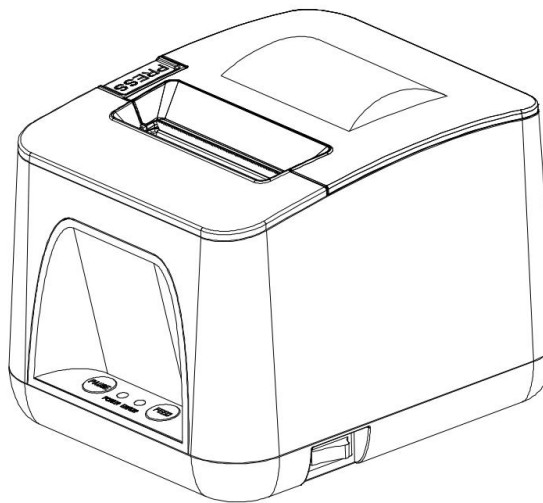
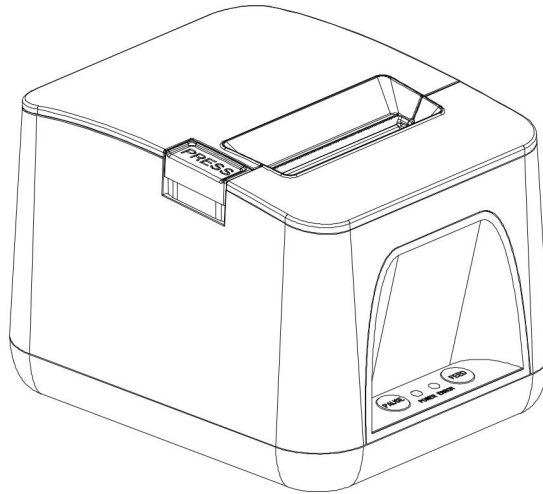


# SP-TL24/TL25 Desktop Label Printer User's Manual

VER 0.05



**Beijing Spirit Technology Development Co.,Ltd**

[www.sprt-printer.com](http://www.sprt-printer.com)

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## NOTICE

Please read this manual carefully before using the printer!

### Notice of Safety

Be sure to use the power supply provided by our company. Otherwise it may cause damage to the product.

Please do not open the paper case cover when it is printing or just when printing is finished, do not touch the printer head with hand or any part of body to avoid excessive temperatures leading to burns.

### Notice of Using

Do not immerse the printer in water, or expose it to rain, as this can cause damage to the printer.

Do not open the paper case cover when it is printing, otherwise the printer may work improperly.

If printer is using USB connection to work, should not unplug the USB cable, or else some printing data may be lost. When printer is using Bluetooth connection to work, the distance of communication should be within 10 meters, otherwise the printer doesn't print or prints rubbish codes.

Although the printer can work steadily when the environment temperature is between 0°C to 50°C, too high(45°C) or too low(5°C) environment temperature will affect printing quality.

Too high (above 85% relative humidity) environment humidity or too low (below 20% relative humidity) environment humidity will effect the printing quality.

The printer paper roll with poor quality or stored for too long time also may result in poor print quality even damage the printer.

Under the black mark detecting mode, the printer requires that the pre-printed black mark is accordant with the printing rule of black mark (please refer to details in Chapter 4.2), otherwise the black mark can not be detected correctly.

When the printer prints label paper, label should not over the maximum of the printer, otherwise the printer may work improperly.

## Notice of Storing

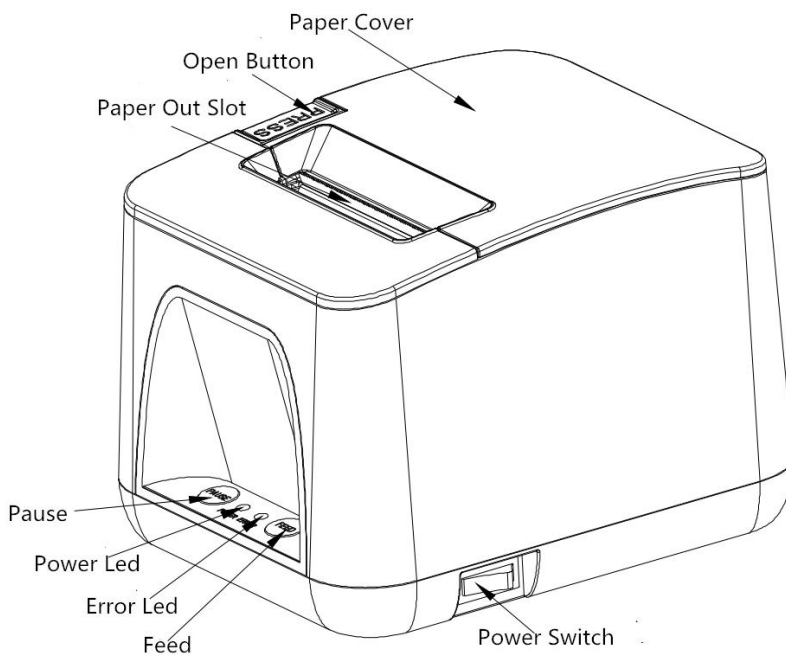
The printer should be stored at a temperature of -20 ° C to 60 ° C and a relative humidity of 10% to 90%.

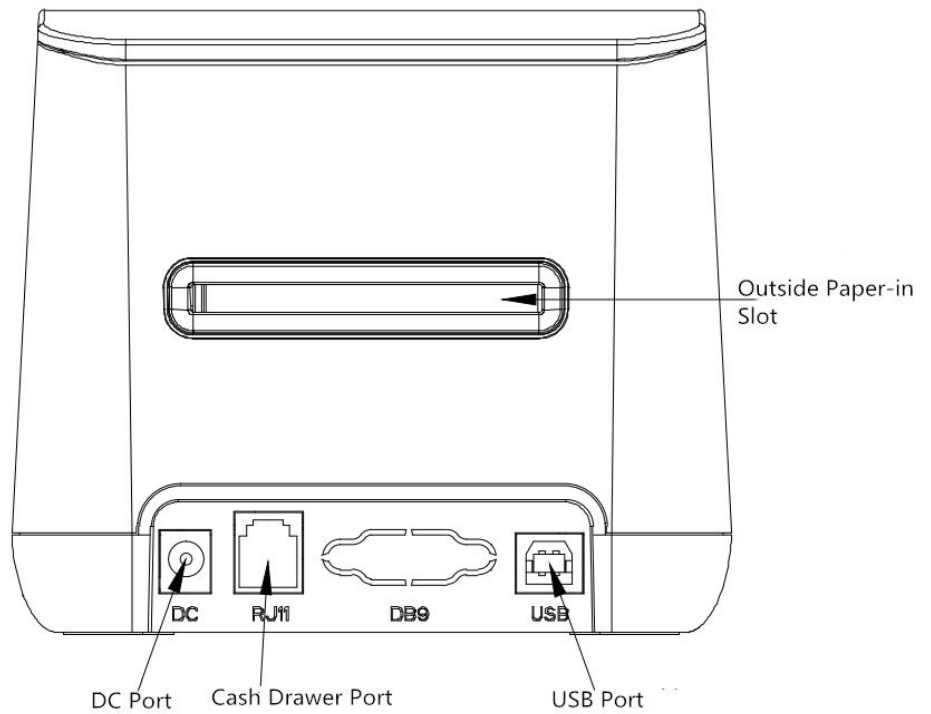
### Declaration

**It is A class product, which may cause radio interference in the living environment. In this situation, users need to take feasible and effective measures to interfere with it.**

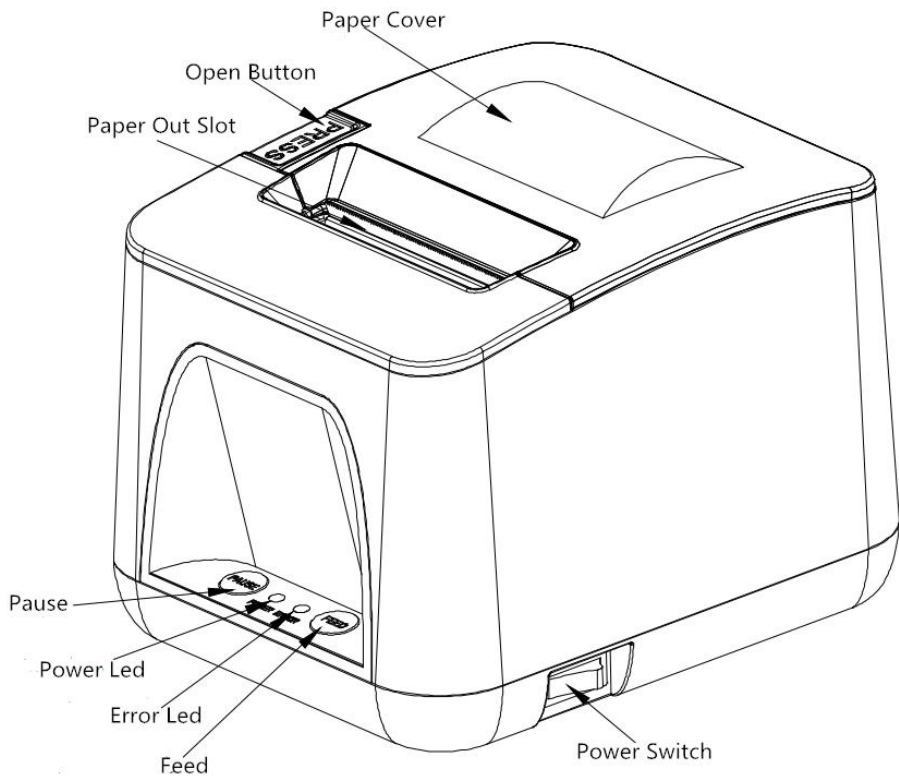
## Chapter 1 Outer Appearance and Model No.

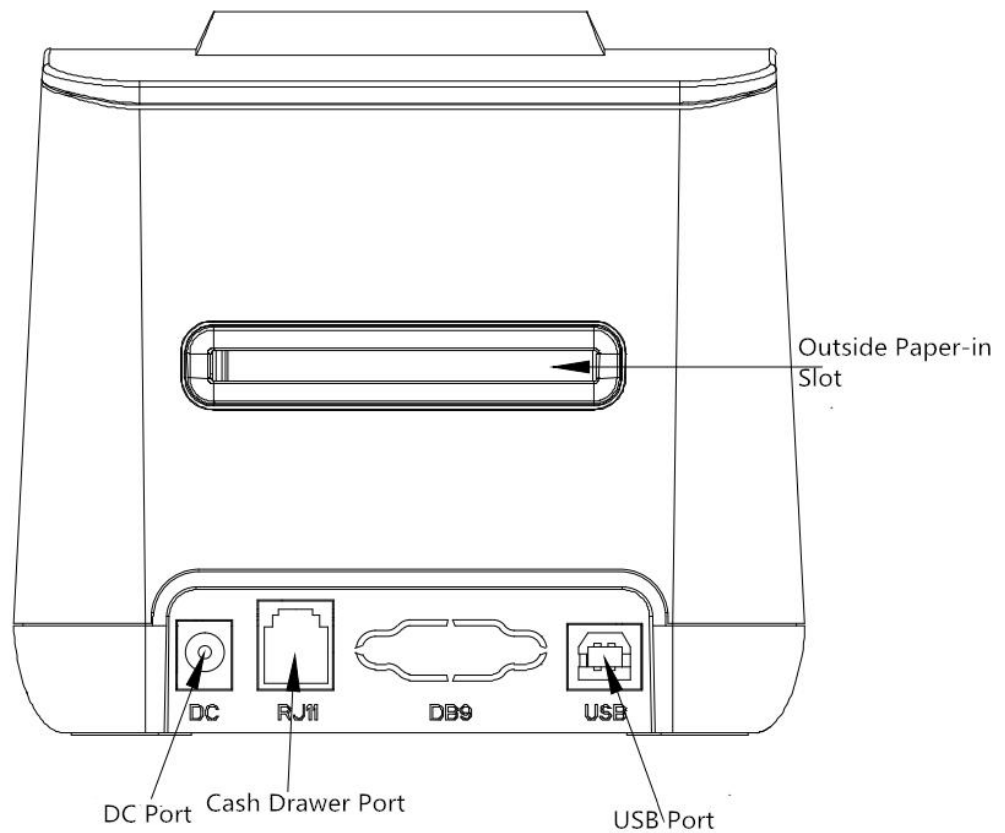
### 1.1 Outer Appearance





### SP-TL24 Outer Appearance





SP-TL25 Outer Appearance

## 1.2 Model Name

Model	Description	Printing Density
SP-TL24U	USB	8dots/mm, 384dots/line
SP-TL24UBTDM	USB, Blue Tooth	
SP-TL24U5	USB	8dots/mm, 448dots/line
SP-TL24UBTDM5	USB, Blue Tooth	
SP-TL25U	USB	8dots/mm, 384dots/line
SP-TL25UBTDM	USB, Blue Tooth	
SP-TL25U5	USB	8dots/mm, 448dots/line
SP-TL25UBTDM5	USB, Blue Tooth	

## Chapter 2 Performance Characteristics

### 2.1 Printing Specification

Printing Method:	Thermal line
Paper Width:	25mm(Min)---60mm(Max)
Printing Width:	48mm/56mm(Max)
Max Label:	60x65mm
Min Label:	25x20mm
Label Gap:	2-3mm
Resolution:	8dots/mm(203dpi)
Printing Speed:	Label Paper :100mm/s(Max) Thermal Paper :127mm/s(Max) Two-color printing paper: 20mm/s(Average)

Continuous Printing: When using the two-color printing function of the SP-TL24U Plus and SP-TL24UBTDM Plus models, the maximum continuous printing length does not exceed 24 meters.

### 2.2 Paper Roll

Paper Thickness:	Normal Thermal Paper: 0.06mm~0.08mm; Label Paper: 0.12mm~0.14mm Two-color printing paper: When using the two-color printing function of SP-TL24U Plus and SP-TL24UBTDM Plus models, our special RM58*60 two-color thermal paper are needed.
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### 2.3 Print Character

GB18030(Chinese) BIG5(traditional Chinese), GB12345(traditional Chinese),

Shift+JIS(Japanese): 24x24 and 16x16 dot matrix

ASCII: 12x24, 8x16, and 9x17 dot matrix;

International character set and Code page: 12x24 and 9x17 dot matrix;

Self-defined character and figure;

Barcode:

1D: UPCA,UPCE,EAN13,EAN8,CODE39,ITF25,CODABAR,CODE93,  
CODE 128

2D: PDF417,QR CODE,DATA Matrix

Two-Color Printing Commands: The SP-TL24U Plus and SP-TL24UBTDM Plus model printers support two-color printing functions, including character and raster bitmap.

## 2.4 Physical Parameters

Dimension (W×L×H): 160(L)X130(W)X115(H)mm

Physical Weight: 580g (excluding roll paper)

Paper Roll: ≤80mm

Interface: USB, Bluetooth

## 2.5 Environmental Parameters

Operating Temp: 0°C~50°C

Operating Humidity: 10%~80%

Storage Temp: -20°C~60°C

Storage Humidity: 10%~90%

## 2.6 Other Specification

- Paper Loading Method: please refer to details in 3.1.1 Paper Roll Installation.
- Black Mark Location: available(details please see 4.2 pre-printed black mark manual).
  - Printing Control Command: ESC/POS compatible command set, CPCL command set, TSC/TSCL command set.  
(Refer to<SP-TL24/25 Printer Command Manual >for details).
  - Power Supply: DV12V±5%, 2A.

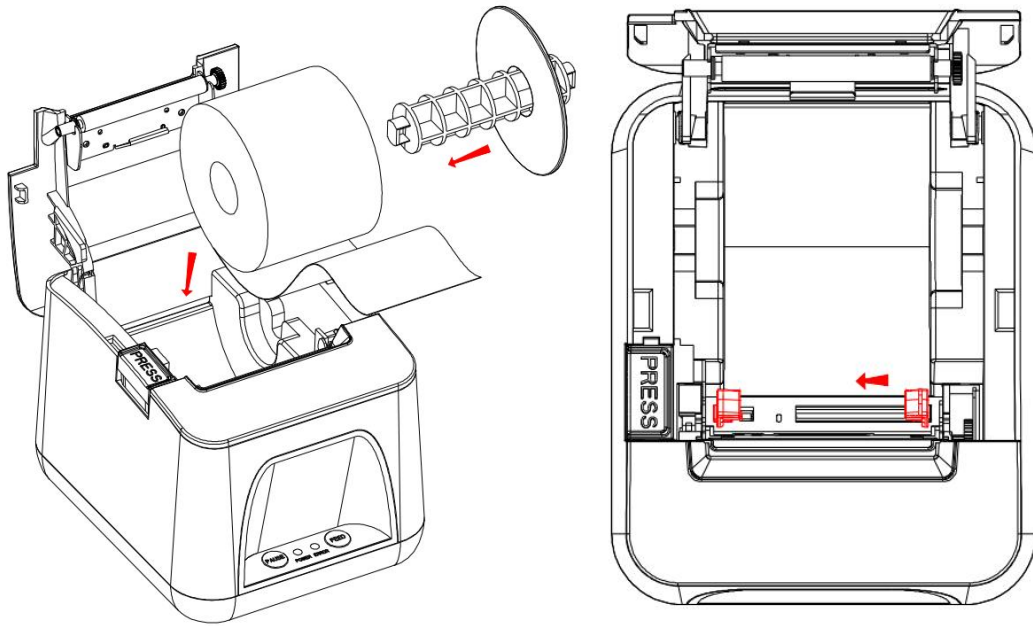
# Chapter 3 Operation Instruction

## 3.1 Operation steps

### 3.1.1 Paper loading

1. Open the paper cover and remove the paper shaft
2. Pass the paper shaft through the core of the paper roll, taking care that the thermal side of the paper is facing the print head.
3. Put the paper roll with the paper shaft into the paper bin and insert it into the slot. Adjust the baffle to the proper position according to the paper width to make the paper slide smoothly, and the paper also will not swing freely during the printing process.
4. When close the paper cover, keep the amount of label paper which left outside fewest. It can reduce the waste of the paper roll.





## 3.2 Basic functions instructions

### 3.2.1 Turn on

Close the paper cover in the power off state, then turn on the power. The power indicator and error indicator flash alternately two times, the power indicator is always on, and the error indicator is off. The printer enters the normal working mode.

### 3.2.2 Self test

Close the paper case, press the **【FEED】** button, then turn on the power. At this time, the printer will immediately print out the self-test. Parameters in the self-test will be different for different models.

Self-test can detect whether the printer is working properly. If the self-test can be printed correctly, it means the printer works normal except for the interface of the host. Otherwise it needs to be repaired.

Self-test prints out parameters in fellow order: manufacturer name, printer model, software version, interface type, default value of printer parameters, 96 characters in ASSIC code, default code page content (language setting is English) or Chinese character library name ( The language is set to Chinese) and the barcode type.

### 3.2.3 Paper feed (manual paper feed)

Receipt paper mode: In the power-on state, put in the ordinary thermal paper, press the **【FEED】** button, the printer starts to feed the paper, release the **【FEED】**

button to stop the paper feeding;

Label mode: In the power-on state, put in the thermal label paper, press the **【FEED】** key. The printer forwards the paper to find the label gap, and sends the label gap to the tear line position.

### 3.2.4 Hexadecimal printing

Follow the steps below to turn the printer into hex print mode.

1. Open the paper cover;
2. Press the **【FEED】** button to turn on the power. Wait for the power indicator and the error indicator to flash alternately, then close the paper cover.
3. At this point, the following 3 lines of content are printed:

Hexadecimal Dump

To terminate hexadecimal dump,  
Press FEED button three times.

It indicates that the printer enters hex mode. In this mode, all inputs will be printed as hexadecimal numbers. Each press of the **【FEED】** key will feed a line of paper. Press 3 times in total, and it will print out "\*\*\*\* Completed \* \*\*", which means exit hex print mode.

### 3.2.5 Printer parameter settings

There are two ways to set printer parameters:

1. Use the setting tool on PC to set.
2. Set by button, the specific operation methods are as follows:

In the power off state, open the Paper Cover firstly, press the **【FEED】** button, then turn on the power. Release the **【FEED】** button after the power indicator and error indicator flash alternately. Press the **【FEED】** button two times, then close the Paper Cover. The printer enters the parameter setting mode and prints out the first settable parameter and its current set value. Check Appendix A for detailed setup methods.

To exit the parameter setting method, press the **【PAUSE】** button and **【FEED】** button simultaneously, then release the **【PAUSE】** button and the **【FEED】** button at the same time. The printer saves the set parameter values and exits the parameter setting mode to enter the normal working mode.

If the printer is powered off directly, the set parameter values are not saved.

### 3.2.6 Factory reset

In the power off state, open the Paper Cover firstly, press **【FEED】** button, then turn on the power. Release the **【FEED】** button after the power indicator and error

indicator flash alternately. Press the **【FEED】** button three times, then close the Paper Cover. The printer will print out the currently set parameters, and at the end prompt: "Note: set the recovery system to the default values, press the **【FEED】** button to confirm. Direct power off cancel". Press **【FEED】** button to confirm recovery, power off to cancel the factory reset Settings.

### 3.2.7 Printer calibration sensor sensitivity

In the power off state, open the Paper Cover firstly, press **【FEED】** button, then turn on the power. Release the **【FEED】** button after the power indicator and error indicator flash alternately. Press the **【FEED】** button four times, then close the Paper Cover. The printer automatically performs the calibration function. If the calibration is successful, the printer will print out "Max Value", "Min Value", "Set Value" and "Sensor Level" in sequence. If the calibration fails, the printer will continue to feed 30cm. After the calibration is finished, the printer will restart.

### 3.2.8 Update Firmware

1. Enter the
2. Open "UpdateFirmware.exe"
3. Choose the port, select the firmware file that needs to be upgraded, click "Start", and wait until the data update is completed, the printer will automatically enter the upgrade mode.
4. The **【POWER】** light and **【POWER】** light flash alternately. After the upgrade is completed, the printer automatically prints out the self-test and enters the normal working mode.

### 3.2.9 Switch mode of operation

In the power off state, open the paper cover, press **【FEED】** button, turn on the power. Wait about 5 seconds, when the red error light flashes, release the **【FEED】** button, close the paper cover, the printer prints out " Switch to ticket print mode" or "switch to label print mode". (Depending on the current working mode of the printer, the printed information will be different). The printer will work in the prompted mode of operation.

## 3.3 Interface connection and printing

### 3.3.1 Power interface

The rated supply voltage is 12V ± 5% DC, rated current is 2A. Use a desktop

power outlet, positive inside and negative outside. Please use the standard power adapter to supply power.

### 3.3.2 USB interface

The standard configuration of the SP-TL24 printer is equipped with a standard USB printer cable D-port data cable for connecting the printer to the main device. The printer's USB belongs to the slave device type (DEVICE); the outline and pin definitions are as follows:



3.3.2 USB socket and pin definitions

Pin No	Function	Notes
1	V Bus	
2	Data -	Data negative
3	Data +	Date positive
4	GND	Power ground

### 3.3.3 Bluetooth connection

A handheld device with Bluetooth interface, such as laptops, or other information terminals, can drive SP-TL24 printing via the Bluetooth interface. The initial device name is "TL24/25 BT Printer" and the initial password is "1234". Users can use <SP-TL24/25 Setting Tool Software> to modify the device name and password as needed. For details on how to change the device name and password, refer to the help file of <SP-TL24/25 Setting Tool Software>.

The SP-TL24 printer must be paired with the Bluetooth master device that controls the printer before it works. Pairing is initiated by the master device. The usual pairing process is as follows:

- 1, Turn on the printer
2. The master device searches for an external Bluetooth device.
3. If there are multiple external Bluetooth devices, select TL24/25 BT Printer
4. Enter the password "1234"
5. Complete the pairing.

For details on how to pair, please refer to the Bluetooth function description of the main device.

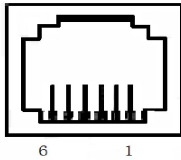
Description: The SP-TL24 printer supports connection with Android devices and Apple 4.0 devices.

Note:

- 1 When pairing, the SP-TL24 printer must be turned on.
- 2 Once the printer's Bluetooth device is successfully paired with the host Bluetooth

device and a link is established, it will no longer provide search and link services to other primary Bluetooth devices until it is disconnected from the primary device that is linked to it.

### 3.3.4 Cash interface



Pic 3-3-4 cash interface

Pin No	Signal	Direction
1	Structural grand	—
2	Cash box drive signal	Output
3	Cash box on/off status signal	input
4	+12V DC	—
5	NC	—
6	Signal ground	—

## 3.4 Indicator light, buzzer and button operation

The SP-TL24 printer has two buttons, a built-in buzzer and two indicators.

**【FEED】** is the paper feed button. You can use the print command to enable or disable the button switch function. The button control mode is allowed: When in the ticket mode, press the **【FEED】** button to output the paper, release the **【FEED】** button to stop the paper exiting. When in the label mode, press the **【FEED】** button, the printer advances the paper to find the label gap, and sends the label gap to the tear line position.

The buzzer is used to indicate the type of error status, which can be set to enable or disable the error alarm by parameter setting. The error status type is the same as the ERROR indicator.

The blue POWER indicator is the power indicator, and the POWER indicator is on to indicate that the printer is turned on.

The red ERROR indicator is an error status indicator. If the indicator is steady on, it indicates an error status. If the paper is out of paper, refer to the "Error Table" for details.

ERROR is a red indicator to remind the error status. When the printer is working normally, the red ERROR indicator is off. This indicator flashes to the abnormal alarm status.

Error indication form:

<b>Errors</b>	<b>Error indicator status</b>	<b>Specification</b>
Without paper	Constant on	Replace the paper or use the appropriate label stock
Paper case opens	Flash five times, stop 1 second	Close the paper case
Printer head overheated	Flash one time, stop 1 second	Wait for a moment to continue printing

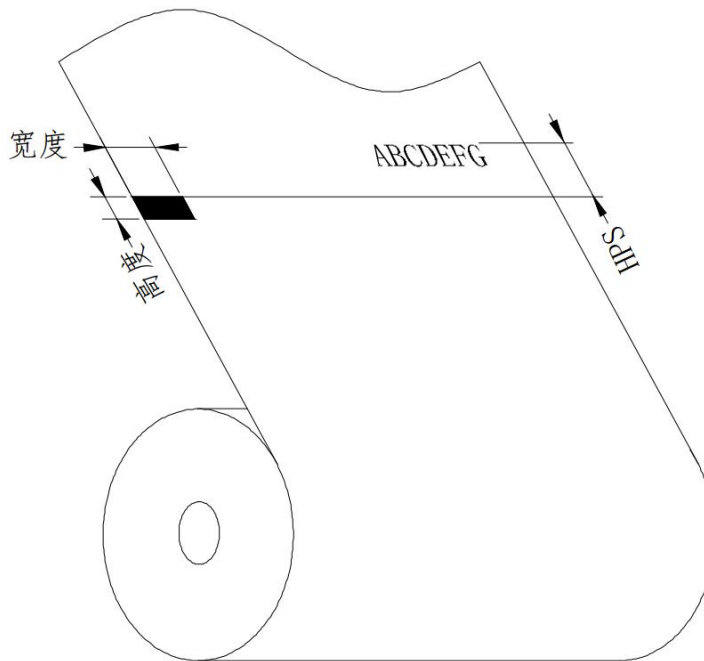
## Chapter 4 Other Information

### 4.1 Development Manual

The SP-TL24/25 Development Manual is a technical manual for the development of printer applications for SP-TL24 printer users. This manual is available from the company.

### 4.2 Preprint black mark instructions

If the user uses the pre-printed black mark for ticket positioning, the following black mark pre-printing specifications must be observed when printing the black mark, otherwise the black mark may not be recognized by the printer. Black label pre-printing specification:



Printing position: As shown in the above figure, the black mark should be printed on the front left side and the back left side edge of the text side.

Width range: width  $\geq$  10mm

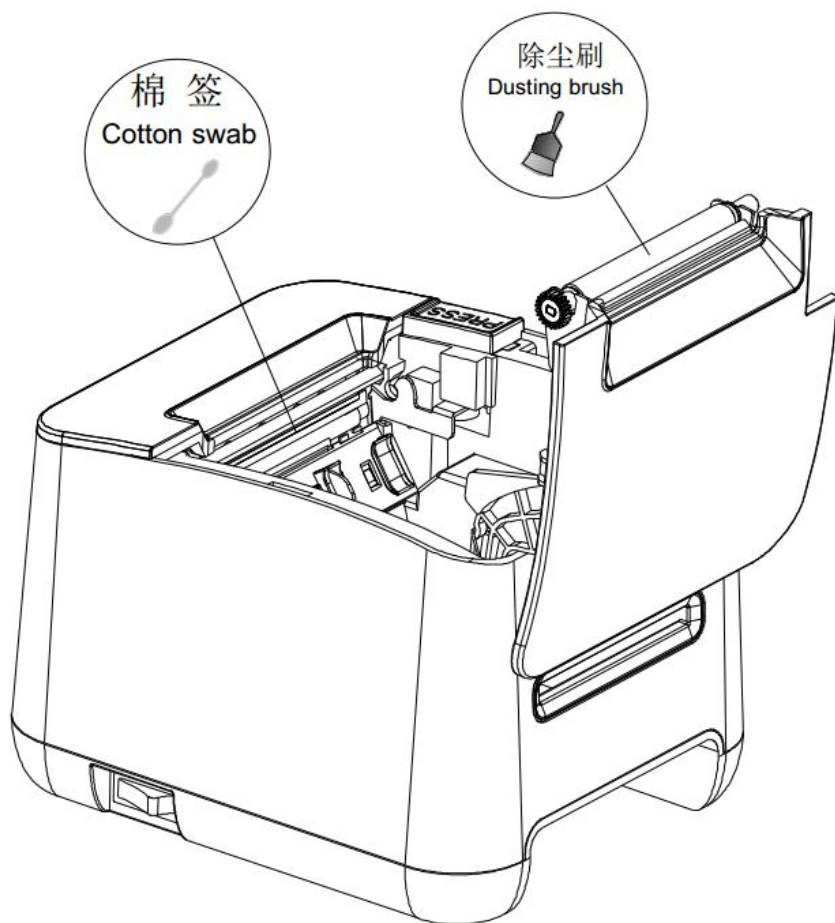
Height range: 4mm  $\leq$  height  $\leq$  6mm

Reflectance to infrared light: <10% (reflectance of other parts of the paper black mark width for infrared light >65%)

HPS: HPS is the distance from the edge of the printer black mark to the top edge of the print start. 4.5mm  $\leq$  HPS  $\leq$  6.5mm

### 4.3 Cleaning and maintenance

Power off, wipe the printing head with a cotton swab moistened with alcohol, to remove carbon deposit, dust and so on. Clear the paper scraps and dust of printing roller and cutter with dusting brush.

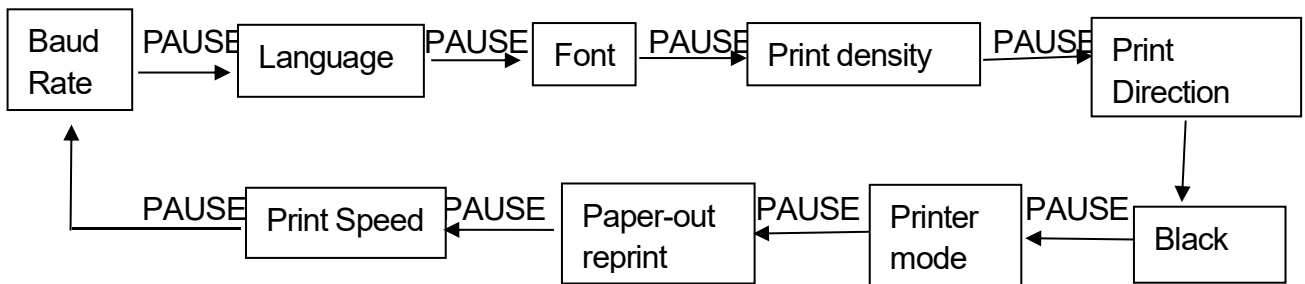




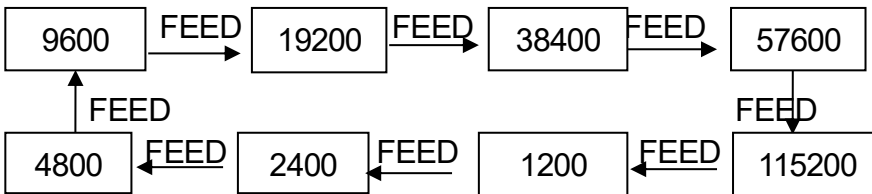
## Appendix A

Setting introduction: Press【PAUSE】 button to choose setting,when press it once , the set become the next one and it will print the present set value; use【FEED】button to set the set value, when press it once , the set become the next one .After the setting is completed, press the [FEED] and [PAUSE] button at the same time to save the current setting and enter the normal power-on state, otherwise the setting value will not be saved.

### General Setting:



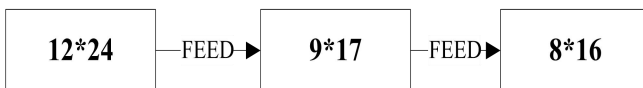
### Baud rate:



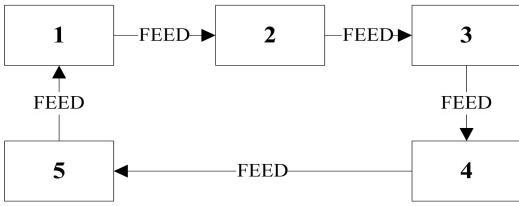
### Language:



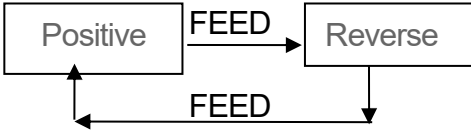
### Font:



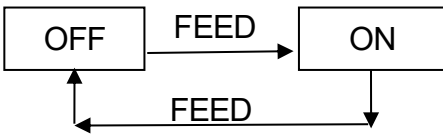
**Print density:**



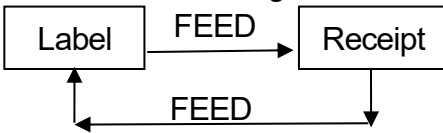
**Print Direction:**



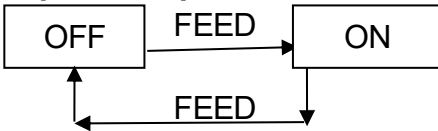
**Black mark mode:**



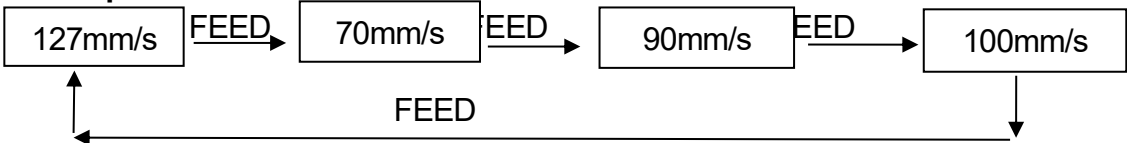
**Printer mode Settings:**



**Paper-out reprint:**



**Print speed:**



Note: There are differences in speed setting items for different models. Please refer to the speed setting options of the actual model.