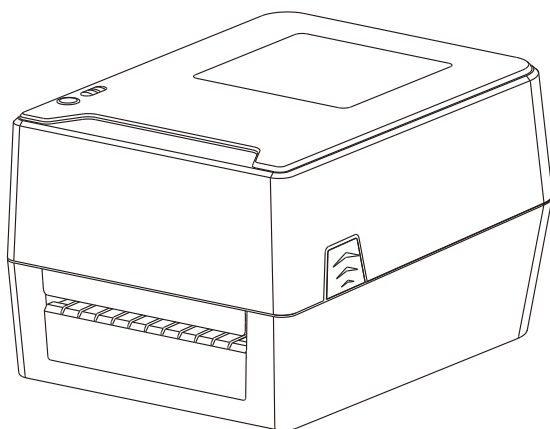


THERMAL TRANSFER BARCODE PRINTER RP400 / RP500 Series



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Introduction

Thank you for purchasing our electronic sheet printer. This electronic single-sheet printer gives you safe, reliable and efficient printing quality at an affordable price. The super function and easy operation of the printer are widely used in express logistics, warehouse management, shopping malls, supermarkets, catering industry, clothing industry and other fields.

This manual explains in detail how to install and use the printer, describes in detail how to set up and maintain the printer, and provides solutions to common printer failures.

Symbolic convention

Symbol	Instructions
	Note Provides additional information to emphasize or supplement important points in the main text.
	Indicates a warm reminder

Version record

Version number	Release date	Instructions
V1.0	2024.11	This is the first official release

 The illustrations and descriptions used in this manual may differ from the actual ones.

Safety Instructions

Before operating and using the printer, please carefully read the following items and strictly observe the use rules.

- ❶ Please install the printer on a stable surface to avoid printer suffered from any vibration and shocks.
- ❷ Stop using keeping the product in any case of unusual circumstances such as the presence of high temperature, high humidity and serious pollution.
- ❸ Connect the printer's power adapter to an appropriate grounding socket.
Avoid using the same socket with large motors or other equipment that may cause voltage fluctuation of power supply.
- ❹ Do not get the product wet. Do not insert foreign objects(e.g. metal) into the product, and once it occurs, immediately turn off the power supply.
- ❺ Never use the printer without paper, otherwise it will seriously damage the printing rubber roller and thermal head.
- ❻ Unplug the product from the power outlet if the printer is idle for a long time.
- ❼ Do not disassemble or modify the product personally.
- ❽ Use only the power adapter specified in this instruction.
- ❾ In order to ensure the printing quality and prolong the service life of the product, it is recommended to use the recommended or equivalent thermal printing paper.
- ❿ Do not plug/unplug the product with the product powered on.
- ⓫ When plugging and unplugging the printer power cord, please hold the arrow position of the printer power connector with your hand, not the cord of the printer power cord.
- ⓫ Please keep this manual for the future use and reference.

Safety warning

-  **Note:** The tearing blade has a sharp edge, please be careful not to touch to prevent cuts.
-  **Warning:** The print head is a hot part, during the printing process or just after printing, Do not touch the print head and surrounding parts, children must use it under adult supervision.
-  **Warning:** Do not touch thermal print head surfaces and connectors. Avoid electrostatic damage to the print head.

I. Product Introduction

1.1 Product Specifications

Item		Parameter
Print	Printing mode	Heat transfer/heat sensitive
	Effective resolution	203 DPI/300DPI
	Maximum print width	108mm (Max)
	Print speed	100mm/s 、 127mm/s
	Print length	0.79"-9.84"(20-250mm)
Detect	Sensor	Lack of paper detection, head temperature detection, seam mark detection, black mark detection, open cover detection, head temperature detection, carbon strip exhaustion detection
Medium	Paper type	Label paper, continuous paper, black label paper (lower black label), folding paper, copper paper, silver paper
	Paper width (label + backing paper)	Min. 20mm Max. 118mm
	Paper thickness (label + backing paper)	Min. 0.06mm Max.0.254mm
	Maximum roll diameter	Φ100mm(MAX)、 Φ127mm(MAX)
	Reel bore	Φ24mm(MIN)
Carbon band	Carbon strip outer diameter	Φ70mm(MAX)
	Carbon strip length	300m(MAX)
	Carbon band width	110mm(MAX)
	Carbon strip core diameter	Φ1"(Φ25.4mm(MIN))
Programming language		TSPL+ESC
Software	Driver	XP/Win7/Win8/Win10/Win11/ios/Android/Linux/MacOS
	SDK	Android/ios/windows
	Label design	Barcode label editing software (PC),APP
Built-in font		ASCII Font: 10x12, 14x20,16x24,24x32,36x48,14x19, 21x27, 14x25, 12x24 Gb18030: 24x24
Bar code	One-dimensional	Code 39, 39C, I25, Code 93, ITF25, EAN128, Code 128, Codabar, EAN-8, EAN8+2, EAN8+5, EAN-13, EAN13+2, EAN13+5, UPC-A, UPCA+2, UPCA+5, UPC-E,UPCE+2, UPCE+5 MSIC, ITF14, EAN14, CODE11
	QR code	QR CODE
Communication interface		Standard: USB (Type-B) Options: Network port, serial port, Bluetooth, WiFi
Power source	Power adapter	AC 100 ~ 240V
	Input power supply	DC 24V  2.5A
Environmental parameter	Operating temperature	0~45°C
	Working humidity	20~90%(no condensation)
	Storage temperature	-10~60°C
	Storage humidity	10-90%(no condensation)

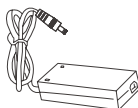
1.2 Unpacking List

Once you receive the printer, first check to see if the printer was damaged during shipping. You can check the packing box, The appearance of the printer and whether the accessories are damaged. In the event of damage to the carriage, file a written claim with the carrier immediately. Next, please check the accessories according to the "Quick Installation Guide" provided with the product. If any accessories are missing, Please contact the seller immediately.

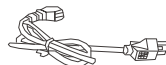
Standard Accessories



Main machine



Power adapter



Power cord



Ribbon+Paper core

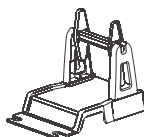


USB cable

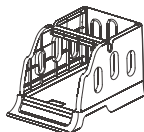


Quick Installation guide

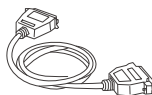
Select Accessories



External bracket A



External bracket B



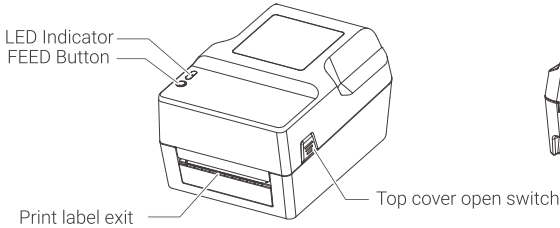
Communication cable

☺ The specific accessories should be subject to whether the interface is available. The figure is for reference only. The 2d figure in this manual uses RP400A as an example.

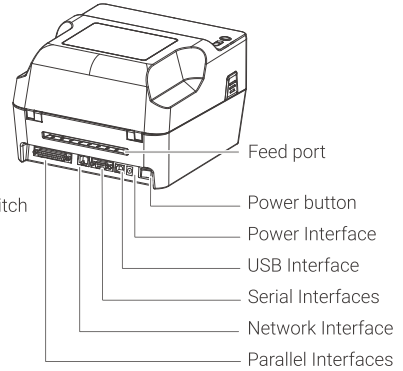
1.3 Appearance and Structure

(1) RP400/RP400B/RP400H/RP500

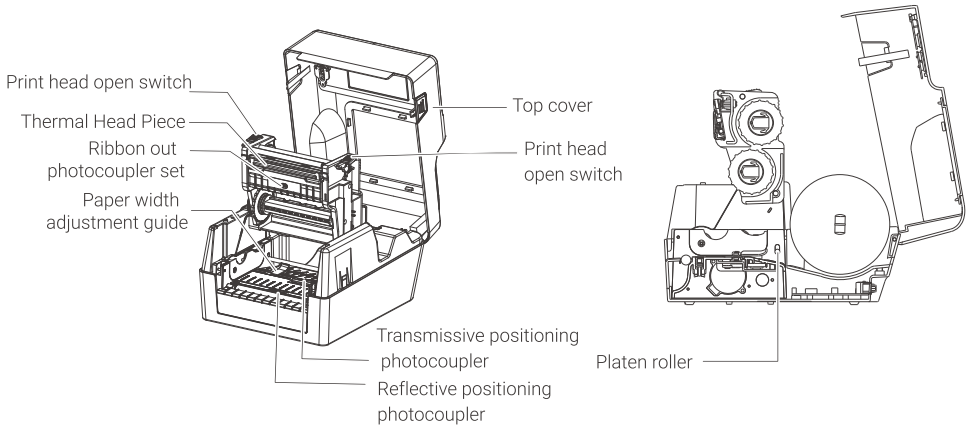
Front View



Rear View



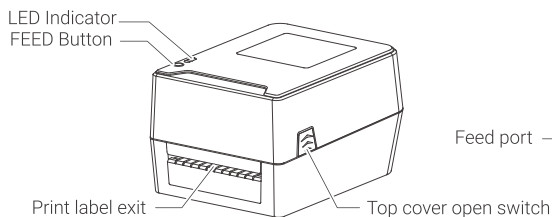
Inside View



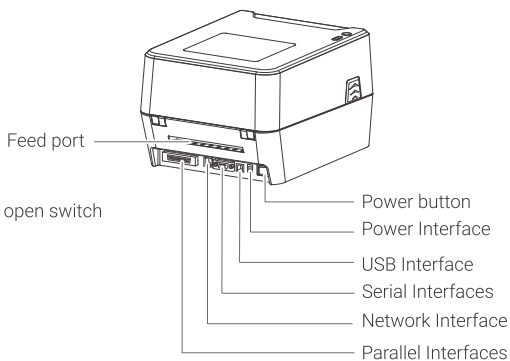
☺ **Note:** The interface is optional or customized. The specific interface is subject to the actual object.

(2) RP400A/RP500A

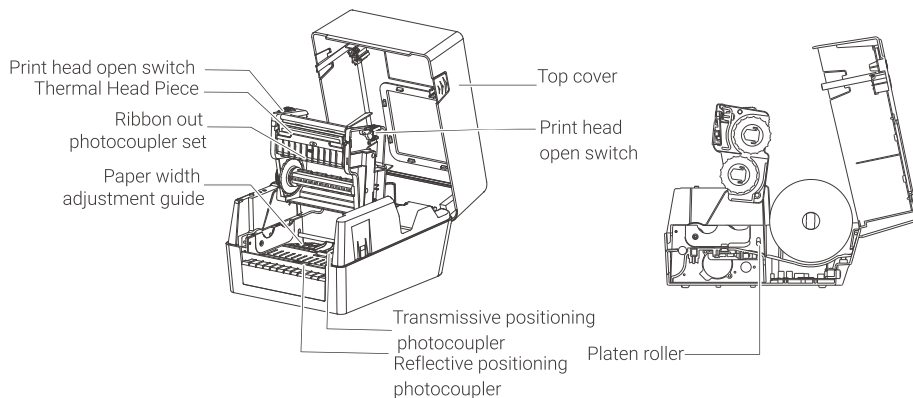
Front View



Rear View



Inside View

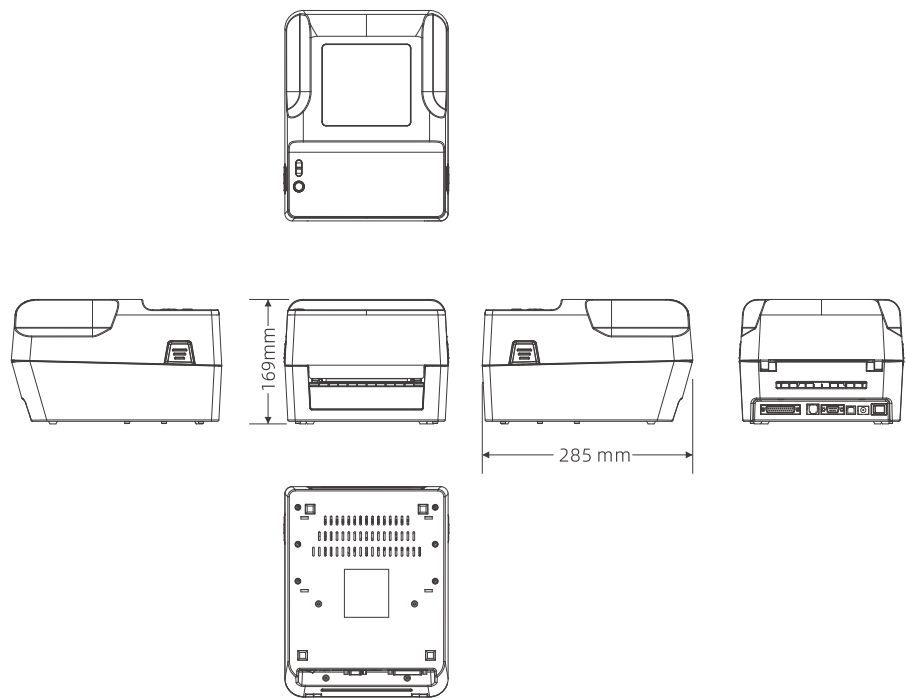


Caution:

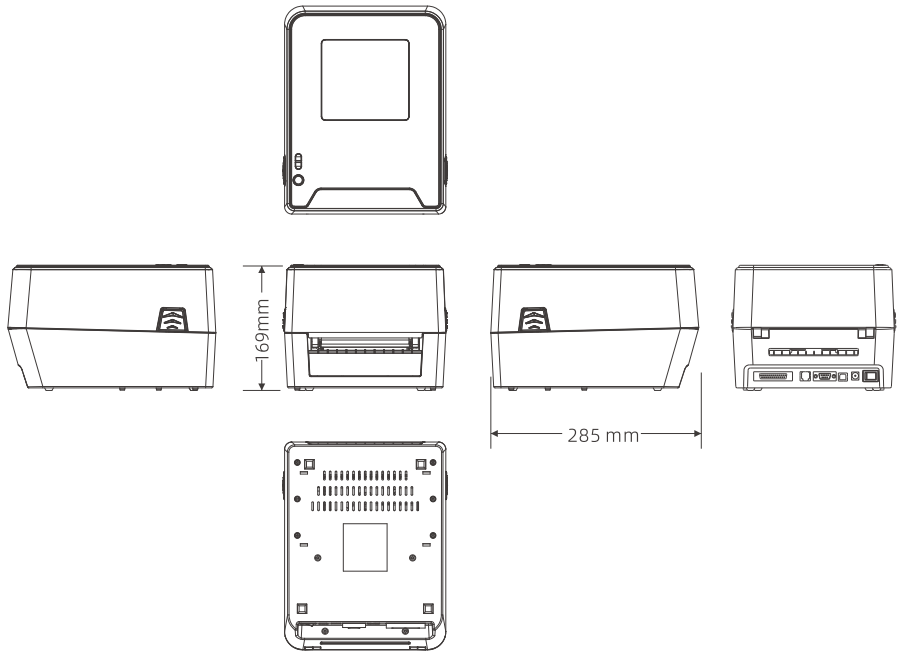
As Photos, printer transmission interface will vary according to the difference of your purchased printer's type, the actual transmission interface, please refer to the corresponding product specifications.

1.4 Product size

RP400/RP400B/RP400H/RP500



RP400A/RP500A

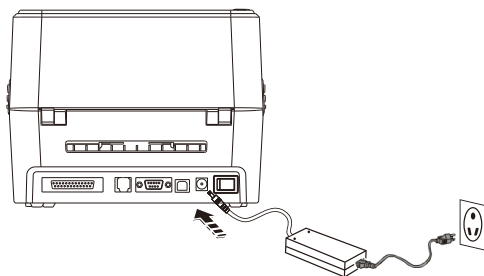


II. Installation and use

2.1 Power Connection

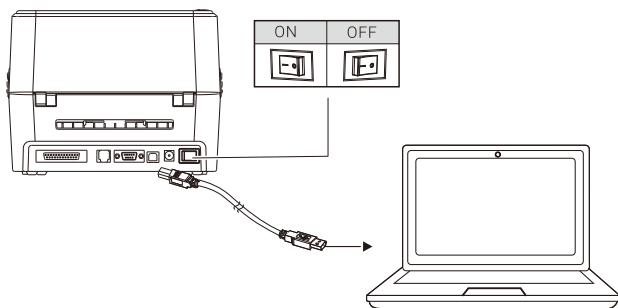
- (1) Confirm that the printer [power switch] is in the off (O) state;
- (2) Connect the power adapter to the printer;
- (3) Connect the other end of the power cord to a nearby socket.

Please use the included special power cord, connect as shown below:

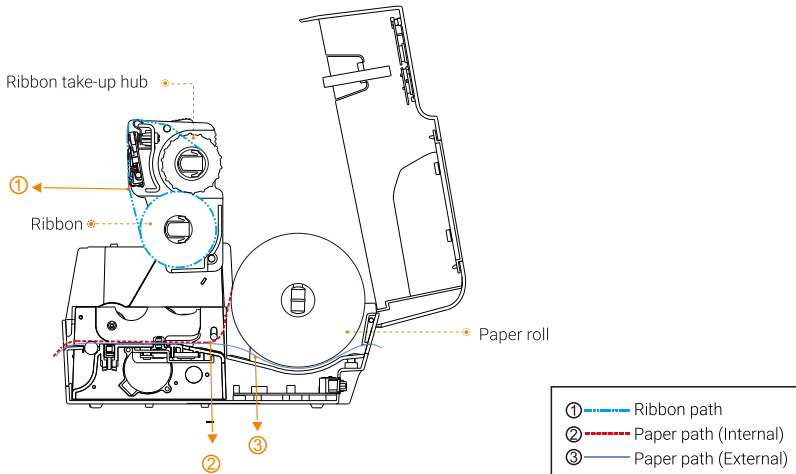


2.2 Port USB cable connection

- (1) Connect the USB cable to the printer;
- (2) Connect the USB cable to the PC host;
- (3) Turn the printer [power switch] to the power on (I) state.

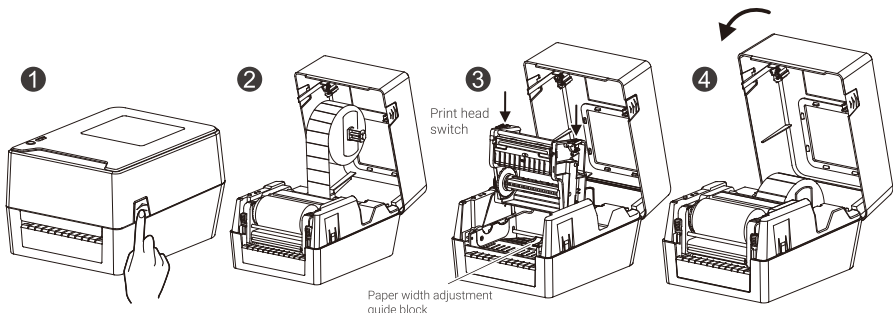


2.3 Ribbon Loading Path



2.4 Paper Loading

- (1) Press the switch on the left and right sides of the top cover with both hands to open the top cover of the printer. (Figure 1 below)
- (2) Load the paper roll on the label supply shaft and fix the paper roll in the center of the supply shaft with stop block. (If a 4" paper roll is used, you can remove the stop block and just use the paper shaft.)
- (3) Press the print head switch to open the print head. Pull out the front end of paper (keep print face upward), and send it across the platen roller, paper width adjustment guide and transmissive positioning photocoupler set, and adjust the paper to the appropriate position.
- (4) Close the print head. Make sure the print head is completely closed to ensure print quality.



2.5 Basic function description

The printer has 1 button and 1 indicator. Pressing the button or together with the power switch according to the indicator of different states can enable the printer to activate multiple functions, such as feeding paper, pausing printer actions, printing self-test page, printer initialization, etc. See below for details.

(1) Power-on Functions

The printer has three power-on functions to set up or test the hardware. Press and release the button while powering on the printer to activate these functions.

Please follow the steps below to activate the power-on functions

Function	Description
Power-on self-test	A. Turn off the printer B. Make sure the printer is loaded with paper. Press and hold the FEED button while turning on the printer, and the printer will print a self-test page; then release the FEED button.
Printer initialization	A. Turn off the printer B. Open the top cover of print head, press and hold the FEED button, turn on the printer, and press and hold FEED button for 10s. Then the printer will clear the downloaded data from the internal memory (DRAM) and restore the parameters to the factory settings.
Ribbon detection and auto positioning	When the printer is on or powered on, after replacing paper and closing the top cover of printer, the printer will automatically detect the ribbon status and perform auto positioning.

(2) General Button Functions

a. Feed

When the printer is ready (LED is blue), press the button and the label paper will be fed to the front end of next label paper.

b. Pause printing

When the printer is working, press FEED button to pause; press the button again to resume printing.

(3) LED Indicator

The indicators indicate the current status of the printer, and the buzzer indicates changes in the printer's status.

LED Indicators status	Buzzer status description	Description
The indicator flashes twice continuously	The buzzer beeps twice continuously	Printer mechanism error
The indicator flashes 3 times continuously	The buzzer beeps 3 times continuously	Paper shortage error
The indicator flashes 5 times continuously	The buzzer beeps 5 times continuously	Overheating error
The indicator flashes 6 times continuously	The buzzer beeps 6 times continuously	Cover opening error
The indicator flashes 7 times continuously	The buzzer beeps 7 times continuously	Seam label error
The indicator flashes 9 times continuously	The buzzer beeps 9 times continuously	No SDRAM detected
The indicator flashes 10 times continuously	The buzzer beeps 10 times continuously	No serial FLASH detected
The indicator flashes 11 times continuously	The buzzer beeps 11 times continuously	Ribbon error

(4) Ribbon Detection

This setting is used to determine whether the ribbon is loaded, used up or whether it works properly. This function is valid only after thermal transfer function is enabled.

(5) Initialization of Printer

The printer initialization function is to clear the downloaded data from the memory (DRAM) and restores the parameters to the factory settings. Please follow the steps below to initialize the printer:

- Turn off the power.
- Open the top cover of print head, press and hold the FEED button of the printer, turn on the printer, and press and hold FEED button for 10s.
- When all indicators of the printer are off, release the FEED button and the printer will re-start. At this point, the printer has been initialized.

(6) Label learning



Note: In the following cases, the user can learn the label positioning so that the printer can better locate the label:

- Paper identification error
- Paper misalignment
- Install and use the printer for the first time;
- First use of printer after sensor cleaning;
- Re-use the printer after a long period of unused;
- Replace the new type of paper roll;
- During the printing process, the printer cannot effectively recognize the mark.

When the printer is ready, install the label roll, Long press [FEED button] for 3S , wait for the status indicator to blink for two times, release the [FEED button] , and the printer begins to learn and feed. When the printer is learning in continuous paper mode, the learning is invalid. The user can also complete the learning through the printer tool Settings (see "Label tool Instructions" on page 37).

(7) Print the self-test page

When the printer is installed for the first time or there is any problem with the printer, you can perform the self-check program to confirm the following status. Firmware version, printer parameter setting status, print quality and related Settings of external devices, etc. If you confirm that the printer does not have problems after self-testing, please check other devices or software. This function operates independently of other devices or software.

The self-test method is as follows:

- Ensure that the power supply is connected and the rolls are properly installed.
- Ensure that the printer is powered off and the top cover is closed.
- Press and hold [paper key], then press [power switch] to turn on the printer, and release the button after the printer is turned on.

Selftest Page	
MODEL:RPXXX	
VERSION:A43B0C2D1F1_V1.11	2023-09-26
SN:.....	
Command mode:.....	ESC
Interface:.....	USB
.....	Serial 19200,N,8,1
.....	Ethernet(10Base/100Base)
DHCP:.....	Disabled
[WIFI Configure]:	
IP:.....	192.168.1.87
Port:.....	9100
SSID:.....	RT
CODE PAGE:.....	CP427[U.S.A.,Standard Europe
SPEED:.....	7
DENSITY 1:.....	8
DENSITY 2:.....	8
Media Type:.....	label
Dpi:.....	203
Size:.....	50 mm , 30 mm
Reference:.....	0 mm , 0 mm
Shift:.....	0 mm
Offset:.....	0 mm
Milage(m):.....	3.339997
Direction:.....	0,0
Set Tear:.....	ON

Self test page sample schematic



Note: Each printer self-test page parameters are different, "self-test page sample" only indicates the actual parameter information. The printed self-test value can be used to check the print quality of the print head and understand the internal Settings of the printer.

III. Driver installation instructions

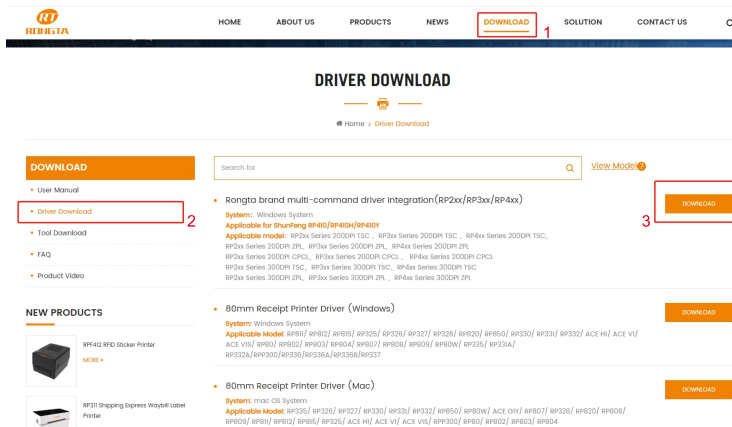
3.1 Driver Introduction

This driver is applicable to the following operating systems:

- Microsoft Windows 11 (32 bit/64 bit)
- Microsoft Windows 10 (32 bit/64 bit)
- Microsoft Windows 8 (32 bit/64 bit)
- Microsoft Windows 7 SPI (32 bit/64 bit)
- Microsoft Windows Vista SP2 (32 bit/64 bit)
- Microsoft Windows XP Professional SP3 (32 bit)
- Microsoft Windows Server 2012(64 bit)
- Microsoft Windows Server 2008 R2
- Microsoft Windows Server 2008 SP2(32 bit/64 bit)
- Microsoft Windows Server 2003 R2 SP2(32 bit/64 bit)

3.2 Driver Download

- (1) Visit the official website of Rongta University, www.rongtatech.com
- (2) Click “DOWNLOAD”----“DRIVER DOWNLOAD” find the appropriate driver click “DOWNLOAD.”

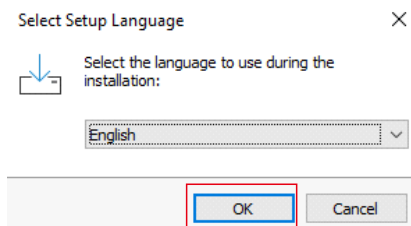


3.3 Drive installation

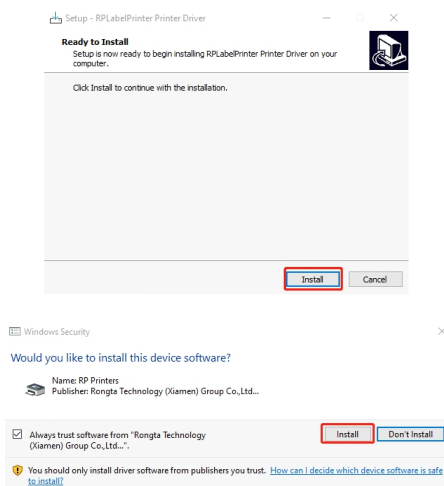


Note: Before installing the driver, make sure the power supply is connected and the USB cable is connected to the computer. The following images may vary depending on the operating system on your computer. The following example is based on the Windows 10 operating system. You are advised to close related security protection software before installing the driver. Drivers are integrated drivers that automatically install drivers that match the printer instruction language.

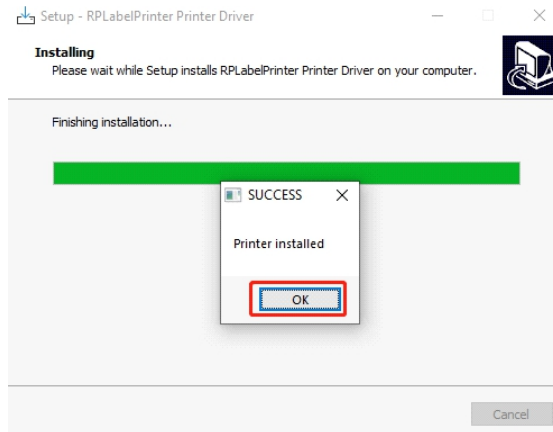
- (1)  Double-click the driver, the dialog box as shown below pops up, select the installation language, click "OK", as shown below;



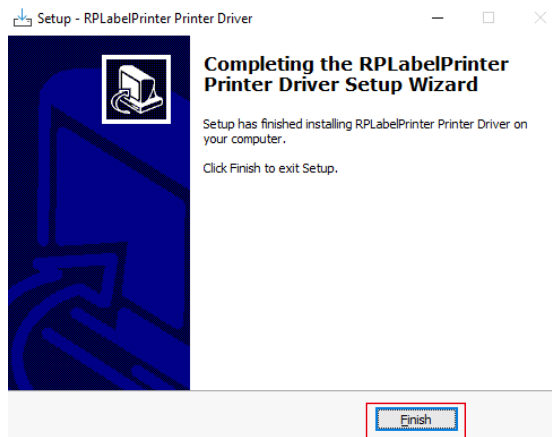
- (2) Pop up the dialog box as shown below, select "Install";



(3) Click "OK";



(4) Click "Finish" to complete the driver installation;



(5) You can find the installed printer icon in Control Panel ---- Devices and Printers.

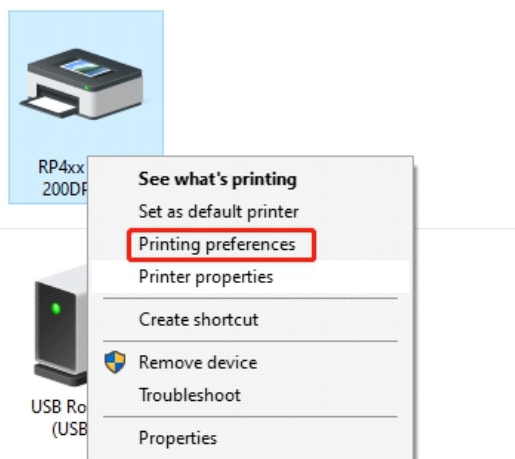


3.4 Driver Usage

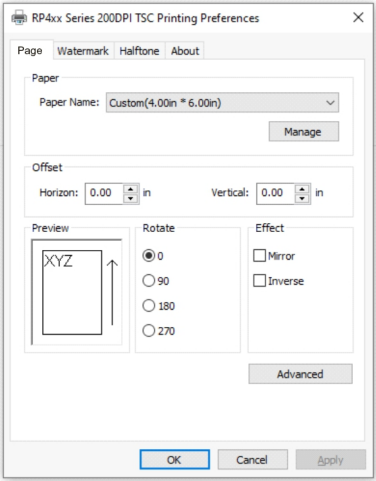
Under normal circumstances, the driver can be used after installation, the default printing paper size of the driver: 101.6mm*152.4mm, if the user's printing paper size is inconsistent with the default paper size, it needs to be reset, if not reset, the print may be missing or cannot be printed normally, the specific setting method is as follows:

(1) Print preference Settings

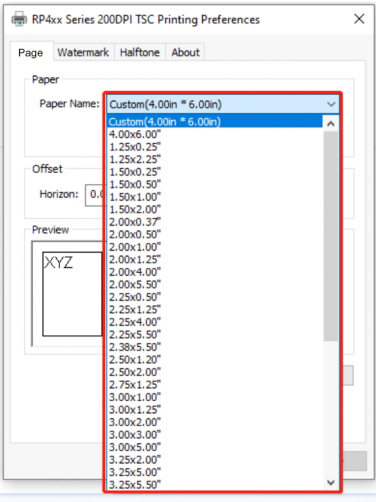
- a. Click "Control Panel" -- "Devices and Printers", right click the printer icon, select "Print Preferences"



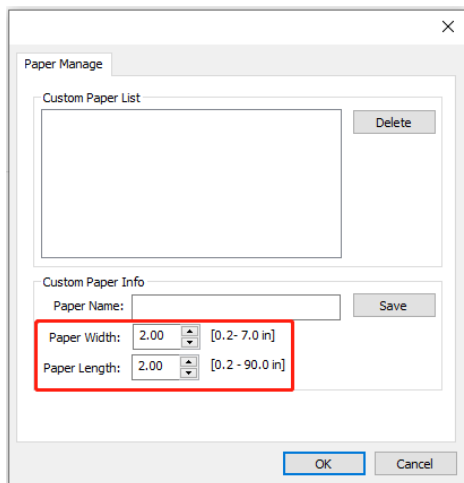
b. In the "Page" option, you can set the paper, offset, effect, etc.



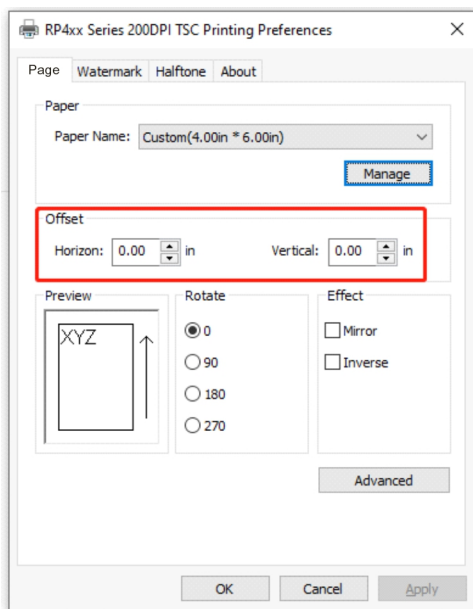
- Drop down "Paper Name" and select the paper size according to the actual paper size. Default size (101.6mm*152.4mm)



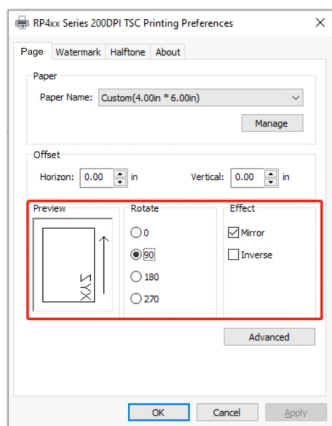
- Click "Paper Manage" to customize the paper size Settings.



- Click "Horizon" or "Vertical" to set the horizontal and vertical printing margins.

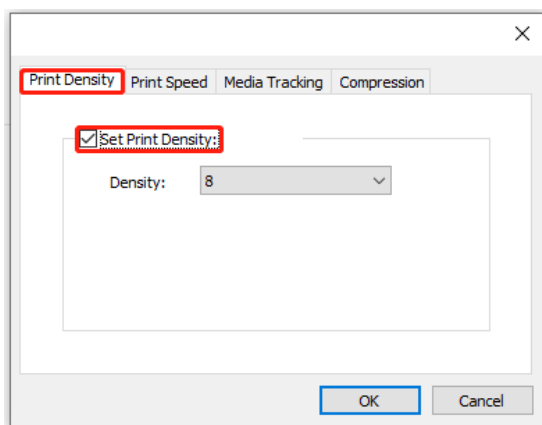


- Click "Rotate" or "Effect". The left preview shows the print position
 Rotate: Printing in different directions can be set.
 Effect: The image can be mirrored or reversed printed.

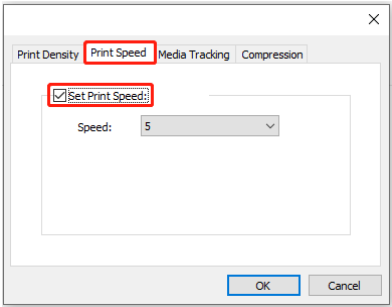


- Select Advanced Settings.

Set print Density: due to the inconsistency of the color degree of the paper, the printing concentration parameter is increased if the printing effect is light, and the printing concentration parameter is reduced if the printing is strong.
 (Refer to the table on page P23 for different label types and carbon bands, concentration and speed Settings.)



Set Print Speed: the general default speed "7", according to the printing needs to adjust the printing speed.

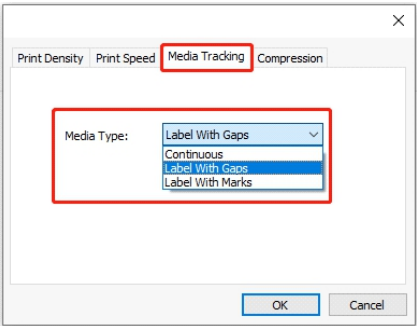


Different label types and carbon bands, concentration and speed Settings can be referred to the following table:

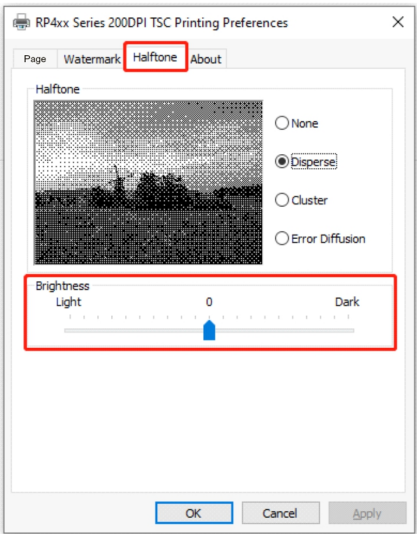
Tag type	Coated paper		Price tag/clothing tag				PET/PVC label			Washed label/ribbon
Matching carbon strip	Mixed base carbon strip, wax base carbon strip		Mixed base carbon strip, wax base carbon strip				Resin-based carbon strip			Washed carbon strip
Print speed setting parameters	5	5	5	5	5	5	5	5	5	7
Concentration 1 (tool Settings)	8	9	8	9	10	15	8	10	13	15
Concentration 2 (Drive Settings)	8	9	8	9	10	15	8	10	13	15
Sample 1										
Sample 2										
Sample 3										

☺ **Note:** The concentration needs to be set in both the driver setting and the tool setting, and the print speed can be set in only one place.

Media Tracking: You can select the type of paper currently used to select "Continuous", "Label With Gaps", "Label With Marks".

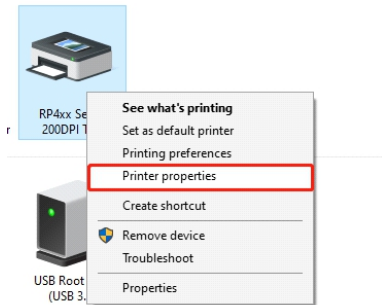


c. Halftone.
Adjustable picture printing effect.

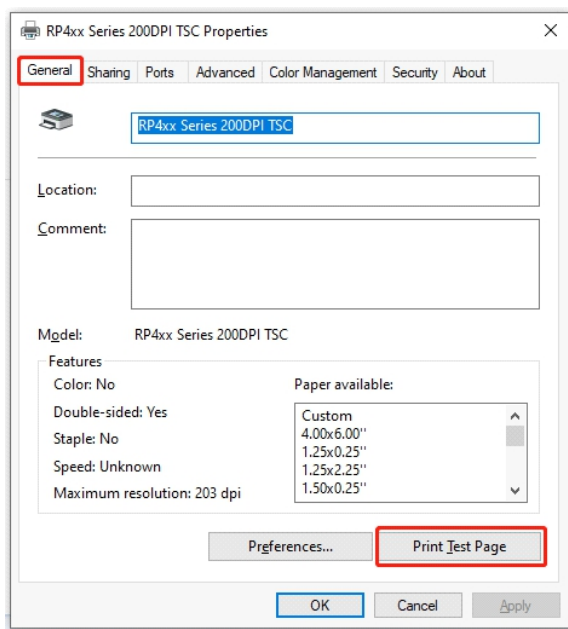


(2) Printer properties

a. Click "Control Panel" -- "Device and Printer", right-click the printer icon, and choose "Printer properties"



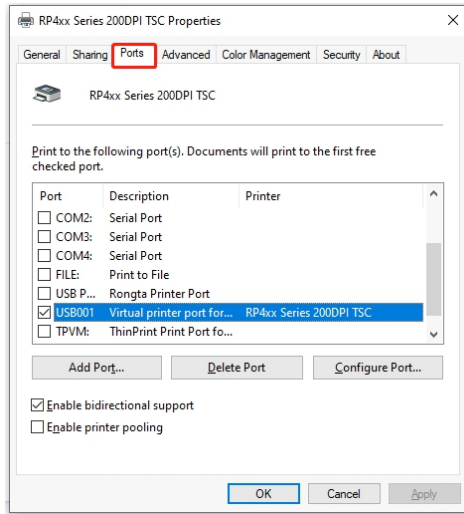
- b. Select General and click Print Test Page. The printer starts to print the current configuration.



Select "Print Test page ", if the test page can be printed normally, it indicates that the printer is correctly connected to the PC and configured, and the printer can be used normally.

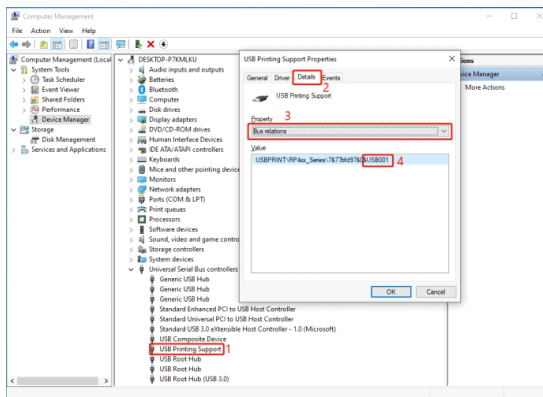
c. Click "Ports", select the corresponding port, click " ✓ ", and then click to confirm the setting.

⚠ Note: A printable test page is available to confirm that the setup is successful.



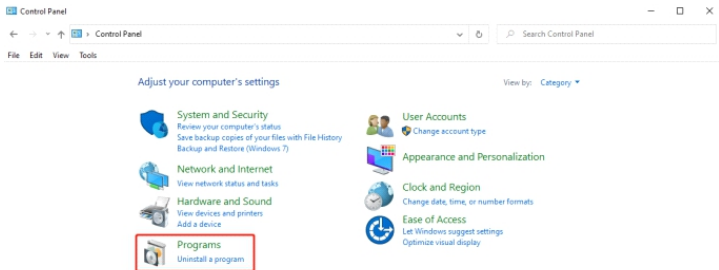
Steps to find the port type:

Desktop: "the computer", right click on the "management", open the "device manager" USB print support "----" right click "properties" option to port.

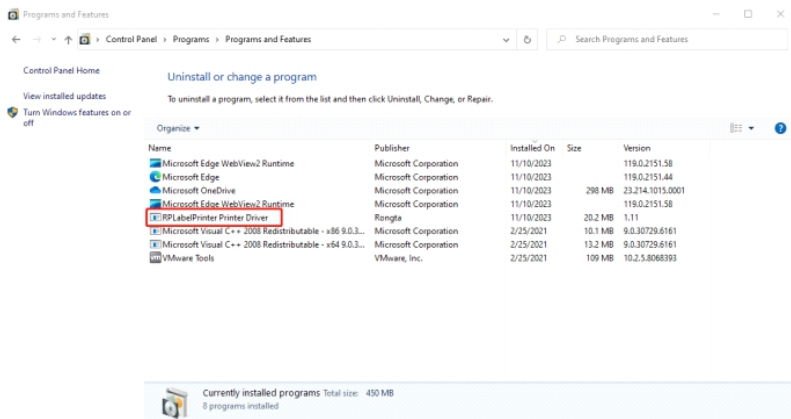


3.5 Uninstalling the Driver

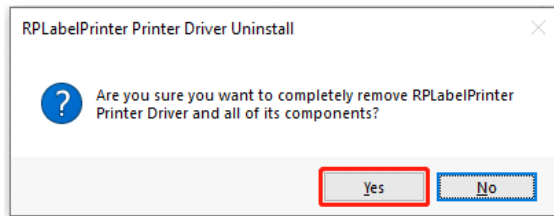
(1) Open "Control Panel" - "Programs";



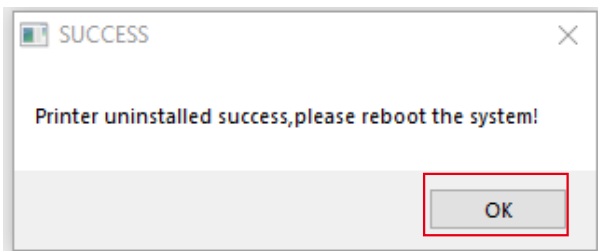
(2) Select "RPLabelPrinter Printer Driver" and right-click Uninstall.



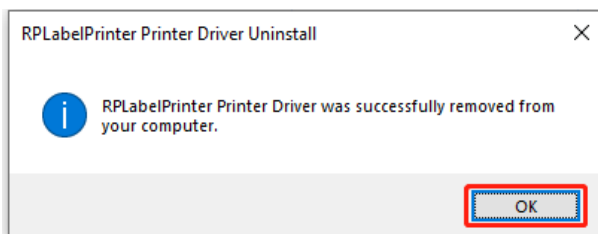
(3) Click "Yes";



(4) Click "OK";



(5) Click "OK". The driver is uninstalled successfully.



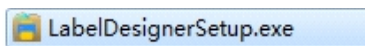
IV. Barcode label editing software installation and use

4.1 Software Download

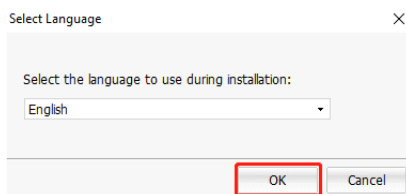
- (1) Visit the official website of Rongta University at www.rongtatech.com;
- (2) Click "SUPPORT", find the driver to download "barcode label editing software" and click "DOWNLOAD".

4.2 Software Installation

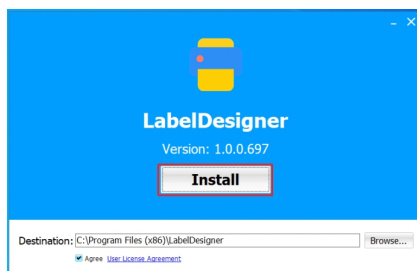
- (1) Double-click the label editing software;



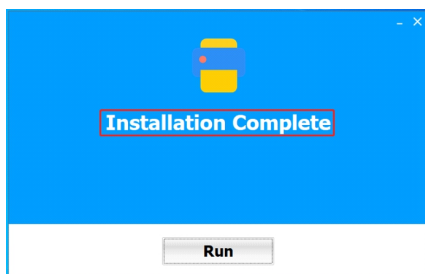
- (2) Select the language you want to use and click "OK"



- (3) Click "Install "



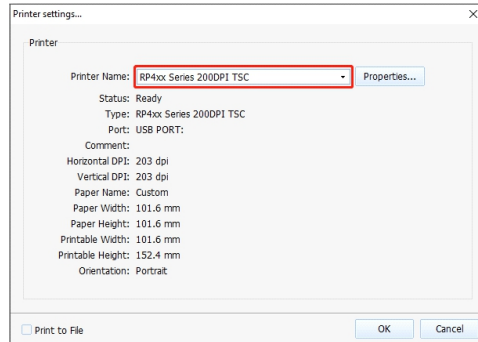
- (4) Click Experience Now to complete the installation.



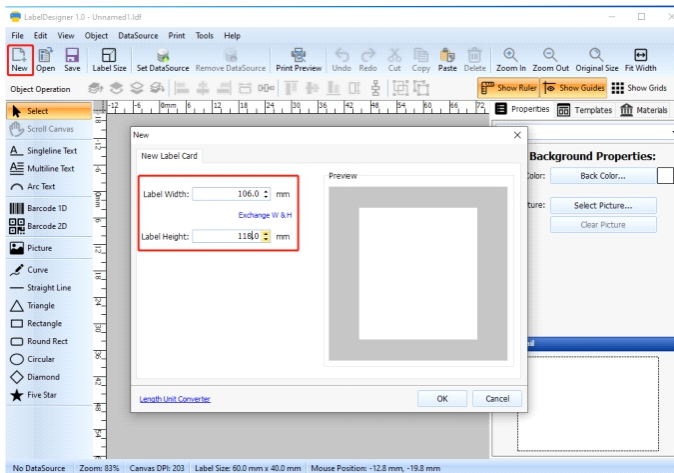
4.3 Tag editing software used



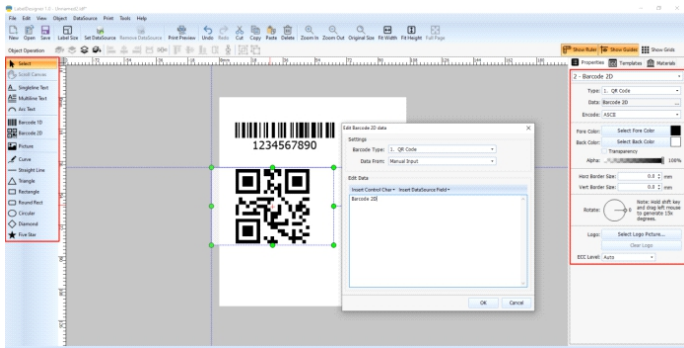
- (1) Double-click "LabelDesigner" to pop up the following dialog box, select the installed printer driver, and click "OK".



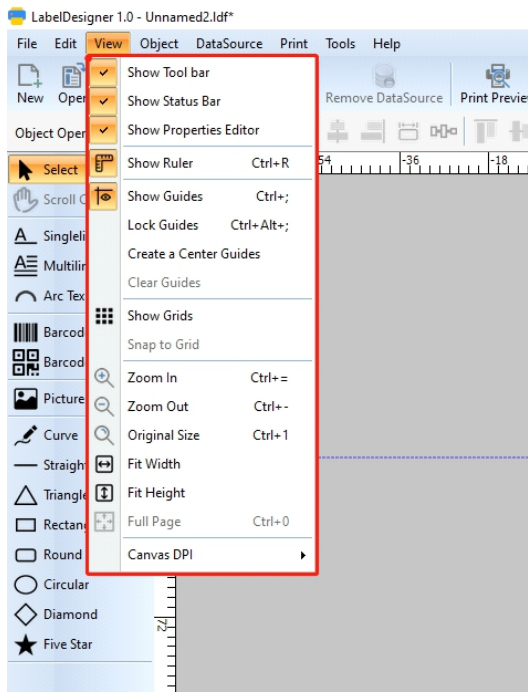
- (2) Select "New" in the upper left corner of the title bar, enter the actual label size, and click "OK".



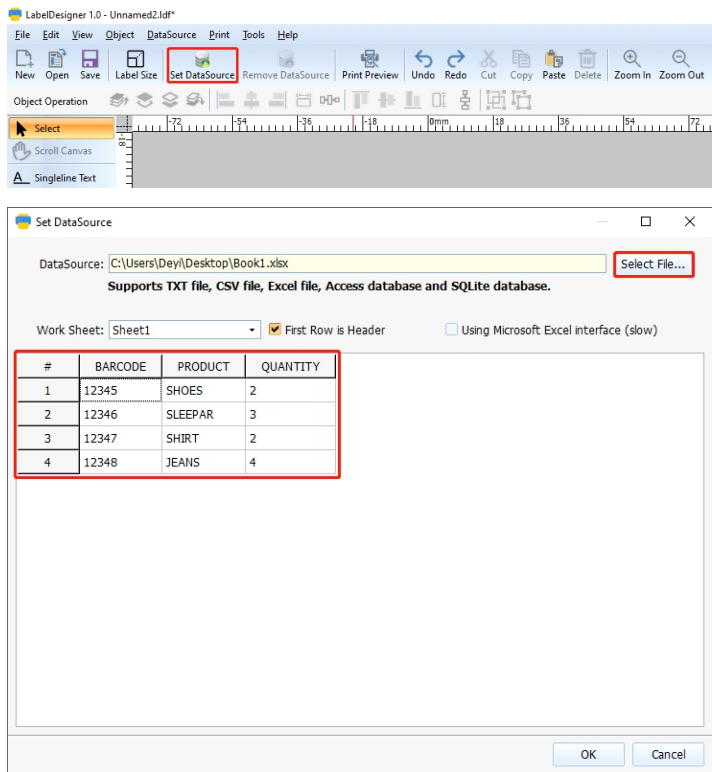
(3) Edit text or draw graphics according to the left toolbar, and change parameter information in the right property bar, as shown in the following figure.



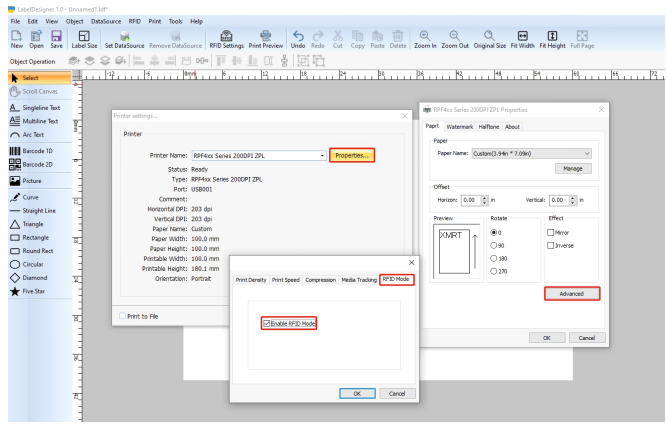
(4) Click "Toolbar" and "View", check the box in front of it below it to show it, uncheck it to hide it, and check the Settings according to operation requirements.



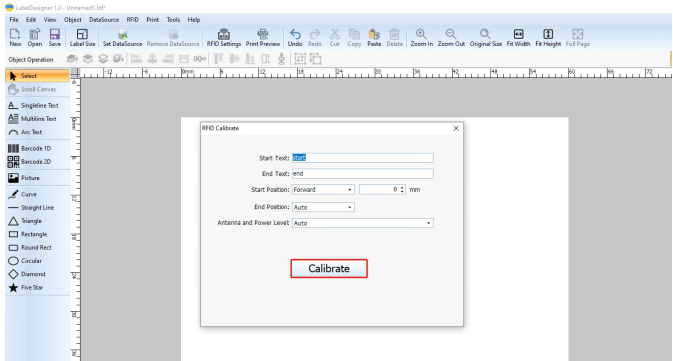
(5) Click the toolbar "Set data source", you can select the data source file to edit and set.



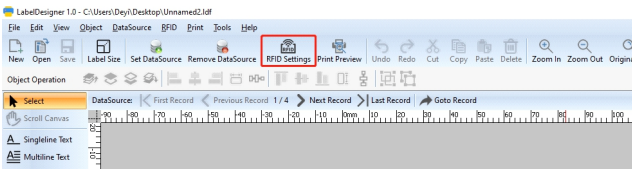
(6) If RFID is supported, turn on the RFID mode.



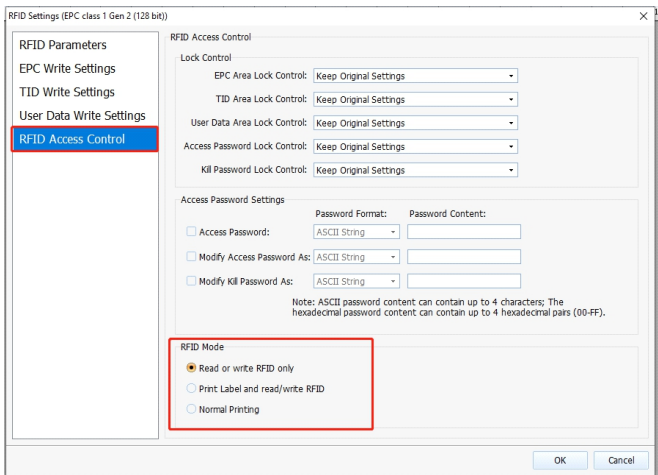
(7) Before using the RFID tag, calibrate the tag first, and then perform RFID calibration after correctly identifying the tag.



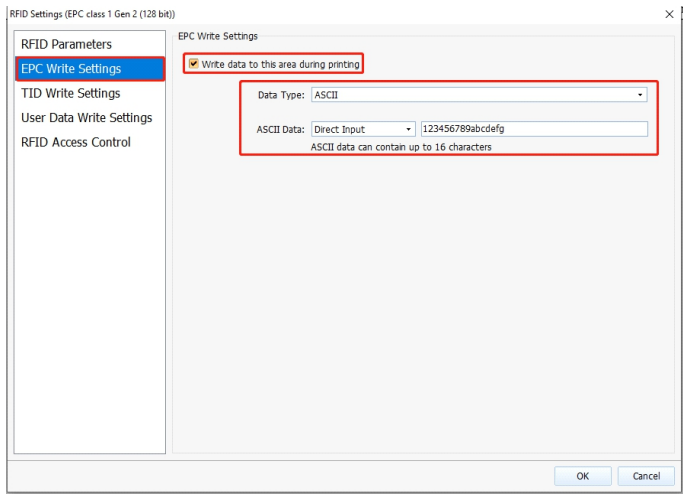
(8) After the calibration is completed, set the RFID. If the driver and the printer support the RFID function at the same time, the RFID can be read and written.



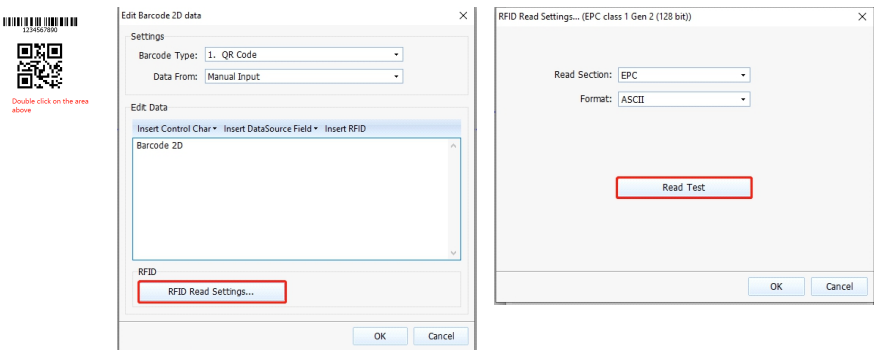
(9) Only read and write RFID is not printed only read and write RFID, print when reading and writing is printed when writing RFID, ordinary printing can not read and write RFID.



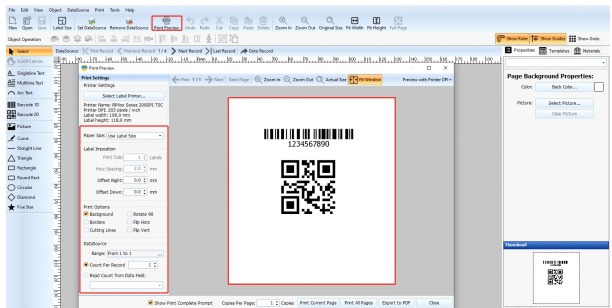
(10) Enter the RFID data that you want to write, you can print the written data, and after writing the data, you can go back to the RFID paper that is written, and then RFID read in the next step.



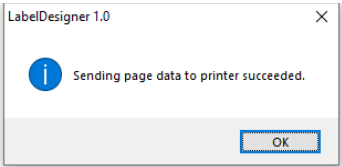
(11) Double click the data area to read the RFID (open the RFID function and put the RFID paper) after completion, you can print the RFID tag.



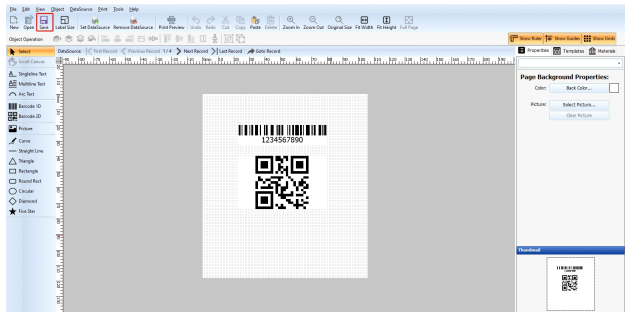
(12) If the content information is edited well, select "Print Preview" in the title bar -- select "Print Current Page"; If the preview print effect is not satisfactory, you can set it by "label layout" and "Print Options" in the left setting bar of the preview interface.



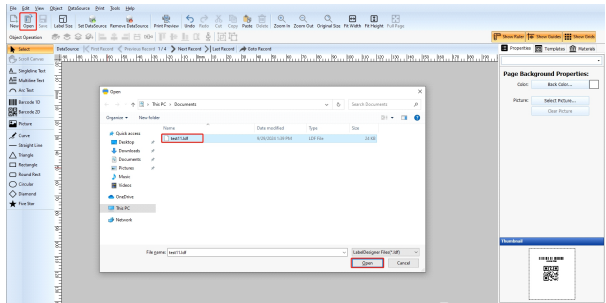
(13) If the following interface is displayed, the printing is successful.



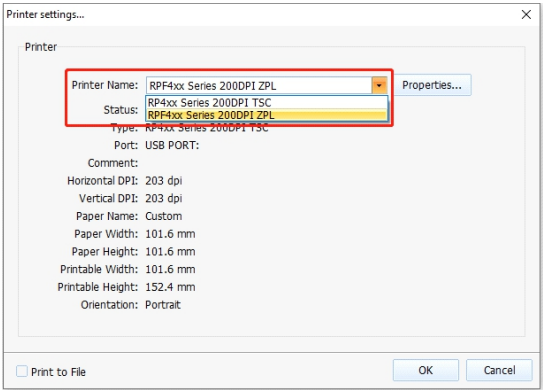
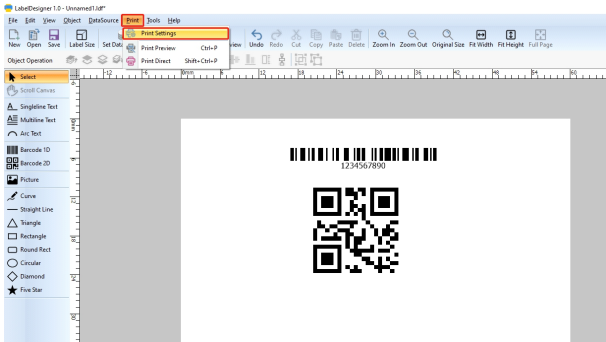
(14) If you need to save the current edit label template, select "Save" in the title bar to save to your computer.



(15) If you need to open the previously saved file, please open the "Barcode Label Printing System" software first. Then select "Open" in the title bar, as shown in the following figure, find the previously saved LDF file, select "Open" to open the previously saved label template.



(16) Such as the need to change printer, in the title bar, please select "Print" -- "Print Settings" -- "Printer Name" select the printer model.



V. Label printer setup tool instructions

5.1 Uses of the Label Tool

- (1) Query or configure basic printer information.
- (2) Set Ethernet, WiFi, serial port, Bluetooth, and character set parameters.
- (3) Update the printer firmware and font library.
- (4) Provide relevant shortcuts (for example, print a self-test page).
- (5) You can use the tool to send data.

5.2 Tool Download

- (1) Visit the official website of Rongta University at www.rongtatech.com
- (2) Click on "SUPPORT", find "TOOL DOWNLOAD", find "Label Printer Tool" and click "DOWNLOAD".

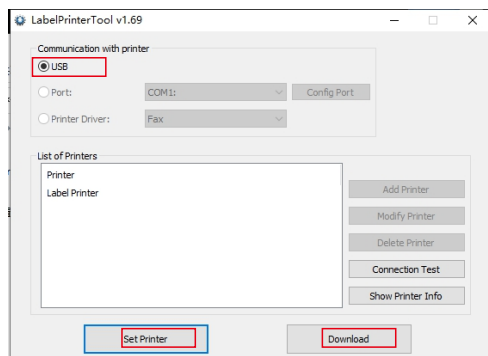
5.3 Tool instructions

Printer ready to use tool:

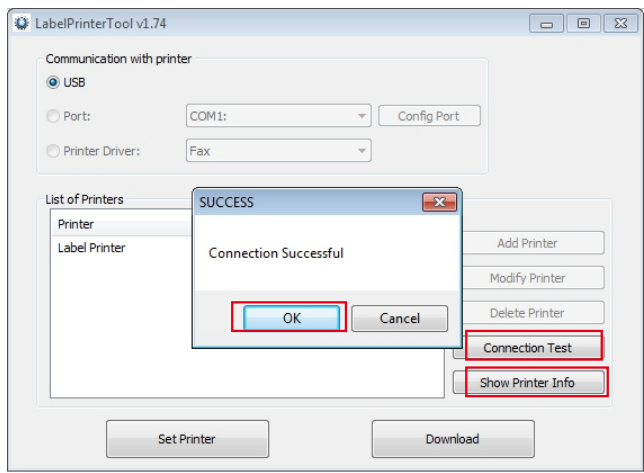
- (1) Make sure that the printer is connected to the power supply and is in the shutdown state;
- (2) The communication cable used is inserted into the communication connection plug of the corresponding printer;
- (3) Confirm that the printer has installed the paper roll;(4) Turn on [power switch].

- (1)  **RTLabelPrinterTool.exe** Double-click the tool to appear the following interface, as shown in the following picture

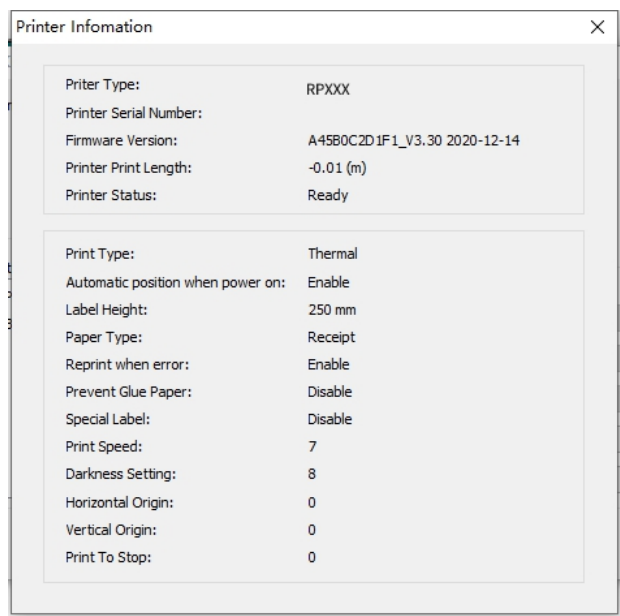
If the printer is connected to USB, directly default the USB option, and then "set the printer" or "download" the program (if the printer is connected to USB, then USB can be selected, if not, then the USB option is gray, can not be selected, as shown in the following picture).



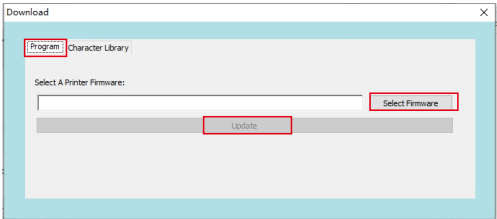
Select USB and click "Connection Test". If the following figure shows success, it means that the printer has been connected (if the connection is unsuccessful, please reinstall the communication cable and test the communication Settings).



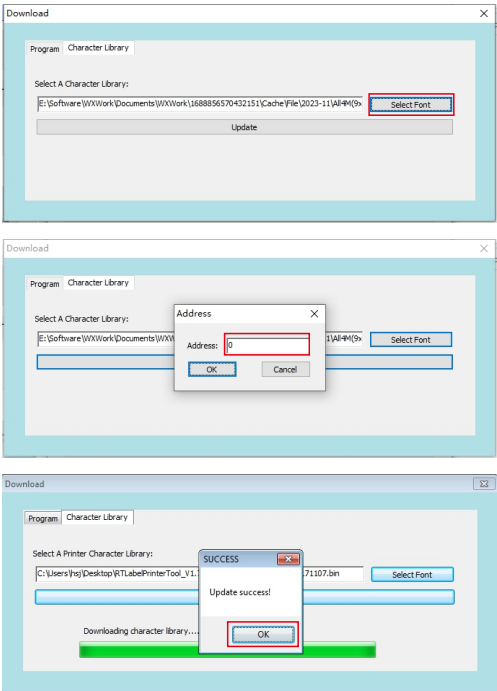
Click "Show Printer Info" to view the basic information of the current printer, as shown in the figure below.



When the firmware version of the printer is low or non-ideal, you can click "Download". The following dialog box is displayed, click "Program" to open the file, and then click "Update". After the interface shows that the update is successful (do not manually power off), the printer will enter the update mode (the light is off). About 5-10s later, the printer will automatically restart (the light is on). At this time, you can click "Show printer information" or "Print self-test page" to confirm whether the update is successful.



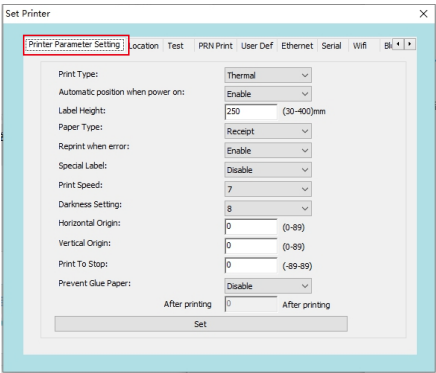
If the user wants to change the font by himself, he can select "Character Library", click "Select Font" to select the font, and then click "Update". When the interface address pops up: the default address is "0", after clicking OK, the update progress will be displayed until the update is successful, and the printer will be restarted after the font library is updated.



5.4 Tool setup

(1) Print setup

Click "Set printer" to pop up the following window, you can change the basic parameters in the print setting interface.



Different label types and carbon bands, concentration and speed Settings can be referred to the following table:

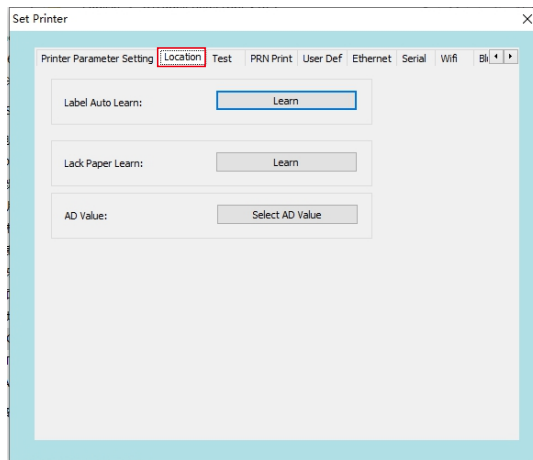
Tag type	Coated paper		Price tag/clothing tag				PET/PVC label			Washed label/ribbon
Matching carbon strip	Mixed base carbon strip, wax base carbon strip		Mixed base carbon strip, wax base carbon strip				Resin-based carbon strip			Washed carbon strip
Print speed setting parameters	5	5	5	5	5	5	5	5	7	
Concentration 1 (tool Settings)	8	9	8	9	10	15	8	10	13	15
Concentration 2 (Drive Settings)	8	9	8	9	10	15	8	10	13	15
Sample 1										
Sample 2										
Sample 3										

Note: The concentration needs to be set in both the driver setting and the tool setting, and the print speed can be set in only one place.

(2) Label calibration

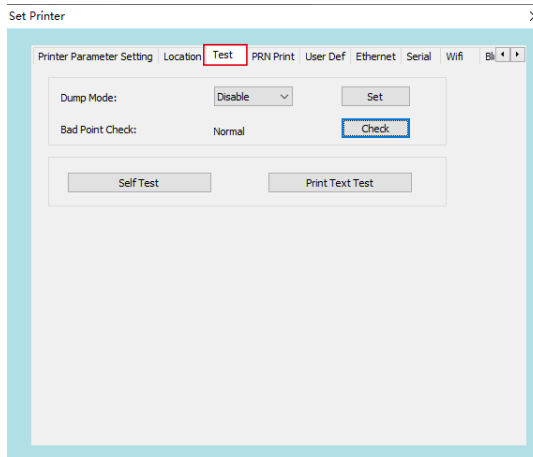
When the printer is ready, switch to the label calibration interface (as shown in the figure below) :

- Label Auto Learn: by learning to identify the size of the loaded paper;
- Lack Paper learn: It can solve the problem that when there is no paper or the learning label cannot find the seam mark, click the lack of paper learning in the case of no paper and close the cover. Finally, reload the paper for automatic label learning.

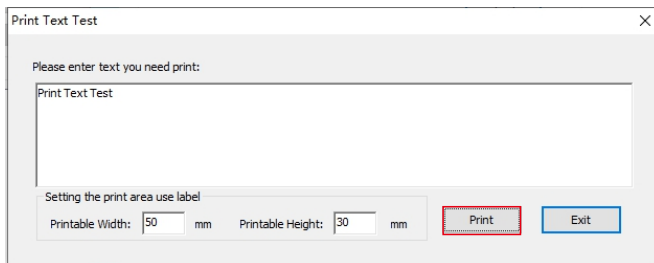


(3) Print test

Print the test interface as shown in the figure below.

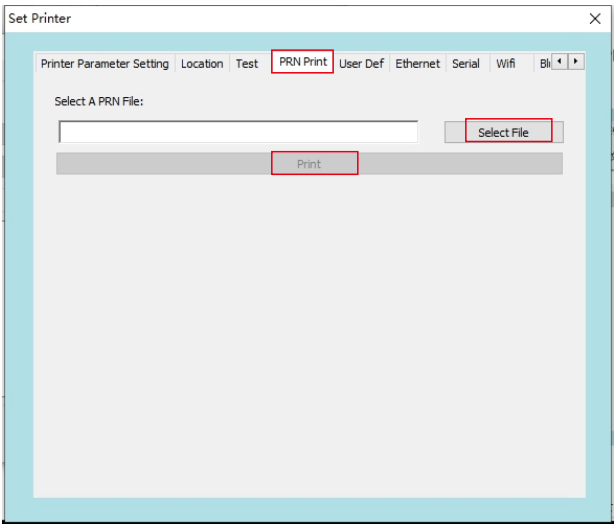


- **Dump Mode:** Default off, on the printer to print the original data sent, convenient for us to find errors.
- **Print head bad spot detection:** When the printer is ready, click "Detect" to check whether the print head is normal
- **Print self-test page:** When the printer is initially installed or there is any problem with the printer, you can click "Print Self-test page" to confirm the firmware version, printer parameter setting status, print quality and related Settings of external devices.
- **Print Text Test :** The following figure shows that you can enter the text you want to print in the text box, and set the printable area in label mode. Click "Print" to print the test.



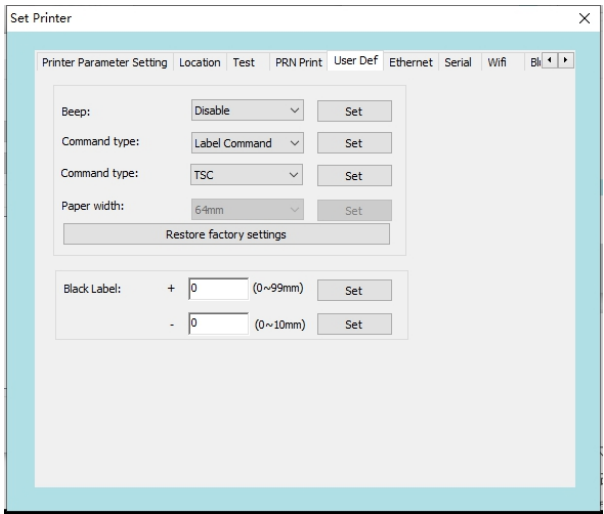
(4) PRN print

Click "Select File", select a PRN file and click "Print" to print the PRN file.



(5) User Def

Switch to the "User Def" interface, as shown in the following figure, you can set "Buzzer sound" on and off, "Command type", "Restore factory Settings".



(6) Ethernet Settings

On the Ethernet interface, you can set Ethernet parameters.

Static IP setting

- Set the IP address of the printer, for example, 192.168.1.87, and set the communication port.
- Set the subnet mask of the printer, for example, 255.255.255.0.
- Set the printer gateway, for example, 192.168.1.1.

Click Settings after filling in.

DHCP Settings

- Set the DHCP function for the printer. By default, the DHCP function for the printer is disabled. If necessary, the DHCP function can be enabled so that the printer can automatically obtain an IP address.

MAC Address Setting

- Setting a MAC Address

⚠ Note: Before setting the URL, if the printer is connected in the following two ways: "One" uses "Network port", "two" print the IP address in the driver mode, after changing the IP address, the printer's IP address has been changed. In this case, the printer is disconnected from the tool. You need to reset the IP address of the tool to connect to the printer. Other connection methods have no effect.

The screenshot shows the 'Set Printer' dialog box with the 'Ethernet' tab selected. The 'IP' radio button is selected, and the 'DHCP' radio button is unselected. The IP address is set to 192.168.1.87, the Sub Mask is 255.255.255.0, and the GateWay is 192.168.1.1. The Port is set to 9100. The DHCP dropdown menu is set to 'Disable'. The MAC address is shown as 00:00:00:00:00:00. A red rectangle highlights the IP, Sub Mask, GateWay, and DHCP settings.

Printer Parameter Setting	Location	Test	PRN Print	User Def	Ethernet	Serial	Wifi	Bluetooth
☒ IP ☐ DHCP IP: 192 . 168 . 1 . 87 Port: 9100 [Set] Sub Mask: 255 . 255 . 255 . 0 GateWay: 192 . 168 . 1 . 1 DHCP: Disable [Set] MAC: 00 00 00 00 00 00 [Set]								

(7) WiFi Settings

Printer WiFi parameter Settings

- Open the downloaded "Label printer Tool" "RTLabelPrinterTool";
- According to this setup tool manual, first make sure to connect the printer;
- Open the setup tool and select "WiFi Settings";
- Enter the SSID (the name of the wireless) to which the printer is to connect, and the corresponding mode;
- Enter the wireless encryption type, and enter the WiFi password, for example: add wireless "rdhz", password encryption type is WPA-PSK, and enter the wireless password, click "Settings";
- After clicking "Set", the printer will print out the set wireless parameters. Please print the self-test page to check the printed wireless parameters Compare with the router, if correct, please wait patiently, the printer will connect to the wireless network within 1 minute, if the printed none The line parameters are different from those on the router. Please reset them and repeat the preceding steps.

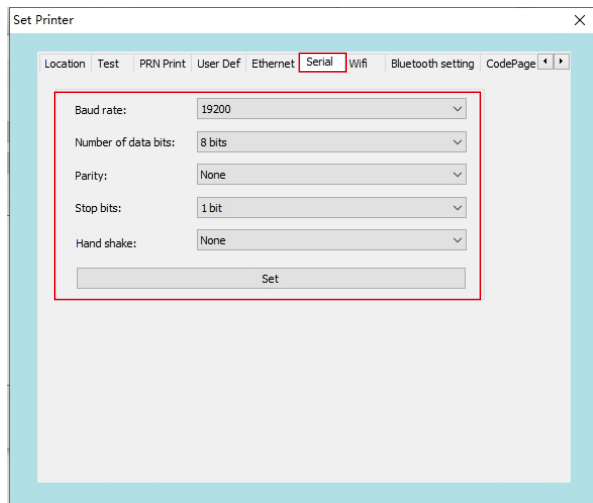
⚠ Attention: The default IP address of the printer is 192.168.1.87. If the IP address of the printer and the IP address of the wireless router are not in the same network segment, you need to go to the Ethernet page to set a static IP address for the printer, or enable the DHCP function to automatically obtain an IP address. Make the IP address of the printer and the router in the same network segment.

The screenshot shows the 'Set Printer' application window. The 'WiFi' tab is active, displaying the following configuration options:

- SSID:** A text input field.
- Mode:** A dropdown menu currently set to 'STA'.
- Encryption Options:**
 - ☐ OPEN (No Keys)
 - ☒ WPA-PSK/WPA2-PSK
 - Type:** WPA-PSK
 - Encryption:** TKIP
 - PSK Key:** A text input field.
 - ☐ WEP
 - Type:** OPEN
 - Key:** A text input field.
- Set:** A button to apply the settings.

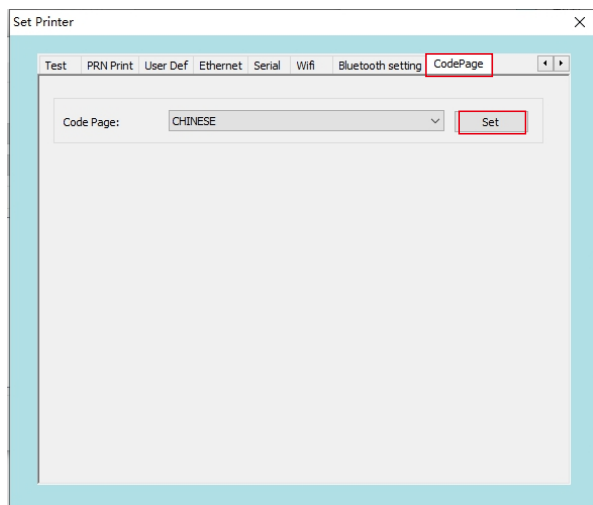
(8) Serial port Settings

Serial port Settings screen allows you to set serial port parameters.



(9) CodePage setting

On the "Code page " setting screen, click the drop-down key to select the desired character set and click "Set".



(10) Bluetooth Settings

If the printer has Bluetooth function, you can set the parameters of Bluetooth.

- First press and hold the printer's [paper key], then turn on the machine, and print out the printer's self-test page. From the self-test page, find the printer's Bluetooth pairing name and password;
- If necessary, you can modify the Bluetooth pairing name and password, this time to use the "label printer tool" in the "Bluetooth Settings" function, as shown in the following figure;
- Enter the "device name" and "Pin" of the printer Bluetooth to be modified, click "Settings", and then manually restart the printer, and wait for a short period of time after starting up, after hearing a "drop" sound, the Settings are changed successfully. (The device type needs to select Android or IOS system, if it is IOS system Pin needs to be set to 6 characters, if it is Android system Pin set to 4 characters);
- Find the Bluetooth printer you just modified, enter the corresponding password, and complete the pairing. The printer must be turned on when pairing.

⚠ Note: When pairing, do not turn on multiple printers at the same time, otherwise you may not be able to determine which printer is successfully paired.

The screenshot shows a software window titled "Set Printer" with a close button (X) in the top right corner. Inside the window, there is a horizontal tab bar with the following tabs: "Test", "PRN Print", "User Def", "Ethernet", "Serial", "Wifi", "Bluetooth setting" (which is highlighted with a red box), and "CodePage". Below the tabs, there is a form with the following fields:

- "Device Type": A dropdown menu with "ios" selected.
- "Device Num": A dropdown menu with "No. 1" selected.
- "Device Name": An empty text input field.
- "Pin": An empty text input field.
- A "Set" button located below the "Pin" field.

The entire form area is enclosed in a red rectangular border.

VI. Daily cleaning and maintenance

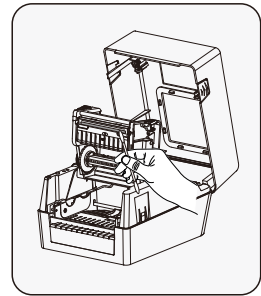
6.1 Clean print head

The print head should be cleaned when one of the following occurs in the printer:

- (1) The printing is fuzzy and unclear
- (2) A vertical column of the printed page is not clear
- (3) Large paper noise
- (4) Print hair black, carbon accumulation serious

Print head cleaning steps are as follows:

- (1) Turn off the power of the printer, open the cover, if there is paper, remove the paper;
- (2) If you have just finished printing, wait for the print head to cool completely;
- (3) Wipe the dust and stains on the surface of the print head with a soft cotton cloth dipped in alcohol;
- (4) Wait until the alcohol is completely volatilized, close the upper cover, and re-test the printing machine.



Clean print head schematic

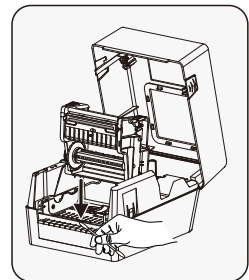
6.2 Cleaning sensor

When the printer has one of the following conditions, the paper sensor should be cleaned:

- (1) Paper identification error
- (2) Paper positioning is not allowed
- (3) Lack of paper does not alarm
- (4) Lack of paper
- (5) skip white paper, walk more paper
- (6) Can not learn paper correctly
- (7) The paper is offset

Clean the sensor as follows:

- (1) Turn off the power of the printer, open the cover, if there is paper, remove the paper;
- (2) Wipe the dust and stains on the sensor surface with a soft cotton cloth dipped in neutral alcohol, as shown in the picture on the right;
- (3) Wait until the alcohol is completely volatilized, close the upper cover, and re-test the machine.



Clean sensor diagram

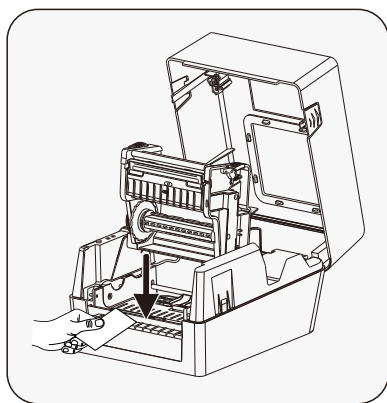
6.3 Clean the printer roller

When the printer appears one of the following conditions, the printer roller should be cleaned:

- (1) The printing is fuzzy and unclear
- (2) A vertical column of the printed page is not clear
- (3) Large paper noise
- (4) Print hair black, carbon accumulation serious

Printer roller cleaning steps are as follows:

- (1) Turn off the power of the printer and open the top cover;
- (2) Wipe the dust and stains on the surface of the printer roller with a soft cotton cloth dipped in neutral alcohol;
- (3) After the alcohol is completely volatilized, close the top cover.



Cleaning printer roller diagram

Note:

- (1) The power supply must be turned off during daily maintenance of the printer;
- (2) Do not touch the print head surface with hands and metal objects, and do not use tools such as tweezers to scratch the print head, print roller and sensor surface;
- (3) Do not use gasoline, acetone and other organic solvents;
- (4) Wait until the alcohol is completely volatilized, and then turn on the power to continue printing.

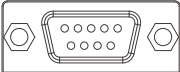
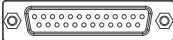
VII. Troubleshooting

The following table is a list of common problems common to the average operator and how to solve them. If you have followed the easy way to troubleshoot the situation and the printer is still not functioning properly, please contact the customer service department of the manufacturer you purchased for more assistance.

Fault Phenomenon	Cause	Solution
Incomplete print content	• The AC plug and the power supply plug are not properly connected to the printer socket • The printer power switch is not on	• Check the power connection and confirm that the AC plug and the power supply plug are properly connected to the printer socket • Turn on the printer
Incorrect positioning	• Check if the transmission line is properly connected to the printer's transmission interface • Pins in the serial cable are not 1 to 1 type	• Reconnect the transmission line • If a serial cable is used, - Please replace the serial cable and the pins in the cable must be 1 to 1 type - Please confirm the transmission rate in the printer. You can confirm the transmission rate of the serial port by printing a self-test page. • If an Ethernet cable (Ethernet) is used, (Ethernet), - Please confirm that the Ethernet RJ-45 green/orange indicator is on - Please confirm that the printer has obtained an IP address under DHCP mode - Please confirm that a correct IP address is set when using a fixed IP - Please wait a few seconds for the printer to contact the server, and then confirm the IP address again • Replace the transmission line • The ribbon and label used do not match

Appendix I: Interface information

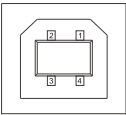
Printer Interfaces

Diagram	Type	Illustration
	USB	Universal USB Interface (Standard Type B)
	Serial interface	Db9 female connector interface, communication baud rate is 9600bps, 38400bps, 19200bps or 115200bps optional (You can set it using the tool), data structure is parity-free, 8-bit data bit, 1-bit stop bit; RTS/CTS and XON/XOFF handshake protocols are supported
	Parallel interface (25PIN)	25PIN Parallel (male connector) bidirectional parallel interface, 8-bit parallel interface, support BUSY/nAck handshake protocol 8
	Network interface	Standard RJ45-8P interface, 10M/100M transmission speed with self-adaptation, 100M network LED indication, data communication LED indication.
	Power interface	Power plug DC 24V.

☺ Note: The interface is optional or customized, and the specific interface is subject to the actual object.

(1) USB interface

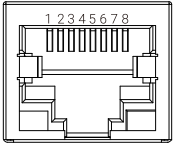
The USB socket for the printer is standard USB type-B



Pin number	Definition
1	VBUS
2	D-
3	D+
4	GND

(2) Ethernet interface

The Ethernet interface socket of the printer is standard RJ-45-8P, supporting 10M/100M network, and the transmission speed is adaptive



Pin number	Description	Illustration
1	TX+	Send differential line+
2	TX-	Send differential line-
3	RX+	Receive differential line+
4	NC	No function
5	NC	No function
6	RX-	Receive differential line-
7	NC	No function
8	NC	No function

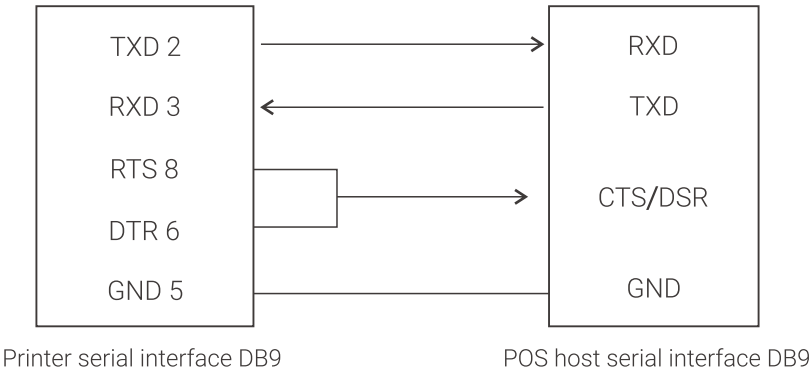
(3) Serial interface

The serial interface of the printer adopts the RS-232 standard, and the communication baud rate is 9600bps and 19200bps38400bps or 115200bps optional (can be adjusted through the printer setup tool), 8 data bitsNo parity check, 1 stop bit, RTS/CTS and XON/XOFF handshake protocols are supported.

The functions of each pin of the printer serial interface are defined as follows:

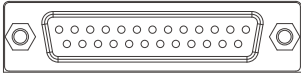
Pin number	Model	Signal source	Description
2	TXD	Printer	The printer sends data to the host.
3	RXD	Host	The printer receives data from the host.
8	RTS	Printer	This signal reflects the current status of printer. A high electrical level indicates that the printer is "busy" and cannot receive data, while a low electrical level indicates that the printer is "ready" and can receive data.
5	GND	-----	Signal ground
6	DTR	Printer	Same as RTS signal (pin 8).

Schematic diagram of connection between printer serial interface and POS host serial interface:



(4) Parallel interface

The Parallel interface socket of the printer is a 25/36PIN parallel socket, 8-bit parallel transmission, and supports the BUSY/nAck handshake protocol (subject to the actual object).



The functions of each pin of printer parallel interface socket are defined as follows:

Number of 25 PIN	Number of 36 PIN	Signal name	Signal source	Description
1	1	/STB	Host	Data strobe trigger pulse, read data at falling edge
2	2	DATA0	Host	These signals respectively represent the first to eighth bit information of parallel data. The signal is "high" electrical level when the logic is "1" and "low" electrical level when the logic is "0".
3	3	DATA1	Host	
4	4	DATA2	Host	
5	5	DATA3	Host	
6	6	DATA4	Host	
7	7	DATA5	Host	
8	8	DATA6	Host	
9	9	DATA7	Host	
10	10	nAck	Printer	Printer response signal. It indicates that the printer has received the data of previous byte
11	11	BUSY	Printer	"High" electrical level indicates that the printer is "busy" and cannot receive data.
12	12	Paper-out	-----	It indicates whether there is a paper shortage Paper-out PE.
13	13	Select	Printer	Pull up electrical level to "high" by resistor
18-25	16-17	GND	-----	Ground, logic "low" electrical level
	19-30	GND	-----	Ground, logic "low" electrical level
	33	GND	-----	Ground, logic "low" electrical level
15	32	NError(nFault)	Printer	A high level indicates that the printer is normal

Appendix II: Description of special connection functions

1.1 Bluetooth pairing and printing (only valid for printers with Bluetooth)

Before working, the Bluetooth printer needs to be paired with the master device that drives the printer, and the pairing process is initiated by the master device.

The usual pairing method is as follows:

- (1) Turn on the printer
- (2) The master device searches for external Bluetooth devices
- (3) If there are multiple external Bluetooth devices, select the printer corresponding to the BDA address (see the self-test page)
- (4) Enter the initial password, the default is 4 "0000"
- (5) Complete the pairing.

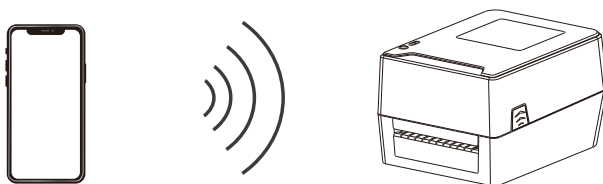
Please refer to the main device Bluetooth function description for specific pairing methods. When pairing, the thermal receipt printer with Bluetooth interface must be turned on.

⚠ Note: When pairing, do not turn on multiple printers at the same time, otherwise you may not be able to determine which printer is successfully paired.

After successful pairing, other master devices can still be paired with the printer, each printer can be paired with a maximum of 8 machines, if more master devices are paired with the printer, then the first master device with the printer will be automatically cleared from the pairing list, at this time if the master device needs to drive the printer to print, need to be paired again. (Only for multi-connected Bluetooth)

1.2 Print using Bluetooth interface (only valid for printers with Bluetooth)

For the main device with a virtual Bluetooth serial port (such as a SMARTPHONE, POCKET PC, PALM, notebook, computer, etc.), after pairing successfully, you can send print data to the printer through the virtual Bluetooth serial port for printing. If the master device does not have a virtual Bluetooth serial port, to drive the printer to print, please consult the master device supplier.



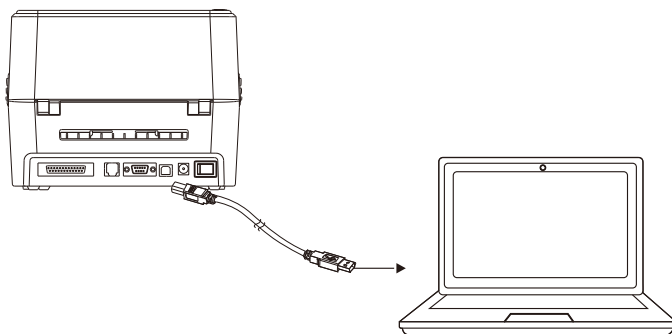
1.3 WIFI function (alternative)

WiFi is a technology that allows electronic devices to connect to a WLAN. Currently, the company's printers use 2.4G RF frequency band. There is a password for protection for the connection to WLAN; However, it can also be public, thus allowing any device within WLAN range to be connected. For specific WIFI setting steps, please refer to the "WIFI" setting in the integrated tool setting manual.



1.4 USB connection

The printer contains a USB cable, as shown in the picture to connect to the PC, you can charge the printer, set parameters, transfer data, etc.





Rongta Technology (Xiamen) Group Co., Ltd.

ADD: No. 889 Xinmin Avenue, Tongan District, Xiamen, China

WEB: www.rongtatech.com **TEL:** 0086-592-5666129

