

USER'S MANUAL

Label Printer

BTP-3200E



Shandong New Beiyang Information
Technology Co., Ltd

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Warning and caution



Warning: Items shall be strictly followed to avoid injury or damage to body and equipment.



Caution: Items with important information and prompts for operating the printer.

SNBC has been approved by the following certifications:

ISO9001 Quality Control System

ISO14001 Environmental Management System

OHSAS18001 Occupational Health and Safety Management System

IECQ QC080000 Hazardous Substance Process Management System

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 safety's sake.



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

2. Cautions

- 1) Install the printer on a flat and stable surface;
- 2) Reserve adequate space around the printer so that convenient operation and maintenance can be performed;
- 3) Keep the printer far away from water source, and do not expose the printer to direct sunlight, strong light and heat;
- 4) Do not use or store the printer in a place exposed to high temperature, high humidity or serious pollution;
- 5) Do not place the printer in a place exposed to vibration or impact;
- 6) No 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 printer power to an appropriate grounding outlet. Avoid sharing one electrical outlet with large power motors or other devices that may cause the fluctuation of voltage;

- 8) Disconnect the power when the printer is deemed to idle for a long time;
- 9) Don't spill water or other electric materials into the printer (e.g. metal). In case this happens, turn off the power immediately;
- 10) Do not allow the printer to start printing when there is no recording paper installed; otherwise the print head and platen roller will be damaged;
- 11) To ensure quality print and normal lifetime, use recommended paper or its equivalent;
- 12) Shut down the printer when connecting or disconnecting interfaces to avoid damages to control board;
- 13) Set the print darkness to a lower grade as long as the print quality is acceptable. This will help to keep the print head durable;
- 14) Avoid turning on and off the printer frequently when using the printer and turn on the printer at least 2 seconds after it is turned off;
- 15) Do not disassemble the printer without permission of a technician, even for repairing purpose;
- 16) Keep this manual safe and at hand for reference purpose.

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1 Product introduction

1.1 Introduction

BTP-3200E label printer is an ideal thermal transfer desktop label printing device, with delicate appearance and excellent performance. It can be used for label printing in many fields, such as retailing, medical, clothing, electronic manufacturing, logistics, etc..

BTP-3200E label printer can be connected with external devices via USB or other interfaces and can provide common drivers for operating systems such as Windows 2000/ Windows XP/ vista/ Windows 7/ Windows 8/ Windows server 2008/ Windows server2003 and SDK based on DLL.

Main features:

- Thermal transfer printing;
- Low noise, high speed printing;
- Easy paper loading, convenient operation;
- With 32 bit high speed microprocessor;
- Adopting heat history and auto temperature adaptation control;
- Adopting a new type of print head with long lifetime, high printing quality;
- Supporting continuous paper, label paper, marked paper, etc.

1.2 Unpacking and checking

Open the packaging and check the items according to the packing list. Please contact SNBC or your local dealer if there is shortage or damage (parallel, USB and serial communication cables are optional

depending on the printer interface type).

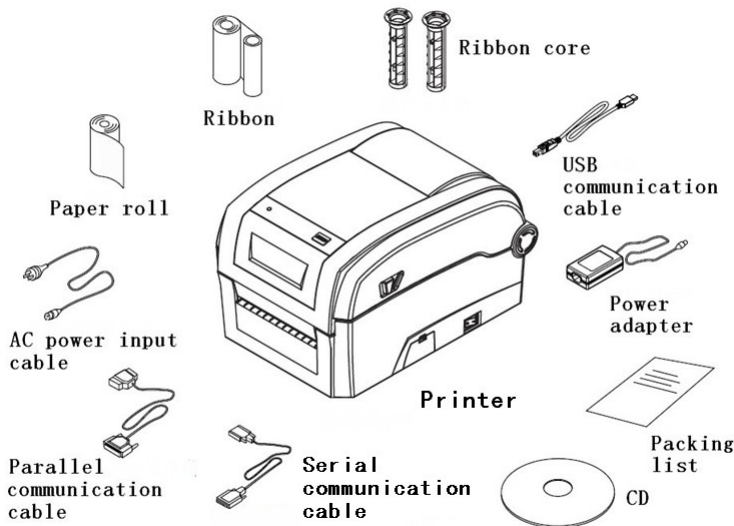


Figure 1.2.1

1.3 Installation position

Flatly place the printer on the operation table, which must be waterproof, moistureproof and dustproof. The maximal tilted angle should not exceed 15° during installation.

1.4 Power adapter connection

- 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.

1.5 Communication cable connection

- 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.

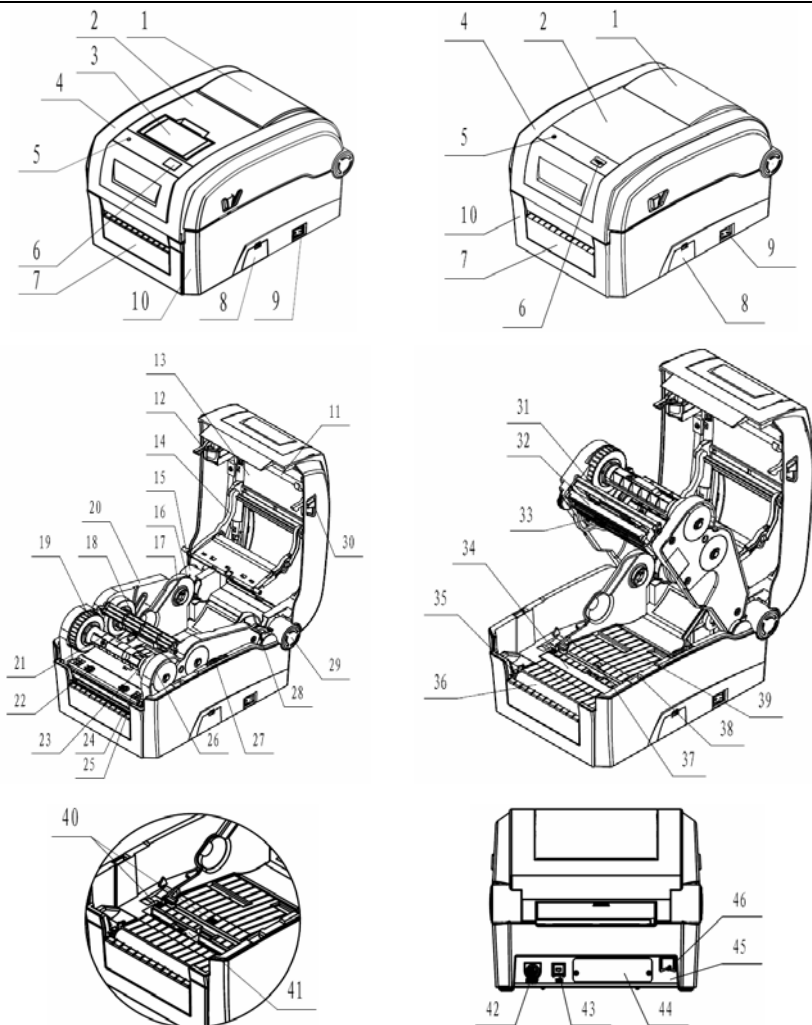
**Caution:**

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

2 Printer operation

2.1 Appearance and modules

1—window	2—top plate
3—LCD (optional)	4—top cover
5—LED	6—【FEED】 button
7—front cover	8—SD card cover
9—power switch	10—bottom cover
11—latch axis	12—left latch
13—linkage cover	14—baffle
15—left shaft cover	16—left paper guide
17—paper holder baffle	18—ribbon sending wheel
19—ribbon rewind wheel	20—left holder
21—ribbon core	22—print head pressure adjusting knob
23—ribbon baffle	24—ribbon adjusting axis
25—peel-off bar	26—right holder
27—paper guide thumb wheel	28—right paper guide
29—right shaft cover	30—right latch
31—holder underbeam	32—print head fixing plate
33—print head	34—sensor cover board
35—platen roller shaft sleeve	36—print platen roller
37—Photointerrupter dustproof cover	38—micro switch
39—middle cover	40—transmissive sensor
41—sensor fixing seat	42—power adapter interface
43—USB interface	44—communication interface
45—main board fixing plate	46—cable hook



2.2 Introduction of main modules

- 1) Button and LED (6, 5): indicate the printer status and complete printing function;
- 2) Power switch (9): press “O” to power off and “—” to power on;

- 3) Transmissive sensor (40): used for calibration, detection and location of media like label paper;
- 4) Paper holder baffle (17), left paper guide (16), right paper guide (28): support paper holder and prevent paper roll from shaking;
- 5) Micro switch (38): used to detect whether the print head is uplifted or pressed down.

2.3 LED, buzzer, button and LCD

2.3.1 LED function

LED name	Status	Description
Power LED (green)	Always on	Printer is in standby status.
	Flash quickly	Printer is busy (processing commands).
Pause LED (orange)	Always on	Printer is in pause status.
Error LED (red)	Flash	Printer has an error.

Table 2.3.1

2.3.2 Button function

Button	Function	Description
Feed button	Press the button to feed paper	Press the feed button in standby mode and then release it. The printer will feed one label for discontinuous paper; for continuous paper, the printer will feed paper according to the stored label height.
	Print self-test page	Press the feed button in standby mode, and release it after the power LED flashes once. The printer will print self-test page.
	Paper calibration	Press the feed button in standby mode, and release it after the power LED flashes twice. The printer will start paper calibration.
	Restore the default baud rate	Press the feed button in standby mode, and release it after the power LED flashes three times. The printer will restore the default communication (38400, N, 8, 1, hard handshake, no auto paper loading), but it will not be stored if turning off the printer. If supporting RTC, the printer will display the current time.
	Restore printer factory settings	Press the feed button in standby mode, and release it after the power LED flashes four times. The printer will restore outgoing settings.
	Print sensor oscillogram	Press the feed button in standby mode, and release it after the power LED flashes five times. The printer will print sensor voltage oscillogram, and then reset.

	Switching between calibration mode and calibration-free mode	Press the feed button in standby mode, and release it after the power LED flashes six times. The LCD will display the mode after switching.
	Confirm the label has been taken away	In peel-off mode, the printer is not equipped with existence sensor. When finishing printing one label, the pause LED is on. User presses down the feed button to confirm the label has been taken away; the printer will retract paper and start printing the next label.
	Cancel pause	When the pause LED (orange) is always on, press the feed button to cancel pause.
	Troubleshooting	Pressing the button to clear printer errors, the printer will return to pause mode.

Table 2.3.2

2.3.3 LED and buzzer

- 1) The buzzer beeps once for a short time under the following situations:
 - When the printer is turned on or the soft reset is correct;
 - When FLASH is erased successfully;
 - When the font library or bitmap is downloaded to FLASH successfully.

2) Comparison table of error information, beeping of buzzer and flashing of LED:






Error information	Beeping of buzzer	LED	
Print head lift-up		Flash	
Command grammar error			
Paper end			
Serial communication error			
Calibration error			
Print head voltage/temperature abnormal			
System error			

Table 2.3.3

2.3.4 LCD function

LCD selects model 12864, and supports Chinese and English modes. If supporting RTC, the current time will be displayed.

Printer status	Display information (English)
Standby status	Display product LOGO Barcode Printer FV1.000
Printing status	Display product LOGO Barcode Printer Printing...

Print head lift-up		Display product LOGO Barcode Printer Head Open
Paper end		Display product LOGO Barcode Printer Paper Out
Serial communication error		Display product LOGO Barcode Printer Com Error
Calibration error		Display product LOGO Barcode Printer Calibrate Fail
Print head status abnormal	Voltage too low	Display product LOGO Barcode Printer TphVol OverDown
	Overheating	Display product LOGO Barcode Printer Head Overheat
	Temperature too low	Display product LOGO Barcode Printer Head OverCold
System error		Display product LOGO Barcode Printer System Error

Table 2.3.4

2.4 Installing paper roll

- 1) Press the cover open lever with both hands and turn the top cover upward to open it (see figure 2.4.1);

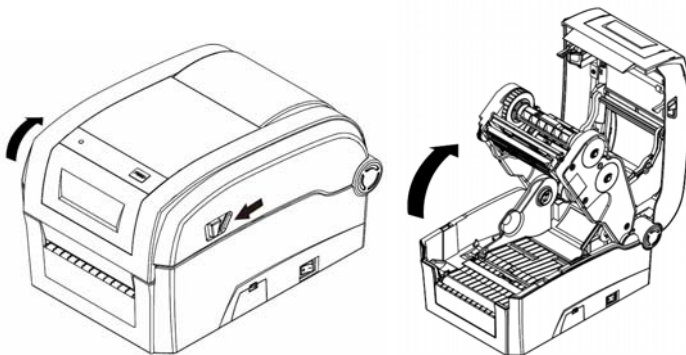


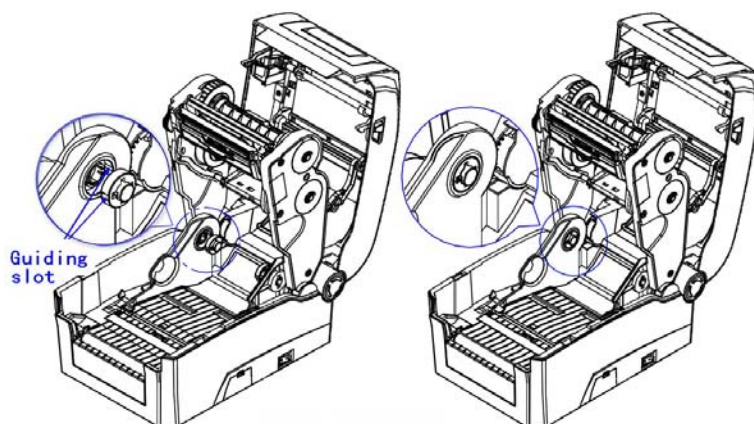
Figure 2.4.1

- 2) Insert the two paper holder baffles into the center holes of the left and right paper guides along the guiding slot;

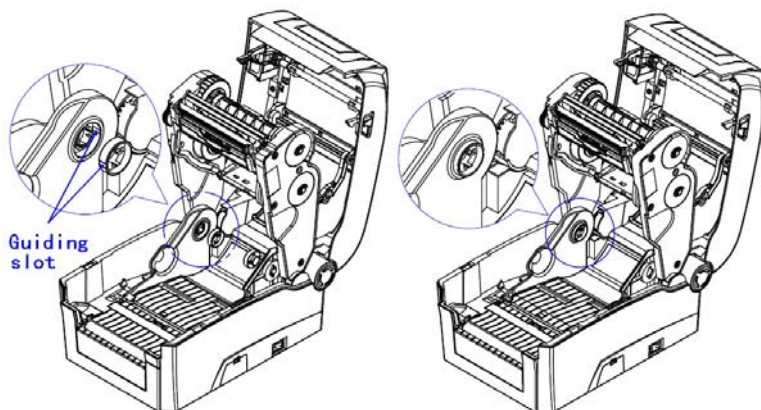


Caution:

- There are two kinds of paper roll ID: 12.7mm (1/2 inch) and 25.4mm (1 inch). The insertion method of paper holder baffle depends on paper roll ID. The detailed operation methods are shown in the figure (please pay attention to the installation direction in 2.4.2):



Installing 12.7mm paper roll core



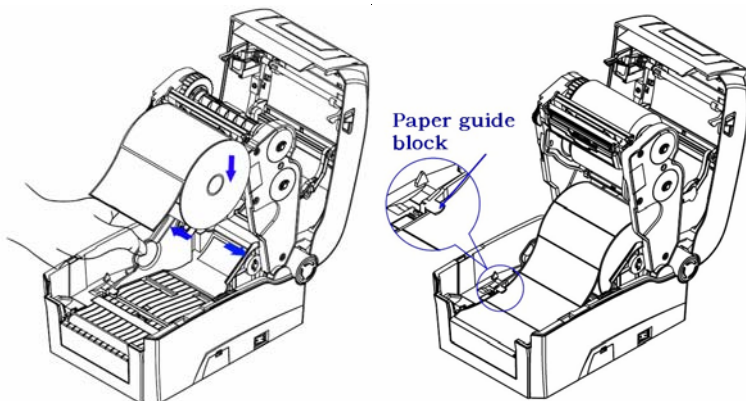
Installing 25.4mm paper roll core

Figure 2.4.2

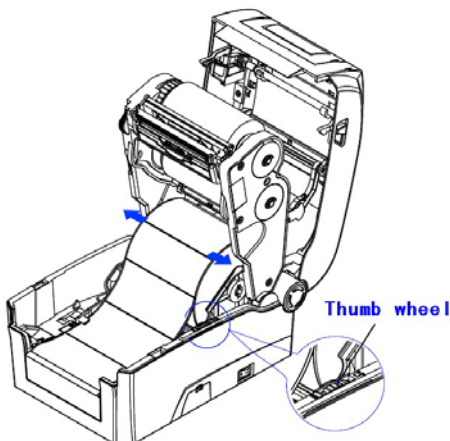
- 3) Pull the left and right paper guides apart and load the paper roll, insert left and right baffles into paper roll core, and then lead the front of paper roll through paper guide block to spread it in the print path.


Caution:

- The print surface of paper should face up (if it is marked paper, the black mark should face down).


Figure 2.4.3

- 4) Turn the thumb wheel according to the indication on the middle cover to make the paper holder a little wider than the paper roll width in case the paper roll bears any force (see figure 2.4.4).


Figure 2.4.4

2.5 Installing ribbon

- 1) Push the ribbon core slightly in the direction of ribbon baffle to take off the ribbon core, and insert the two ribbon cores into the ribbon and empty ribbon axis respectively in the direction indicated in the figure. Pay attention to the winding direction of ribbon (see figure 2.5.1);

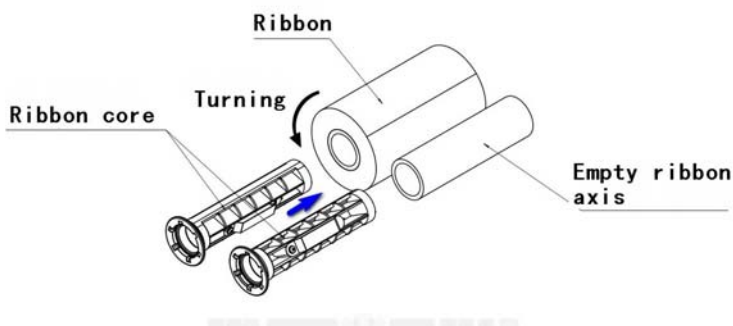


Figure 2.5.1

- 2) Push one end of the installed ribbon module into ribbon baffle and the other end into the ribbon sending wheel, rotate the sending wheel cover, and install the bulge of sending wheel cover into the slot of ribbon core to end the installation of ribbon module (see figure 2.5.2); install the empty ribbon axis module to ribbon rewind wheel module according to the same method (see figure 2.5.3);

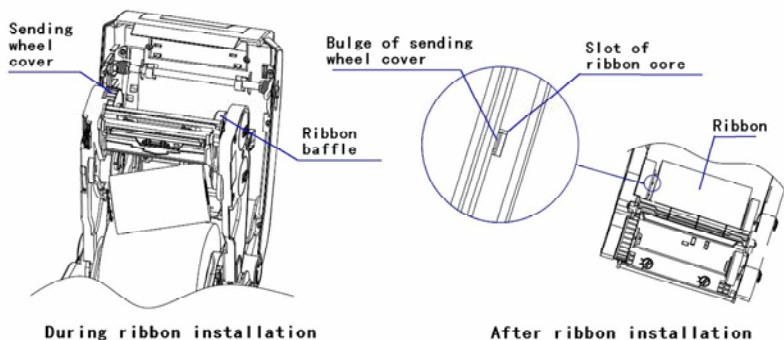


Figure 2.5.2

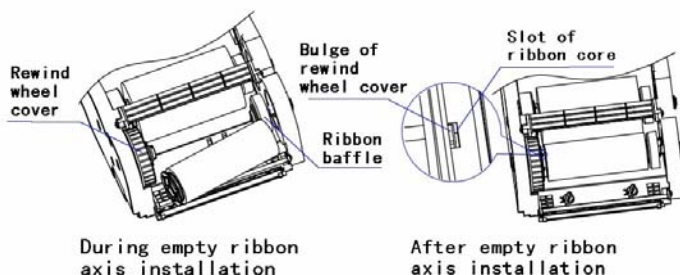


Figure 2.5.3

- 3) Lead the ribbon from beneath the print head module, stick the front of ribbon onto the empty ribbon axis, and turn the ribbon rewind wheel to tighten the ribbon (for the paper roll and ribbon that have been installed, see figure 2.5.4);

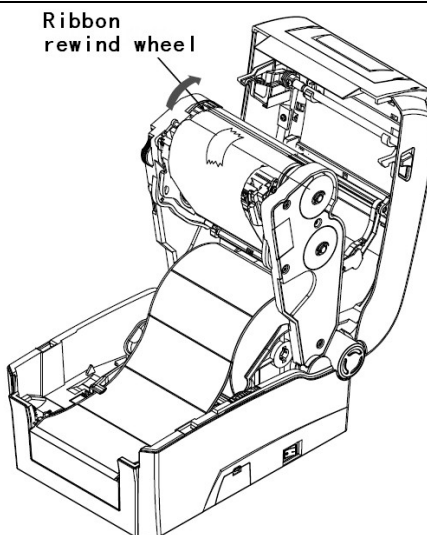


Figure 2.5.4

- 4) Close the printer top cover module to locking status.



Caution:

- Determine print method: If thermal transfer printing is selected, the ribbon needs to be installed; if thermal printing is selected, the ribbon does not need to be installed.
- Under normal condition, the selected ribbon should be wider than the print media.
- Keep the ribbon as flat as possible during ribbon installation in case the ribbon is cockled or damaged during printing.

2.6 Starting the printer

2.6.1 Power-on and self-test

- 1) Ensure the power adapter and the communication cables are correctly connected, and turn on the printer;

- 2) Printer self-test, the buzzer beeps once for a short time after self-test;
- 3) If the media type set in the printer is discontinuous and the printer allows auto paper loading, the printer will load paper automatically to the print position.

**Caution:**

- If the printer can not be started or can not work normally after it is started, please contact SNBC or local dealer.

2.6.2 Printing self-test page

Self-test pages include printer configuration page and print head test page.

- 1) Install the media, and turn on the printer. Press and hold the feed button. Release the button after the LED flashes once. The printer will feed paper and print self-test page (refer to Appendix 2.1 for samples);
- 2) Configuration sample shows the current configuration information of the printer;
- 3) Print head test sample shows the current status of the print head;
- 4) In discontinuous paper mode, the printer can identify print area automatically during self-test page printing in case the information is printed on black mark or the gap between two labels.

2.6.3 Setting paper type

Before printing, set the paper type in driver correctly, meanwhile, pay attention to the corresponding relation between paper type and sensor when installing paper roll. Refer to the following table when choosing paper type:

Paper type in driver	Actual paper type	Sensor type
Continuous paper	Continuous strip-shaped paper	Reflective sensor
Black marked paper	Discontinuous marked paper	
	Discontinuous punched paper	
	Discontinuous paper with a nick on the edge	
Label paper	Discontinuous label paper	Transmissive sensor

Table 2.6.1

2.6.4 Calibration

A. Calibration-free function

Under this mode, when the error between the label length in the command sample sent by user and the actual label length is within the set error range, the label can be located accurately. This makes it convenient for user to replace different consumables for printing, making the printer easy to use.

When the label length of the command sample sent by user is very different from the actual label length, the printer starts label calibration automatically to get the correct label height and paper type.

B. Manual calibration function

- 1) After installing the media, turn on the printer. The printer will enter standby mode;
- 2) Press and hold the button, and release it after the power LED (green) flashes twice. The printer will feed paper and start calibration;
- 3) If the calibration succeeds, the printer will enter standby mode; if the calibration fails, printer will alarm. Please check if the media is installed correctly and if the reflective sensor position is correct.



Caution:

Manual calibration is needed when any of the following situations occurs:

- Install and use the printer for the first time;
- Reuse the printer after it is unused for a long time;
- Replace paper roll to a new type;
- The sensor is used for the first time after cleaning;
- The mark can not be identified effectively during printing;
- The operation environment is greatly changed.

2.7 Software installation

The driver and label software installation program are included in the CD, which can also be downloaded from the website www.newbeiyang.com.cn.

2.7.1 Driver setup

32-bit systems supported by the driver: Windows 2000/Windows XP/Windows server 2003/WindowsVista/Windows server 2008/Win7 operating system. 64-bit operating systems supported by the driver: Windows XP/Windows server 2003/WindowsVista/Windows server 2008/Win7.

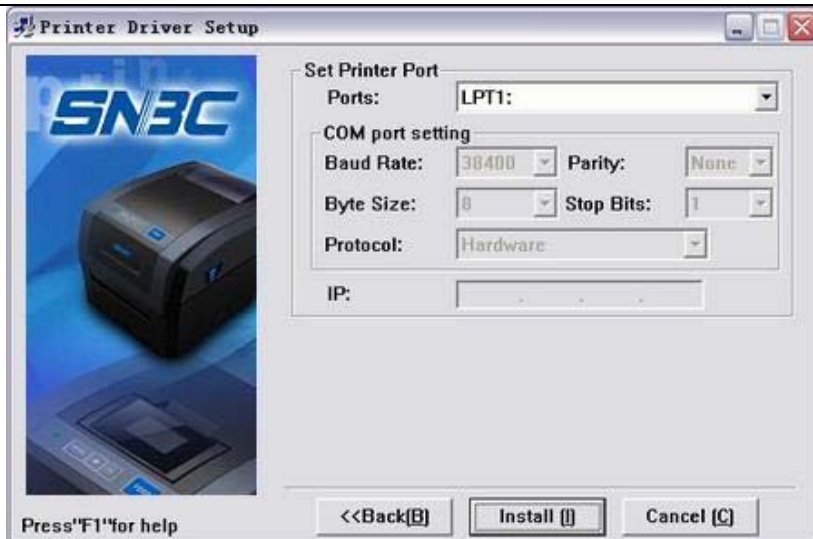
- 1) Run "Setup.exe" in the driver package, and read the related software license agreement carefully. If you accept the items in the license agreement, please click "I Accept", and then click "Next" button;



- 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";



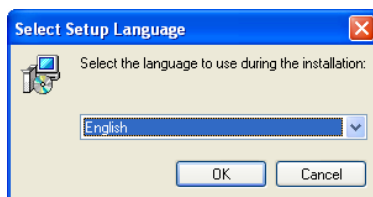
- 3) Select setup type, and click "Next";
- 4) Select the current OS type, and click "Next";
- 5) Set printer port. "LPT1" is set as the default print port, but user can select port according to actual needs. If it is serial driver, please select "BYCOMx" (x equals to 1, 2, 3, 4, 5, 6, 7 or 8), and click "Install" to end the installation.



2.7.2 Label software installation

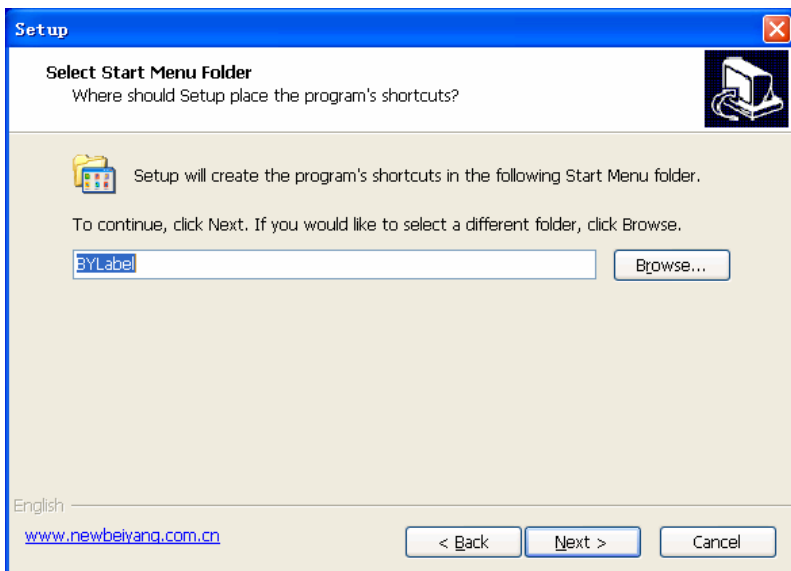
The label software supports the operating systems such as Windows 2000/WindowsXP/Windows Server 2003/Windows Vista/Win7.

- 1) Run Setup.exe, and start the installation of label software. Step 1: select setup language;



- 2) Click “OK” button to continue the installation;
- 3) Read the related software license agreement carefully. If you accept the items in the license agreement, please click “I Accept”, and then click “Next” button;

- 4) Select the installation directory, and then click "Next" button;
- 5) Select a shortcut name, and then click "Next" button;



- 6) Select to create a desktop icon or not, then click "Next" button to end the installation.

3 Printer adjustment

3.1 Print head pressure adjustment

The print head pressure adjusting device is configured with two print head pressure adjusting knob, and every knob has 3 levels, indicating different print head pressure. When turning the knob clockwise, both the number of level and the pressure of print head increase (see figure 3.1.1). The default pressure level is generally at level 3, which does not need to be changed during normal printing.

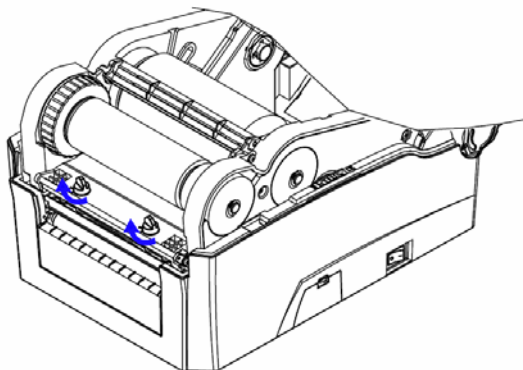


Figure 3.1.1

The pressure level needs to be changed under the following conditions:

- 1) When the print head pressure cannot meet the requirement (the ribbon cannot be rewound smoothly, for example), turn the print head pressure adjusting knob to increase the pressure;
- 2) Different levels can be selected when using label paper of different widths for printing (just for reference, see the table below).

Label paper width	Levels on the left	Levels on the right
25mm	1	1
51mm	2	2
110mm	3	3


Caution:

- Set the print head pressure to a lower level as long as the print quality is acceptable.

3.2 Sensor position adjustment

When marked paper is used or marked paper width is changed, the sensor position can be adjusted according to the following steps:

- 1) Measure the required sensor position in advance based on the mark position of media;
- 2) Push the spanner in the direction indicated by the arrow on the sensor cover board, and then turn to take off the sensor cover board (see figure 3.1.2);
- 3) Pull or push the sensor to the required position (as shown in the figure);
- 4) Press down the top cover board spanner and install the top cover board.

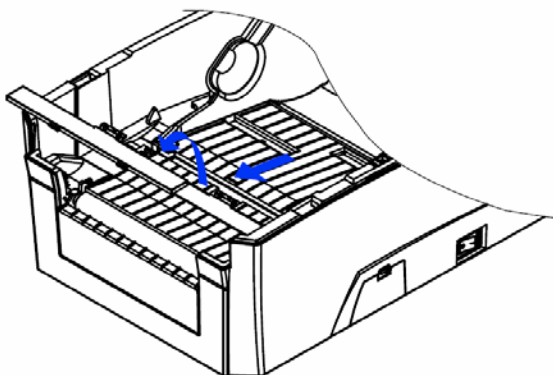


Figure 3.1.2

3.3 Parameter adjustment

3.3.1 Parameter adjustment and adjustment range

Adjustment object	Range	Remarks
Print darkness	00—30	Set the print darkness to a lower grade as long as the print quality is acceptable, which can help to keep the print head durable.
Vertical position	-99—99 dots	Adjust the print content in vertical direction with 1 dot as motion unit.
Horizontal position	-99—99 dots	Adjust the print content in horizontal direction with 8 dots as motion unit. No motion when < 4 dots; move according to 8 dots when >4 dots and <8 dots.
Tear-off position	-99—99 dots	Adjust the tear-off position in vertical direction with 1 dot as motion unit.

Table 3.3.1


Caution:

- For 203DPI, 1 mm equals to 8 dots; for 300DPI, 1 mm equals to 12dots;
- The indexes above have been adjusted to the optimal status when leaving the factory, so please do not change them at random.

3.3.2 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 3.3.2


Caution:

- Figure A indicates that the print position is upper than the correct position. Adjust it in the negative direction;
- Figure B indicates that the print position is lower than the correct position. Adjust it in the positive direction.

2) Adjust horizontal print position

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



Figure 3.3.3



Caution:

- Figure D indicates that the print position is on the left of the correct position. Adjust it in the positive direction;
- Figure E indicates that the print position is on the right of the correct position. Adjust it in the negative direction.

3) Adjust tear-off position

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

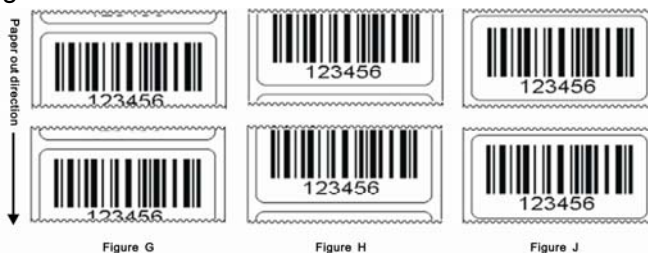


Figure 3.3.4

**Caution:**

- Figure G indicates that the tear-off position is upper than the correct position. Adjust it in negative direction;
- Figure H indicates that the tear-off position is lower than the correct position. Adjust it in positive direction.

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 chapter. If it still can not be cleared, please contact SNBC or your local dealer.

5.1 LED and buzzer status indication

The error LED flashes and buzzer beeps when the printer has errors or exceptional status. At this time, the printer will stop printing and the host and printer will also disconnect. Please check the times LED continuously flashes, and then handle it with reference to the following method:

Error LED status	Reason	Solution
Flash twice	Print head lift-up	Press down the print head
	Micro switch error	Contact maintainers
Flash three times	Paper roll used up or no paper roll installed	Install paper roll
	Paper jam	Clear paper jam
	Paper roll surface is dirty or damaged.	Please skip the dirty or damaged part.
	Paper roll breaks away from the mark sensor.	Install the paper roll again.
	The surface of mark sensor is dirty.	Clean mark sensor surface.
	The position of reflective sensor is not correct.	Adjust sensor position according to the description in 3.2.
	Paper roll type does not match with mark sensor type.	Set the paper type in driver to make it match with the actual paper type.

Flash four times	Communication cable is not connected firmly.	Connect the communication cable reliably.
	Communication settings of printer and host are not consistent.	Keep the communication interface settings of the printer consistent with those of the computer (such as handshake mode, baud rate, data bit, stop bit and parity bit).
Flash five times	Media 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.	
	Print darkness is too high.	Lower the print darkness properly.
	Operating environment temperature is too high, causing overheating print head.	Improve ventilation condition. The printer can return to normal with the fall of temperature.
	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 with the fall of its temperature. If normal, the printer can continue to work; otherwise replace print head (see Appendix 2.2 for test pattern.).
Always on	System error	Please contact local dealer or SNBC.

Table 5.1.1

5.2 Print quality problem

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 specifications

Appendix 1.1 main technical specifications

Item		BTP-3200E	BTP-3300E
Printing	Resolution	203DPI	300DPI
	Print method	Thermal / thermal transfer	
	Print width (Max.)	104mm	106mm
	Print speed (Max.)	152mm/s	102mm/s
	CPU	32bit RISC microprocessor	
	Memory	FLASH: 4MB SDRAM: 64MB Extended FLASH: it can be extended to 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	<p>Standard configuration: RS-232 serial interface;</p> <p>For USB interface, CENTRONICS parallel interface, and Ethernet interface, choose any one of them</p> <p>USB interface only or USB interface + optional interface;</p> <p>Optional interface: serial interface, CENTRONICS parallel interface, Ethernet interface, WLAN interface;</p>
Media	Paper type	Continuous paper, label paper, marked paper, etc.
	Paper roll OD (Max.)	127mm (5 inches)
	Paper roll width (Max.)	120mm
	Paper roll ID	12.7mm (0.5 inch) / 25.4mm (1 inch)
	Paper out mode	Tear-off, peel-off, cutter, etc.
Character Barcode Graphics	Character enlargement/rotation	<p>All characters can be enlarged 1—8 times horizontally and vertically.</p> <p>Rotation printing (0°, 90°, 180°, 270°)</p>
	Character set	Frequently used single-byte fonts: FONT0 to FONT8, 6 kinds of ASD smooth fonts, 8 kinds of Courier fonts
		User-defined font: User can define font and download it to FLASH or SDRAM.
	Graphics	Plain bit-image in binary system, HEX, PCX, BMP and IMG file can be downloaded to FLASH or RAM.

	Barcode	<p>One-dimensional barcode: 39CODE, UPCA, UPCE, Interleaved 2 of 5, 128CODE, EAN13, EAN8, HBIC (code 39 with verify symbol), Codabar, industry/interleaved 2 of 5, storage and transportation code, UPC2, UPC5, 93CODE, Postnet 25 (China), UCC/EAN CODE, matrix 25, POSTNET CODE etc.</p> <p>Two-dimensional barcode: PDF417, MAXICODE, QRCODE, etc.</p>
Operation interface	Button, LED, LCD (optional)	1 button, 1 LED, 1 LCD (optional)
Power adapter	Input	AC 110~240V, 50/60Hz
	Output	DC 24V, 2.5A
Environmental requirements	Operating environment	+5℃~45℃, 20%~90%(40℃)
	Storage environment	-40℃~60℃, 20%~93%(40℃)
Physical features	Overall size	216(W)x 306(D)x185mm(H)
	Weight	About 3.45Kg

Table appendix 1.1.1

Appendix 1.2 technical specifications of paper

The maximum height of paper depends on the memory size of printer.

1. Continuous paper specifications (unit: mm)

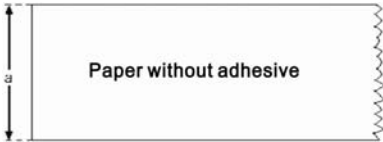
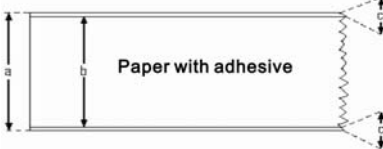
Type	Illustration	Index
Continuous paper without adhesive		Print paper width: $19 \leq a \leq 118$
Continuous paper with adhesive		Base paper width: $19 \leq a \leq 118$ Print paper width: $19 \leq b \leq 118$ Paper margin width: $c \leq 1$

Table appendix 1.2.1

2. Discontinuous paper specifications (unit: mm)

Type	Illustration	Index
Discontinuous label paper with adhesive		<p>Base paper width: $19 \leq a \leq 118$</p> <p>Paper margin width: $b \leq 1$</p> <p>Label width: $19 \leq c \leq 118$</p> <p>Label height: $d \geq 10$</p> <p>Gap width: $e \geq 2$</p>

Discontinuous punched paper without adhesive		Punched paper width: $19 \leq a \leq 118$ 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		Marked paper width: $19 \leq a \leq 118$ 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.

Appendix 2.1 printer configuration information

1. Printer configuration information (BPLA)

<PRINTER CONFIGURATION>

MODEL	BTP-3200E
BOOT FIRMWARE	FV1.000
MAIN FIRMWARE	FV1.000
HV EDITION	BARKV2
PRINT MODE	REWINDER
PRINT METHOD	THERMAL
PRINTER BUFFER	DOUBLE BUFFER
SERIAL CHECK	UNALLOWED
BAUD RATE	38400
DATA BITS	8 BITS
PARITY	NONE
STOP BITS	1 BITS
HANDSHAKE MODE	HARD HANDSHAKE
PAPER SENSOR	REFLECTIVE
THRESHOLD	197
CURRENT VALUE	255
FLASH MEMORY	8192K
STANDARD RAM	8912K
AVAILABLE RAM	5364K
AUTO UP	UNALLOWED
ASB RETURN	UNALLOWED
REAL-TIME COMMAND	ALLOWED
SYNTAX CHECK	UNALLOWED
MEASURE UNIT	MM
SYSTEM BUFFER	032K
LABEL LENGTH	080MM

BUFFER WIDTH	104BYTE
TPH WIDTH	104MM
DARKNESS	18
PRINT SPEED	152MM/S
FEED SPEED	152MM/S
BACKFEED SPEED	152MM/S
CALIBRATION MODE	UNNEEDED
PAPER TYPE	CONTINUE
COMMAND MODE	BPLA
RESOLUTION	203DPI

(If Ethernet interface is configured, the self-test page also includes the following contents:)

INTERFACE TYPE	ETHERNET
FIRMWARE	FV2.020
IP ADDRESS	192.168.*.**
MAC ADDRESS	***** **
SUBNET MASK	255.255.255.*
GATEWAY	192.168.*.*
DHCP	DISABLED

Appendix 2.2 print head test information

Print head test pattern can be used to detect whether the print head status is normal or not.

Figure appendix 2.2.1 is a test pattern printed by a print head in good condition. Figure appendix 2.2.2 is a test pattern printed by a print head in bad condition. The reason is possibly that there are some small solid particles attached to the print head or the print head is

damaged. If it still cannot work normally after cleaning, please contact your local dealer or SNBC.



Figure appendix 2.2.1

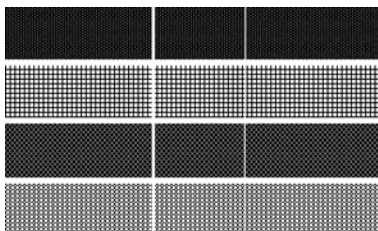


Figure appendix 2.2.2

Appendix 3 print and paper out position

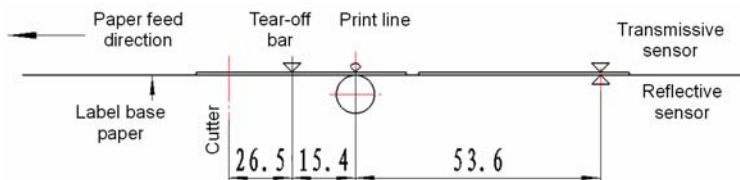


Figure appendix 3.1



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 3.3.2 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	Receive Data
3	TXD	Output	Transmit Data
4	DTR	Output	Data Terminal Ready
5	SG	—	Signal Ground
6	DSR	Input	Data Set Ready
7	RTS	Output	Request To Send
8	CTS	Input	Clear To Send
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	PError	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 0.5μs 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:

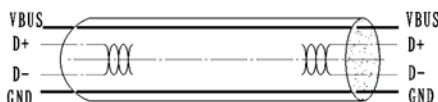


Figure appendix 4.3.1 USB cable

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 users use label paper with adhesive, refer to “2.4 Installing paper roll” for installation. Users can set the paper out mode to peel-off mode. If peel-off mode is selected, please let the base paper of label paper pass through the peel-off module according to following steps during paper loading:

- 1) Remove the several labels at the front of label paper and ensure that the bottom of base paper is flat, and then pull the peel-off module outward (see figure appendix 5.1);

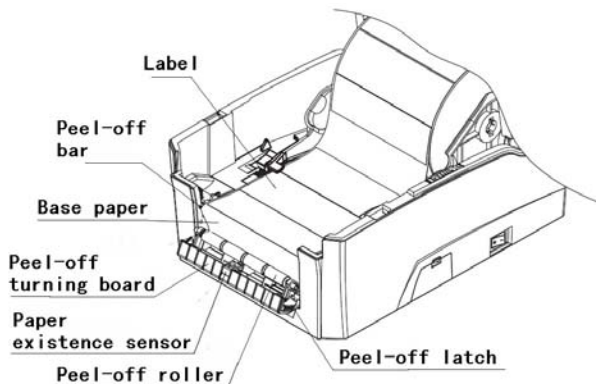


Figure appendix 5.1

- 2) Let the base paper pass through according to the path shown in the figure (see figure appendix 5.2);

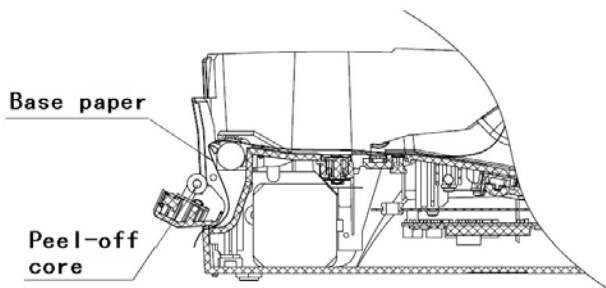


Figure appendix 5.2

- 3) Push the peel-off turning board to its original position and keep the base paper tight, then the paper loading is finished.

The printer peels the label paper off the base paper during operation, sends every single piece of label paper out one by one, and continues with the next command after users take the label paper away.