a \leq 120$ Punched paper height: $b \geq 10$

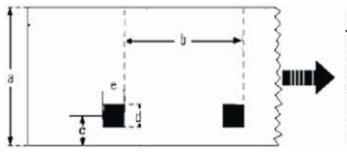
		Detection hole position: $c \leq a/2$ Detection hole width: $d \geq 5$ Detection hole height: $e \geq 2$
Discontinuous marked paper without adhesive	 <p>The diagram shows a rectangular paper sheet with a wavy right edge. A horizontal dimension 'a' spans the width, and a vertical dimension 'b' spans a portion of the width. A small square mark is located at a distance 'c' from the left edge and 'e' from the bottom edge. The mark has a width 'd' and a height 'e'. A vertical dimension 'd' is also shown for the mark's width. An arrow on the right points to the right, labeled 'Paper out direction'.</p>	Marked paper width: $18 \leq a \leq 120$ Marked paper height: $b \geq 10$ Mark position: $c \leq a/2$ Mark width: $d \geq 10$ Mark height: $e \geq 4$

Table appendix 1.2.2

Appendix 2 Self-test page

Self-test page includes printer configuration information, printer internal fonts and print head test information. The printer configuration information and printer internal fonts reflect the current internal configuration of the printer, and the print head test information reflects the status of the print head.

Printer configuration information

Printer configuration information (BPLZ II) (this information is related to the configuration of the printer.)

PRINTER CONFIGURATION

BTP-2200EMODEL
 FV2.000..... MAIN FIRMWARE

7.....	DARKNESS
+0.....	TEAR OFF
TEAR OFF.....	PRINT MODE
CONTINUOUS.....	MEDIA TYPE
MEDIA.....	SENSOR TYPE
MANUAL.....	SENSOR SELECT
DIRECT-THERMAL.....	PRINT METHOD
56.....	PRINT WIDTH
640.	LABEL LENGTH
11IN 300MM.....	MAXIMUM LENGTH
CONNECTED.....	USB COMM
NONE.....	PARALLEL COMM
115200.....	BAUD
8 BITS.....	DATA BITS
NONE.....	PARITY
HARD.....	HOST HANDSHAKE
NONE.....	PROTOCOL
<~> 7EH.....	CONTROL CHAR
<^> 5EH.....	COMMAND CHAR
<, > 2CH.....	DELIM. CHAR
NO MOTION.....	MEDIA POWER UP
NO MOTION.....	HEAD CLOSE
DEFAULT.....	BACKFEED
+0.....	LABEL TOP
+0.....	LEFT POSITION
125mm/s.....	PRINT SPEED

125mm/s.....	FEED SPEED
125mm/s.....	BACKFEED SPEED
203DPI.....	RESOLUTION
16360K.....	R: RAM
1472K.....	E: ONBOARD FLASH
NONE.....	FORMAT CONVERT
0123456789.....	SERIAL NUMBER

Appendix 3 Print and paper out position

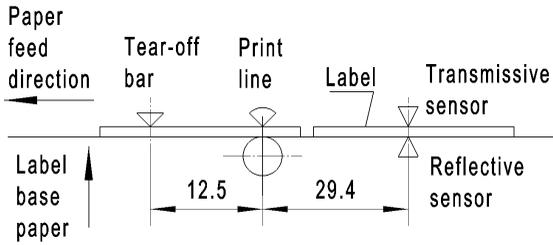


Figure appendix 3.1

Caution

- ✧ To take marked paper for example, the figure above explains the print and paper out position;
- ✧ Discontinuous paper locates by the front edge of the mark;
- ✧ Refer to Section 3.4 to adjust the print and paper out position

Appendix 4 Communication interface

Appendix 4.1 Serial interface

1) Interface signal

Pin	Signal name	Signal direction	Function
1	None		
2	RXD	Input	Data input
3	TXD	Output	Data output
4	DTR	Output	Data terminal ready
5	SG	—	Signal ground
6	DSR	Input	Data device ready
7	RTS	Output	Request transmission
8	CTS	Input	Allow transmission
9	FG	—	Frame ground

Table appendix 4.1.1 printer signal and status

2) Wiring diagram

```

PC           Printer
TXD-----RXD
RXD-----TXD
CTS-----RTS
RTS-----CTS
SG -----SG

```

Caution

- ◇ The following connection method can be used, which only needs 3 wires. This method applies to small data amount or XON/XOFF flow control:

```

PC           Printer
TXD-----RXD
RXD-----TXD
SG -----SG

```

Appendix 4.2 Parallel interface

Parallel interface works under IEEE1284 compatible mode.

Pin	Definition	Description	Pin	Definition	Description
1	Input	/STROBE	13	Output	SELECT
2	Input	Data0	14	Input	/AutoFd
3	Input	Data1	15	Not defined	NC
4	Input	Data2	16	-	Logic Ground
5	Input	Data3	17	-	Chassis Ground
6	Input	Data4	18	-	Vcc
7	Input	Data5	19 ~ 30	-	Signal Ground
8	Input	Data6	31	Input	/Init
9	Input	Data7	32	Output	/Fault
10	Output	/ACK	33	-	Ground
11	Output	BUSY	34 ~ 35	Not defined	/NC
12	Output	PErrror	36	Input	/SelectIn

Table appendix 4.2.1 parallel signal list

Caution

- ✧ In the process of data transmission, the host computer should not ignore the Busy signal; otherwise the print data may be lost;
- ✧ Parallel interface signal adopts TTL level. Ensure the rise and fall time of host computer is not longer than 0.5 μ s when it is used.

Appendix 4.3 USB interface

USB interface meets USB1.1 protocol standard and is optional.

USB interface transmits signal and power via a four-wire cable, as shown in the following figure:

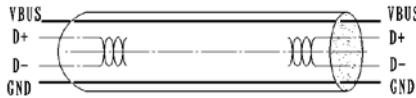


Figure appendix 4.3.1 USB cable

Wire D+ and D- in figure appendix 4.3.1 are used for signal transmission, and the VBUS is +5V.

Appendix 4.4 Ethernet interface

Ethernet interface meets the standard communication protocol of 10/100M BASE-T in IEEE802.3 and is optional.

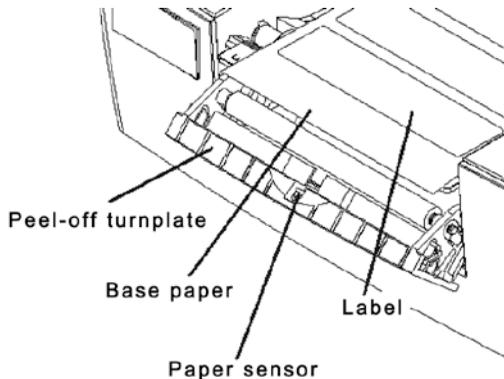
PIN	Signal name	Signal direction	Function
P1	TX+	Output +	Difference data signal output+
P2	TX-	Output -	Difference data signal output-
P3	RX+	Input +	Difference data signal input+
P4	Reserve	—	—
P5	Reserve	—	—
P6	RX-	Input -	Difference data signal input-
P7	Reserve	—	—
P8	Reserve	—	—
G+	VCC	power	SPEED_LED power
G-	SPEED_LED	output	SPEED LED signal
Y-	LINK_LED	output	LINK LED signal
Y+	VCC	power	LINK_LED power

Table appendix 4.4.1 Ethernet signal list

Appendix 5 Paper loading guide under peel-off mode

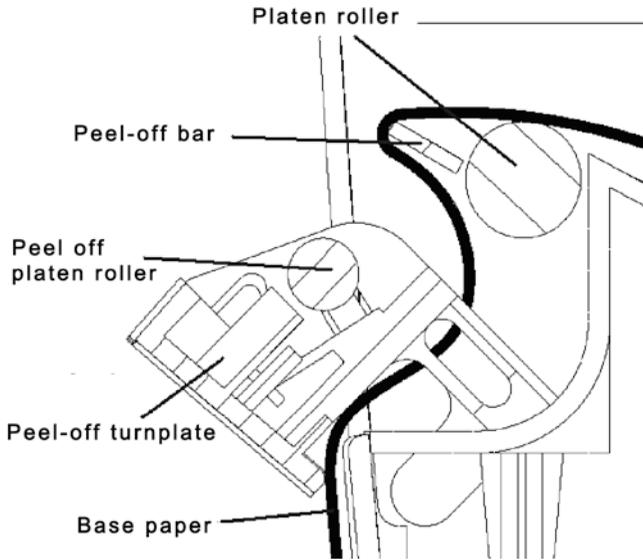
When the users use the adhesive label paper, the paper out mode can be set to peel-off mode. When loading the paper, please lead the base paper of label go through the peel-off module according to following steps:

- 1) Take off several labels at the front and ensure the bottom of base paper is flat, then push outward the peel-off turnplate(see Appendix-figure 5.1);



Appendix-figure 5.1

- 2) Lead the base paper go through the path shown in the Appendix figure 5.2:



Appendix-figure 5.2