



The image illustrates the DC400 Series Thermal Transfer Label Printer in a professional setting. The printer is a compact, black device with a small display screen and a red button. It is positioned in the foreground, with a background that combines a shipping yard (containers and truck) and a construction site (crane). A network of white circles with blue icons (factory, document, ship, airplane, truck, dollar sign, clock) is overlaid on the background, suggesting connectivity and various applications. Below the main image, a row of icons represents different industries: Hospital (heart with plus), Logistics (truck), Jewelry (diamond), Postal (envelope), Bank (stack of money), Market (shopping cart), Convenience Store (printer), and Dining (fork and knife).

							
Hospital	Logistics	Jewelry	Postal	Bank	Market	Convenience Store	Dining

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1- INTRODUCTION

The printer can meet the needs of real – time and batch printing of labels and is connected to other equipment through standard serial interfaces, parallel interfaces, USB interfaces and network ports. It provides thermal and thermal transfer printing methods. The Printer can support wide range of printing paper types and a variety of printing materials, including paper rolls, thermal paper and folded label paper. In addition, other commonly used barcodes can be used.

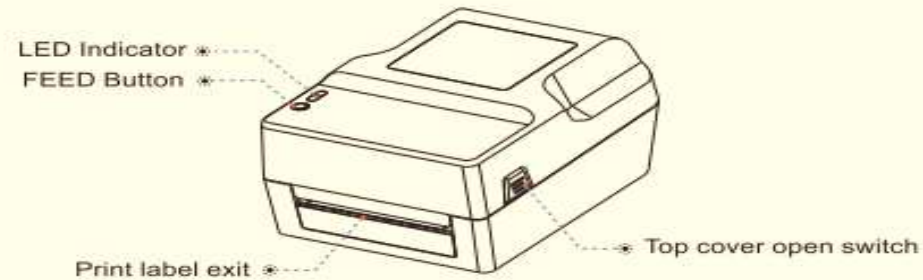
Many common 1D Barcodes and QR codes are built into this model. It supports four different printing directions with the zoom functions, the font can be zoomed in 1 to 10 times.

MAIN FEATURES

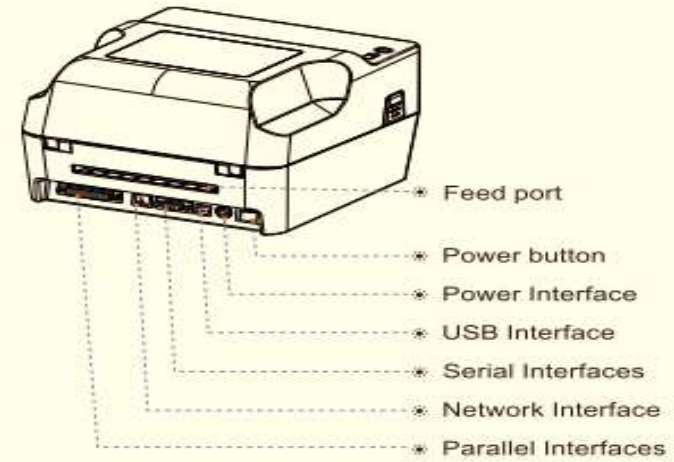
- High Printing Quality
- Low Noise
- The Attractive Appearance
- Reasonable Structure, Simple use and maintenance
- High Speed, Stable and easy to use
- Automatic correction of Label
- Easy to replace label and Ribbon

2- APPEARANCE AND COMPONENTS

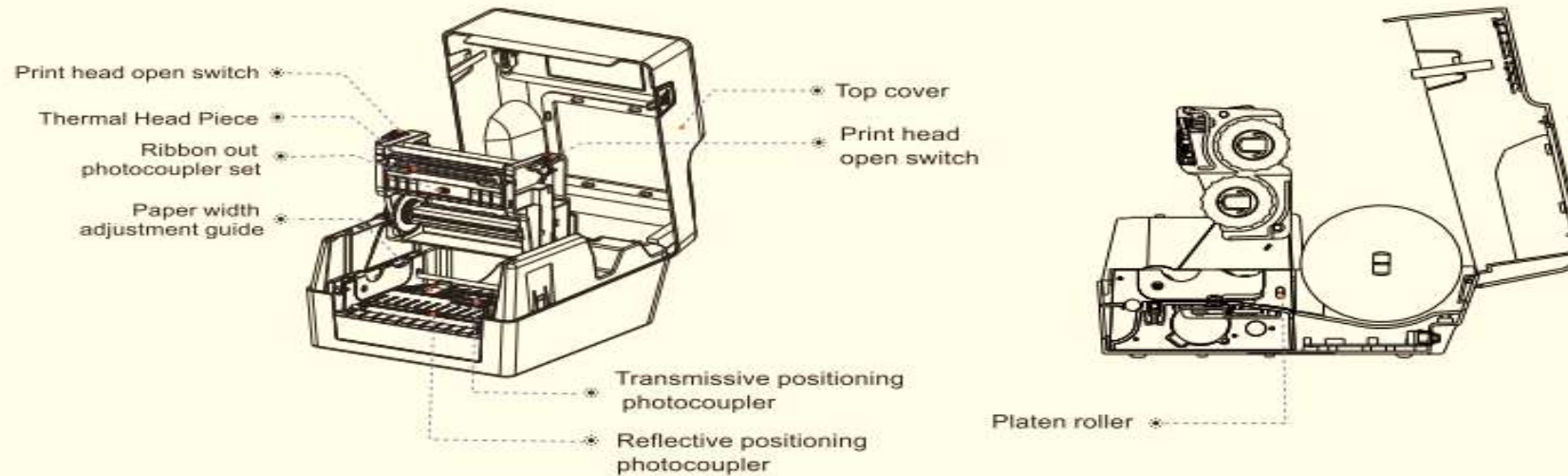
□ **Front View**



□ **Rear View**



□ **Inside View**


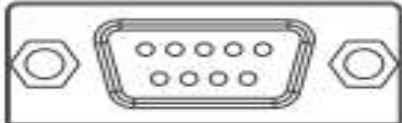
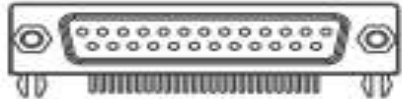
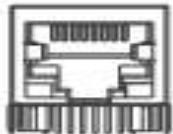



3- TECHNICAL PARAMETERS

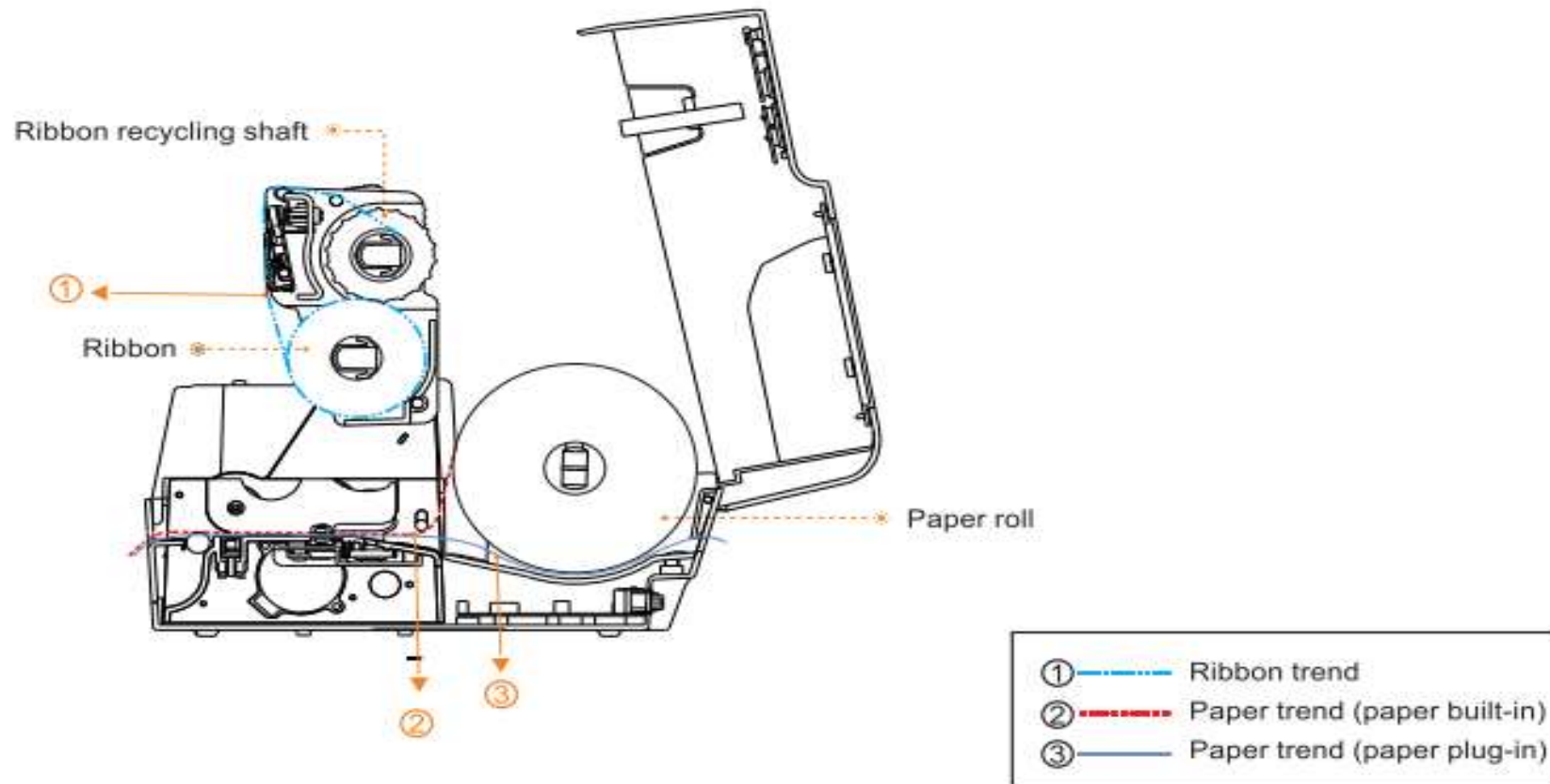
PRODUCT MODEL		DC421	DC423	DC431	DC433
Printing	Resolution	203dpi	203dpi	300dpi	300dpi
	Interfaces	USB	USB+ Serial+Ethernet+Parallel	USB	USB+ Serial+Ethernet+Parallel
	Printing speed	5 Inch per second		4 Inch per second	
	Printing method	Thermal Transfer/Direct Thermal			
	Max printing width	104mm (4.09")			
	Max printing Length	2286mm (90")			
	Print head Life	50km			
	Printer Languages	TSPL, ZPL			
Ribbon	Ribbon OD	Max 60mm			
	Ribbon Length	Max 300M			
	Ribbon width	Min. 30mm; Max. 110mm			
	Ribbon Core Size	25.4mm			
	Ribbon Rolling Up	Outward Rolling			
Media	Max Media Roll OD	127mm (5")			
	Min Media Roll ID	25mm			
	Media Paper Type	Continuous, gap, fan fold, black mark			
	Media Rolling Up Method	Printing side outward Rolling			
	Media width	Max. - 120mm (4.72"), Min. - 20mm (0.78")			
	Media Roll Core Size	25.4mm - 38mm			
	Media Gap	Min.2mm			
	Media Thickness	0.058mm~0.305mm			
	Label Length	10mm~2286mm			
	Accessories	External Media Holder (Optional)			

Software	Label Designing Software	Nicelabel SE, Bartender
	Driver	Windows 2000, XP, Vista, Win7, Win8, Windows Server 2003&2008
Character font	Character Set	GB18030 (Simplified Chinese)
	Print font	ASCII Font A: 12*24; ASCII Font B: 9*24;Chinese: 24*24
Barcode type	1D Barcode	Code39, Code93, Code128 subsets A, B, C, Codabar, Interleaved 2 of 5, EAN-13,EAN14, EAN-128, UPC-A, UPC-E, EAN and UPC 2(5) digits add-on, MSI PLESSEY, POSTNET, China POS, ITF14
	2D Barcode	QR code, Datamatrix
Picture format	Graphics processing	Support BMP/PCX/BAS
Environment Specification	Temperature	Working: 5-45°C, Storage: -10~50°C
	Humidity	Working : 25%~85% ; Storage: 10%~90%
Power supply		Input: AC 110V/240V, Output: DC24V/2.5A,60W
SDRAM		8MB
Flash		4MB
Warranty		2 years on printer and 1 year on printhead
Dimension		223*286*169mm
Printer weight		2.35kg

4- 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 (adjusting via DIP switch), 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.

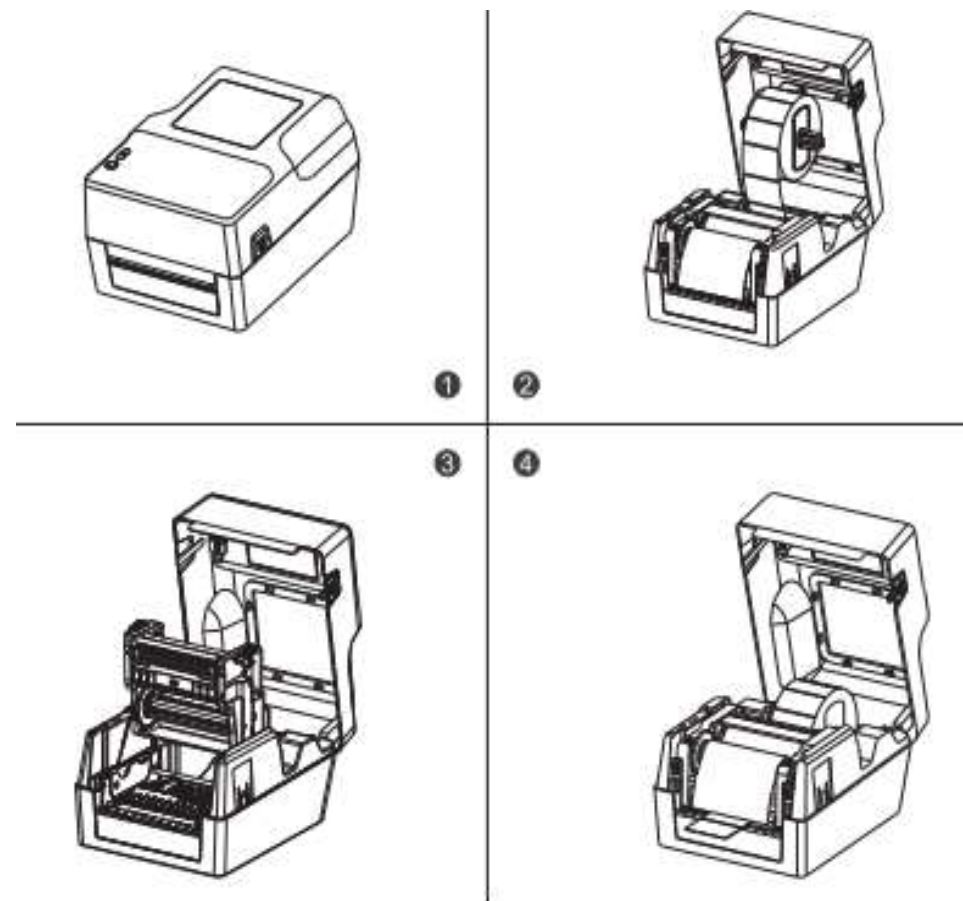
5- RIBBON & LABEL LOADING PATH



LABEL LOADING

- Open the top cover of the printer.
- Load the label roll on the label supply shaft and fix the label roll in the center of the supply shaft with stop block.
- Press the print head switch to open the printhead. Pull out the front end of label and send it across the platen roller and adjust the label to the appropriate position.
- Close the print head and make sure the print head is completely closed to ensure print quality.

See the image



6- FUNCTION OF PRINTER LED INDICATOR AND BUTTON

A. POWER ON FUNCTION -

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.

B. GENERAL BUTTON FUNCTION -

- **FEED -**

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

- **PAUSE -**

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

C. LED INDICATOR -

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

7- HOW TO CALIBRATE MEDIA

Press and hold FEED button (Red Button located on the top of the Printer), release button when printer start beeping.

8- HOW TO PRINT SELF TEST PAGE

- **Please make sure the label is properly loaded.**
- **Turn off the printer.**
- **Press and hold the FEED Button while turning on the printer.**
- **Release the FEED button when the printer feeds paper and prints content.**
- **The printed content is Self- Test Page.**

9- GENERATING PRN FILE

A. TO CREATE PRN IN TSPL-

- To Create PRN in TSPL, need to install TSC Driver & Select TSC San Serif Font.
- If PRN is printing blank in TSPL mode, you need to install TSC San Serif Font "Arial_Latin_Arabic_20180511_1459" in font block "2097152"

B. TO CREATE PRN IN ZPL-

- To Create PRN in ZPL, need to instal Zebra Driver & Select ZEBRA CG Triumvirate BC Font
- If PRN is printing blank in ZPL mode, you need to install Zebra Font "ZPL_FONT_4M_V1.0_210106" in font block "0"

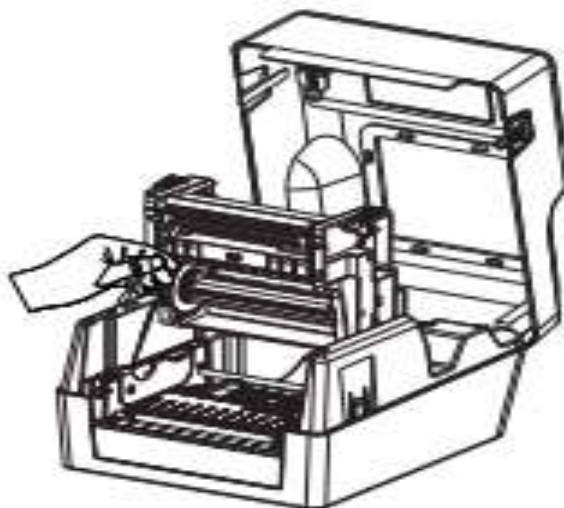
A. CLEANING THE PRINTER HEAD-

Clean the print head when one of the following conditions occurs to the printer:

- (1) Printing is not clear;
- (2) A vertical column of the printed page is not clear;
- (3) The paper feeding noise is high.

The print head cleaning steps are as follows:

- (1) Turn off the power supply of the printer, open the upper cover and remove the paper if exists.
- (2) If printing has just been completed, wait for the print head to cool completely;
- (3) Clean the printer head with a soft cotton moistened with ethyl alcohol.
- (4) After waiting for absolute ethyl alcohol to volatilize completely, close the upper cover and try printing again.



Clean the paper shortage sensor when one of the following conditions occurs to the printer:

- (1) In the printing process, the printer occasionally stops printing and alarms for paper shortage;
- (2) No alarm for paper shortage.

The paper shortage sensor cleaning steps are as follows:

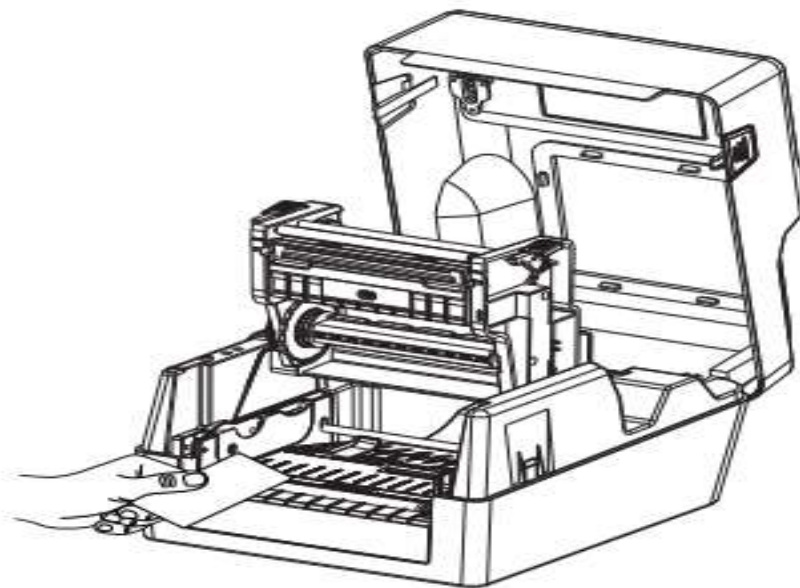
- (1) Turn off the power supply of the printer, open the upper cover, and remove the paper if there is any;
- (2) Wipe off the dust and stain on the sensor surface with soft cotton cloth (which should be dried) dipped in absolute ethyl alcohol.
- (3) After waiting for absolute ethyl alcohol to volatilize completely, close the upper cover and try to start the machine again.

When one of the following conditions occurs to the printer, the printing rubber roller should be cleaned:

- (1) Printing is not clear;
- (2) A vertical column of the printed page is not clear;
- (3) The paper feeding noise is high.

The printing Rubber Rollers cleaning steps are as follows:

- (1) Turn off the power of the printer and open the upper cover;
- (2) Use a soft cotton cloth (which should be dried) dipped in a neutral detergent to wipe off dust and stains on the surface of the printing rubber roller;
- (3) Close the upper cover after the cleaning agent is completely volatilized.



FAQ -

The table below shows common problems and solutions.

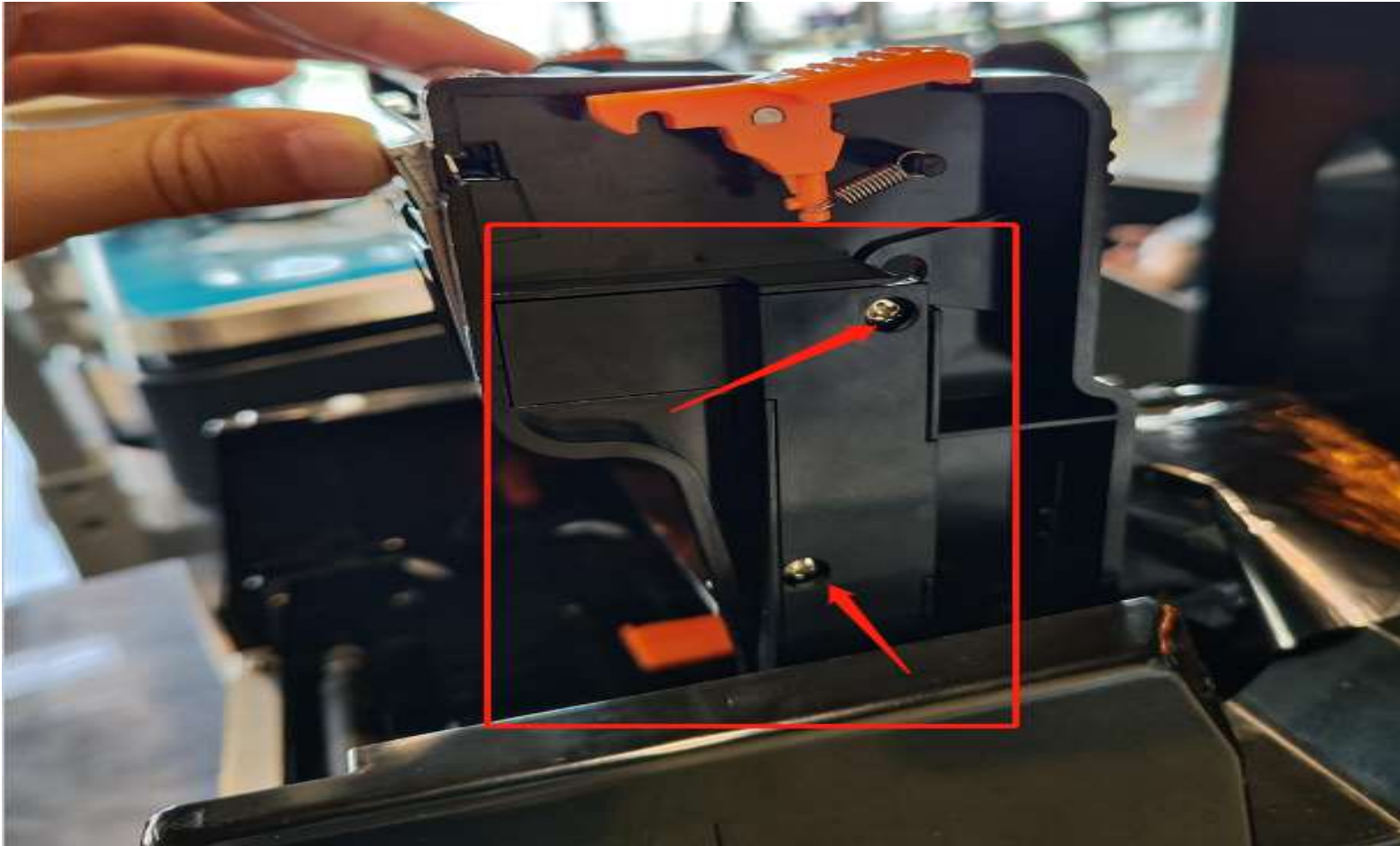
Fault Phenomenon	Cause	Solution
Incomplete print content	<ul style="list-style-type: none"> • The AC plug and the power supply plug are not properly connected to the printer socket • The printer power switch is not on • Ribbon has been used up • Ribbon loading path is incorrect • Label paper has been used up • Label loading path is incorrect • Gap sensor detection is incorrect • Label paper may be stuck inside the printer 	<ul style="list-style-type: none"> • 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 • Load ribbon • Please reload the ribbon according to the ribbon loading steps • Load new label paper • Please reload the label paper according to the label loading steps • Resize and print • Clean the mechanism inside

Incorrect positioning	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Reconnect the transmission line• If a serial cable is used,<ul style="list-style-type: none">- 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),<ul style="list-style-type: none">- 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
Poor print result	<ul style="list-style-type: none">• Ribbon /Paper loading error• Print head/rubber roller has dust or adhesive accumulation• Print density setting error• print head is damaged• The ribbon and label used do not match	<ul style="list-style-type: none">• Reinstall supplies• Clean the print head• Clean the rubber roller• Adjust the print density and print speed• Print the self-test values and check if the print head is damaged. If yes, please replace the print head.• Replace with a proper ribbon or label paper• If the thickness of the label paper exceeds 0.22mm, it may lead to low print quality.• Confirm that the print head holder is completely closed

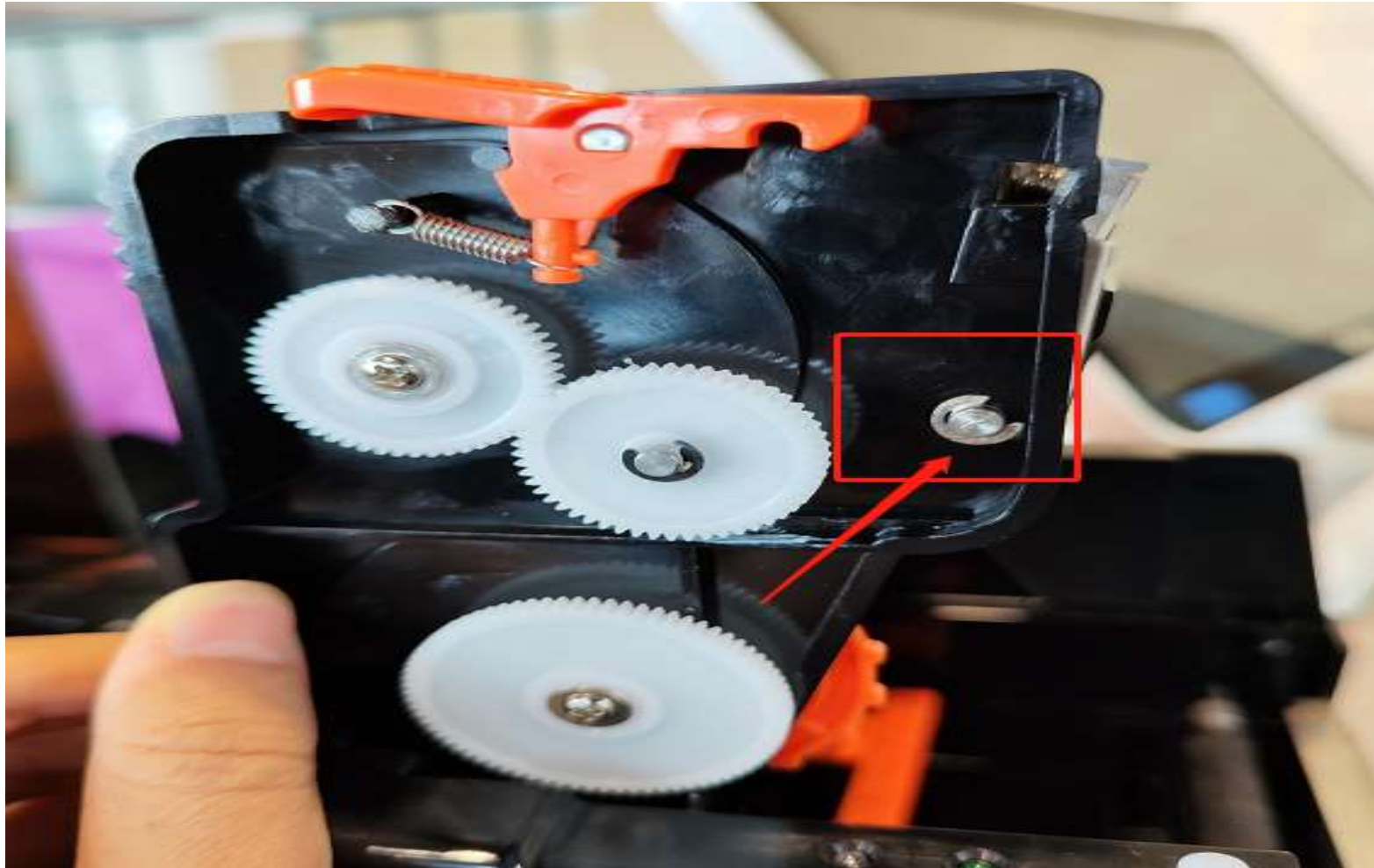
Paper skips when printing	<ul style="list-style-type: none">• Label size setting is incorrect or incomplete• The sensor is not recalibrated after label replacement. The label sensor is covered by dust, causing incorrect detection	<ul style="list-style-type: none">• Resize and print• Use an air brush to remove dust from the sensor
Print contents on the left and right are missing	<ul style="list-style-type: none">• Label size setting is incorrect	<ul style="list-style-type: none">• Set the correct label size
Wrinkled paper	<ul style="list-style-type: none">• Uneven pressure of print head• Incorrect loading of ribbon• Incorrect loading of label paper• Incorrect print density• Incorrect feeding of label paper	<ul style="list-style-type: none">• Please set the proper label printing density• Please adjust the label width adjuster to fit the label width
Gray lines appear on black label paper	<ul style="list-style-type: none">• The print head is dirty	<ul style="list-style-type: none">• Clean the print head
Color lines	<ul style="list-style-type: none">• The rubber roller is dirty	<ul style="list-style-type: none">• Clean the rubber roller
Printing is unstable	<ul style="list-style-type: none">• The printer is in Hex Dump mode• Incorrect setting of the serial communication (RS-232)	<ul style="list-style-type: none">• Restart the printer to exit Dumpmode• Reset RS-232

12- PRINT HEAD REPLACEMENT

- 1- Turn off the power of printer and open the upper cover.
- 2- Unlock printhead assembly and unscrews the screw as shown in below pic.



3- Now disassemble circlip as shown in below pic.



4- Printhead will come out in front, remove the printhead plate ,
Power cable , Data cable and replace new printhead.

13- PLATEN ROLLER REPLACEMENT

1- Unscrew the screw from bottom as shown in below pic.



2- Now remove back cover and unscrew the screw from inside the printer as shown in below pic.



3- Now disassemble the circlip as shown in below pic.



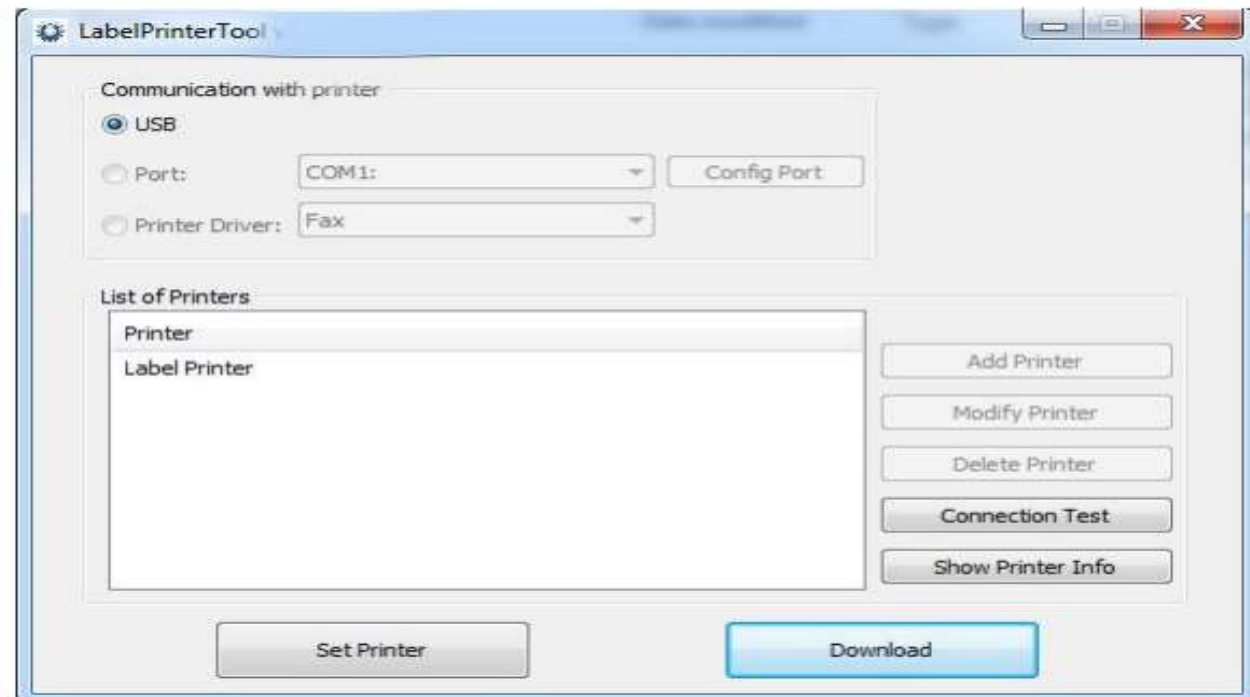
4- After this roller will be released outside for replacement.

This tool is used to configure printer parameter settings like configure IP Address, RS232 parameter, prn file printing, restore factory settings, firmware and font download and changing printer language (TSPL to ZPL and ZPL to TSPL) and many more

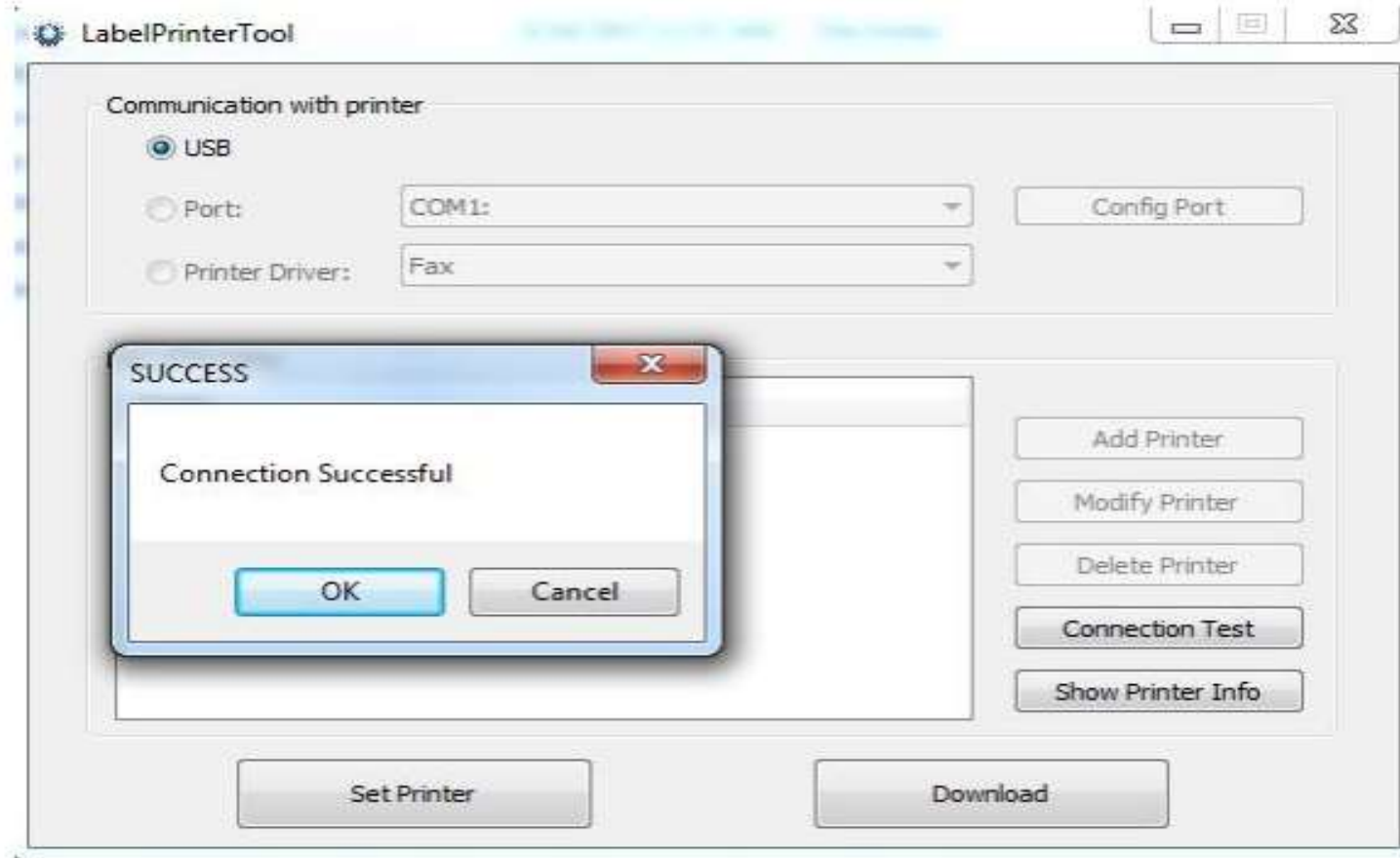
1. CONNECTION TEST -

- Install the setup of tool and open it.
- The printer needs to be ready before using the setting tool.

The operation display is as follows:



- Click on Connection test



- Connection Successful pop up will display, it means printer is connected to PC and ready to use.

2. SET PRINTER -

- Open the printer tool.
- Click Set Printer to pop up the window shown in the figure below. You can change the basic parameter in the print setting interface.

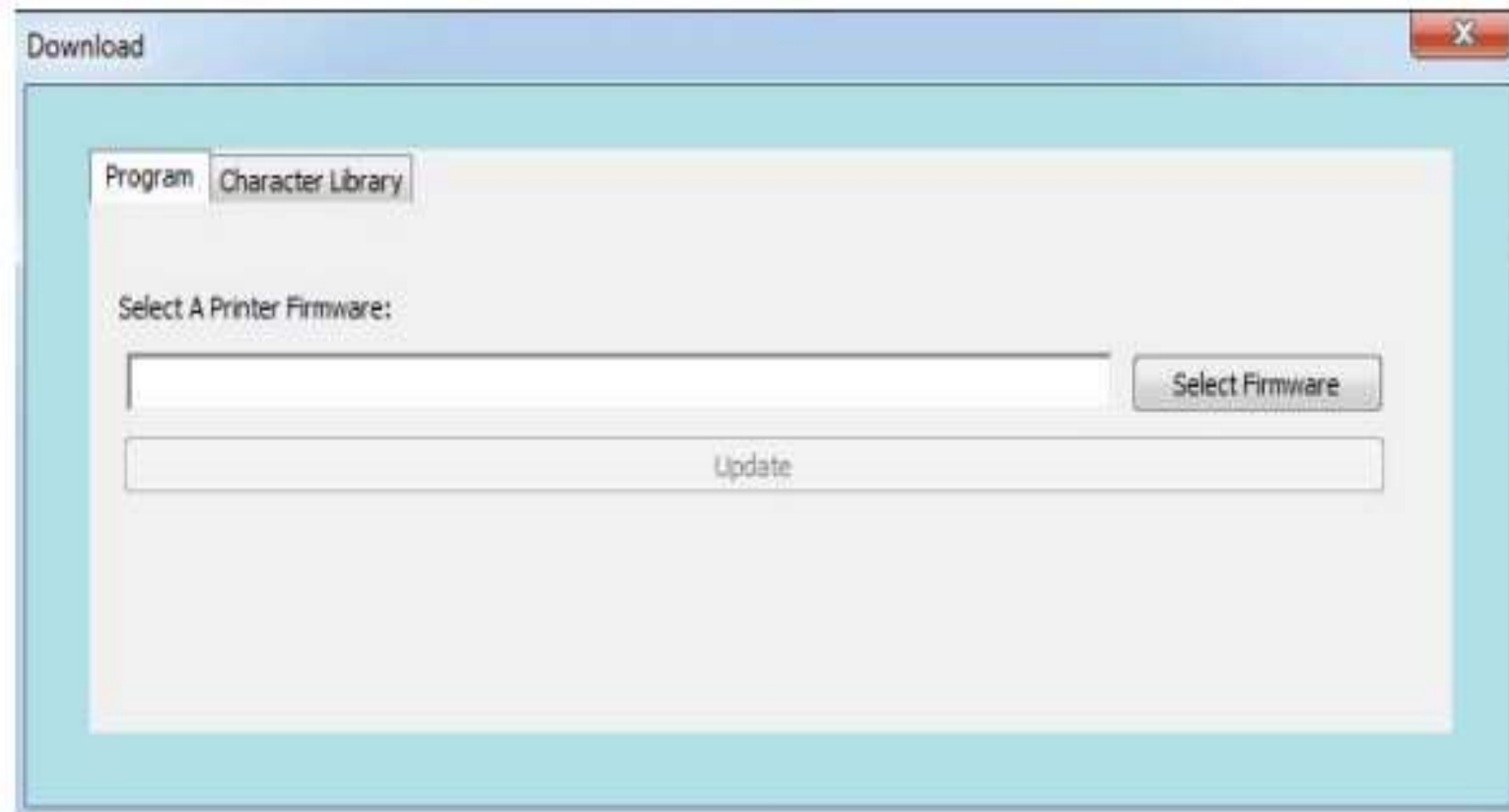
The screenshot shows a 'Set Printer' window with a tabbed interface. The 'Printer Parameter Setting' tab is active. The window contains the following settings:

Parameter	Value	Range/Unit
Print Type:	Thermal	
Automatic position when power on:	Enable	
Label Height:	400	(30-400)mm
Paper Type:	Label	
Reprint when error:	Enable	
Special Label:	Disable	
Print Speed:	6	
Darkness Setting:	9	
Horizontal Origin:	0	(0-89)
Vertical Origin:	0	(0-89)
Print To Stop:	0	(-89-89)
Prevent Glue Paper:	Disable	
After printing	0	(0-255)minutes later open

A 'Set' button is located at the bottom of the window.

3. DOWNLOADING THE FIRMWARE AND FONT-

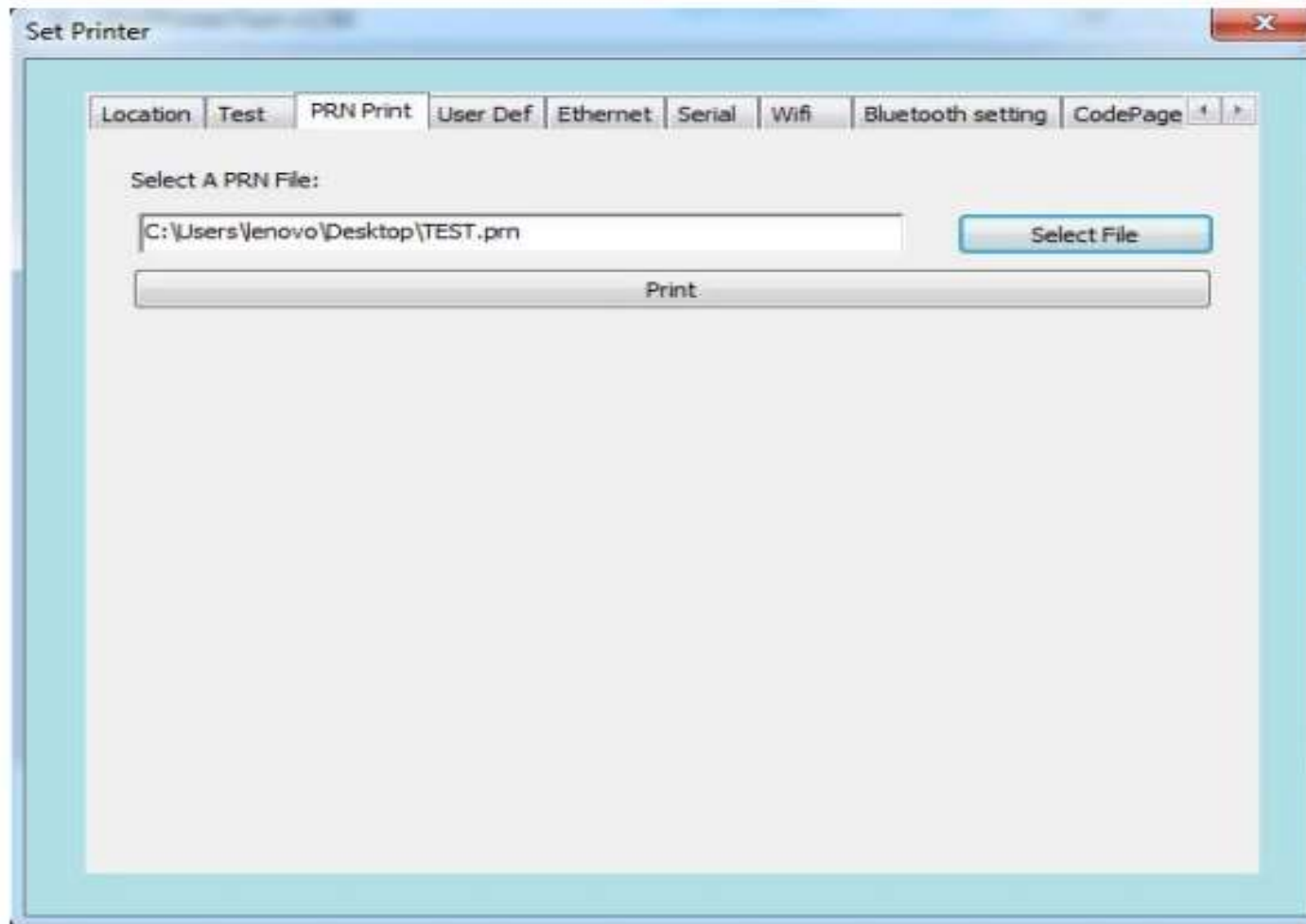
- Open the printer tool and click on Download.
- Click on “Program” and select the firmware file from your PC and click update
- Click on “ Character Library” and select Font from your PC and click Update.



NOTE : Follow the above procedure to switch the TSPL to ZPL and ZPL to TSPL emulation

4. PRINTING PRN FILE FROM TOOL-

- Open the tool and click on “Set Printer” and then click “PRN Print”.
- Select the prn file from your PC and click “Print”.



5. CONFIGURING IP ADDRESS IN PRINTER-

- Open the tool and click on “Set Printer” and then click “Ethernet”.
- You can enter IP here according your network and click "set".

The screenshot shows a software window titled "Set Printer" with a tabbed interface. The "Ethernet" tab is selected, showing configuration options for IP addressing. 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. A "Set" button is next to the Port field. Below these fields, the DHCP setting is set to "Disable" in a dropdown menu, with a "Set" button below it. At the bottom, the MAC address is shown as six boxes, each containing "00", with a "Set" button to the right.

Printer Parameter Setting	Location	Test	PRN Print	User Def	Ethernet	Serial	Wifi	Bluetooth
<p><input checked="" type="radio"/> IP <input type="radio"/> DHCP</p> <p>IP: 192 . 168 . 1 . 87 Port: 9100 <input type="button" value="Set"/></p> <p>Sub Mask: 255 . 255 . 255 . 0</p> <p>GateWay: 192 . 168 . 1 . 1</p> <p>DHCP: Disable <input type="button" value="Set"/></p> <p>MAC: 00 00 00 00 00 00 <input type="button" value="Set"/></p>								

