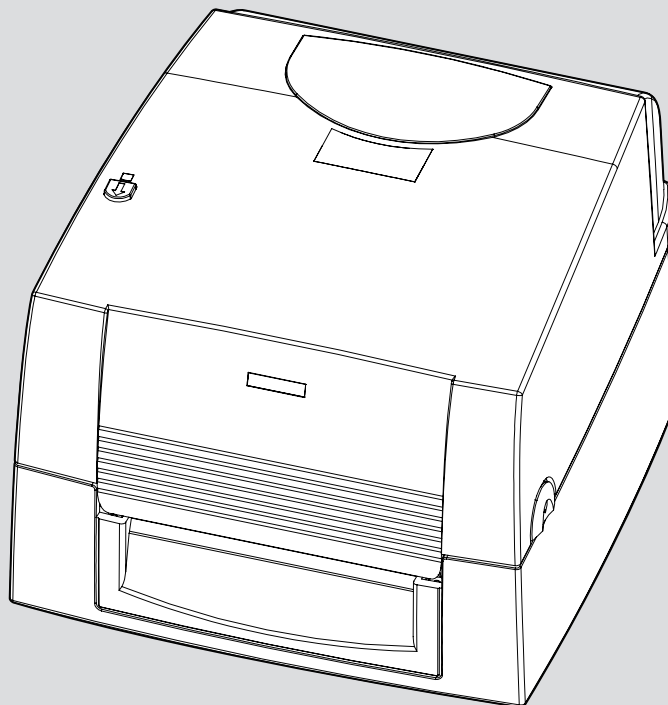


CITIZEN

*Thermal Transfer Barcode & Label Printer*

**CL-S321/CL-S331**

**USER'S MANUAL**



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## APPENDIX

PRODUCT SPECIFICATIONS  
INTERFACE

## FCC COMPLIANCE STATEMENT FOR AMERICAN USERS

This equipment has been tested and found to comply with the limits for a CLASS A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at own expense.

## EMS AND EMI COMPLIANCE STATEMENT FOR EUROPEAN USERS

This equipment has been tested and passed with the requirements relating to electromagnetic compatibility based on the standards EN 55022: 2010, CISPR 22, Class A EN 55024: 2010, IEC 61000- 4 Series EN 61000-3-2 / 2006+A1:2009+A2:2009 & EN 61000-3-3:2008. The equipment also tested and passed in accordance with the European Standard EN55022 for the both Radiated and Conducted emissions limits.

## CL-S321/CL-S331 TO WHICH THIS DECLARATION RELATES IS IN CONFORMITY WITH THE FOLLOWING STANDARDS

EN55022 : 2010, Class A / EN55024 : 2010 / IEC 61000-4 Series / EN61000-3-2 :  
2006+A1:2009+A2:2009 / EN 6100-3-3 : 2008 / CFR 47, Part 15/CISPR 22, Class A / ANSI C63.4 : 2009 /  
IEC60950-1 : 2005 (EN 60950-1 : 2006+A11 : 2009+A1:2010+A12:2011) / GB4943.1 : 2011 / GB9254 : 2008  
/ GB17625.1 : 2003

## Caution

- 
- \* Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

# SAFETY INSTRUCTIONS

Please read the following instructions carefully.

1. Keep the equipment away from humidity.
2. Before you connect the equipment to the power outlet, please check the voltage of the power source.
3. Make sure the printer is off before plugging the power connector into the power jack.
4. It is recommended that you connect the printer to a surge protector to prevent possible transient overvoltage damage.
5. Be careful not to get liquid on the equipment to avoid electrical shock.
6. For safety and warranty reasons, ONLY qualified service personnel should open the equipment.
7. Do not repair or adjust energized equipment under any circumstances.

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CITIZEN est une marque enregistrée de Citizen Watch Co. Ltd.

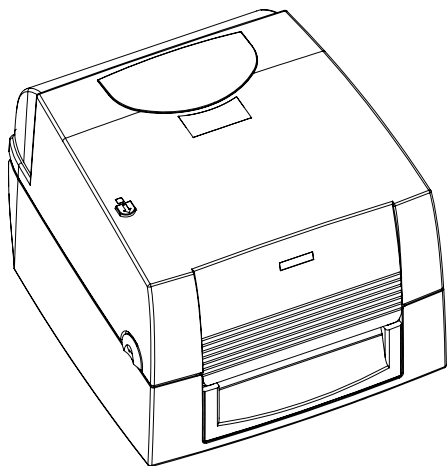
Copyright © 2016 by CITIZEN SYSTEMS JAPAN CO., LTD.

# 1 Barcode Printer

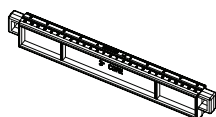
## 1.1 Box Content

Please check that all of the following items are included with your printer.

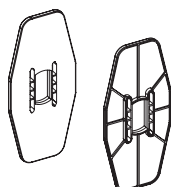
- CL-S321 Barcode Printer



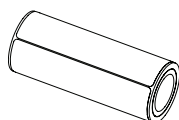
- Label Supply Module  
Label Supply Hub



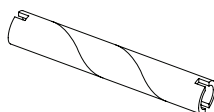
Label Guide Plates(Set of 2)



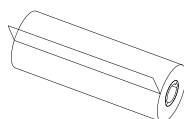
Label Stock



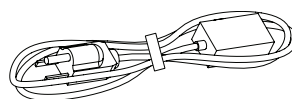
- Ribbon Module  
Empty Ribbon Core



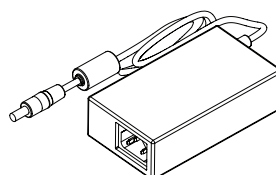
Ribbon



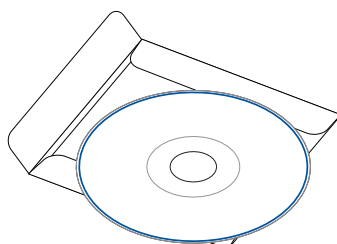
- Power Adapter  
Power Cord



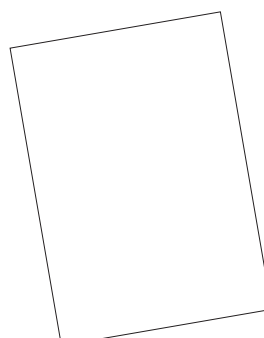
AC Adapter



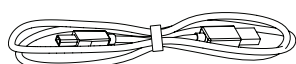
- CD  
Including BarTender software and  
CL-S321/CL-S331 user manual.



- CL-S321/CL-S331 Quick-Start  
Guide



- USB Cable

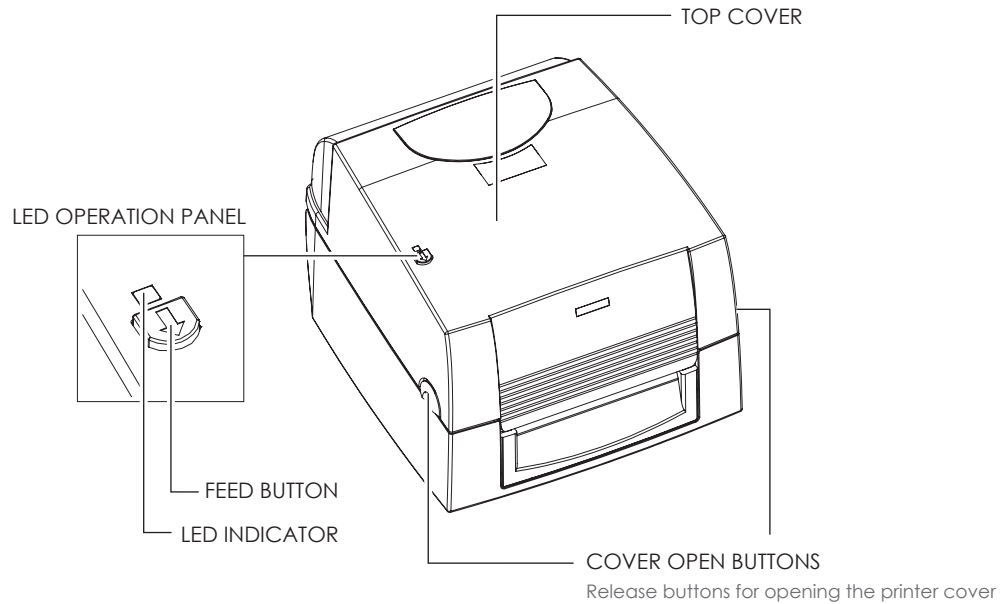


# 1 Barcode Printer

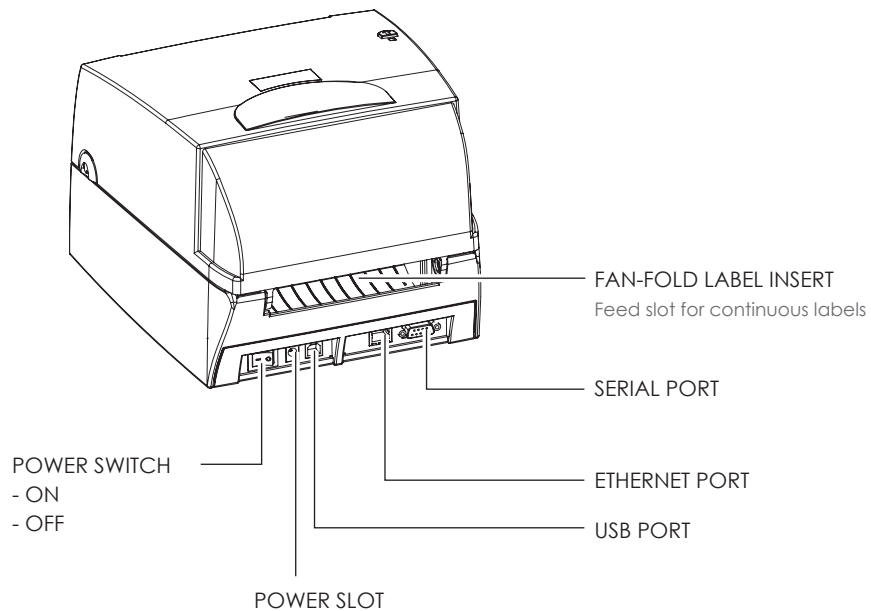
## 1.2 Getting To Know Your Printer

### Device Overview

- Front View

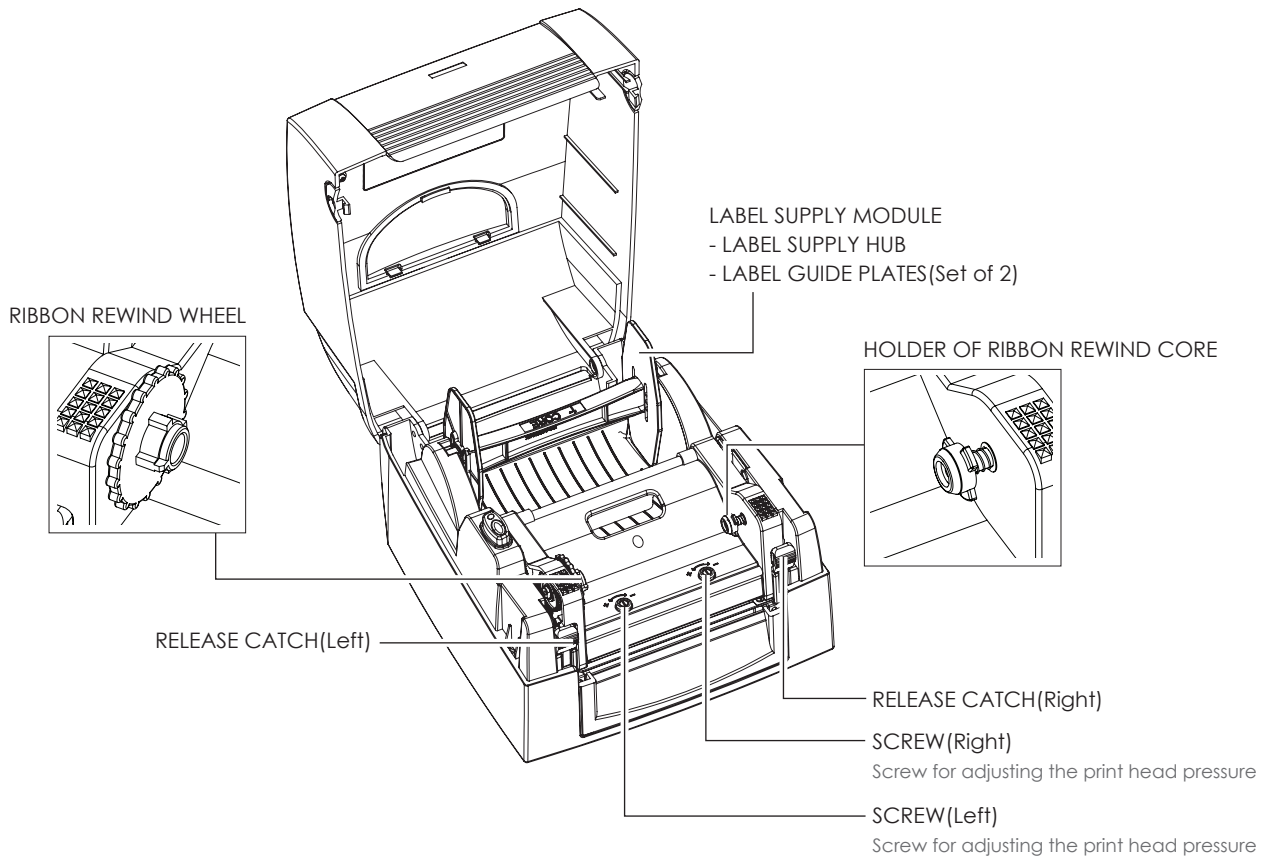


- Rear View

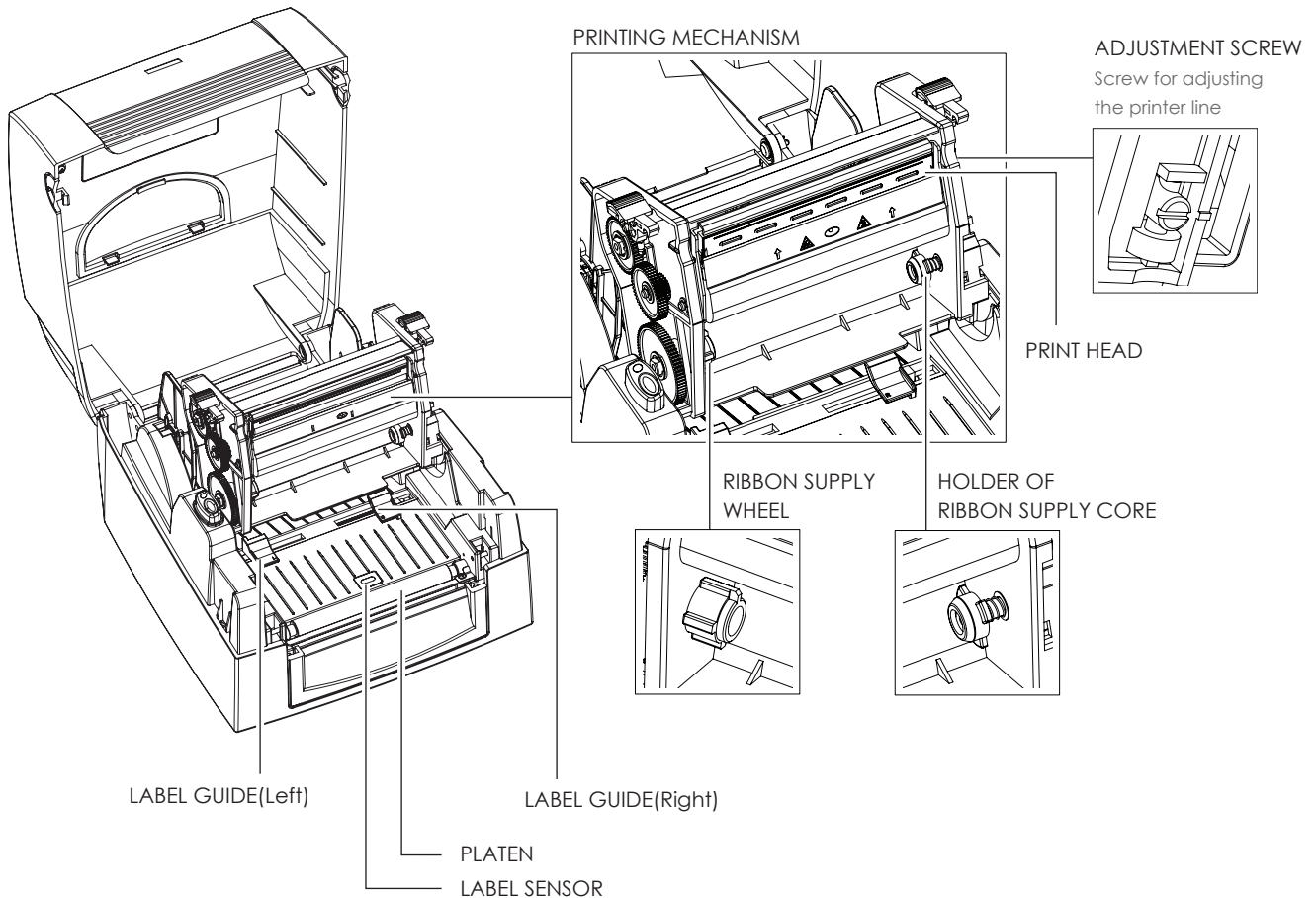


# 1 Barcode Printer

## Open The Printer Cover



## Open The Printing Mechanism

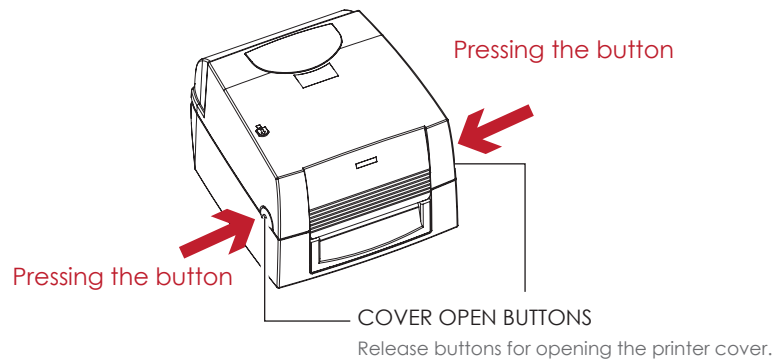


## 2 Printer Setup

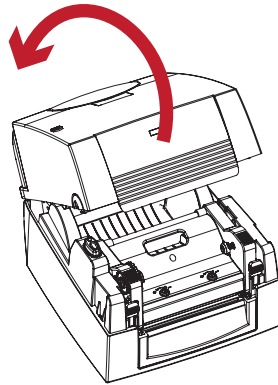
### 2.1 Open The Printer Cover

#### Pressing The Cover Open Buttons

Place the printer on a flat surface. Open the printer cover by pressing the release buttons on both sides of the printer housing and lift the cover.



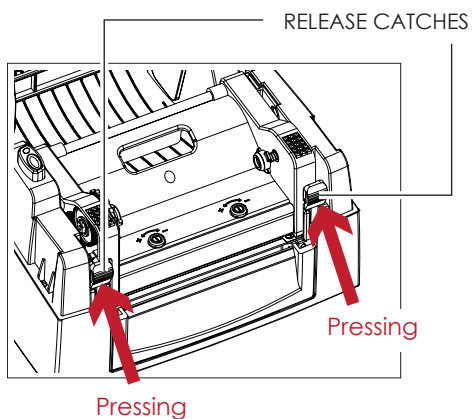
Lift the printer cover backward



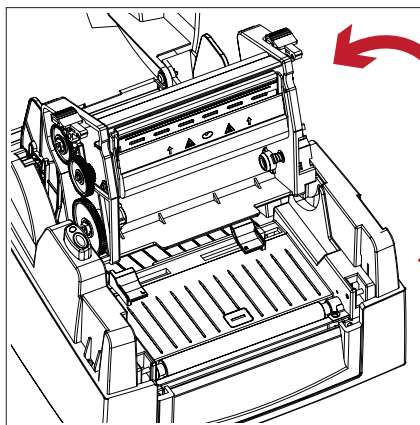
### 2.2 Open The Printing Mechanism

#### Pressing The Release Catches

Release and lift the printing mechanism.



Lift the printing mechanism

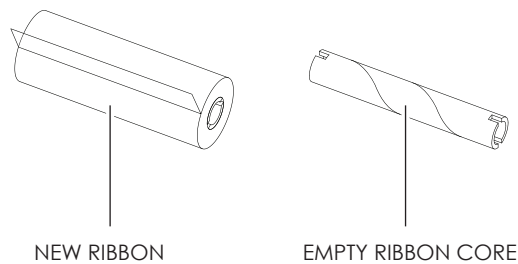




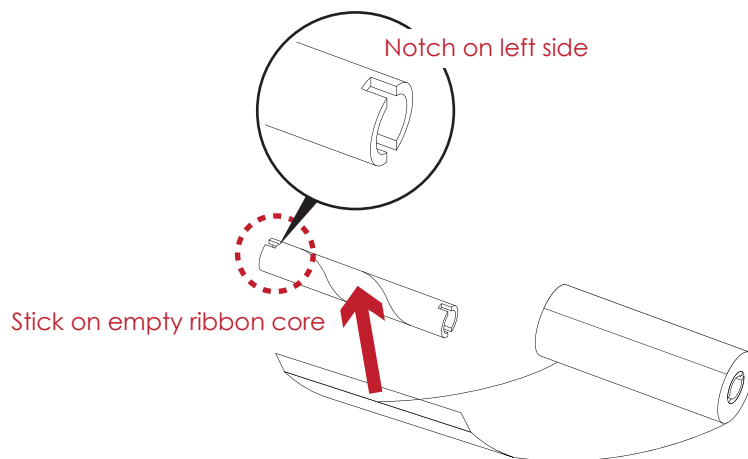
## 2 Printer Setup

### 2.3 Loading The Ribbon

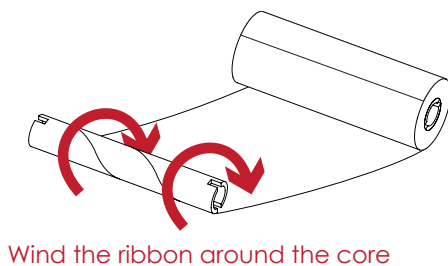
#### A New Ribbon Module Installation



1. Attach the ribbon to the empty ribbon core with the adhesive strip at the end of the ribbon.

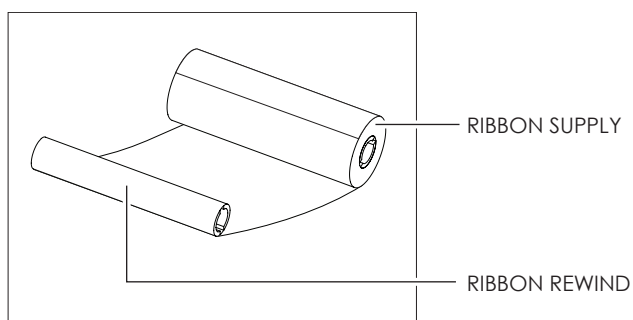


2. Wind the ribbon around the empty ribbon core for 2 to 3 circles.



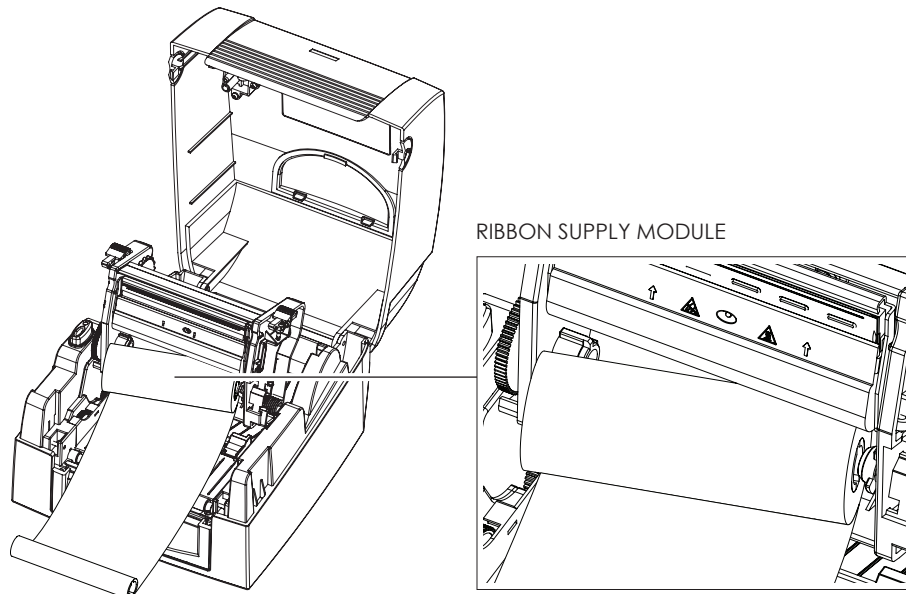
3. A ribbon module is assembled as below.

#### A NEW RIBBON MODULE

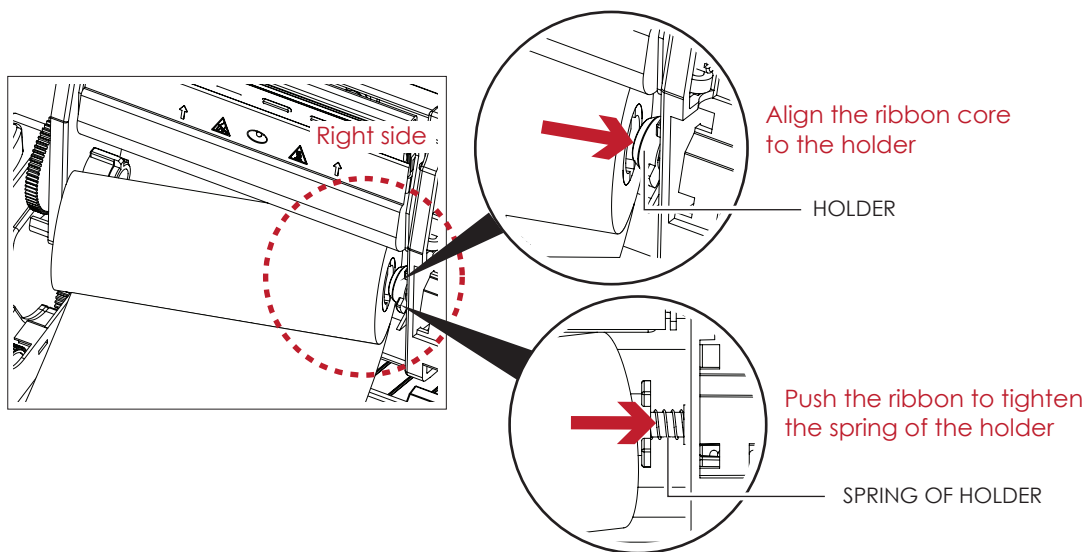


## 2 Printer Setup

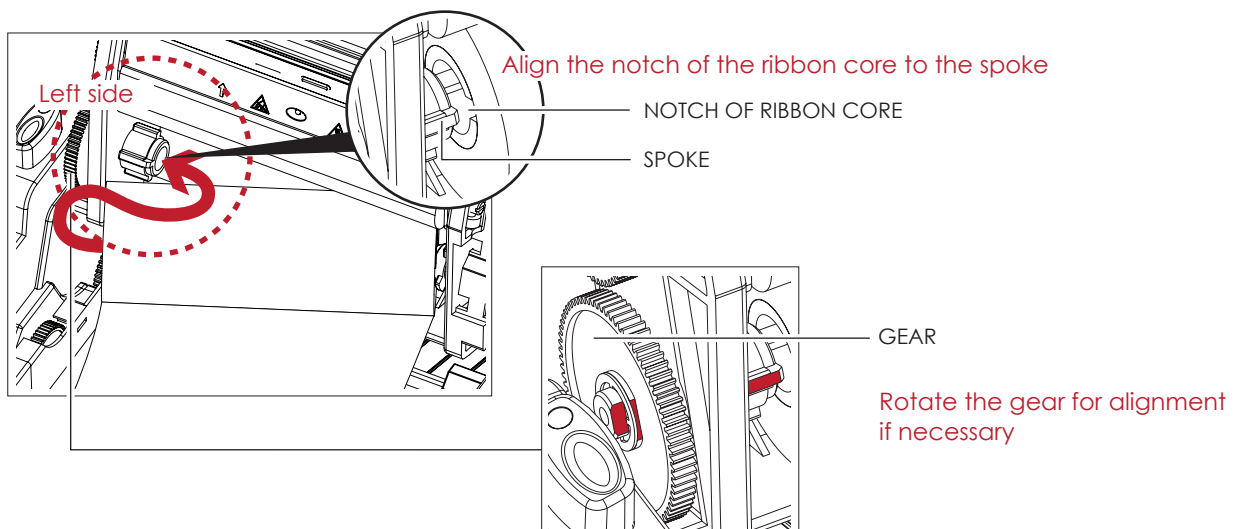
### Load The Ribbon On The Printer For Ribbon Supply Module



1. Place the right-hand side of ribbon first.

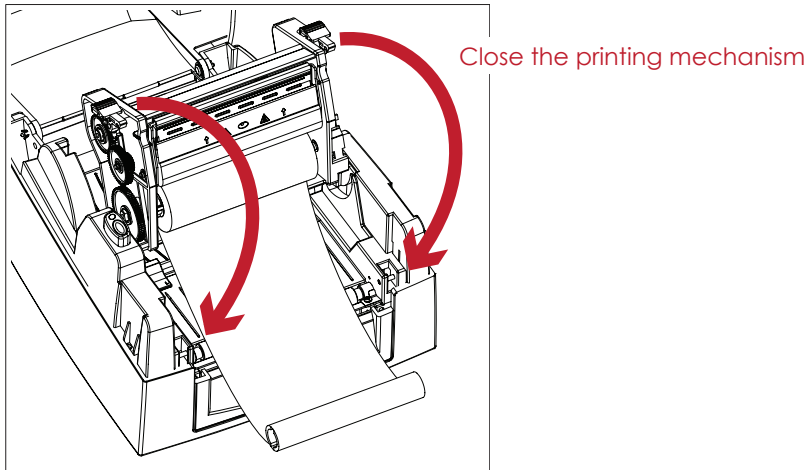


2. Then place the left-hand side of the ribbon.

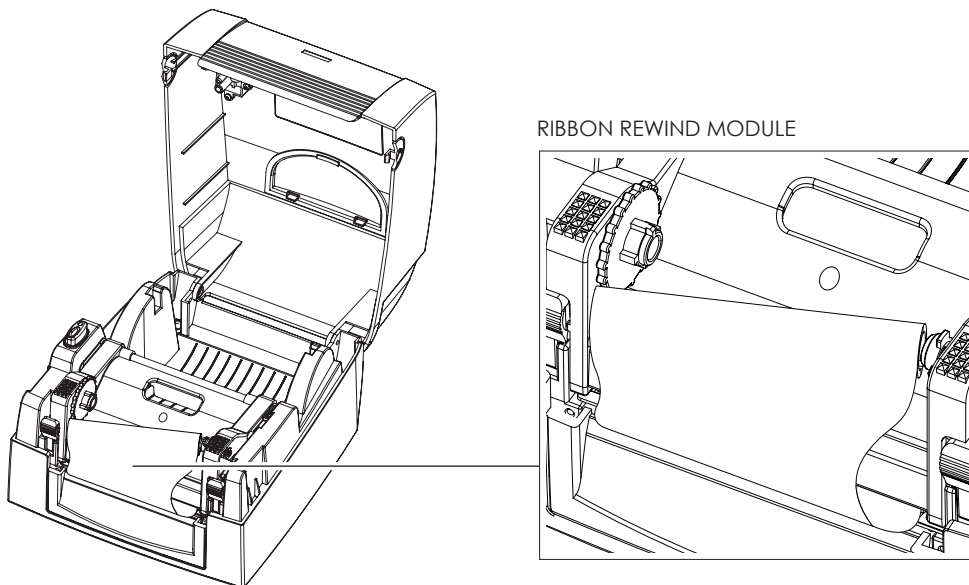


## 2 Printer Setup

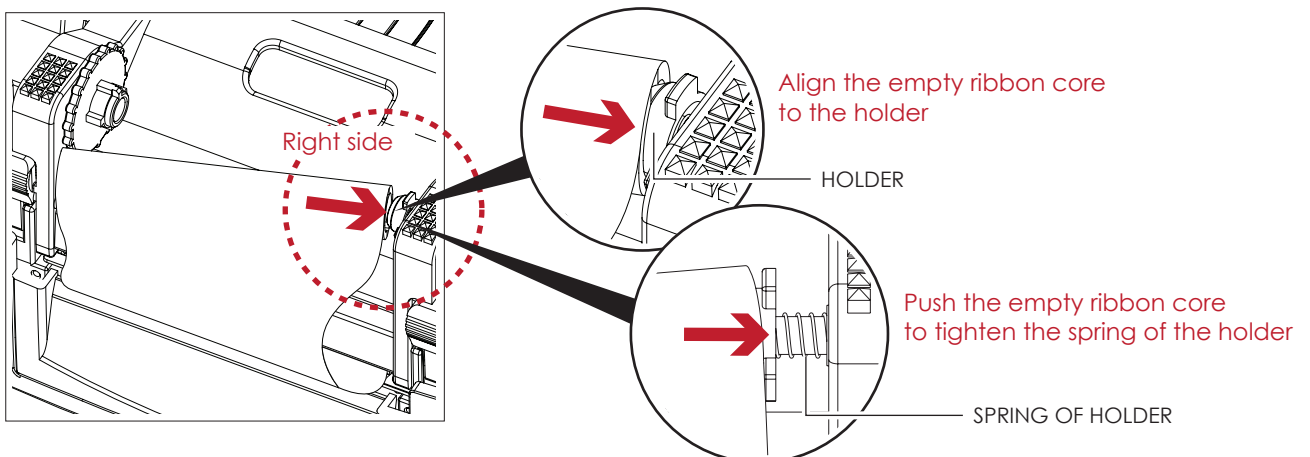
3. Close the printing mechanism to complete the ribbon supply module loading.



### Load The Ribbon On The Printer For Ribbon Rewind Module

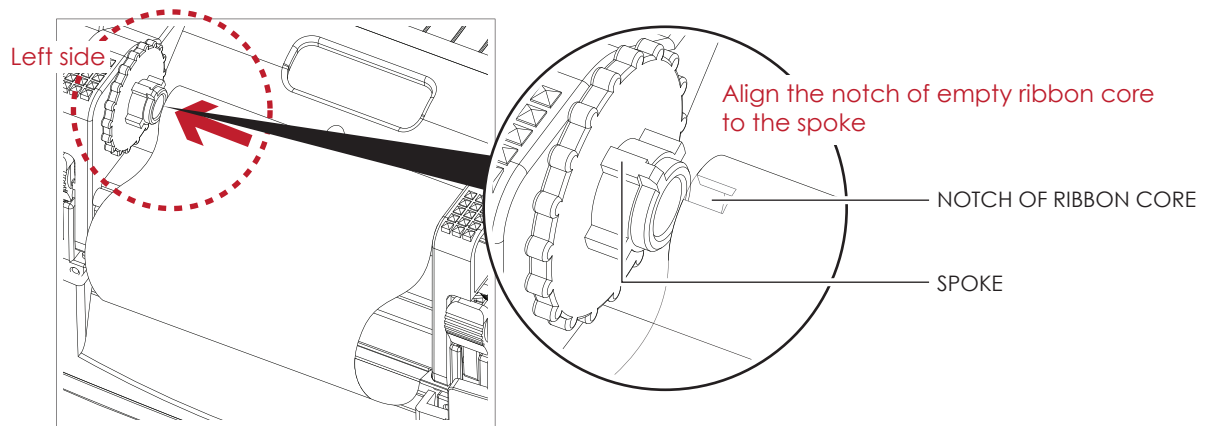


1. Place the right-hand side of empty ribbon core first.

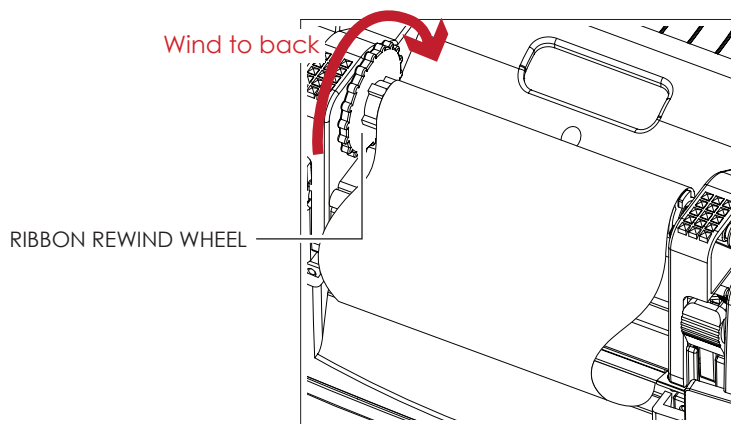


## 2 Printer Setup

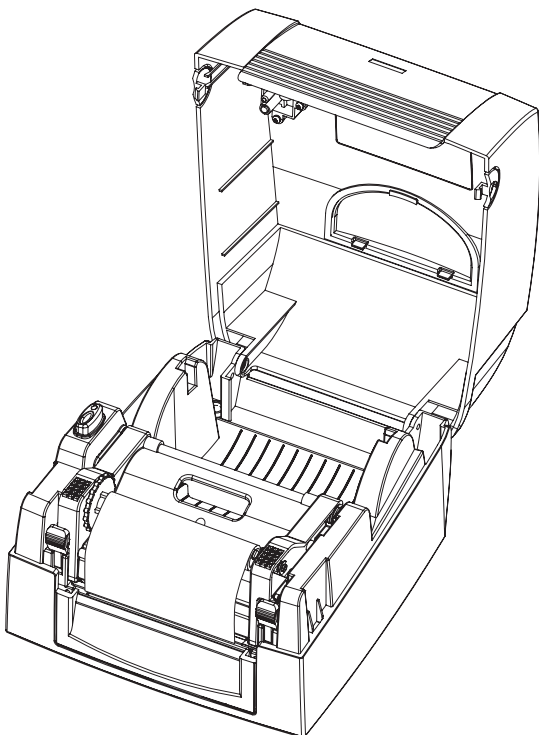
2. Then place the left-hand side of the empty ribbon core.



3. Turn the ribbon rewind wheel to tighten the ribbon until it has no wrinkles.



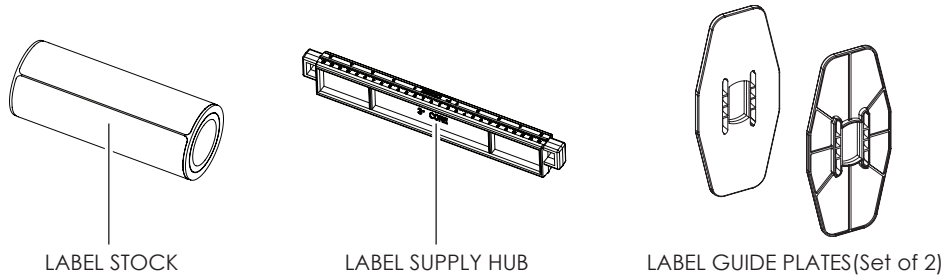
4. Ribbon loading completed.



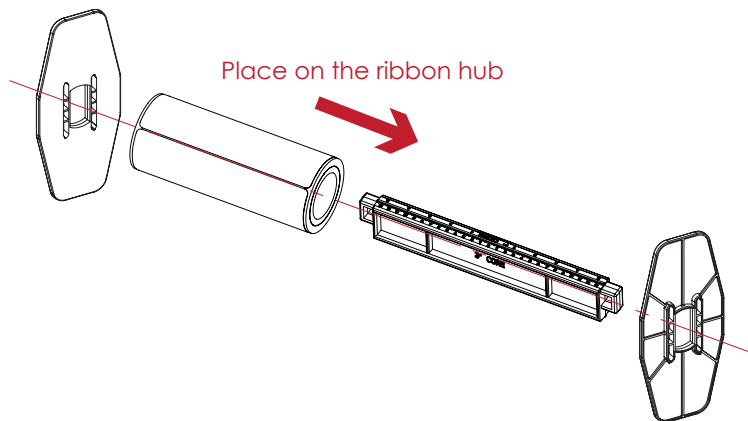
## 2 Printer Setup

### 2.4 Loading The Label Roll

#### A New Label Roll Module Installation

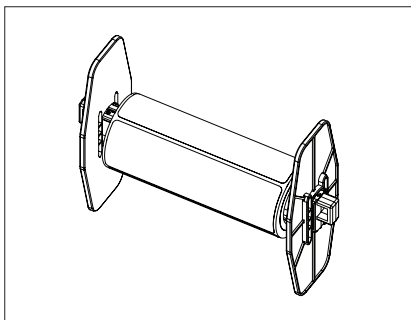


1. Place the label stock on the label supply hub, attach the label guide plates to the label stock holder.



2. A label roll module is assembled as below.

#### A NEW LABEL ROLL MODULE

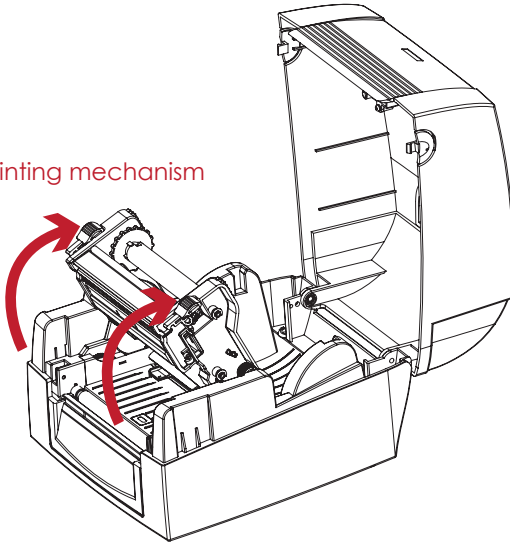


## 2 Printer Setup

### Load The Label Roll Module On The Printer

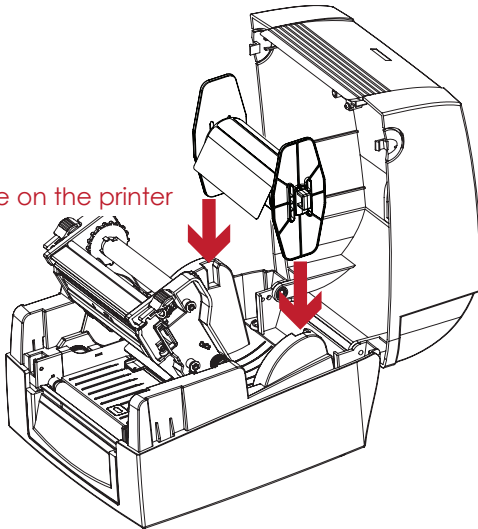
1. Release the printing mechanism and lift it.

Open the printing mechanism



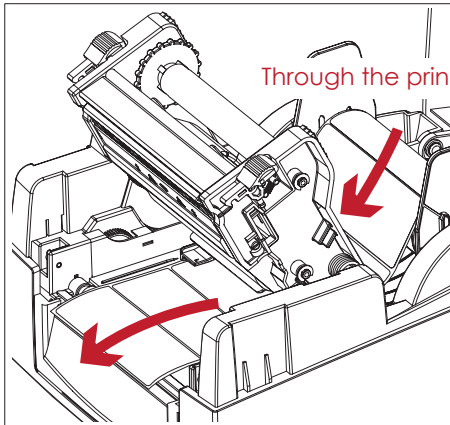
2. Place the label roll module on the printer.

Place on the printer



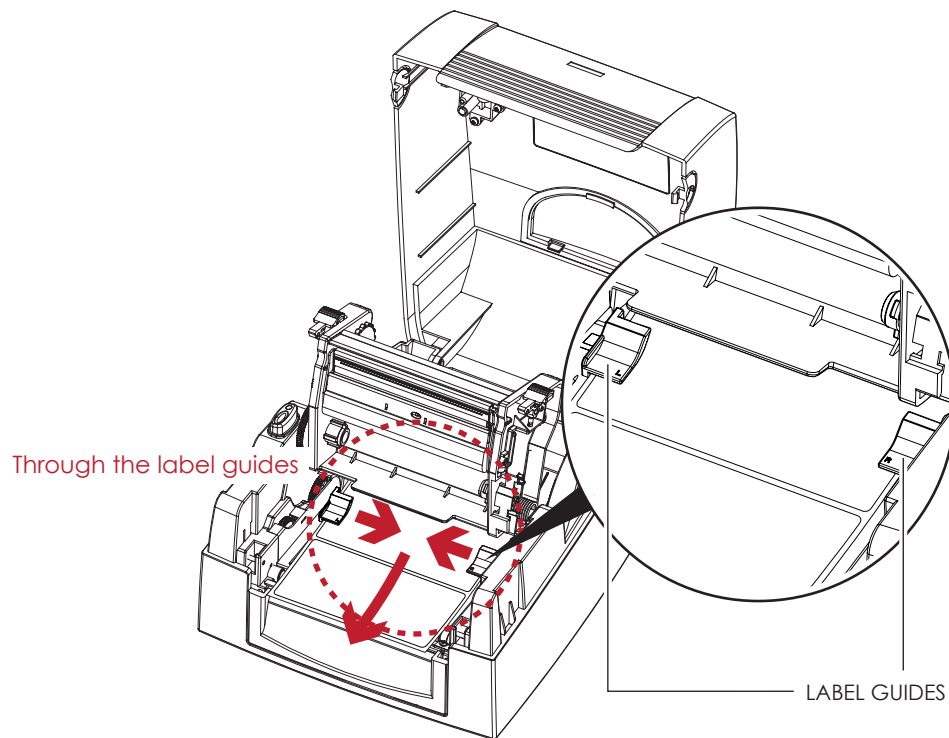
3. Pass the label through the printing mechanism.

Through the printing mechanism

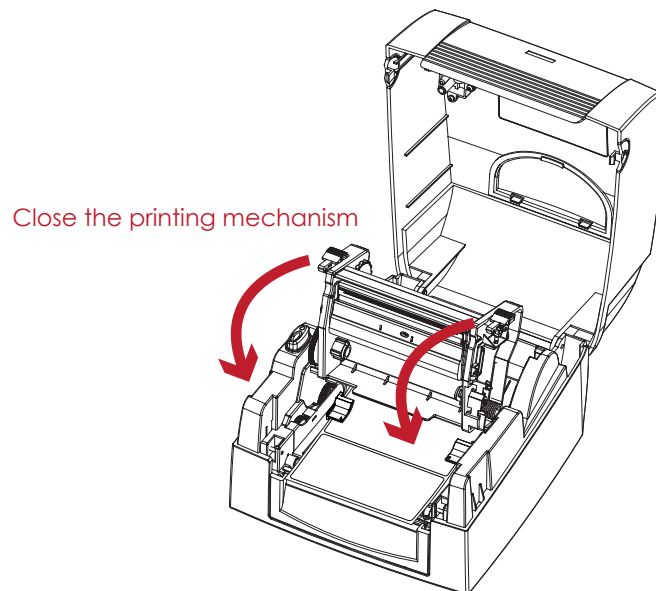


## 2 Printer Setup

4. Pass the label through the label guides and adjust the label guide to the label width. The label guide will help to prevent the label swaying.



5. Close the printing mechanism and top cover to complete the label loading.

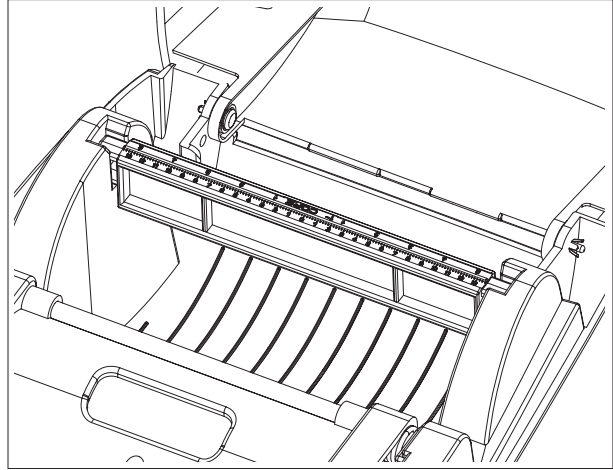
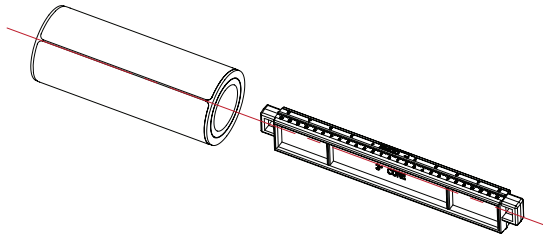


## 2 Printer Setup

### 2.5 Loading The Label Supply Hub

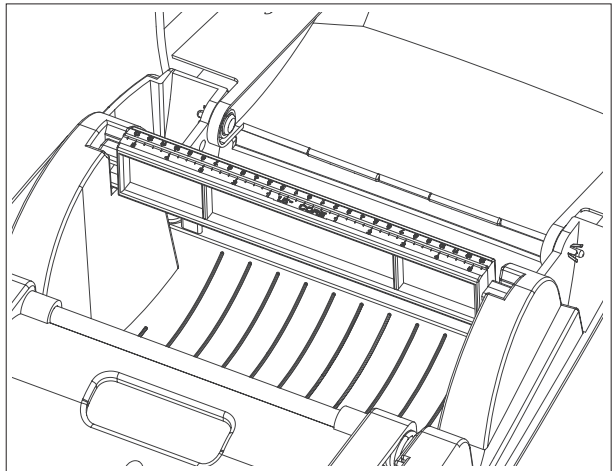
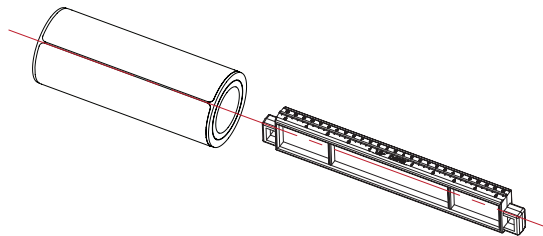
#### 1" Cores

Loading the label supply hub for 1" cores.



#### 1.5" Cores

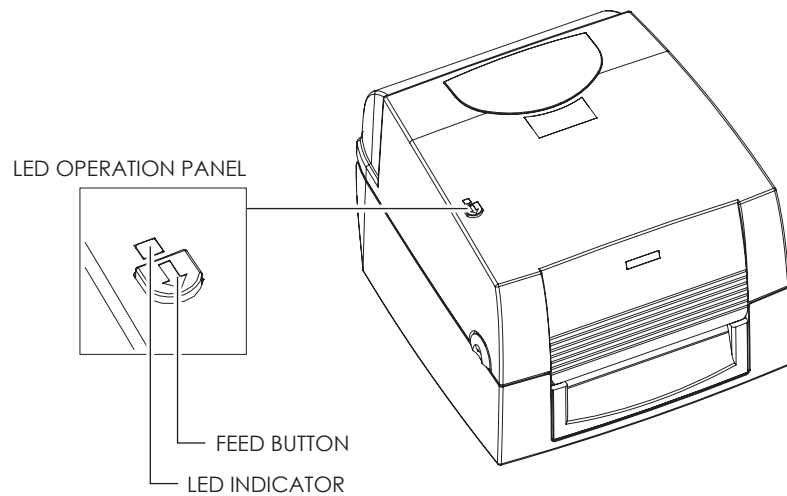
Loading the label supply hub for 1.5" cores.





## 3 Operation Panel

### 3.1 LED Operation Panel



#### FEED Button

When you press the FEED button, the printer moves the label to the defined stop position.

If you are using continuous labels, pressing the FEED button will move label stock until you release the button again.

If you are using individual labels, pressing the FEED button will move only one label.

If the label does not stop at the correct position, you need to run the auto-detection function on the label stock, please see Section 3.3 Label Calibration and Self Test.

#### LED Indicators

LED Indicator	Status	Description
Green	Standby	The printer is ready for operation.
Red, Orange	Error	The printer has detected an error. See Section 3.2 Error Alerts.

# 3 Operation Panel

## 3.2 Error Alerts



In the event of a problem that prevents normal functioning of the printer, you will see an error message on LED indicators and hear some beep signals. Please refer to below table for the error alerts.

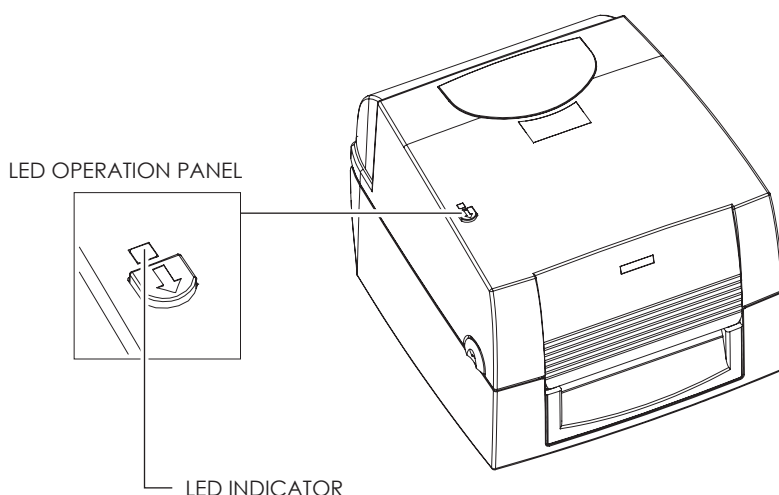
### Error Light









#### Colour

- Red 
- Orange 

#### Flashing Frequency

- Fast Flashing 
- Slow Flashing 
- Light On 



LED Indicator	Status	Description	Solution
 → 	Media Error	Unable to detect the paper.	Run the auto-detection function again.
		The ribbon or labels are finished.	Replace the ribbon or label roll.
 → 		Paper jam.	Possible reasons: The paper feed roller is blocked. No gap or black mark could be detected.
 → 	Settings Error	No ribbon is loaded, but thermal transfer mode is selected as printing mode.	1. To work in thermal transfer mode, load a ribbon. 2. Alternatively, select the direct thermal printing mode.
	Memory Error	The memory is full. The printer also prints the message "Memory full".	Delete data you no longer need from the printer memory.
		File name already exists. The printer also prints the message "Filename is repeated".	Change the name of the file and try storing it on the printer again.
	Print Head Error	The print head temperature is too high.	Wait for the print head to cool down to operating temperature. The printer will then switch to standby mode and the LED will stop flashing.

## 3 Operation Panel

### 3.3 Label Calibration and Self Test

#### Label Calibration

The printer can automatically detect and store label height.

That means the host computer does not need to transmit the label height to the printer.

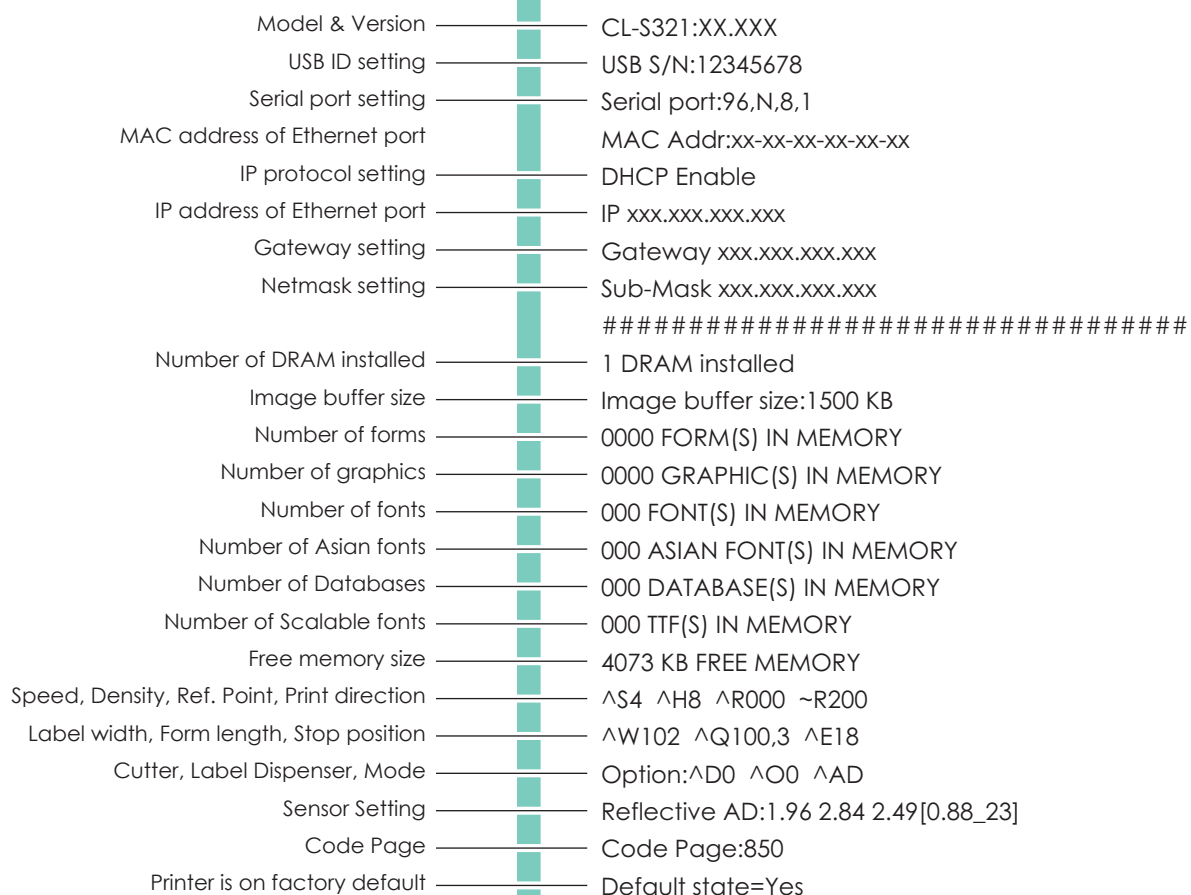
#### Self Test

Self-test function lets you check whether the printer is functioning normally.

Here is how you run the label size calibration and self test.

1. Check that the label stock is loaded correctly.
2. Switch off the printer.
3. Switch the printer on again, keeping the FEED button pressed. When the LED starts to flash red, release the FEED button. The printer will now measure the label stock and store the label height.
4. Once the printer has successfully measured the label stock, it will print a self-test label.

The contents of a self-test printout are listed below.



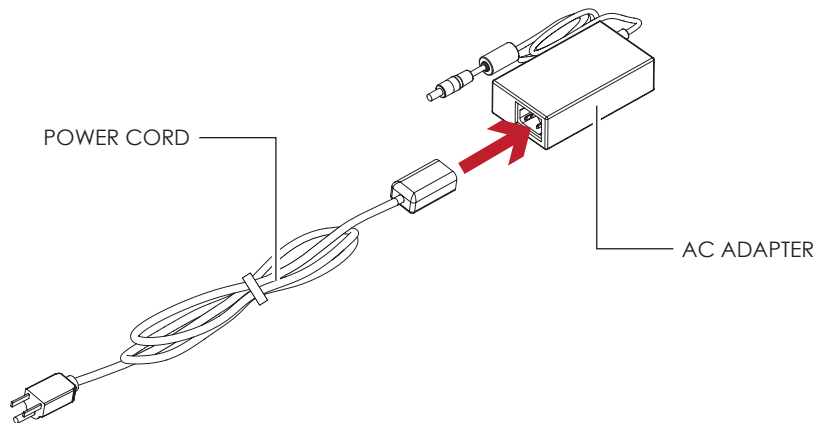
Model & Version	CL-S321:XX.XXX
USB ID setting	USB S/N:12345678
Serial port setting	Serial port:96,N,8,1
MAC address of Ethernet port	MAC Addr:xx-xx-xx-xx-xx-xx
IP protocol setting	DHCP Enable
IP address of Ethernet port	IP xxx.xxx.xxx.xxx
Gateway setting	Gateway xxx.xxx.xxx.xxx
Netmask setting	Sub-Mask xxx.xxx.xxx.xxx
	#####
Number of DRAM installed	1 DRAM installed
Image buffer size	Image buffer size:1 500 KB
Number of forms	0000 FORM(S) IN MEMORY
Number of graphics	0000 GRAPHIC(S) IN MEMORY
Number of fonts	000 FONT(S) IN MEMORY
Number of Asian fonts	000 ASIAN FONT(S) IN MEMORY
Number of Databases	000 DATABASE(S) IN MEMORY
Number of Scalable fonts	000 TTF(S) IN MEMORY
Free memory size	4073 KB FREE MEMORY
Speed, Density, Ref. Point, Print direction	^S4 ^H8 ^R000 ~R200
Label width, Form length, Stop position	^W102 ^Q100,3 ^E18
Cutter, Label Dispenser, Mode	Option: ^D0 ^O0 ^AD
Sensor Setting	Reflective AD:1.96 2.84 2.49[0.88_23]
Code Page	Code Page:850
Printer is on factory default	Default state=Yes

## 4 Connecting The Printer To The Host Computer

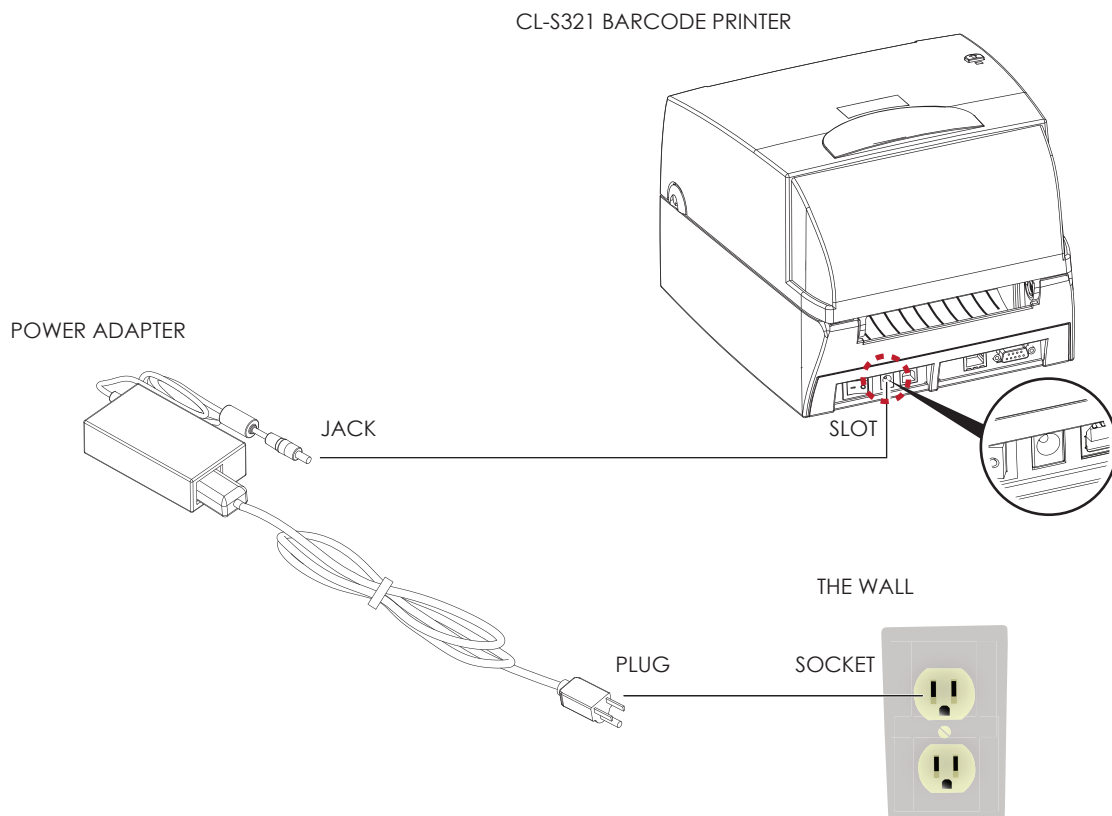
### Notice

- In case of USB, please install the printer driver before connecting to the computer.  
(See Section 5 Installing The Printer Driver.)

1. Please make sure that the printer is switched off.
2. Connect the power cord to the AC adapter.

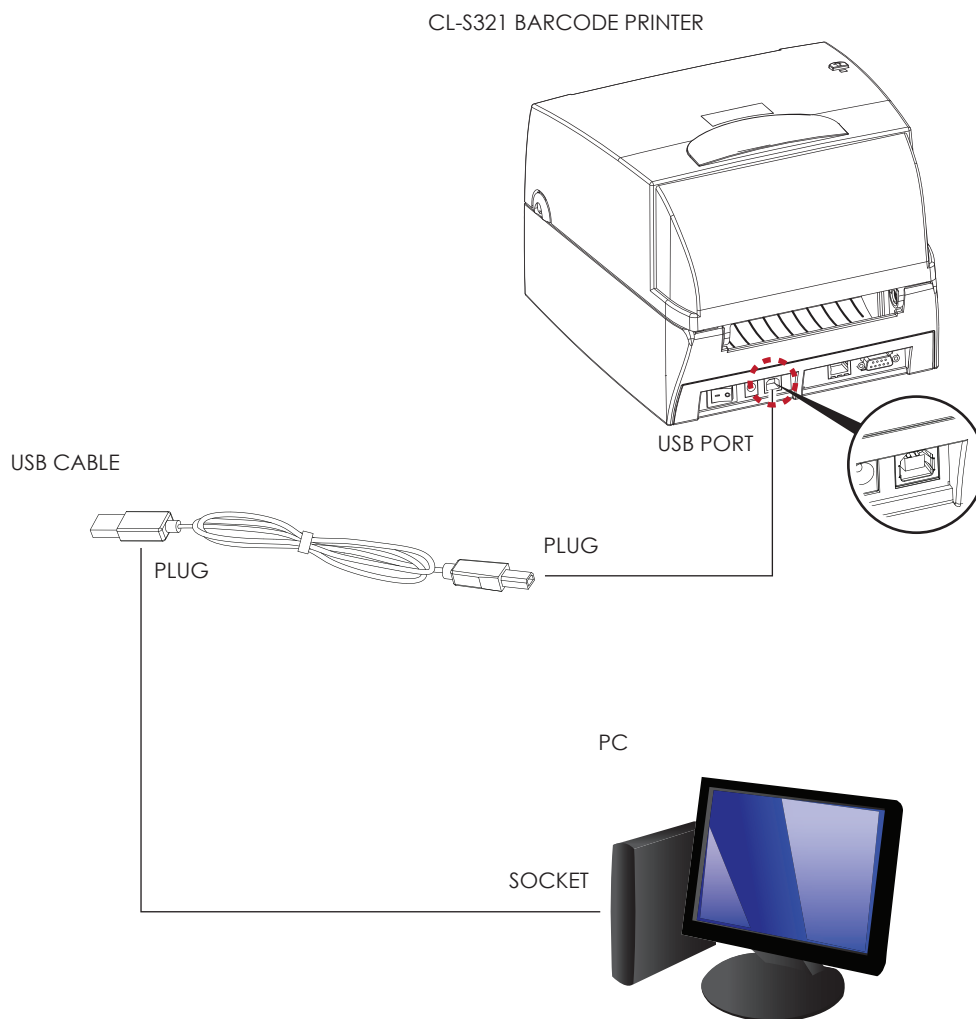


Connect the jack of the power adapter to the printer and connect the plug of the power adapter to the socket of the wall.

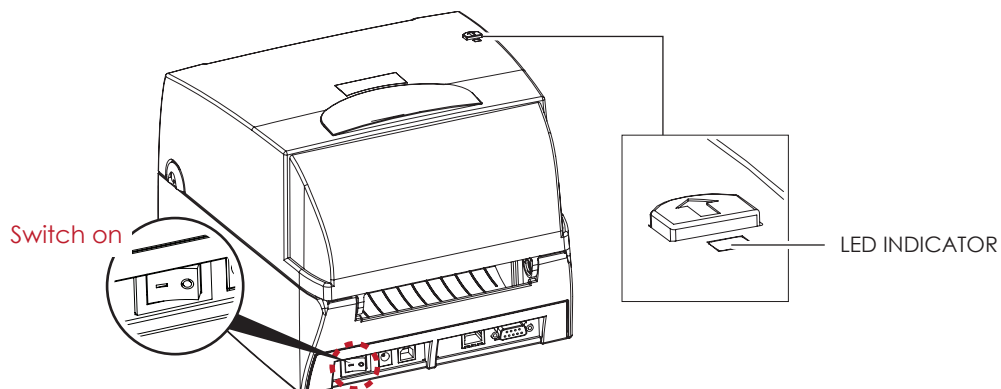


## 4 Connecting The Printer To The Host Computer

3. Connect the USB/parallel cable to the printer and host computer.

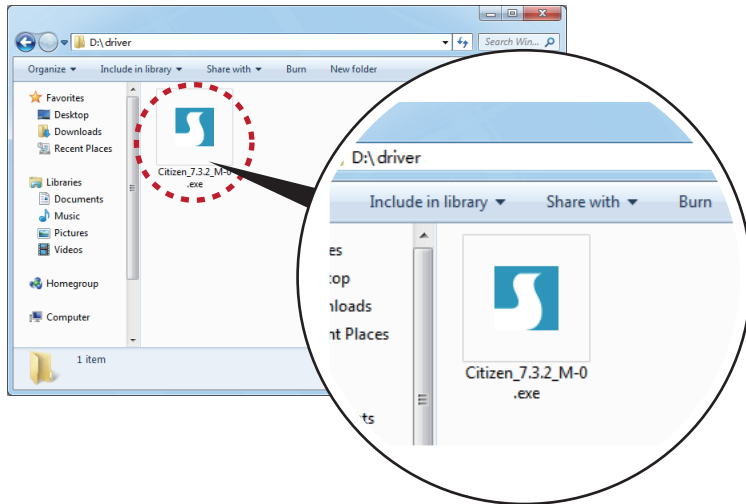


4. Switch on the printer. The LED indicator should now lights up.



## 5 Installing The Printer Driver

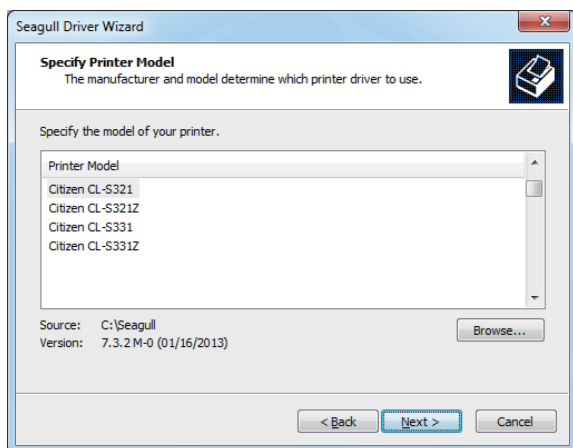
1. Insert the product CD in the CD/DVD drive of the host computer and open the "driver" folder on the CD. Select the icon for the driver file and click it to start the installation.



2. Follow the instructions on the screen. The Driver Wizard guides you through the installation procedure. Select "Install printer drivers".

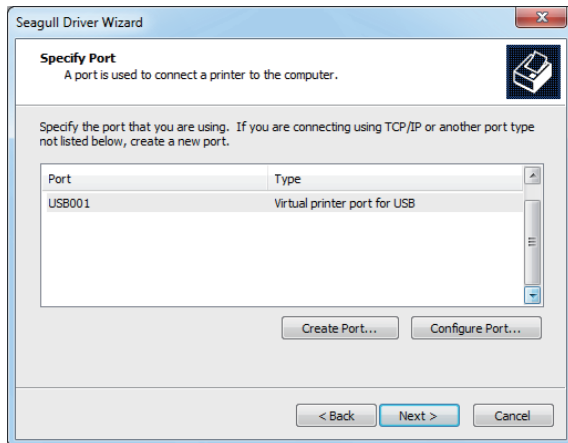


3. Specify your printer model.

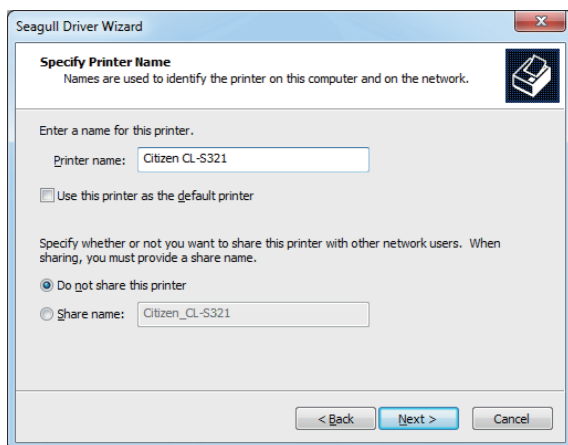


## 5 Installing The Printer Driver

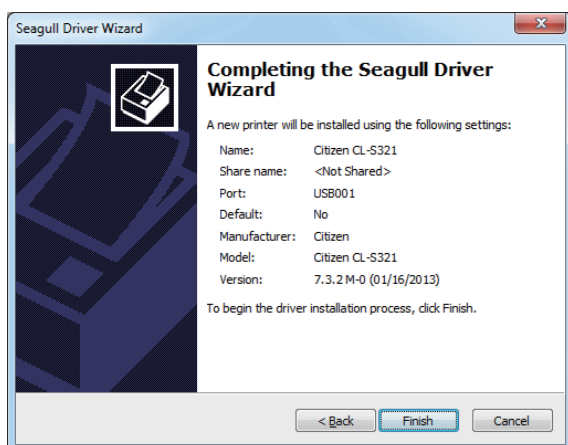
- Specify the port used to connect the printer to the host computer.



- Enter a printer name and assign the appropriate rights.

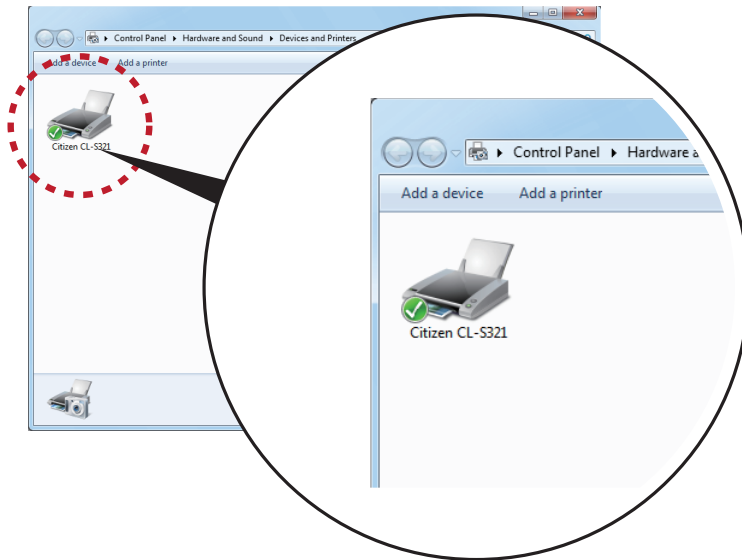


- Once the installation is complete, a summary of the printer settings is displayed. Check whether the printer settings are correct and click "Finish" to start copying the driver files. Wait until copying is complete, then finish the installation.



## 5 Installing The Printer Driver

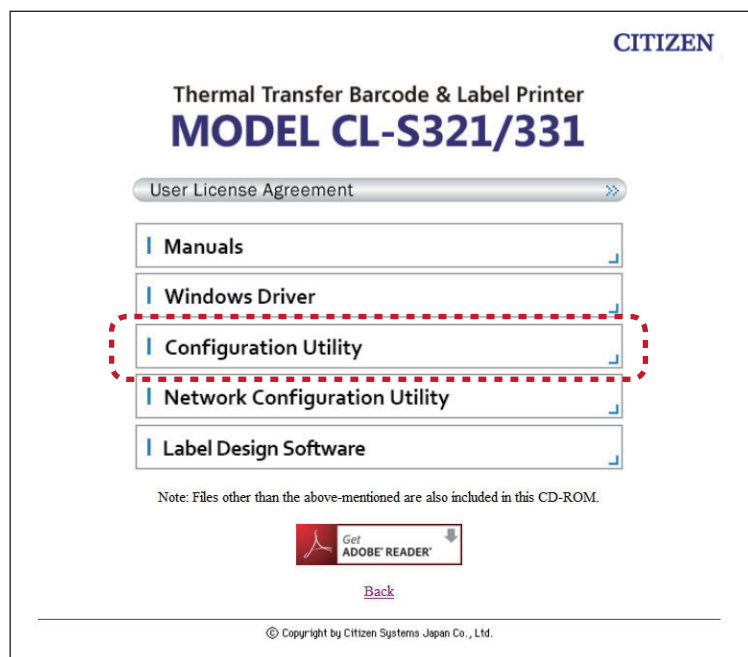
7. Once the driver installation is complete, the new printer should appear in the "Devices and Printers" folder.



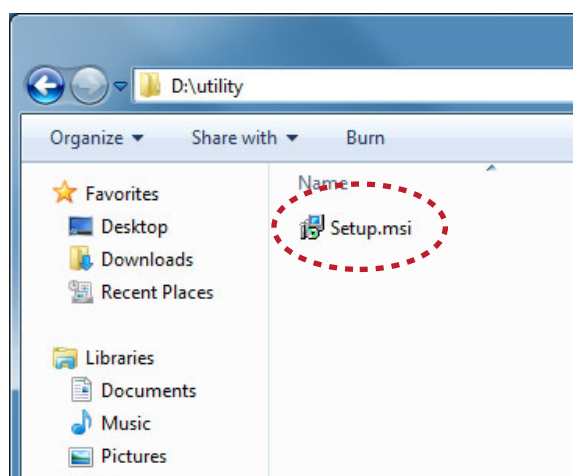


## 6 Using The Utility Program

1. Insert the product CD in the CD/DVD drive of the host computer, select "Configuration Utility" and install the Utility program.

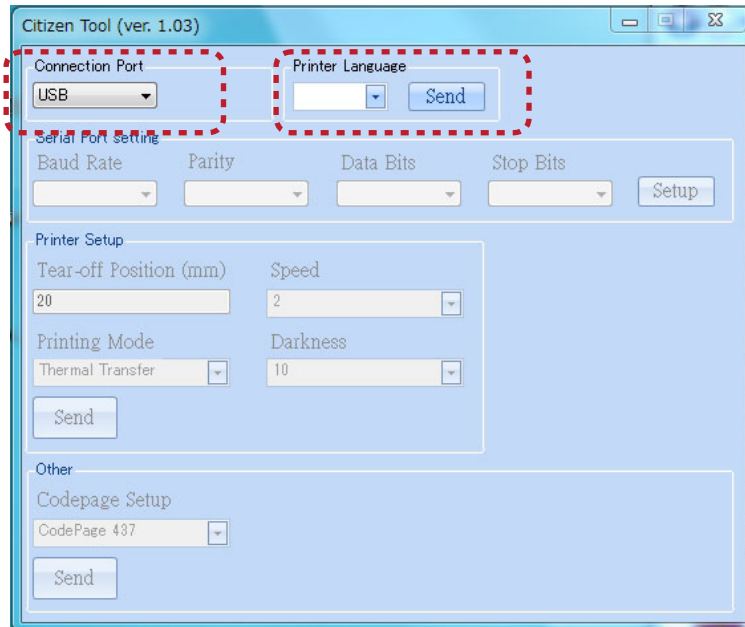


2. If the CD does not start automatically, select and start "utility\Setup.msi" directly in the CD to install the utility.



## 6 Using The Utility Program

3. Select "All Programs" → "Citizen" → "Citizen Tool" from the Start menu of the Windows. The "Citizen Tool" screen will be displayed.
4. Select the port used to connect the printer with "Connection Port".
5. Select the emulation (EPL/ZPL) used with the printer in "Printer Language" and click "Send".



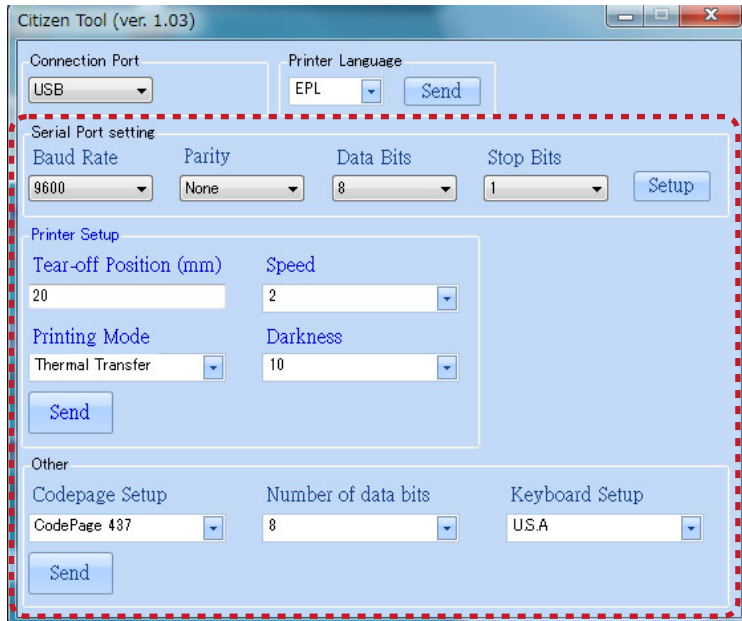
Turn off the power of the printer and then turn it back on again to save the emulation that has been changed.

### Notice

- \* Different printer drivers are required for the EPL and ZPL respectively, when printing using a printer driver. Install the applicable printer driver after restarting the printer.  
EPL: CL-S321, CL-S331  
ZPL: CL-S321Z, CL-S331Z

## 6 Using The Utility Program

- The default values of respective settings vary depending on the emulation. Change the settings as needed. Send the settings by clicking "Setup" or "Send" after completing settings to reflect the changes.



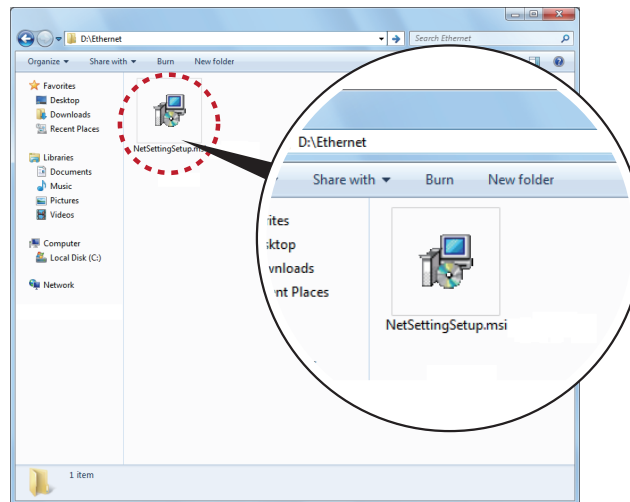
Respective settings will be greyed out and settings for these cannot be changed when the printer is not ready due to the power of the printer being turned off or when the printer is not connected to the host computer.

# 7 NetSetting for Ethernet

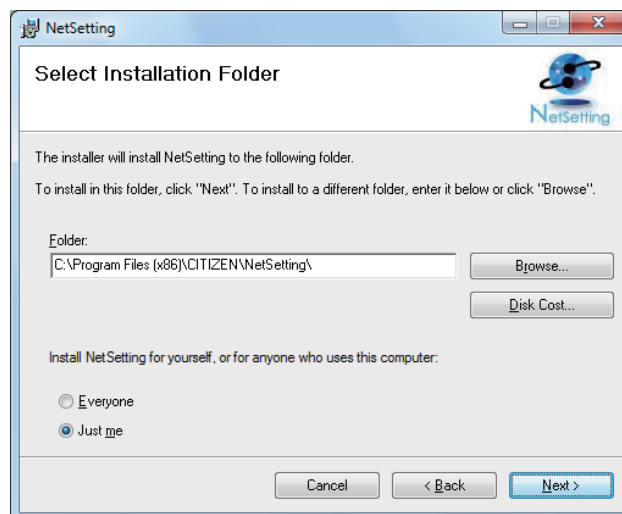
## 7.1 Installing The NetSetting software

The NetSetting software is used to manage the network configurations when connecting the printer via Ethernet port. It is available on product CD or can be downloaded from official website. To install the NetSetting, please follow below steps.

1. Insert the product CD in the CD/DVD drive of the host computer and open the "Ethernet" folder on the CD.
2. Select the icon for the NetSetting installation file and click it to start the installation.



3. Follow the instructions on the screen. The Setup Wizard guides you through the installation procedure.
4. Specify the "Installation Folder".



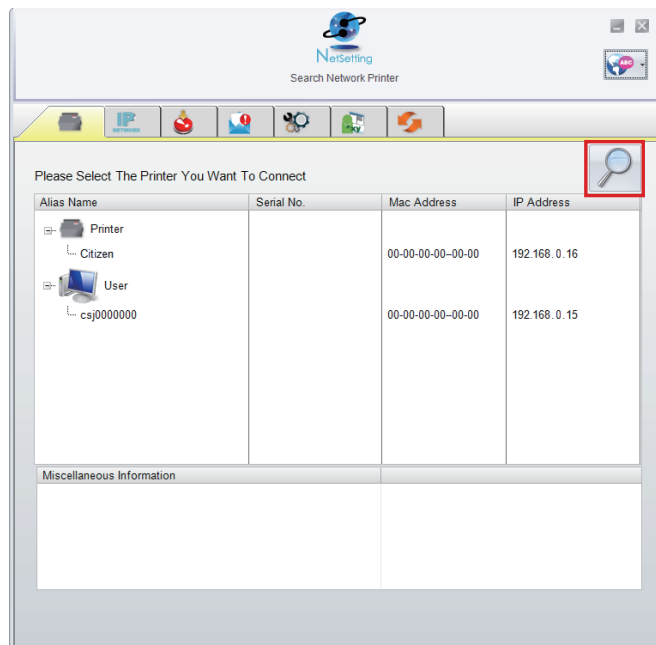
5. Click "Next" to start the installation.
6. Once the installation is completed; you will see the NetSetting icon on your desktop.



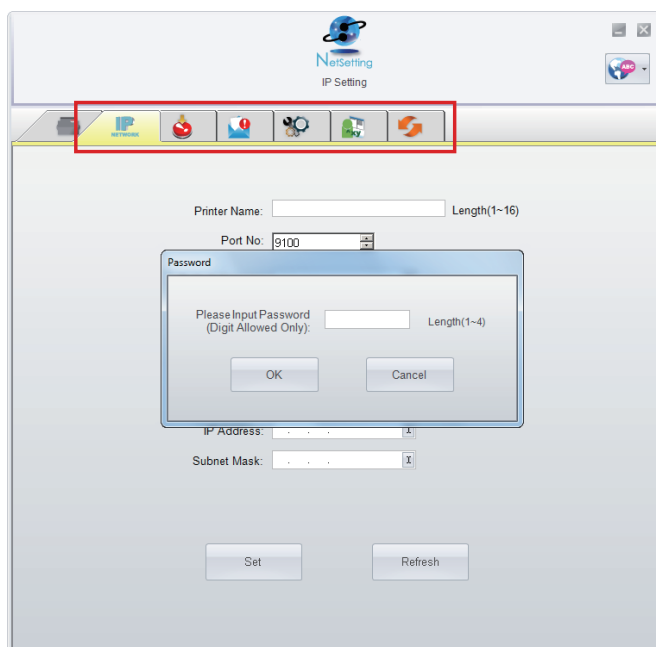
# 7 NetSetting for Ethernet

## 7.2 The Interface of NetSetting

Click the NetSetting icon to start the program; you will see the start page as below. The start page will display the basic information of connected printer and your PC.



Click the magnifier icon to search the Citizen printers which are connected via Ethernet port in you network environment. Once a connected Citizen printer is detected, it will be listed on the start page.



There are six tabs on the top of interface which can configure different types of network settings. But for the data security reason, you need correct password to enter the configuration pages.

### Notice

\* The default password is "1111", you can change the password later from the "IP Setting" tab.

# 7 NetSetting for Ethernet

## IP Setting

The IP Setting tab can change the printer name, Port number, Gateway setting and the password for configuring the printer. You can also set the printer's IP address either by DHCP or by Static IP.

NetSetting  
IP Setting

Printer Name: Citizen Length(1~16)

Port No: 9100

Default Gateway: 192 . 168 . 0 . 1

Password: 0000 Length(1~4)

☒ Get IP From DHCP Server

☐ Static IP

IP Address: 192 . 168 . 0 . 16

Subnet Mask: 255 . 255 . 255 . 0

Set Refresh

You can press "Set" button to apply the settings and "Refresh" button to refresh the setting values.

## Notice

- \* To fully benefit from the NetSetting software, you should be familiar with basic networking principles. Please contact your network administrator for related network setting information.

# 7 NetSetting for Ethernet

## Alert Mail Setting

NetSetting will send the alert messages to designated mail account when the error happened on printer. The alert messages are sent by SMTP (Simple Mail Transfer Protocol) or SNMP (Simple Network Management Protocol). You can set or change the configurations of SMTP and SNMP on this "Alert Mail Setting" tab.

NetSetting  
Alert Mail Setting

☒ Enable SMTP Alert Message Notification

Login Account: default Length(1~64)  
Login Password: \*\*\*\*\* Length(1~16)  
Server IP Address: 192 . 168 . 0 . 100 xxx.xxx.xxx.xxx  
Mail Subject: barcode printer message Length(1~60)  
Mail From Address: default@default.com Length(1~32)  
Mail To Address: default@default.com Length(1~32)  
Duration Cycle: 0 0 ~ 168 Hours  
Event Counter: 1 1 ~ 100

☒ Enable SNMP Alert Message Notification

SNMP Community: default Length(1~16)  
SNMP Trap Community: public Length(1~16)  
Trap IP Address: 192 . 168 . 0 . 125 xxx.xxx.xxx.xxx

Set Refresh

You can press "Set" button to apply the settings and "Refresh" button to refresh the setting values.

# 7 NetSetting for Ethernet

## Alert Message Setting

For the alert message notification function, you can decide which error cases need to be sent out to the operator. Moreover, the alert messages can be set to be sent by SMTP, SNMP or both.

SMTP	SNMP	Description
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Paper or Ribbon Empty
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Paper Jam
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Ribbon Out
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Printhead Up ( Open )
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Rewinder Full
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	File System Full
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	File Not Found
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Duplicated Name
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Syntax Unknown
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Cutter Jammed or Not Installed
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	TPH Over Heat

Set Refresh

You can press "Set" button to apply the settings and "Refresh" button to refresh the setting values.



## 7 NetSetting for Ethernet

### Printer Configuration

Set or change the configurations of connected printer. Most of key settings for the printer operation can be done by this setting page.

The screenshot shows the 'Printer Configuration' window in the NetSetting application. The window has a title bar with the NetSetting logo and 'Printer Configuration' text. Below the title bar is a toolbar with icons for printer, network, help, settings, and refresh. The main content area is divided into two sections: 'Printer Setup' and 'Miscellaneous'. The 'Printer Setup' section contains settings for Printer Model (CL-S321), Tear-off Position (0), Speed (4), Darkness (10), Dispenser/Applicator (0 (None)), Labels per Cut (0), and Printing Mode (Thermal Transfer). The 'Miscellaneous' section contains settings for LCD Language, Sensing Mode (2 - Automatic), Keyboard Country Code, Pre-Printing, Code Page (Code Page 850), Top Of Form (ON), and Buzzer (ON). At the bottom of the window are 'Set' and 'Refresh' buttons.

Printer Setup	
Printer Model	CL-S321
Tear-off Position	0
Speed	4
Darkness	10
Dispenser/Applicator	0 (None)
Labels per Cut	0
Printing Mode	Thermal Transfer

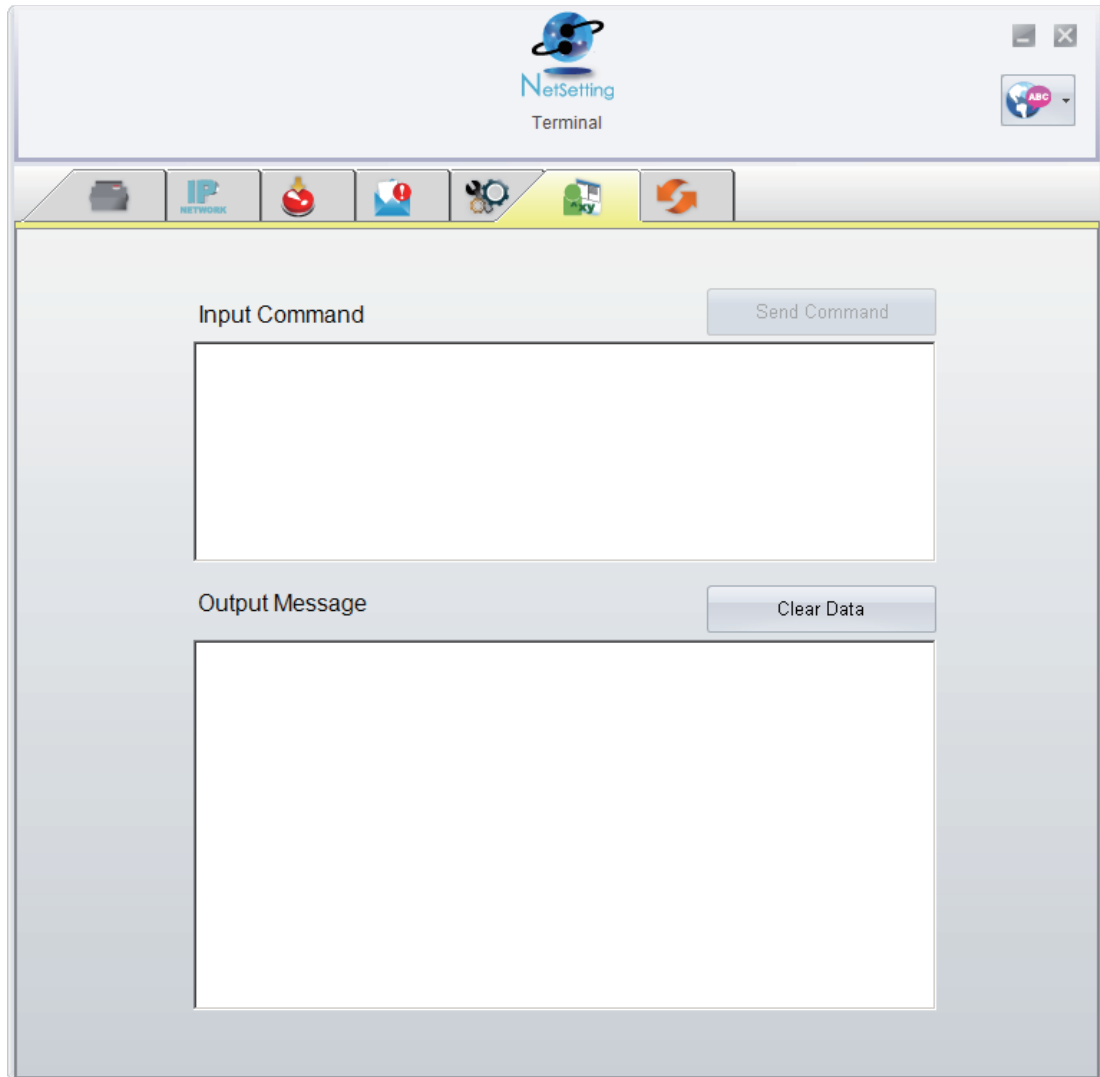
Miscellaneous	
LCD Language	
Sensing Mode	2 - Automatic
Keyboard Country Code	
Pre-Printing	
Code Page	Code Page 850
Top Of Form	ON
Buzzer	ON

You can press "Set" button to apply the settings and "Refresh" button to refresh the setting values.

## 7 NetSetting for Ethernet

### Terminal

The "Terminal" tab provides a communication interface for operator to control the printer. Input printer commands in "Input Command" window and press "Send Command" button, the commands will be sent to the printer. For some commands that will return response message, the message will be displayed in "Output Message" window.



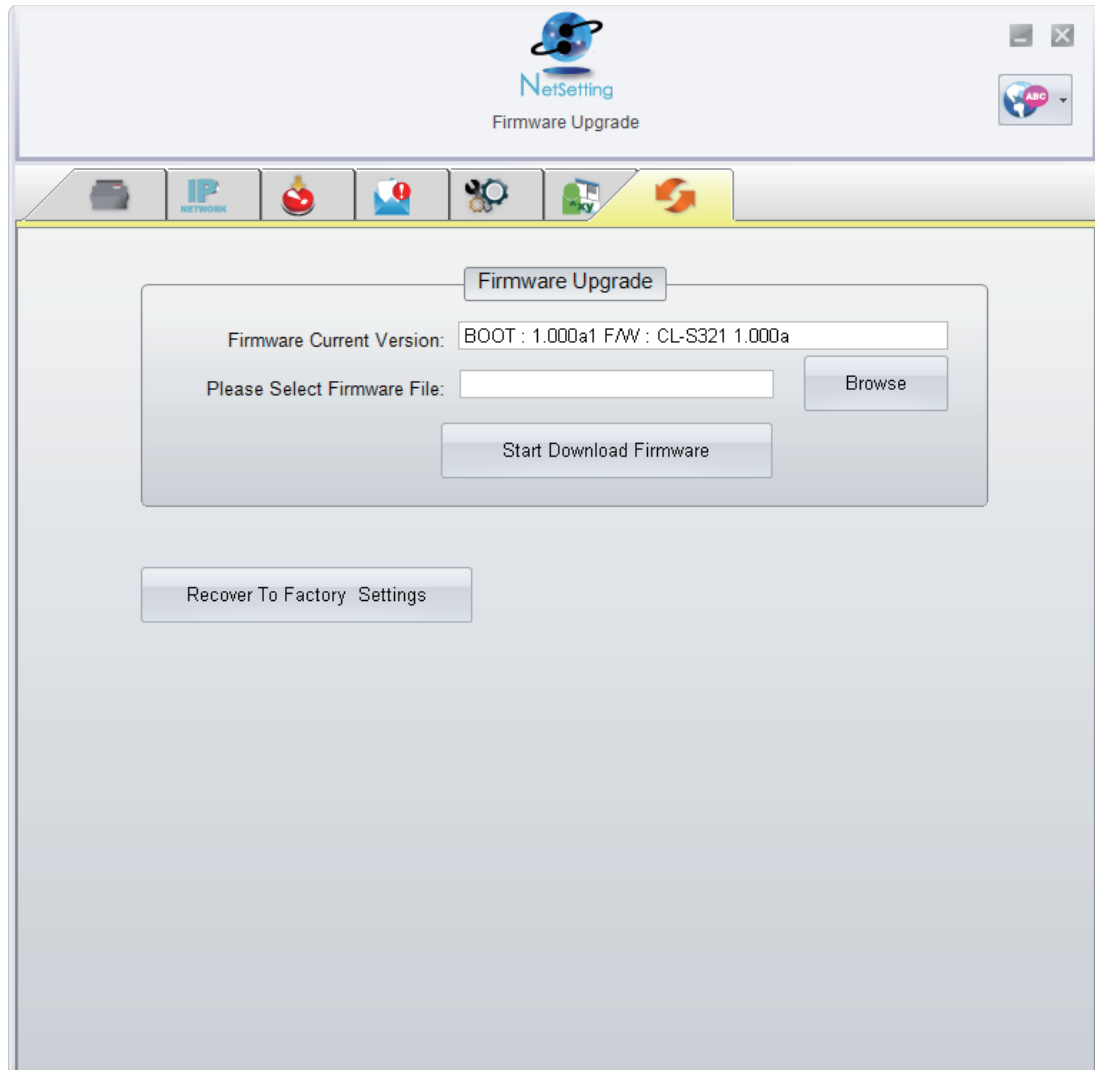
You can press "Send Command" button to send printer commands via Ethernet port and control the printer remotely.

# 7 NetSetting for Ethernet

## Firmware Upgrade

On "Firmware Upgrade" tab, the current version of printer firmware will be showed on the screen. If you need to update the printer firmware, just specify the file location of firmware file and press "Start Download Firmware" button.

The printer firmware then can be updated remotely.



In addition to the firmware update, you can press "Recover To Factory Settings" button to restore the printer configurations back to factory default.

## 8 Maintenance And Adjustment

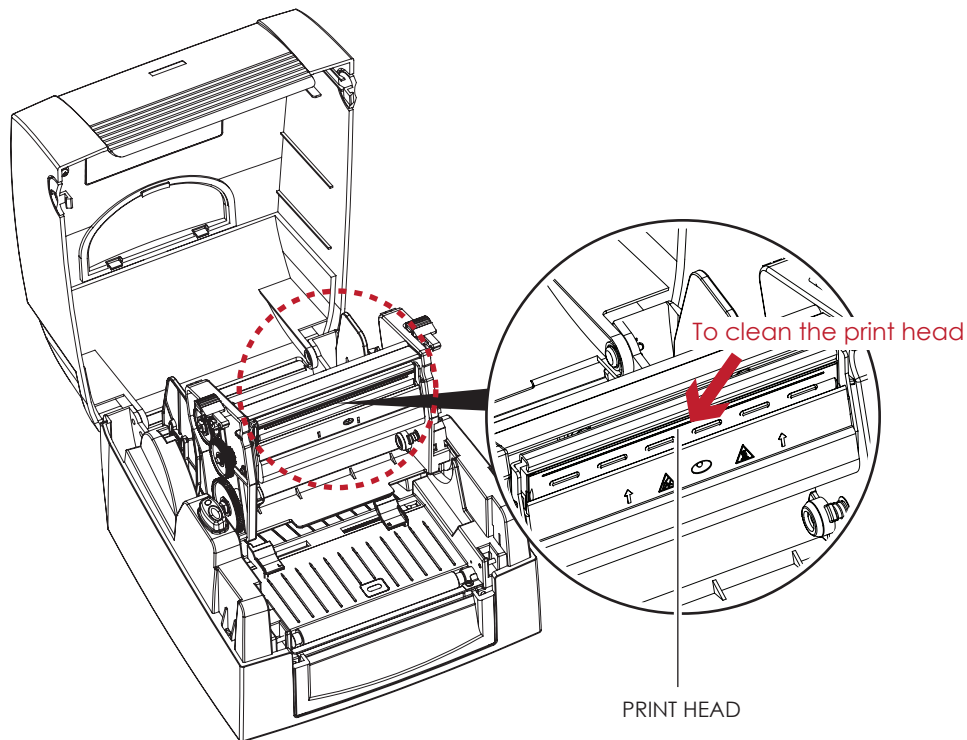
### 8.1 Cleaning The Print Head

Dirt on the print head or ribbon, or glue residue from the label stock may result in inadequate print quality. The printer cover must therefore always be closed during printing. Keeping dirt and dust away from the paper or labels ensures a good print quality and a longer lifespan of the print head.

#### Cleaning Steps

Here is how you clean the print head.

1. Switch off the printer.
2. Open the printer cover.
3. Release the printing mechanism and lift it.
4. Remove the ribbon.
5. To remove any label residue or other dirt from the print head (see red arrow), please use a soft lint-free cloth dipped in alcohol.



#### Notice

- \* The print head should be cleaned once a week.
- \* Please make sure that there are no metal fragments or other hard particles on the soft cloth used to clean the print head.

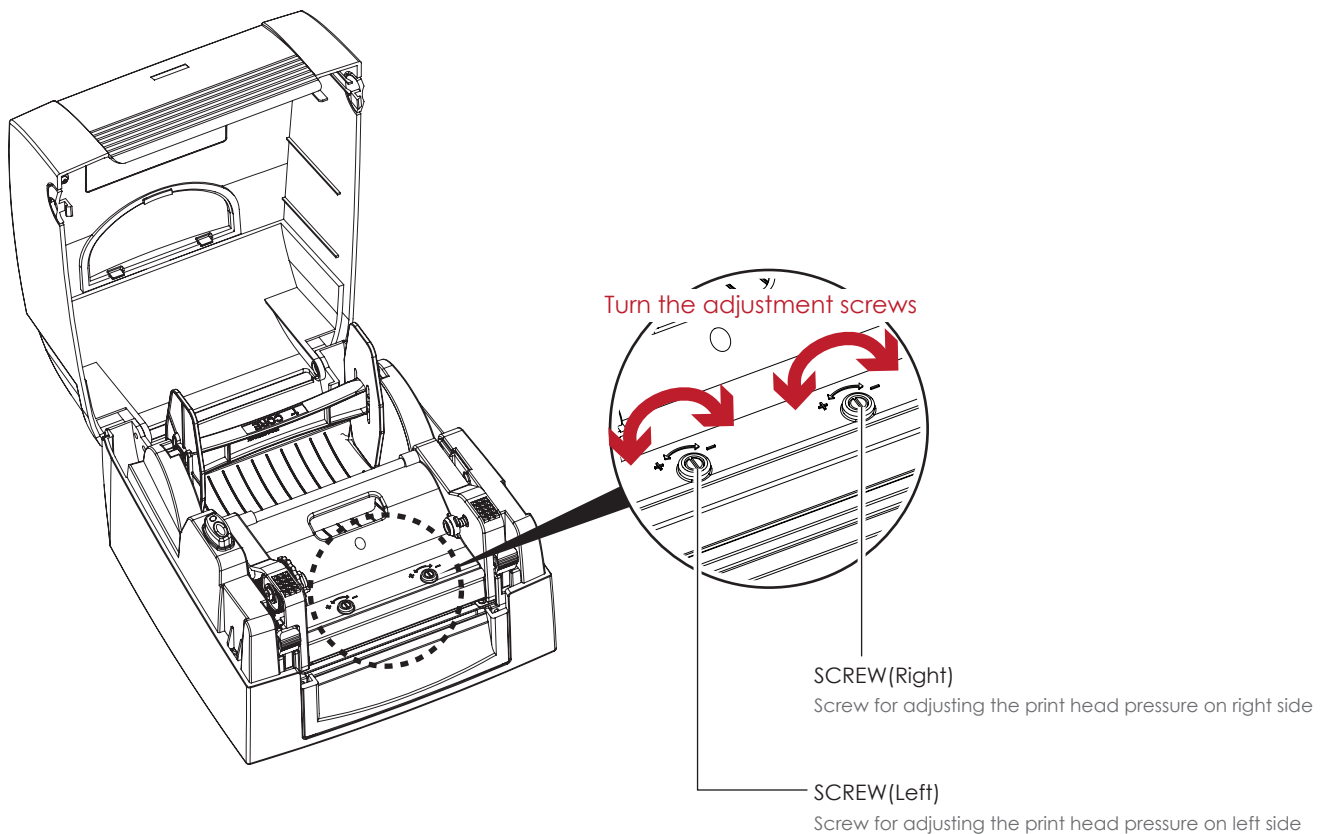
## 8 Maintenance And Adjustment

### 8.2 Adjusting The Print Head Pressure

When printing on special media (with varying material thickness), the print quality may suffer. You will then need to adjust the print head pressure.

#### Adjustment Steps

1. Open the printer cover.
2. Remove the ribbon.
3. Use a screw driver and slowly turn the adjustment screws for the print head to increase or reduce the print head pressure.



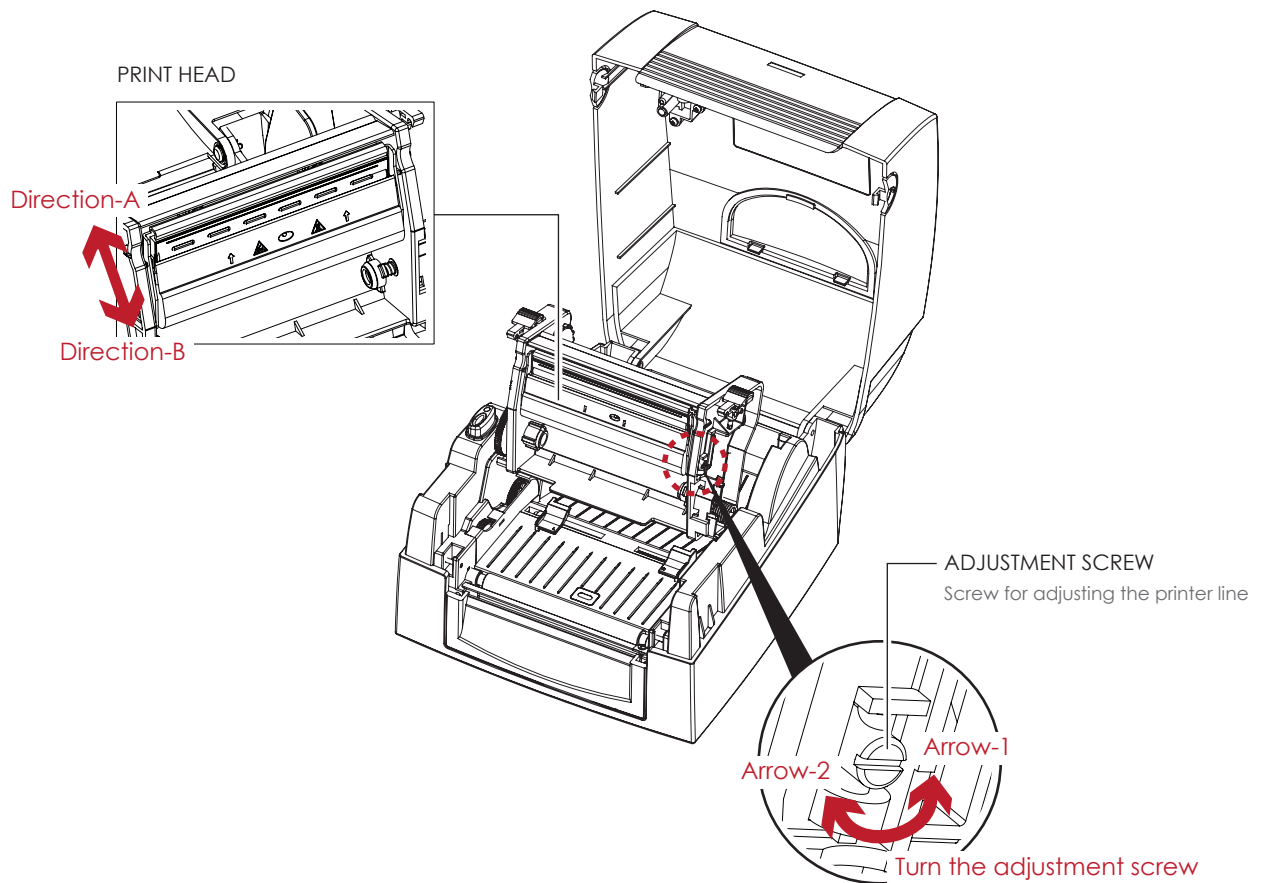
## 8 Maintenance And Adjustment

### 8.3 Adjusting The Print Line

When the print line is incorrectly set, the print quality on one side of the medium may suffer. In such a case, the print line must be adjusted so it is positioned parallel to the paper feed roller.

#### Adjustment Methods

1. To move the print head in Direction-A as indicated by the red arrow, turn the adjustment screw counterclockwise (see Arrow-1).
2. To move the print head in Direction-B as indicated by the red arrow, turn the adjustment screw clockwise (see Arrow-2).



# 8 Maintenance And Adjustment

## 8.4 Troubleshooting

Problem	Solution
The printer is switched on but the LED does not light up.	<ul style="list-style-type: none"> <li>◆ Check the power supply. Please see the Section 4</li> </ul>
The LED lights up red and printing is interrupted.	<ul style="list-style-type: none"> <li>◆ Check the software settings (driver settings) or command codes.</li> <li>◆ Look for the error alert in the table in Section 3.2. Error Alerts.</li> <li>◆ Check whether the print mechanism is closed correctly. Please see the Section 3.2</li> </ul>
The label stock passes through the printer but no image is printed.	<ul style="list-style-type: none"> <li>◆ Please make sure that the label stock is loaded the right way up and that it is suitable material.</li> <li>◆ Choose the correct printer driver.</li> <li>◆ Choose the correct label stock and a suitable printing mode.</li> </ul>
The label stock jams during printing.	<ul style="list-style-type: none"> <li>◆ Clear the paper jam. Remove any label material left on the thermal print head and clean the print head using a soft lint-free cloth dipped in alcohol. Please see the Section 8.1</li> </ul>
There is no printed image on some parts of the label.	<ul style="list-style-type: none"> <li>◆ Check whether any label material or ribbon is stuck to the thermal print head.</li> <li>◆ Check for errors in the application software.</li> <li>◆ Check whether the starting position has been set incorrectly.</li> <li>◆ Check the ribbon for wrinkles.</li> </ul>
There is no printed image on part of the label or the image is blurred.	<ul style="list-style-type: none"> <li>◆ Check the thermal print head for dust or other dirt.</li> <li>◆ Check the quality of the print medium.</li> </ul>
The printed image is positioned incorrectly.	<ul style="list-style-type: none"> <li>◆ Check whether there is paper or dust covering the sensor.</li> <li>◆ Check whether the label stock is suitable. Contact your supplier.</li> <li>◆ Check the paper guide settings.</li> </ul>
A label is missed out during printing.	<ul style="list-style-type: none"> <li>◆ Check the label height setting.</li> <li>◆ Check whether there is dust covering the sensor.</li> <li>◆ Run the auto-detection function. Please see the Section 3.3</li> </ul>
The printed image is blurred.	<ul style="list-style-type: none"> <li>◆ Check the darkness setting.</li> <li>◆ Check the thermal print head for dust or dirt. Please see the Section 8.1</li> <li>◆ Check if the ribbon is suitable for label stock.</li> </ul>

### Notice

\* If any problems occur that are not described here, please contact your dealer.

# APPENDIX

## PRODUCT SPECIFICATIONS

Model		CL-S321	CL-S331
<b>Print Method</b>		Thermal Transfer/Direct Thermal	
<b>Resolution</b>		203dpi(8dots/mm)	300dpi(12dots/mm)
<b>Print Speed</b>		4IPS(102mm/s)	3IPS(76.2mm/s)
<b>Print Width</b>		4.25"(108mm)	4.16"(105.7mm)
<b>Print Length</b>		Min. 0.16"(4mm)**; Max. 68"(1727mm)	Min. 0.16"(4mm)**; Max. 30"(762mm)
<b>Processor</b>		32 Bit RISC CPU	
<b>Memory</b>	<b>Flash</b>	8MB Flash(4MB for user storage)	
	<b>SDRAM</b>	16MB SDRAM	
<b>Sensor Type</b>		Fixed transmissive sensor Reflective sensor, central aligned	
<b>Media</b>	<b>Types</b>	Continuous form, gap labels, black mark sensing, and punched hole; label length set by auto sensing or programming	
	<b>Width</b>	1"(25.4mm)Min. -4.64"(118mm)Max.	
	<b>Thickness</b>	0.003"(0.06mm)Min.-0.008"(0.20mm)Max.	
	<b>Label Roll Diameter</b>	Max. 5"(127mm)	
	<b>Core Diameter</b>	1", 1.5"(25.4mm, 38.1mm)	
<b>Ribbon</b>	<b>Types</b>	Wax, wax/resin, resin	
	<b>Length</b>	360"(110m)	
	<b>Width</b>	1.18"Min.-4.33"(30mm-110mm)Max	
	<b>Ribbon Roll Diameter</b>	1.57"(40mm)	
	<b>Core Diameter</b>	0.5"(12.7mm)	
<b>Printer Language</b>		EPL, ZPL auto switch	
<b>Software</b>	<b>Label Design Software</b>	BarTender Ultralite	
	<b>Driver</b>	Windows 2000, XP, Vista, 7, Windows Server 2003&2008	
<b>Resident Fonts</b>	<b>Bitmap Fonts</b>	6, 8, 10, 12, 14, 18, 24, 30, 16X26 and OCR A&B Bitmap fonts 90°, 180°, 270° rotatable, single characters 90°, 180°, 270° rotatable Bitmap fonts 8 times expandable in horizontal and vertical directions	
	<b>Scalable Fonts</b>	90°, 180°, 270° rotatable	
<b>Download Fonts</b>	<b>Bitmap Fonts</b>	Bitmap fonts 90°, 180°, 270° rotatable, single characters 90°, 180°, 270° rotatable	
	<b>Asian Fonts</b>	Asian fonts 90°, 180°, 270° rotatable and 8 times expandable in horizontal and vertical directions	
	<b>Scalable Fonts</b>	Scalable fonts 90°, 180°, 270° rotatable	
<b>Barcodes</b>	<b>1-D Bar codes</b>	Code 39, Code 93, EAN 8/13(add on 2 &5), UPC A/E(add on 2&5), I 2 of 5&I 2 of 5 with Shipping Bearer Bars, Codabar, Code 128(subset A, B, C), EAN 128, RPS 128, UCC 128, UCC/ EAN-128 K-Mart, Random Weight, Post NET, ITF 14, China Postal Code, HIBC, MSI, Plessey, Telepen, FIM and GS1 DataBar	
	<b>2-D Bar codes</b>	PDF417, Datamatrix code, MaxiCode, QR code, Micro PDF417, Micro QR code and Aztec code	
<b>Code Pages</b>		CODEPAGE 437, 850, 851, 852, 855, 857, 860, 861, 862, 863, 865, 866, 869, 737 WINDOWS 1250, 1251, 1252, 1253, 1254, 1255, 1257 Unicode UTF8, UTF16	
<b>Graphics</b>		Resident graphic file types are BMP and PCX, other graphic formats are downloadable from the software	
<b>Interfaces</b>		USB Device (B-Type) RS-232 (DB-9) IEEE 802.3 10 100Base-Tx Ethernet port (RJ-45)	USB Device (B-Type) RS-232 (DB-9) IEEE 802.3 10 100Base-Tx Ethernet port (RJ-45)
<b>Control Panel</b>		One Tri-color LED: Power(Green, Orange and Red) Function Key: FEED	
<b>Power</b>		Auto Switching 100-240VAC, 50-60Hz	



# APPENDIX

## PRODUCT SPECIFICATIONS

Model		CL-S321	CL-S331
Environment	Operation Temperature	41°F to 104°F(5°C to 40°C)	
	Storage Temperature	-4°F to 122°F (-20°C to 50°C)	
Humidity	Operation	30-85%, non-condensing	
	Storage	10-90%, non-condensing	
Agency Approvals		CE(EMC), FCC Class A, CB and CCC, NOM, S-Mark	
Dimension	Length	10"(254mm)	
	Height	6.7"(170mm)	
	Width	8.8"(224mm)	
Weight		5.5 lbs (2.5Kg) ,excluding consumables	
Options		USB Device + Parallel interfaces(factory install) External label roll holder for 10"(250mm) O.D. label rolls External label rewinder	

## Notice

- \* Specifications are subject to change without notice. All company and/or product names are trademarks and/or registered trademarks of their respective owners.
- \*\* Minimum print height and maximum print speed specification compliance can be dependent on non-standard material variables such as label type, thickness, spacing, liner construction, etc. Citizen is pleased to test non-standard materials for minimum print height and maximum print speed capability.

# APPENDIX

## INTERFACE

### Pinout Description

- USB

Connector Type : Type B

Pin NO.	1	2	3	4
Function	VBUS	D-	D+	GND

- Serial Port

Default settings : Baud rate 9600, no parity, 8 data bits, 1 stop bit, XON/XOFF protocol and RTS/CTS

RS232 Housing(9pin to 9pin)				
DB9 Socket			DB9 Plug	
-	1	1	+5V, max 500mA	
RXD	2	2	TXD	
TXD	3	3	RXD	
DTR	4	4	N/C	
GND	5	5	GND	
DSR	6	6	RTS	
RTS	7	7	CTS	
CTS	8	8	RTS	
RI	9	9	N/C	
Computer			Printer	

- Parallel Port

Factory option

Handshaking : DSTB is sent to the printer, BUSY to the host computer.  
Interface Cable : Parallel cable compatible with IBM computers.  
Pinout : See below.

Pin NO.	Function	Transmitter
1	/Strobe	host / printer
2-9	Data 0-7	host
10	/Acknowledge	printer
11	Busy	printer
12	/Paper empty	printer
13	/Select	printer
14	/Auto-Linefeed	host / printer
15	N/C	
16	Signal Gnd	
17	Chasis Gnd	
18	+5V,max 500mA	
19-30	Signal Gnd	host
31	/Initialize	host / printer
32	/Error	printer
33	Signal Ground	
34-35	N/C	
36	/Select-in	host / printer

### Notice

- \* The total current to the serial port may not exceed 500mA.

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