User Manual

BTP-2100E
BTP-2200E
BTP-2300E
Label Printer

Shandong New Beiyang Info-Tech Co., Ltd.

Declaration

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Safety warning

⚠ **Caution:**   Must comply with warning to avoid bodily harm or damage to device

⚠   **Notice:** Provides important information and prompts for printer operation.

● The quality control system of SNBC has been approved of the following certification.

（DNV）ISO9001:2000

A.　Safety instruction

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

The THP (THP) is calorific and its temperature is high when printing or just after the operation, so please don't touch it and its peripherals for safety purpose.

Due to the static, please don't touch the surface of THP and connecting parts to keep it from damages.

B．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 a single outlet with large power motors and other devices that may cause voltage fluctuation;

8)　Disconnect the AC adapter when the printer is deemed to spare for a long time.

9)　Don't spill water or other electric materials into the printer. In case that this happens, turn off the power immediately.

10) Do not allow the printer to start printing when there is no recording paper in, otherwise the THP and platen roller will be damaged.

11) To ensure print quality and normal lifetime, use recommended paper and ribbon or materials 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 THP durable.

14) Do not disassemble the printer without permission of a technician, even for repairing purpose.

15) Keep this manual carefully at hand for ready reference.

CONTENT

1 Overview

1.1 Outline

BTP-2200E/2300E printer has a smart appearance and high performance, which is an ideal label printer for office use. It can apply to real-time label printing, label batch printing, transport and commercial label printing, other receipt printing for railway, airport, bus station, etc.

This product can connect with the peripheral equipments via serial or other interfaces, at the same time it can provide common drivers for the operation systems as WINDOWS95/98/2000/NT4.0/XP and a software package based on DLL.

- ➢ Thermal / thermal transfer printing;
- ➢ Low noise and high-speed thermal printing;
- ➢ Easy and quick paper load;
- ➢ 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 Package content

Unpacking the printer carton and refer to the packing list to check parts as below (include all parties in figure 1.2-1, of which Serial cable or USB cable shall be used depending on corresponding interface type). If any part is short or damaged, please contact with our distributor or manufacturer.
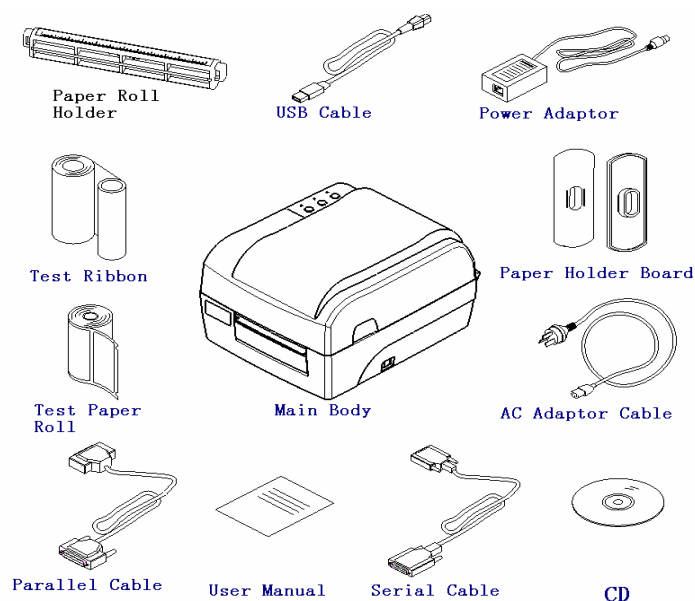
Figure 1.2-1

1.3 Printer mount

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°.

1.4 Connect with power adapter

1) Be sure that printer power switch is off;
2) Connect one end of AC power cable to power adapter, then put another end of power adapter into power adapter socket at the back of the printer;
3) Put another end of AC power cable into 220V power socket.

⚠ **Notice:**   If the printer is idle for a long period, please disconnect the power.

1.5 Connect communication cable

1) Be sure the printer power switch is off;
2) Put communication cable into matched interface and fix it in using clip spring or screw of the plug；
3) Connect another end of communication cable to the host.

⚠ **Notice:**

Please do not connect or disconnect Serial and Parallel cable with power on！

2 Printer operations

2.1 Apperance and parts

1—Bottom cover

2—Top cover

3—Left cover

4—Key

5—LED

6—Power switch

7—Peel-off turnplate

8—Tear-off bar（peel-off bar）

9—Scale Label

10—Platen holder

11—Ribbon holder

12—THP pressure knob

13—Ribbon baffle

14—Ribbon rewinding shaft

15—Ribbon output shaft

16—Paper guide

17—Paper roll holder

18—THP cover

19—Manual ribbon bushing

20—THP lift-up button

21—Ribbon block

22—Locking hook

23—Paper guide block

24—Platen

25—Reflection sensor

26—Sensor top cover

27—Transmission sensor

28—Transmission sensor cover
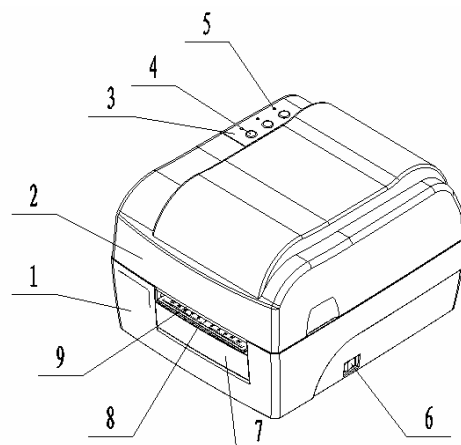
29—THP

30—Ribbon turn wheel

31—THP micro-switch

Figure 2.1.1

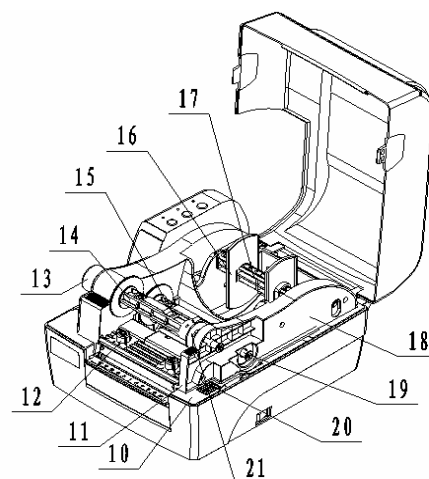**Figure 2.1.2**
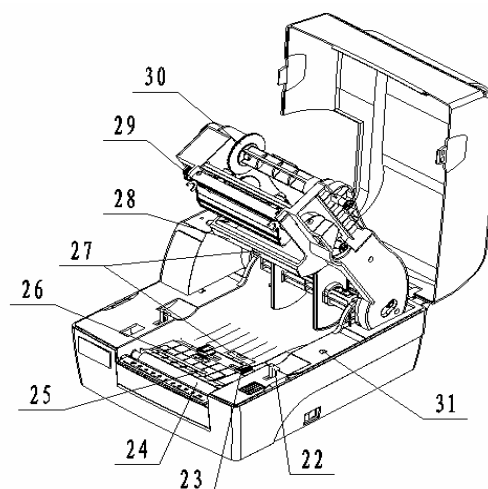
32—Power adaptor interface

33—Serial interface

34—Parallel interface

35—USB Interface
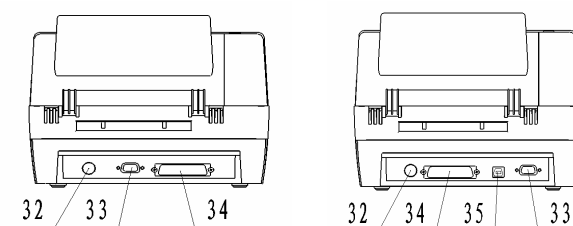
Figure 2.1.4

2.2 Main modules

1) Keys and LEDs（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 holder（17）and Paper guide（16）

   Hold paper roll and prevent it sliding in paper outlet；

4) Paper guide block（23）

   Prevent paper sliding in paper outlet；

5) Reflection sensor（25）

   Verify black mark paper, check it available or position it.

6) Transmission sensor（27）

   Verify label paper, check it available or position it.

7) THP micro-switch（31）

   Check THP open or closed status.

2.3 LEDs and keys

2.3.1 LEDs functions

LED name	Status	Explanation
Power LED （Green）	Always light	Printer is in standby status
	Flash	Printer is busy（process commands）
Stop LED （Yellow）	Always Off	Printer is in standby status
	Always light	Printer enters pause status
		Wait and confirm label is taken away in tear-off/peel off mode
Error LED （Red）	Always Off	Printer is in standby status
	Flash	Printer has error

Table 2.3.1

2.3.2 Keys functions

Keys	Functions	Explanation
Paper feed key	Feed paper	In standby status, press down "Feed" key, the printer feeds one label for non-continuous paper; the printer feeds paper until releasing the key for continuous paper.
	Print self-test page	Turn on the power and press "feed" key until buzzer sounds, then the printer starts to print a self-test page.
Pause key	Pause	In standby status, press down "Pause" key, the printer enters pause status. When pressing down " Pause" again, the printer shall be back to standby status.
		Press down "Pause" key in printing, then the current print job shall pause. When pressing down "Pause" key again, the printer shall continuous last print job.
	Confirm label is taken away	In tear-off/peel-off mode, after the printer shall print a label and stop without paper sensor, the light shall be on. User presses down "Pause" to confirm label taken away; then printer shall retract paper and start to print next label.
	Paper checkout	Turn on the power and press down "Pause" until buzzer sounds, the printer shall feed paper and verify paper.
Cancel key	Cancel print job	First press "Pause" key to stop current print job, then press "Pause" key to cancel the print job.
	Remove error	This key is used to remove printer error and recover printer standby status
	Enter default Serial communication	Turn on the power and press down "Cancel" key until buzzer sounds, then the printer enters default serial mode.(9600, N, 8, 1, no Auto paper load)

Table 2.3.2

2.3.3 LEDs and Buzzer

1)   Buzzer sounds shortly under following cases:

➢   When the printer is turned on or reset with software successfully;

➢   Erase FLASH successfully;

➢   Download character set, bitmap to FLASH successfully.

2)   Printer error information, buzzer and LEDs:

Error information	Buzzer sound	LED
THP lift-up	···⎍⎍‗‗⎍⎍‗‗···	Flash
Wrong command functions		
Paper end	···⎍⎍⎍‗‗⎍⎍⎍‗‗···	
Serial communication error	···⎍⎍⎍⎍‗‗⎍⎍⎍⎍‗‗···	
Paper checkout error	···⎍⎍⎍⎍⎍‗‗⎍⎍⎍⎍⎍‗‗···	
THP voltage/temperature abnormal		
Ribbon is used out	···⎍⎍⎍⎍⎍⎍‗‗⎍⎍⎍⎍⎍⎍‗‗···	
System error	···⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍⎍···	

<center>**Table 2.3.3**</center>

2.3.4 Key-configuration functions

The printer can print the configuration content and execute the parameter configuration using keys and LEDs' status.

Serial interface and Parallel interface are standard interfaces of printer, RS-232 interface is standard Serial interface, Centronics parallel interface accords with IEEE1284. User can also choose USB interface to replace Parallel interface.

1) Simple Parameter Settings

Mode	Key	Key Function	LEDs Status
Simple Parameter Setting	FEED+ PAUSE	Press "FEED" and "PAUSE", release after the buzzer sound once, start to print simple parameter setting menu and enter simple parameter setting mode.	Three LEDs flash alternately.
	FEED	Press "FEED" first to confirm the change of the paper type after entering the simple mode.	Power LED flashes
		Continue to press "FEED" to switch among label paper, label mark paper, continuous paper.	Different compounding of the three LEDs means different setting.
	PAUSE	Press "PAUSE" to confirm changing the type of print after entering the simple mode.	PAUSE LED flash.
		Continue to press "PAUSE" to switch print mode between thermal print and thermal transfer print.	Different compounding of the three LEDs means different setting.
	CANCEL	Press "CANCEL" first to confirm the change of Auto. Paper Feed after entering the simple mode.	Error LED flash
		Continue to press "CANCEL" to switch between Auto. Paper Feed mode and non-auto paper feed mode.	Different compounding of the three LEDs means different setting.
	FEED+ CANCEL	Press "FEED" and "CANCEL" to save the modified parameter and exit the simple parameter setting mode and back to standby status.	Power LED always light.

<center>**Table 2.3.4**</center>

2) Complex Parameter Settings

Mode	Key	Key Functions	LED Status
Complex Parameter Setting	PAUSE+ CANCEL	Press "PAUSE" and "CANCEL", release after the buzzer sound once, start to print complex parameter setting menu and enter complex parameter setting mode.	POWER LED always light; STOP LED not light; ERROR LED always light;
	FEED	Press "FEED" to turn the main menu content withershins or change parameter of current menu item.	POWER LED flashes once.
	PAUSE	Press "PAUSE" to print current setting items to be changed; After that, press "PAUSE" to print the changed setting items and back to the first item of the setting menu.	STOP LED flashes once.
	CANCEL	Press "CANCEL" and turn main menu content items deasil or change the parameter of current menu item.	ERROR LED flashes once.
	FEED+ CANCEL	Press "FEED" + "CANCEL" to save the changed parameter and exit complex setting mode, then back to standby status.	POWER LED always light.

<center>**Table 2.3.5**</center>

2.4 Loading paper

1) Push up the top cover with two hands according to the arrows in figure 2.4.1 and open it;

2) Press down Print-head lift button. After ribbon holder is lift, turn it at the angle shown as below (stop it until a slight sound "pa" is prompted) (see figure 2.4.2);
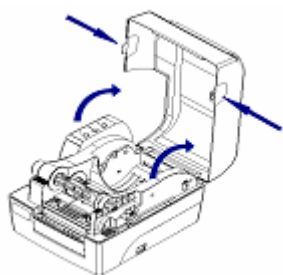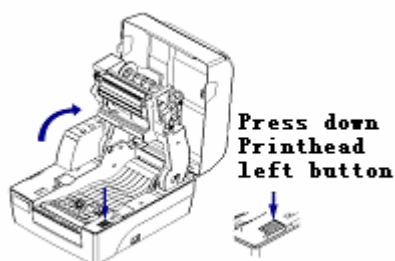
Figure 2.4.1   **Figure 2.4.2**

3) Load a paper roll on paper roll holder and add one paper roll guide on each side of paper roll.

4) Drop paper roll on the paper holder to the paper room, then pull out the front end of the paper and put it in the print path flatly, and also release the paper guide to hold it. (See figure 2.4.3)
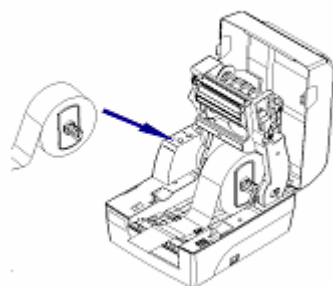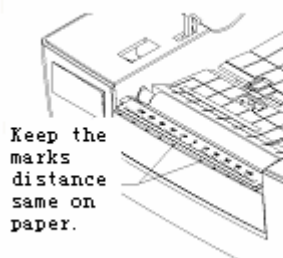
Figure 2.4.3   **Figure 2.4.4**

5) Paper roll has two sizes of I/D: 25mm (1 inch) and 38mm (1.5 inch). When paper roll ID is different, the loading method of paper holder into paper room will be different. Operation method is as below (See figure 2.4.5 and figure 2.4.6).

Paper roll ID is 25mm (1 inch)   Paper roll ID is 38mm(1.5 inch)
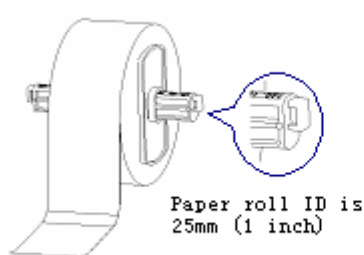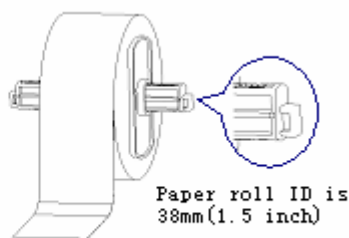
Figure 2.4.5   **Figure2.4.6**

⚠ **Notice:**

■ The print side should be upside. If it is the marked paper, please put black mark downwards;

■ The front end of paper roll should be in the middle of the platen as possible as it can. This could be positioned with the mark of peel-off plate (see figure 2.4.4) .

2.5 Assembling the ribbon

1) Pull the manual bushing of ribbon output shaft slightly, then take off ribbon output shaft and put it into ribbon core axis according to the arrow in the figure as below. (See figure 2.5.1)

2) Lift up the ribbon holder at about 30°(When a slight sound "pa" is prompted, the ribbon holder shall keep this position); Pull the manual bushing out slightly until the ribbon output shaft is at the original position, then release the manual bushing. The mount of ribbon output shaft is finished. (See figure 2.5.2)
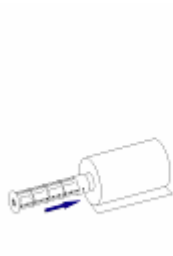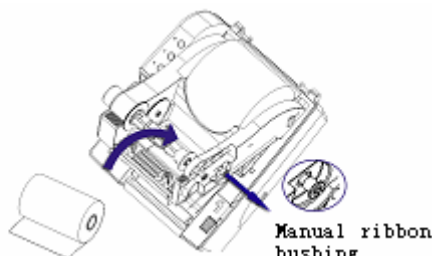
Figure 2.5.1   **Figure 2.5.2**

3) Put the ribbon front around the bottom of THP and rewind it on the ribbon retraction shaft (see figure 2.5.3). Turn ribbon wheel to tight it up (the loaded paper roll and ribbon see figure 2.5.4).

Figure 2.5.3   **Figure 2.5.4**

4) Press down the ribbon holder until it is locked, then close the top cover (see figure 2.5.5).
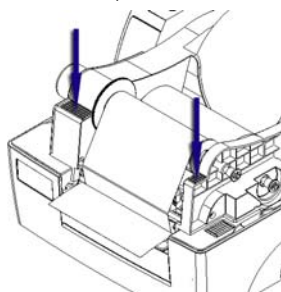
Figure 2.5.5

⚠ **Notice:**

■ Select the print mode: To select thermal transfer mode, you need to mount ribbon; To select thermal mode, no need to mount ribbon;

■ In normal condition, ribbon width should be bigger than the paper width;

■ During this mount, the ribbon should not be cockled or damaged.

2.6 Starting the printer

2.6.1 Turn on the printer and 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 this self-test, buzzer shall sound one time;

3)   If the printer sets the media type as non-continuous paper and allows Auto paper load, it shall automatically load paper to the print position.

⚠ **Notice:**

■   If the printer cannot start or work normally, please contact with our distributors or manufacturer.

2.6.2 Print a self-test page

The self-test page includes the printer configuration sample and TPH test sample.

1)   Turn off the printer power and load the media. Hold down "Feed" key and turn power switch to " - " until the buzzer gives one sound. The printer shall feed paper and print a self-test page after releasing "feed" button. (Self-test page sees appendix 1);

2)   The configuration describes the current settings of the printer.

3)   THP test page can show if the THP status is in good status.

2.6.3 Set paper type

Before the print, set the paper type in driver correctly and pay attention to the relation between paper type and sensor in paper load. Select paper type according to the table as below:

Paper type in the driver	Actual paper type	Sensor type
Continuous paper	Continuous strip paper	Reflection sensor
Black mark paper	Non-continuous marked paper	Reflection sensor
	Non-continuous Perforated paper	Reflection sensor
	Non-continuous edge-gap paper	
Label	Non-continuous label paper	Transmission sensor

Table 2.6.1

2.6.4 Checkout mark

A   Manual checkout function

1)   Turn off the printer;

2)   Load the media properly;

3)   Hold down "Pause" key and turn power switch to " - " position. After the buzzer gives one sound, release "Pause" key, the printer shall feed paper and start the checkout;

4)   If checkout is successful, the printer enter standby status; If it fails, the printer shall alert, then please check:

➢   If media is loaded correctly;

➢   If paper type loaded is consistent with current paper type of the printer (via a self-test page printed)

⚠ **Notice:**

In the following cases, the media needs to be verified before the print:

- It is the first time to mount and use the printer;
- The printer is used again after a long idle time;
- Replace new type of paper roll;
- First time to use it after cleaning the sensor;
- Fails to identify marks in effect during the print;
- Operation environment of the printer is changed greatly.

B   Auto Checkout functions

Before starting the print job, the printer shall compare the parameter set by customers with current parameter of the printer to decide if it shall initiate the checkout with the process as below:

1) Set paper type and page length correctly in the printer driver;

2) Send the print job. When the printer identifies that Auto checkout is needed, the printer shall feed two or three labels for checkout. It shall enter pause status after success. After pressing pause key, the printer shall exit pause status and print;

3) If the checkout fails, the printer shall alarm:

   ➢ Please confirm if loaded paper is same with the one selected in the printer properties. If they are different, please correct and print it again. The printer shall restart Auto checkout.;

   ➢ If the settings are correct and Auto checkout still fails, please refer to manual checkout operation.

Notice:

⚠

➢ Only when the printer checkout is correct, it can work normally.

➢ After following the steps above and cleaning the sensor, it still fail to find out the failure reason of printer checkout, please contact with maintenance people !

2.7 Installing the driver

The drive supports the operation system as Windows98, WindowsNT4.0, Windows2000, Windows XP, Windows server 2003, which is stored in the disk packed with printer. You also can download the driver from our website www.newbeiyang.com.cn .

The installation method of the driver:

1) Run "Setup.exe" in the driver package and read the license agreement carefully. If you accept all the clauses in this Agreement, please click "I Accept" and then click "Next" button;

2) Choose the type and name of printer to be installed. If you want to set this printer as the default

printer, please select "setting the printer as default printer" button, then click "next";

3) Choose the method of installation, then click "next" button;

4) Choose the current system type, then click "next" button;

5) Set the printer port, then the system defaults interfaces as "LPT1". User can execute the installation depending on the current port. Please choose "BYCOMx" for the Serial drive in Windows NT4.0 or above ("x" equals to "1,2,3,4,5,6,7 or 8"), then click "Finish" to end the installation.

6) Press "Yes" in the dialog box to reset computer in Windows 98.

7) If you want to use USB interface, you must install USB device driver first, installation step as follow: When connecting USB interface printer to the host, the system identifies USB device automatically and pop up the driver installation guide. The printer finds out USB device drive path and installs this driver depending on this guide.

If you want to update the driver, please run "Uninstall.exe" in the driver package to uninstall original driver first.

3 Printer adjustment

3.1 THP 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 3.1.1).

In normal print, follow the pressure level of factory default settings, normally at level 2 or 3.
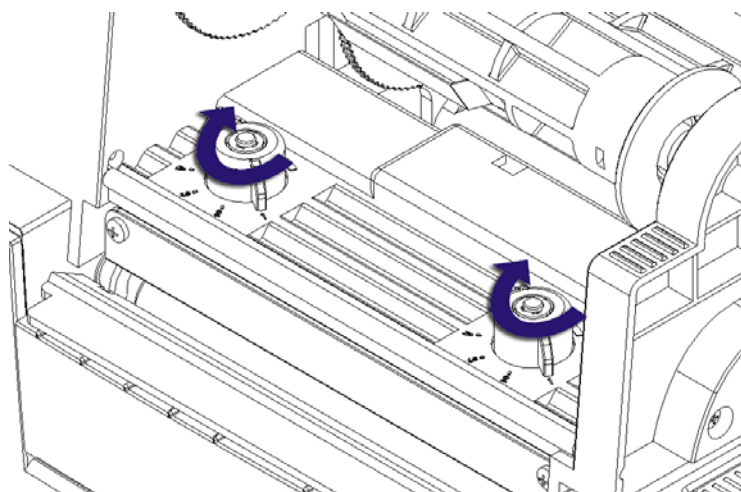
Figure 3.1.1

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 in clockwise 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

⚠ **Notice:**

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

3.2 Sensor position adjustment

When the paper width is changed, can adjust sensor position according to the methods as below:

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 3.2.1);

3) Act on sensor latch to move the sensor to the required position (For example: below the black mark) (see figure 3.2.2);

4) Press down top cover latch and assemble the top cover.

Top cover of sensor
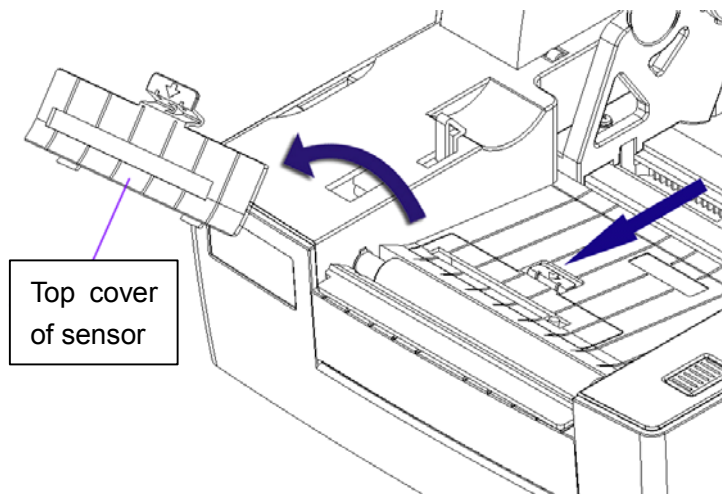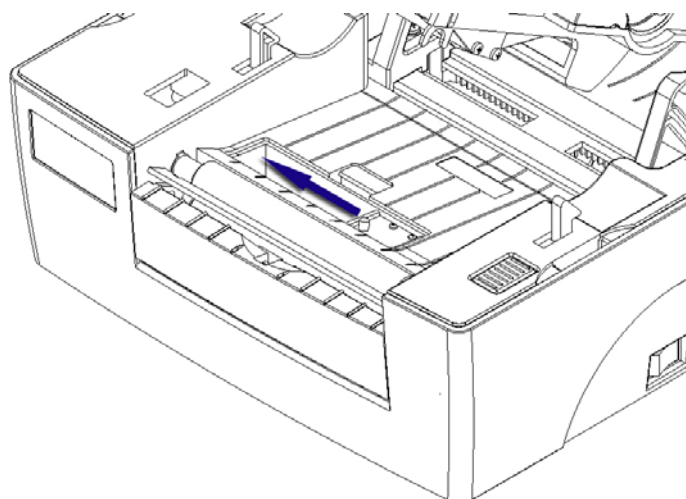
Figure 3.2.1

Figure 3.2.2

3.3 Printer common parameter adjustment

3.3.1 Printer common parameter adjustment and range

Parameter	Range settings	Remarks
Print darkness	00—30	Under the condition that the printout meets with the requirement, set the print darkness as low as possible to avoid THP's lifetime effected.
Vertical position	-99—99 dots	Adjust the printout in vertical direction with 1 dot as a motion unit.
Horizontal position	-99—99 dots	Adjust the printout in horizontal direction with 8 dots as a motion unit. Print pattern hall not move when it is less than 4 dots, or the print pattern shall move based on 8 dots when it is between 4 dots and 8 dots.
Tear-off position	-99—99 dots	Adjust the tear-off position in vertical direction with one dot as a motion unit.

Table 3.3.1

⚠ **Notice:**

- In 203DPI, 1 mm equals to 8 dots; In 300DPI, 1 mm equals to 12 dots;

- The parameters above have been adjusted when out of factory. Please do not change them. Please refer to 2.3.4 if the adjustment is required.

3.3.2 Print pattern on ticket (x,y) and adjusting direction

1) Vertical print position adjustment

When print ticket happens as Figure A or Figure B, adjust the vertical print position to Figure C.

Figure 3.3.2

⚠ **Notice:**

- Figure A shows the print position is upward and should be adjusted in negative direction;

- Figure B shows the print position is downward and should be adjusted in positive direction.

2) Horizontal print position adjustment

When print ticket happens as Figure D or Figure E, adjust the horizontal print position to Figure F.
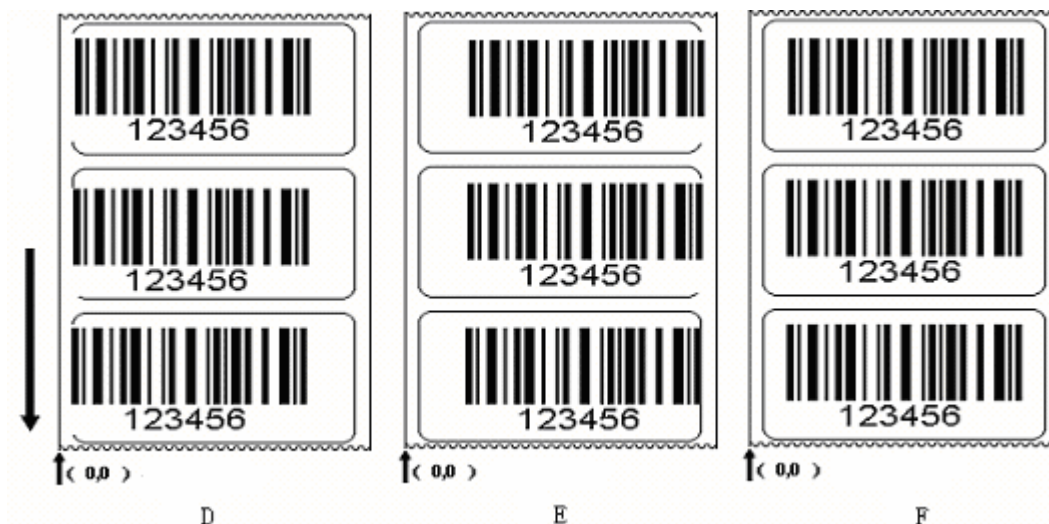
Figure 3.3.3

⚠ **Notice:**

- Figure D shows the print position towards left, which should be adjusted in positive direction;

- Figure E shows the print position towards right, which should be adjusted in negative direction.

3)   Tear-off position adjustment

When print ticket torn off happens as Figure G or Figure H, adjust the tear-off position to Figure J.
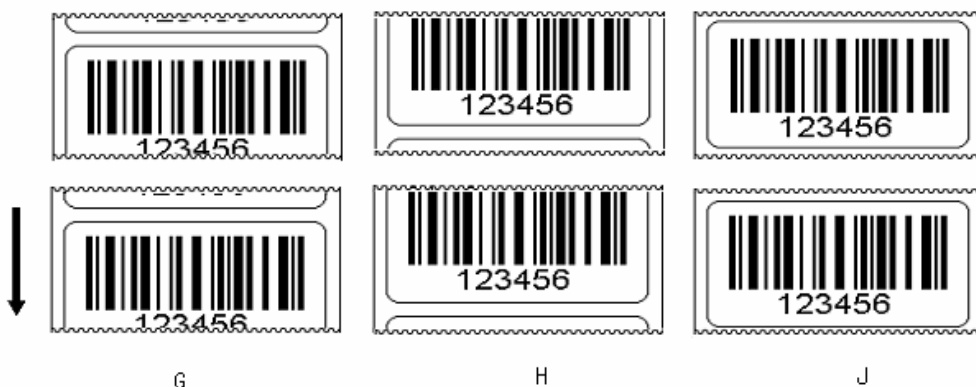
Figure 3.3.4

⚠ **Notice:**

- Figure G shows the tear-off position upwards, which should be adjusted in negative direction;

- Figure H shows the tear-off position downwards, which should be adjusted in positive direction;

4 Routine maintenance of the printer

Follow the steps as below to clean the THP, platen and sensor monthly. If the operation environment is bad, you can increase routine maintenance times for the printer.

4.1 Cleaning THP

When the THP happens in any case as below, should clean it:

➢   Printout is not clear;

➢   Noise in paper feed or retraction is much;

➢   Dusts stick on the THP.

The steps for cleaning the THP are as below:

1)   Turn off the printer and open the top cover;

2)   Lift up ribbon holder and find the THP. If the print finishes just now, please wait for the THP cool down completely;

3)   Clean away dusts or dirt on the THP with alcohol tampon (should twisted);

4)   Wait for 5 to 10 minutes until alcohol volatilizes completely, then press down ribbon holder and close top cover.

4.2 Cleaning sensors

When the printer occurs in any case as below, you should clean marked paper sensor:

> ➢ During the print, the printer sometimes report paper end error;
>
> ➢ The printer doesn't alarm;
>
> ➢ Fails to identify marks effectively;

Clean marked paper sensor as the steps below:

A   Transmission sensor

1) Turn off the printer and open top cover;

2) Lift up the print mechanism and press on the latch to open the paper-pressing module;

3) Clean away dusts or dirt on the transmission sensor with alcohol tampon (should twisted);

4) Wait for 5 to 10 minutes until alcohol volatilizes completely, then press down ribbon holder and close top cover.

B   Reflection sensor

1) Turn off the printer and open top cover；

2) Lift up ribbon holder and find reflection sensor;

3) Clean away dusts or dirt on the transmission sensor with alcohol tampon (should twisted);

4) Wait for 5 to 10 minutes until alcohol volatilizes completely, then press down ribbon holder and close top cover.

4.3 Cleaning the platen

In the following cases, the platen should be cleaned:

> ➢ The printout is not clear;
>
> ➢ Noise in paper feed or retraction is much;
>
> ➢ Dusts stick on the platen.

Clean the platen as the steps mentioned below:

1) Turn off the printer and open top cover；

2) Lift up ribbon holder and find the platen. If the print just finishes, you should wait for the platen cool down completely;

3) Clean away dusts or dirt on the transmission sensor with alcohol tampon (should twisted);

4) Wait for 5 to 10 minutes until alcohol volatilizes completely, then press down ribbon holder and close top cover.

⚠ **Notice:**

■ Must be sure that the power is off during routine maintenance;

■ Don't allow to touch the THP with hand and metal, or scratch the surface of the THP, platen and sensor with forceps;

■ Do not use organic solvent such as gasoline and acetone to clean the THP and platen;

- After cleaning paper end sensor, the checkout should be proceeded;
- Wait for alcohol volatilize completely, then turn on the power to print continuously.

5 Troubleshooting

When the printer has error, refer this section to settle it. If the problem still cannot be removed, please contact with our distributor or manufacturer.

5.1 LEDs and buzzer status

When the printer has error or works in abnormal status, error LED flash and buzzer sounds.

Then the print job stops, the host fails to communicate with the printer. Please check flash times of LED, then refer to the table as below to settle it:

Error LED status	Reasons	Settlement
Two flashes	THP is lifted up	Please press down the THP
	Micro-switch fault	Contact with maintenance people
Three flashes	Paper roll is end or no paper roll is loaded	Load paper roll
	Paper jam	Remove paper jam
	Paper roll surface is dirty or damaged	Please cross over dirty or damaged part
	Paper roll is away from marked paper sensor	Load paper roll again
	The surface of marked paper sensor is dirty	Clean marked paper sensor surface
	Paper roll type doesn't match with marked paper sensor	Set paper type in the printer driver is same with actual paper type
Four flashes	Communication cable connection is not firm	Make communication cable connection firmly
	The communication settings between The printer and host is not consistent	Set the communication interface of the print consisting with that of PC (Such as: handshake, baud rate, digital bit, stop bit or checkout bit)
Five flashes	Media type doesn't match with sensor type	Set paper type in the printer driver matching with actual paper.
	Marked paper has a problem (such as: mark is missing or not clear)	Use the media which meet the requirement
	Mark length is less than the printer requirement	
	Paper is jammed in the path and result the THP overheated	Remove paper jam. Check the THP test page is Normal until its temperature is down. If it is normal the Printer can continue to work, otherwise please replace the THP (test page is referred to Appendix 1)
	Print darkness is too high	Reduce the print darkness

	Operation environment temperature is too high, the THP is overheated.	Please improve ventilation condition. The printer can recover normally after the temperature is down
Six flashes	Ribbon is used out	Load new ribbon
	Ribbon is jammed	Remove the jam
	Ribbon sensor error	Replace ribbon sensor
Always light	System error	Please contact with our distributor or manufacturer

Table 5.1-1

5.2 The printout quality issue

Trouble	Reason	Settlement
Printout is not clear or has dirt	THP or platen is dirty	Clean THP or platen
	Paper doesn't match with ribbon	Use recommended paper and ribbon
	Print darkness is low	Increase print darkness
	Ribbon crinkles	Load ribbon and paper roll Correctly.
		Adjust THP pressure to keep it uniformity

Table 5.2-1

Appendix

Appendix 1   Technical specifications

Appendix 1.1   Main technical specifications

ITEM		BTP-2100E Parameter	BTP-2200E Parameter	BTP-2300E Parameter
Print	Resolution	203DPI		300DPI
	Print mode	Thermal/thermal transfer		
	Print width (Max)	104mm	108mm	106mm
	Print speed (Max)	75mm/s	125mm/s	75mm/s
	CPU	32bit RISC micro-processor		
	Memory	SDRAM: 2MB FLASH: 1MB Expend FLASH: Non Can expend to 8MB		
	THP temperature detection	Thermistor		
	THP position detection	Micro-switch		
	Paper mark detection	Optical sensor		
	Ribbon detection	Optical sensor		
	Communication interface	Standard configuration: RS-232 Serial CENTRONICS, USB and Ethernet (optional)		
Media	Paper type	Continuous paper, label, marked paper, perforated paper		
	Paper roll O/D (Max)	127 mm		
	Paper roll width (Max)	118 mm		
	Paper roll I/D	25mm /38 mm		
	Ribbon length(Max)	300 m		
	Ribbon O/D	25 mm		
	Paper ejection mode	Rewinding, tear-off or peel-off (optional)		
Character Bar code Image	Font Enlarge/ Rotation	Can enlarge 1 - 8 times in vertical and horizontal direction Rotation print (0^0, 90^0, 180^0, 270^0)		
	Character set	Common single-byte font: FONT0 to FONT8,6 kinds of ASD smooth font,8 kinds of Courier font		
		Self-defined font: users can define the font and download to FLASH or SDRAM		
	Image	Plain bit image in binary system, HEX, PCX , BMP and IMG file can be downloaded to FLASH or RAM		

	Barcode	1 dimensional barcode : Code 3 of 9, UPCA, UPCE, Interleaved 2 of 5, code 128, EAN13, EAN8, HBIC (39 code with checkout), Codabar, industry CODE25, Checksum &shipping bearer bars, UPC2, UPC5, Code 93, Postnet 25 (China), UCC/EAN, matrix 25, POSTNET code, etc.
		2 dimensional barcode : PDF417, MAXICODE, QR code etc.
Operation interface	Buttons and LEDs	3 buttons, 3 LEDs
Power adaptor	Input	AC 110～240V , 50/60Hz
	Output	DC 24V , 1.5A	DC 24V , 2.5A
Environment	Operation environment	+5～45 , 20～90% (40)
	Storage environment	-40～60 , 20%～93% (40)
Physical characteris-tics	Overall size	300mm(L) ×252mm(W)×190mm(H)
	Weight	About 3.5 Kg

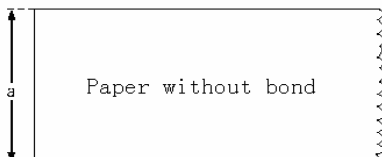**Appendix-Table 1.1.1**

Appendix 1.2 Ribbon specification

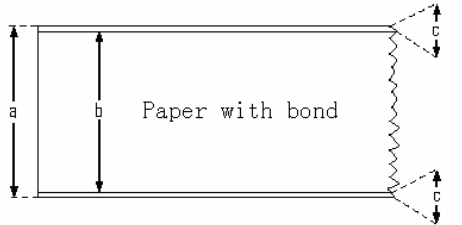| Item		Specification
Ribbon size		**See Appendix-Table 1.1.1**
Ribbon rewinding mode		External
Ribbon type	Wax base	Suitable for common thermal transfer paper (copperplate Paper, hectograph paper)
	Half-wax and half-resin	Suitable for hi-light paper (mirror copperplate), compound Material (as PET, PVC, PE, etc)
	Resin	Suitable for wash label or compound material (as PET, POLYIMIDE)

Appendix-Table 1.2.1

Appendix 1.3 Paper specification

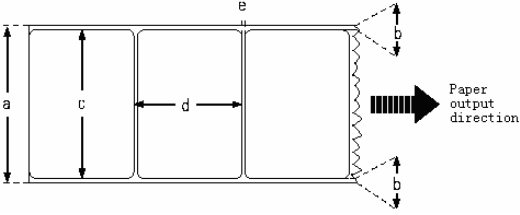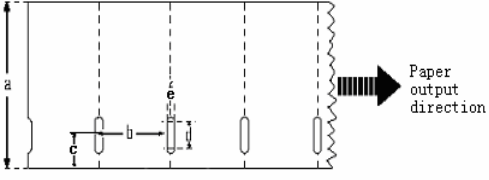Paper height (Max) is depended on the memory size of the printer.

1 **Continuous Paper Specification**（Unit：mm）
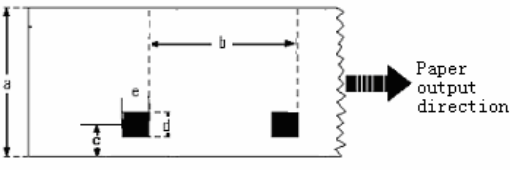
Type	Figure	Parameter
Continuous paper without bond	Paper without bond	Paper Width: 25≤a≤118

| Continuous paper With bond | Paper with bond | Bottom Paper Width : 25≤a≤118 Print Paper Width: 25≤b≤118 Paper Side Gap Width: c ≤1 |

Appendix-Table 1.3.1

2 **Non-continuous paper specification**（Unit：mm）

Type	Figure	Index
Non-continuous label paper with bond		Bottom paper width: 25≤a≤118 Paper side gap width: b≤1 Label width: 25≤c≤118 Label height: d≥10 Gap width: e≥2
Non-continuous perforated paper without bond		Paper width: 25≤a≤118 Paper height: b≥10 Detection port position: c≤a/2 Detection port width: d≥5 Detection port height: e≥2
Non-continuous marked paper without bond		Marked paper width: 25≤a≤118 Marked paper height: b≥10 Mark position: c≤a/2 Mark width: d≥10 Mark height: e≥4

Appendix-Table 1.3.2

⚠ **Notice：**

■ Choose suitable ribbon according the paper type and use;

■ It is recommended to use the recommended ribbon by the paper suppliers

Appendix 2 Self-test page

The self-test page includes the printer configuration information, the internal font and the THP test information. The configuration information and internal font presents the current settings of the printer. The THP test information shows the THP status.

1 Printer configuration information

Version..BPLA V*.***
Print mode...non-continuous paper/rewinding mode
Print type...thermal transfer
Print buffering......................................single buffering
Serial test..disabled
Serial settings......................................38400, N, 8, 1, H
Paper sensor.......................................transmission /127/193
Flash space...not installed
Memory space......................................2048K
Available memory................................1406K
Auto. paper load.................................enabled
Auto. Back Status...............................disabled
Real-time command...........................enabled
Test by commands.............................disabled
Measure unit.......................................millimeter
System buffer......................................032K
Label height..041mm
Print buffering width...........................108byte
THP width..108mm（08dot/mm）

2 Printer internal configuring font

The printer is configured with 9 kinds of internal dot-matrix font and 6 kinds of ASD font:

ASD Smooth (18 pointh)-012345

ASD Smooth (14 pointh)-0123456789 ABC

ASD Smooth (12 pointh)-0123456789 ABCabcXyz

ASD Smooth (10 pointh)-0123456789 ABCabcXyz

ASD Smooth (8 pointh)-0123456789 ABCabcXyz

ASD Smooth (6 pointh)-0123456789 ABCabcXyz

0123456789 CENSTXZ <+>|

This is font 7. OCR-A ABC abc

THIS IS FONT 6. 012345

THIS IS FONT 5. 0123456789 ABCXYZ

THIS IS FONT 4. 0123456789 ABC

THIS IS FONT 3. 0123456789 ABCXYZ

This is font 2. 0123456789 ABCabcXyz

This is font 1. 0123456789 ABCabcxyz

This is font 0. 0123456789 ABCabcxyz

3 THP test information

The THP test pattern can be used to check if the THP status is normal or not.

Appendix-figure 2.1 is a test pattern printed by the THP in normal status. Appendix-figure 2.2 is the pattern printed by the THP in bad status caused by the solid granule or damaged THP. If this THP still fail to work properly, please contact with our distributor or manufacture.
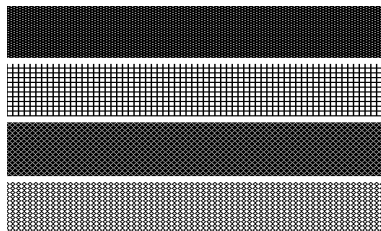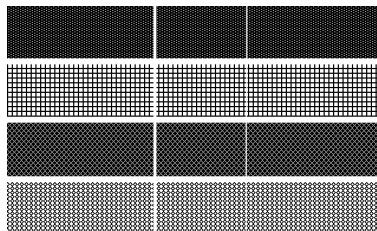
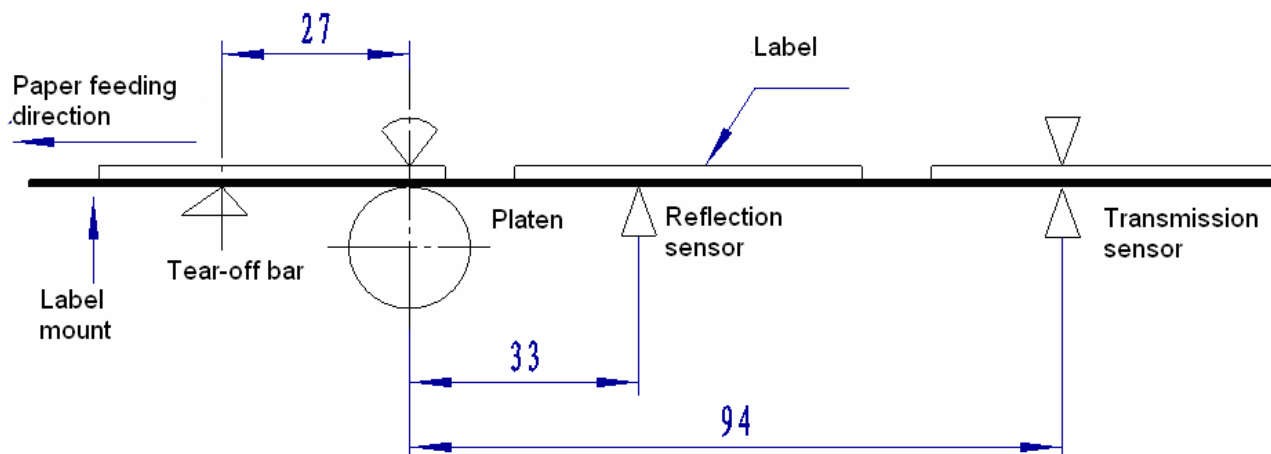
Appendix-figure 2.1   Appendix-figure 2.2

Appendix 3 Print and paper out position

Appendix-figure 3.1

⚠ **Notice:**

■ The figure above takes the marked paper as an example to show the print and paper out position;

■ Non-continuous paper is positioned based on the front edge of marks;

■ The position adjustment of the print and paper out refer to Figure **3.3.2**。

Appendix 4 Communication interface

Appendix 4.1 Serial interface

1) Interface signal

Printer signal and status

Pin	Signal name	Signal direction	Functions
1	No		
2	RXD	Input	Data input end
3	TXD	Output	Data output end
4	DTR	Output	Data terminal ready
5	SG	-	Signal grounding
6	DSR	Input	Data device ready
7	RTS	Output	Ask to transmit
8	CTS	Input	Allow to send
9	FG	-	Case grounding

Table 4.1.1

2) Connector explanation

        PC   Printer

        TXD---------------RXD

        RXD---------------TXD

        CTS----------------RTS

        RTS---------------CTS

        SG -----------------SG

⚠ **Notice:**

■ The connection mode only with three lines can be used as below, which is suitable for small data amount or under XON/XOFF flow control.

        PC   Printer

        TXD---------------RXD

        RXD---------------TXD

        SG -----------------SG

Appendix 4.2 Parallel interface

Parallel interface works in IEEE1284 compatible mode.

Pin	Definition	Description	Pin	Definition	Description
1	Input	/STROBE	13	Output	SELECT
2	Input	Data1	14,15	No use	NC
3	Input	Data2	16	-	Ground
4	Input	Data3	17	-	Ground
5	Input	Data4	18		Vcc
6	Input	Data5	19 ~ 30	-	Ground
7	Input	Data6	31		Vcc
8	Input	Data7	32	Output	/Fault
9	Input	Data8	33		Ground
10	Output	/ACK	34 ~ 35	No use	/NC
11	Output	BUSY	36	-	Vcc

12	Output	PError			

Table 4.2.1

⚠️ **Notice:**

■ When data is transmitted, the host should not ignore Busy signal, otherwise it could cause the print data lost;

■ Parallel interface signal uses TTL level. When using it, ensure that up and down time of host signal is less than 0.5μs.

Appendix 4.3 USB interface

USB interface meets with USB1.1protocol (optional)

USB interface transmits signal with power via a four-wire cable as shown below;


Figure 4.3-1 USB cable

D+ and D- in figure 4.3-1 is used to transmit signal and V$_{BUS}$ is +5V.

## Appendix 5 Paper load guide in peel-off mode

When the users use the label with bond, the paper out mode can be set as the peel-off mode. When loading the paper, please put the label mount through the peel-off module according to the process as below:

1) Take off several label at the front and confirm the label mount bottom flat, then take away the turnplate forth（see Appendix-figure **5.1**）:

Peel-off turnplate

Label mount

Label

Paper sensor
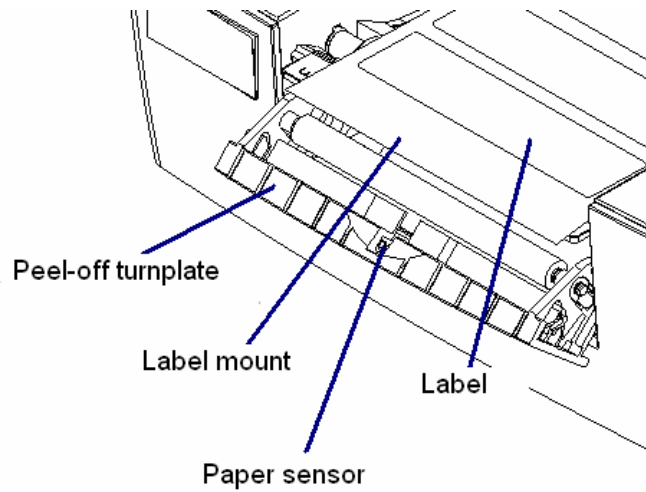
Appendix-figure 5.1

2) Put the label mount through the path mentioned in the Appendix figure **5.2**:

Print platen

Peel-off bar

Peel-off platen

Peel-off turunplate
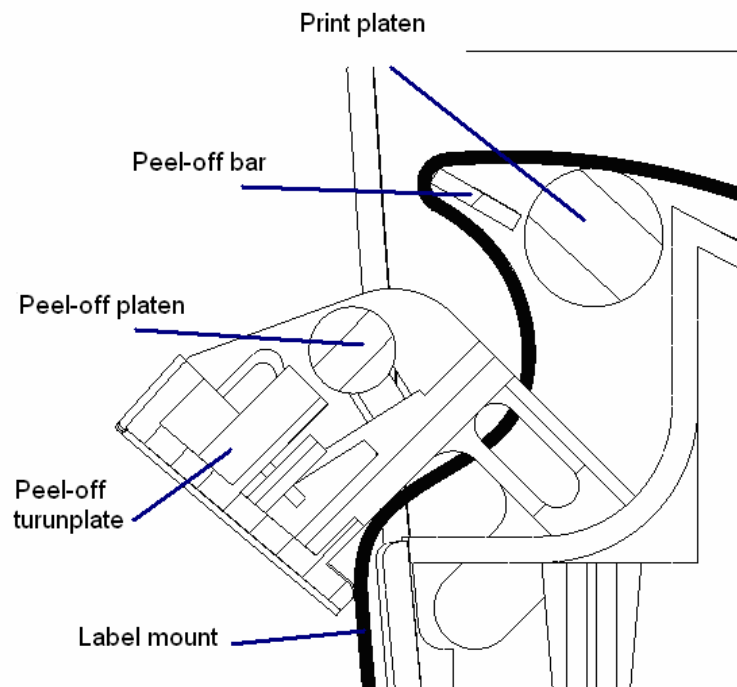
Label mount

Appendix-figure 5.2

3) Push the turnplate to its original place and keep the label mount tight, then the paper load is finished.