THARO

H-400+ and H-600+ Series
User Manual

Date: 06-30-2020

CONTENTS

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 their 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 Class A, EN61000-3-2:2006/ A1:2009/A2:2009, EN 61000-3-3:2008 and EN 55024:2010, IEC 61000-4-2:2008 series The equipment also tested and passed in accordance with the European Standard EN55022 for both the Radiated and Conducted emissions limits.

H-400+ and H-600+ SERIES TO WHICH THIS DECLARATION RELATES IS IN CONFORMITY WITH THE FOLLOWING STANDARDS

IEC 60950-1:2005(2nd Edition)+Am 1:2009, GB4943-2001 GB9254-2008(Class A) GB17625.1-2003, EN 55022:2010 Class A, EN61000-3-2:2006/ A1:2009/A2:2009, EN 61000-3-3:2008 and EN 55024:2010, IEC 61000-4-2:2008 series, CAN/CSA C22.2 No. 60950-1-03, date July, 2006, UL 60950-1, 1st Edition, 2007-10-31, CFR 47, Part 15

WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to correct the interference at their own expense.

此为Class A产品，在生活环境中，该产品可能造成无线电干扰，在这种情况下，可能需要用户对其干扰采取切实可行的措施。

SAFETY INSTRUCTIONS

During the print process the Printhead will become hot. Do NOT attempt to clean the Printhead until it has had time to cool.

The Printhead is the most fragile part of your Printer. Do NOT use sharp or hard objects to clean the Printhead. Do NOT touch the glass surface of the Printhead with your hand.

This Printer is built exclusively to print labels, tickets and tags, continuous paper, etc. Only use media that is recommended for a direct thermal or thermal transfer Printer.

The Printer is configured for input voltages of 110 to 240 V. Connect only to a power outlet with a grounded contact. Always ensure the Printer is switched OFF before connecting the power cord to an electrical outlet.

Do not expose the Printer to moisture or operate it in wet or damp areas.

The Printer will operate with the cover open if necessary. This is not recommended, as the Printer's moving or rotating parts can cause injury. Keep long hair, jewelry and loose clothing away from any moving parts.

Remove the power cord from the rear of the Printer when disconnecting or attaching accessories such as rewind units, cutters, etc.

Caution

This printer is equipped with a button cell lithium battery. This battery is inside the left side cover on the main circuit board.

* There is a Danger of explosion if the battery is replaced incorrectly.

** Dispose of used batteries according to the manufacturer's instructions.

*** Only replace the battery with an equivalent type.

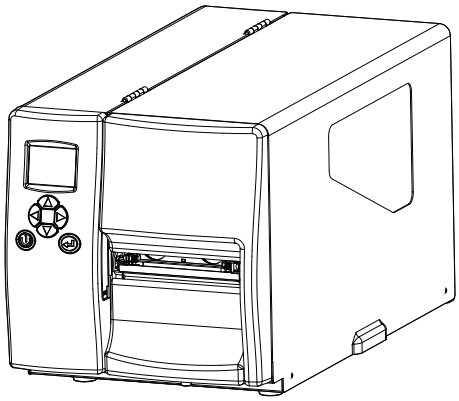
Specifications are subject to change without notice.

1 Barcode Printer

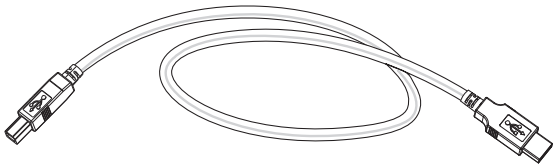
1.1 Box Contents

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

- H-400+ / H-600+ Printer

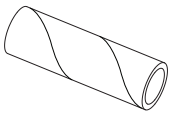


- USB Cable

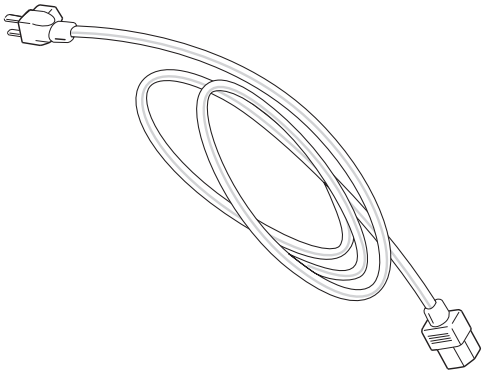


- Quick Guide

- Empty Ribbon Core

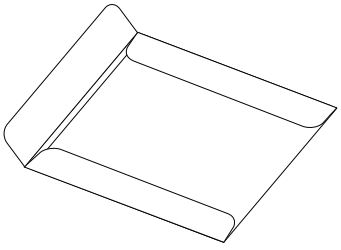


- Power Cord



- CD

  Including EASYLABEL Start software and user's manual.



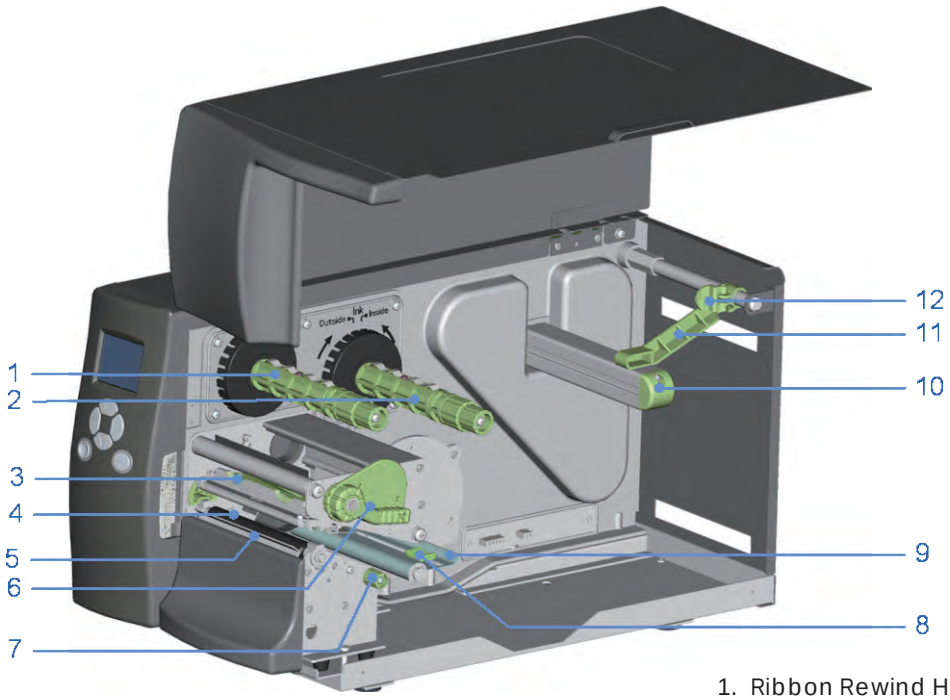
1 Barcode Printer

1.2 Getting to Know Your Printer

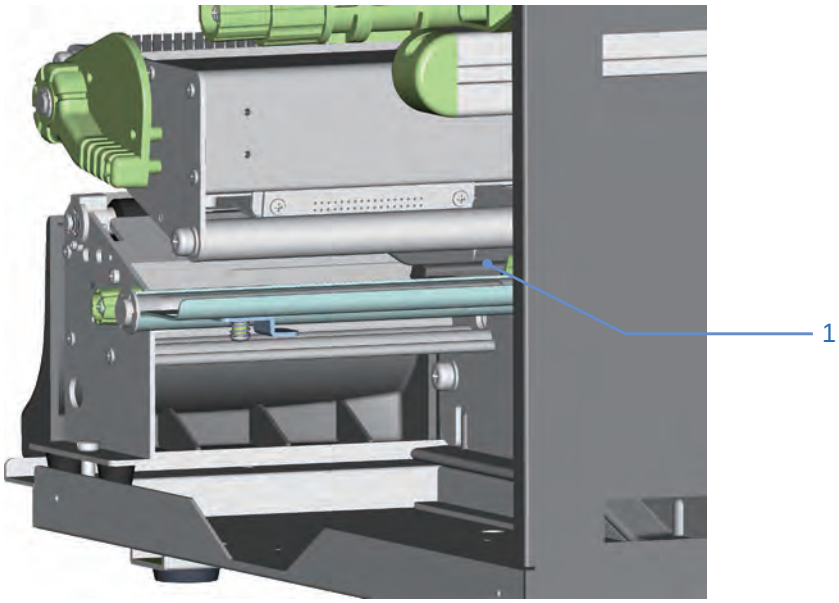
1. Operation Panel
2. Lower Cover Plate
3. Media Window
4. Top Cover

1. Fan-Fold Label Slot
2. Calibration Button
3. Parallel Port (optional)
4. Applicator Interface (optional)
5. USB Host
6. Ethernet Port
7. USB Port
8. Serial Port
9. Power Socket
10. Power Switch
11. Fan-Fold Label Slot

1 Barcode Printer



1. Ribbon Rewind Hub
2. Ribbon Supply Hub
3. Printer Mechanism
4. Platen
5. Tear-off Plate
6. Printhead Lever
7. Sensor Adjustment Knob
8. Label Guide
9. Label Tension Guide
10. Label Supply Hub
11. Label Roll Guide
12. Release Catch



1. Moveable Sensor

2 Printer Setup

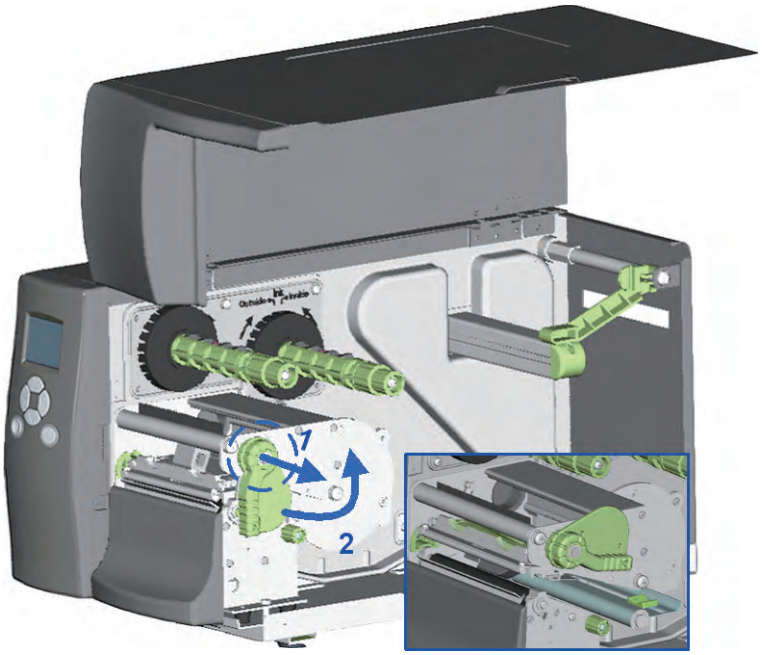
2.1 Loading Labels

This printer supports the following printing methods:
Thermal Transfer Printing (TTP) : Requires a ribbon for transferring the printed image to the labels.
Direct Thermal Printing (DTP) : Uses Thermal Paper and does not require a ribbon.

Verify which printing method you are using and modify the settings in the printer driver, printer menu, and/or software.

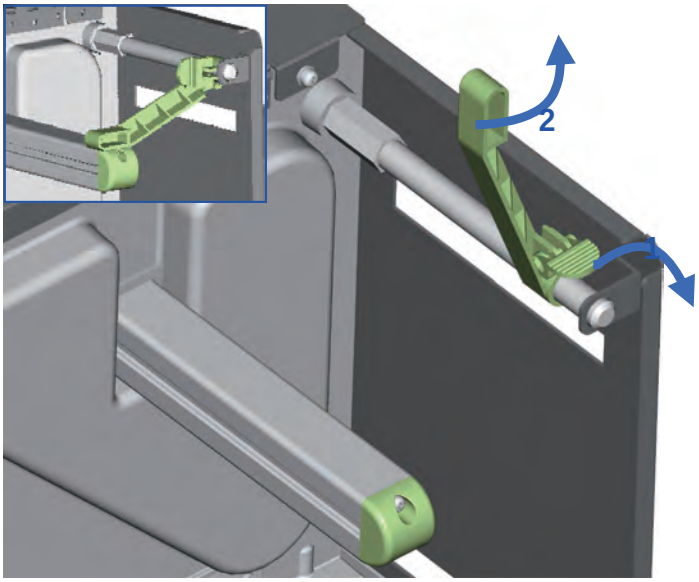
1. Open the Printer's top cover.

2. Pull the Printhead Lever out and rotate it upward to the right (counterclockwise) to open the Printhead.

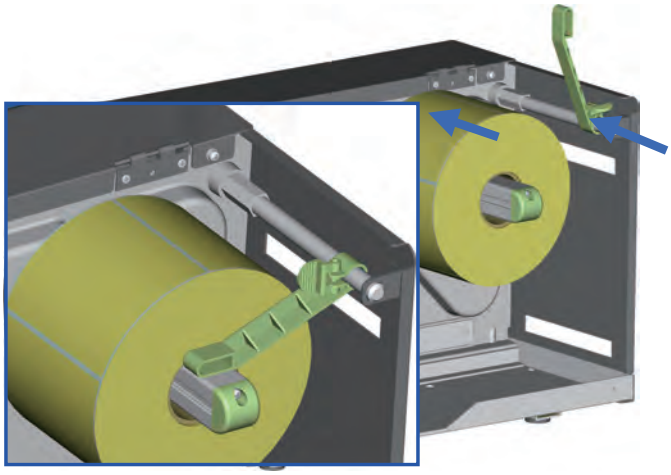


3. Pull the Release Catch in the direction indicated by the blue arrow 1.

4. Rotate the Label Roll Guide upward as indicated by the blue arrow 2.

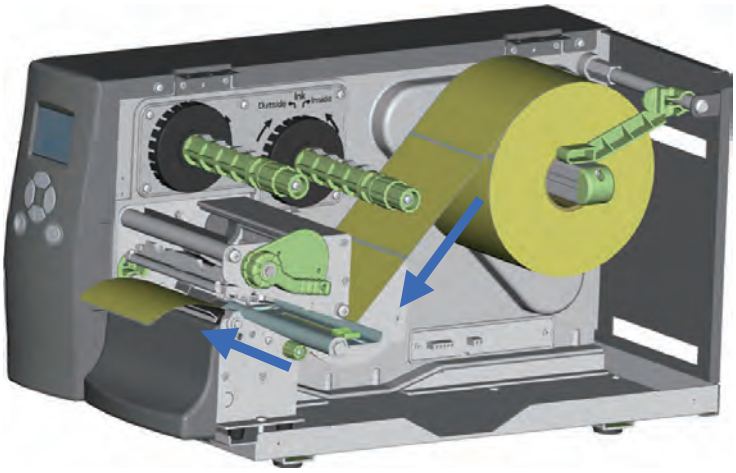


5. Slide the roll of label stock onto the Label Supply Hub all the way back to the Printer's inner wall

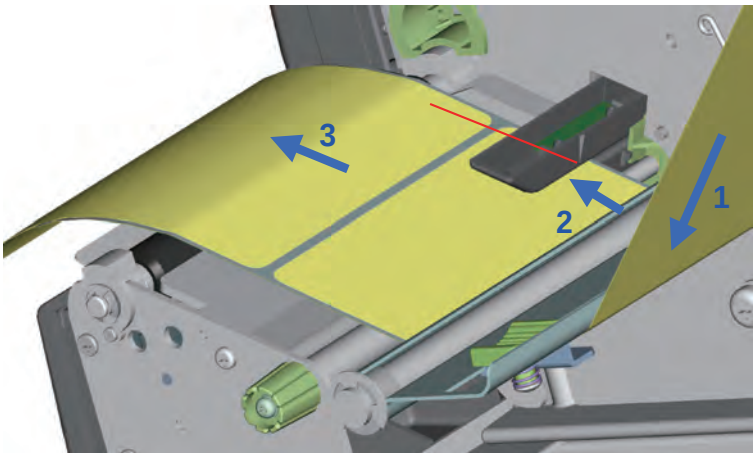


6. Rotate the Label Roll Guide back down and push it against the label roll. Avoid pushing the Guide too far or you will damage the edge of the label stock.

7. Feed the label stock through the printer as shown.



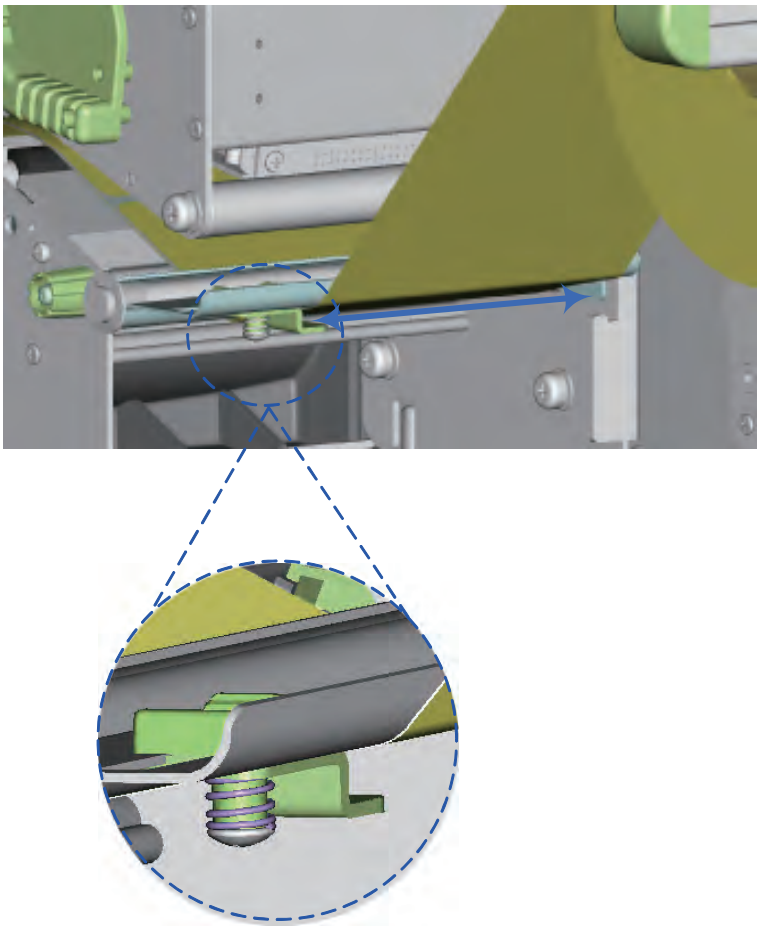
8. Feed the label stock through the Moveable Sensor and up to the Tear-off Plate.



9. Position the edge of the label stock against the Printer's center wall and then position the Label Guide against the outside edge of the label stock.

10. Rotate the Printhead Lever back to its original position.

11. Close the Top Cover to complete the label installation.

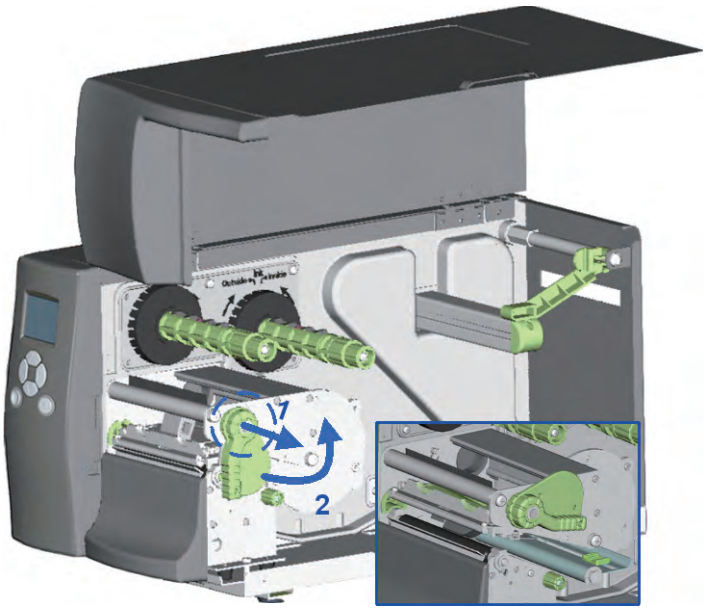


2 Printer Setup

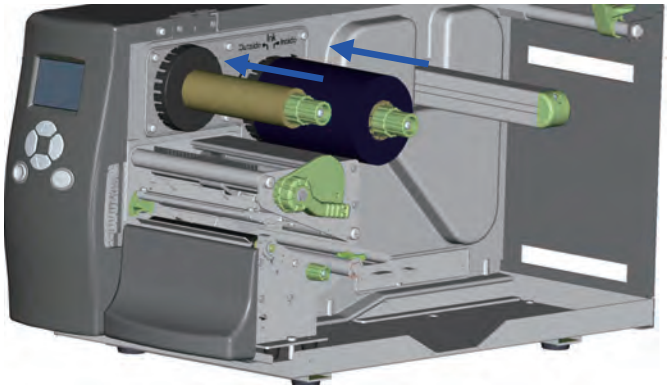
2.2 Loading Ribbon

1. Open the Printer's top cover.

2. Pull the Printhead Lever out and rotate it upward to the right (counterclockwise) to open the Printhead.

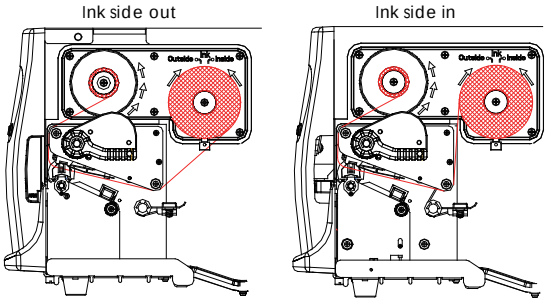


3. Place the new ribbon roll onto the Ribbon Supply Hub and place an empty ribbon core onto the Ribbon Rewind Hub.



4. The figure to the right shows two different installation methods. One is for ink-in ribbon and one for ink-out ribbon.

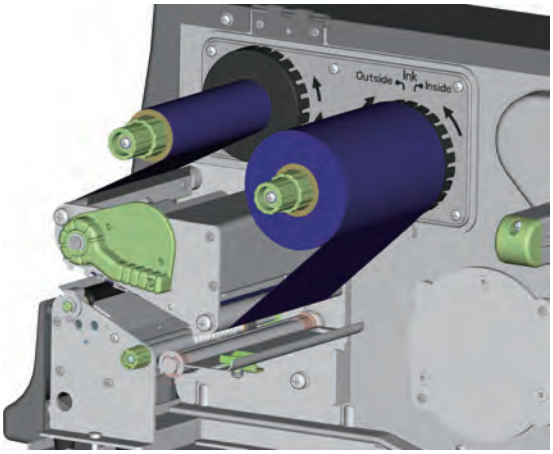
5. Feed the ribbon from the Ribbon Supply Hub under the Printhead. Be sure that the ribbon is not fed under the Moveable Sensor.



6. Attach the end of the ribbon to the empty ribbon core using adhesive tape or part of a label.

7. Rotate the Printhead Lever clockwise back to its original position making sure it snaps into place.

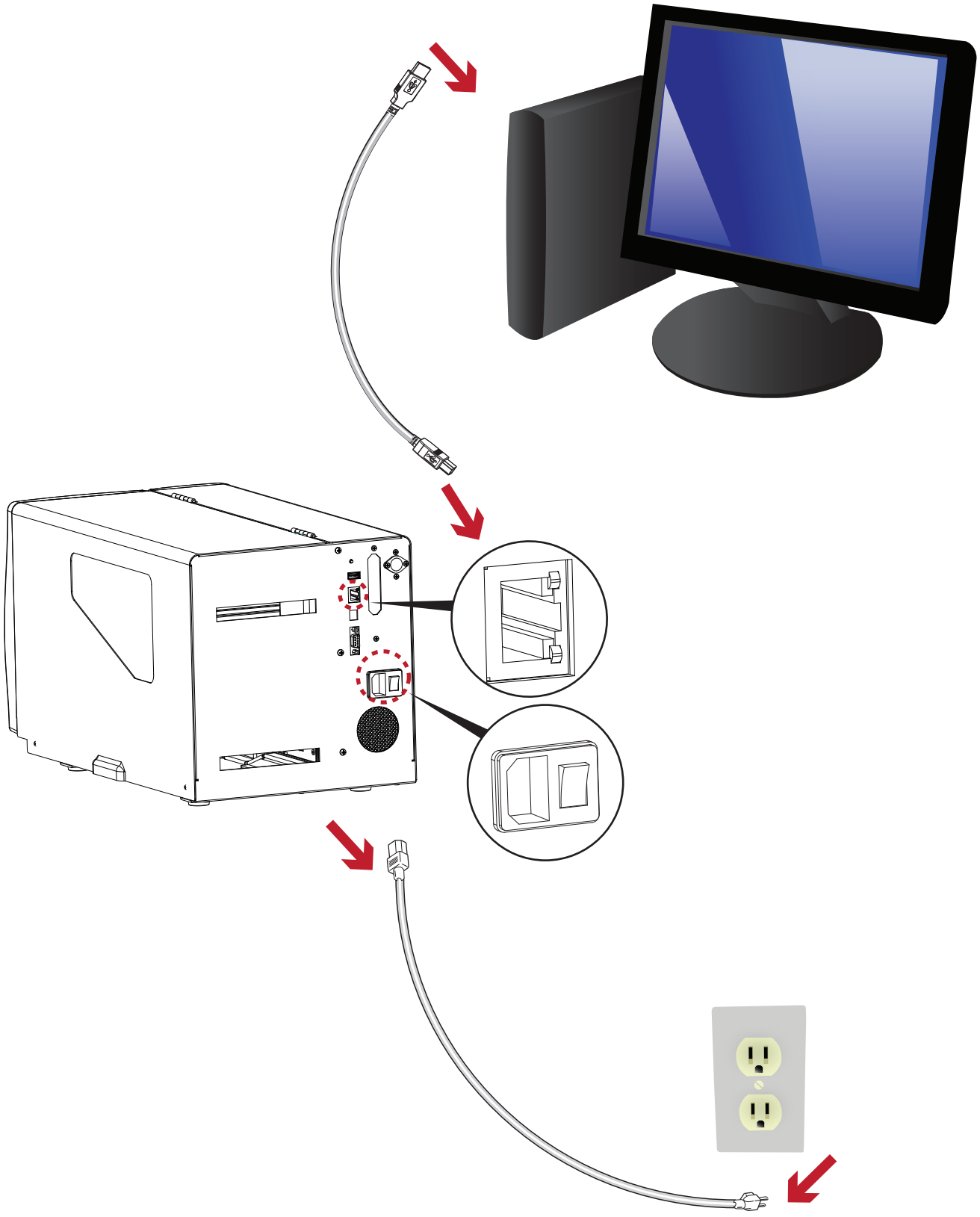
8. Close the Top Cover to complete the ribbon installation.



2 Printer Setup

2.3 Connecting the Printer to your Computer

1. Ensure that the printer is turned off.
2. Connect the power cord to the printer. Plug the power cord into an electrical outlet.
3. Connect the USB cable to the printer and your computer.
4. Turn the printer on. The LCD should light up.

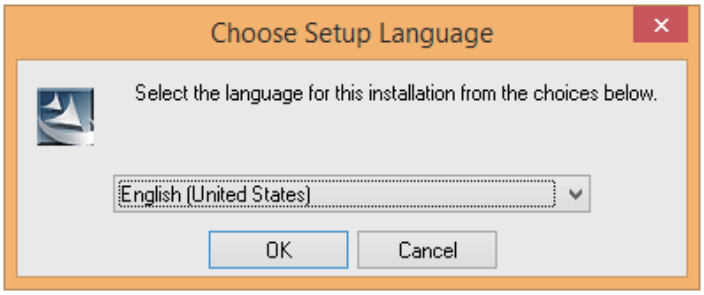


2 Printer Setup

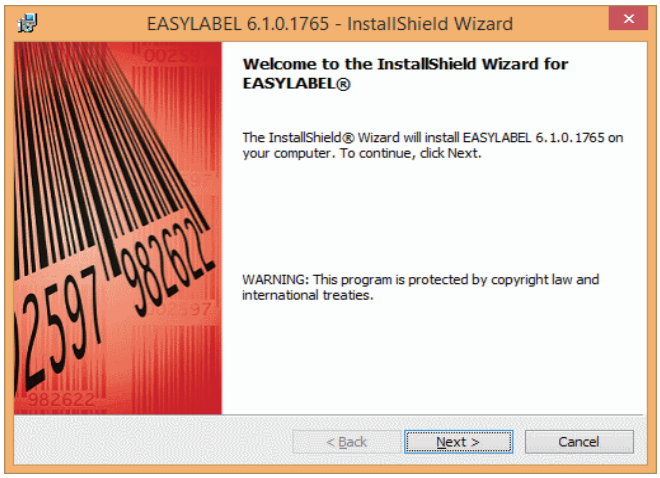
2.4 EASYLABEL Start Installation

EASYLABEL Start is the free labeling package included with every Tharo printer.

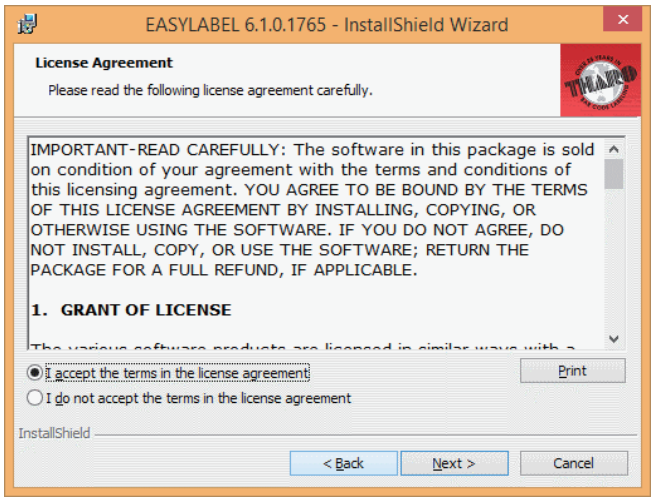
1. Insert the product CD into CD/DVD drive of your computer. Open the "install" folder on the CD. Right click on the setup.exe icon and choose “Run as Administrator” to start the installation. Select a language for the installation and click OK to continue.



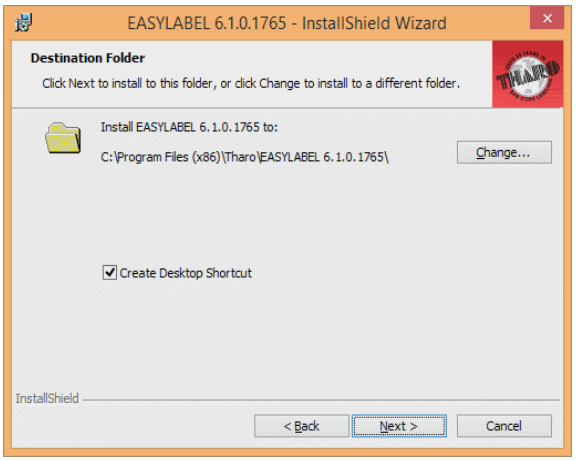
2. The EASYLABEL InstallShield Wizard starts. Click “Next” to continue.



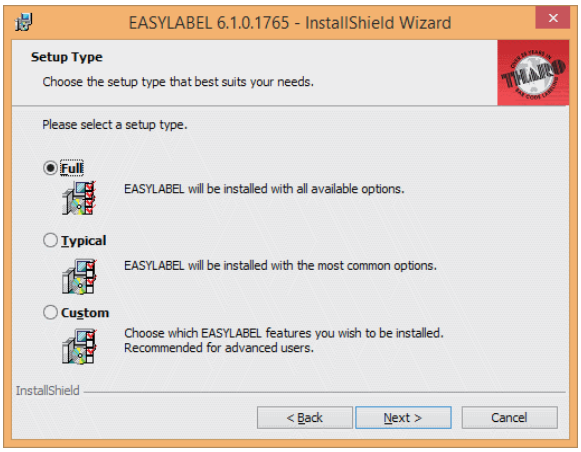
3. The next screen you can read EASYLABEL’s License Agreement. Click the “I accept the terms in the license agreement” radio button and click “Next” to continue the installation.



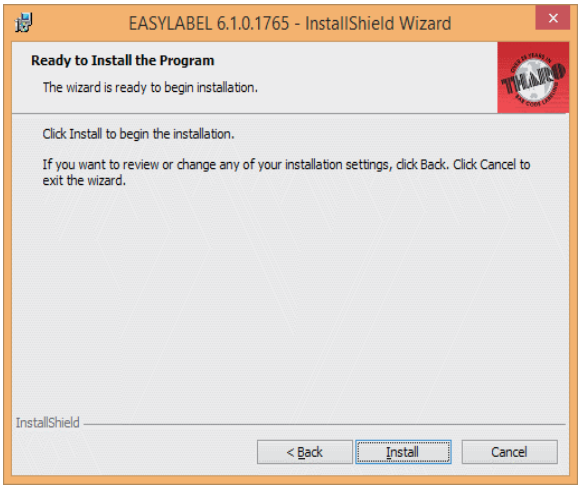
4. The next screen allows you to specify the directory to install EASYLABEL into. In most cases the default is fine. You may also specify if you want an EASYLABEL icon on your desktop. Click on “Next” to continue.



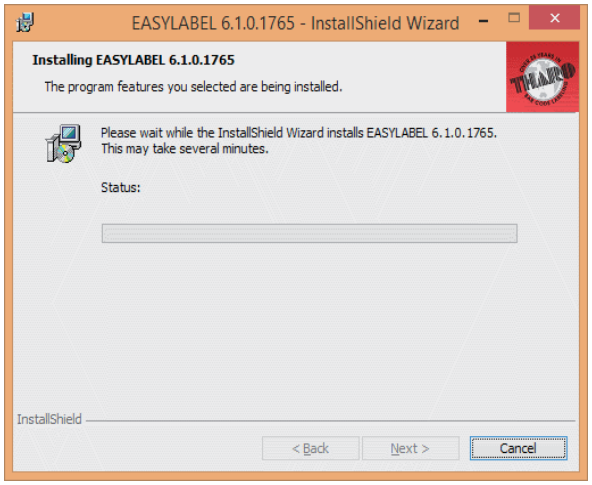
5. The next step allows you to specify the installation type. “Full” is recommended for most users. Click “Next” to continue.



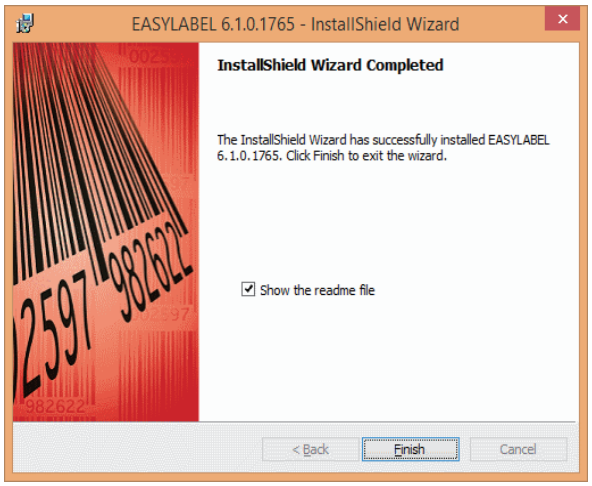
6. This is the confirmation screen. Click Install to install EASYLABEL Start.



7. The Status screen will show the progress of the EASYLABEL Start installation.



8. The installation is complete. Click “Finish” to close the InstallShield Wizard.



9. You are ready to start using EASYLABEL. If you are a new EASYLABEL user we recommend that you view the EASYTutor tutorials. EASYTutor is the best way to get acquainted with your new labeling software. EASYTutor can be found in the “EZtutor” folder on the product CD.
   You may also view EASYTutor online at www.tharo.com/interactive.php
   We suggest getting started with “Adding a USB printer” which is a great step-by-step walk through of how to add a USB printer to EASYLABEL.
   www.tharo.com/Interactive/adding_a_usb_printer/adding_a_usb_printer.htm

2 Printer Setup

2.5 Windows Driver Installation

Windows Drivers are NOT needed when printing to your Tharo Printer with EASYLABEL.
If you want to print to your Tharo Printer from other Windows applications then a Windows driver is needed.

Insert the product CD into CD/DVD drive of your computer.

STOP!

Do NOT plug the Printer's USB cable into your computer yet. There are some special installation steps for Windows 8 and 10 users. If you are NOT using Windows 8 or 10 you can skip to the next page.

To install the Printer driver in Windows 8 or 10:

1. Open the "Tharo_Driver_Win8_Win10" folder.
2. Right Click on **thr.inf** and select "install"
3. Click on “Yes”
4. When the install finishes, Click on “OK”
5. Then plug the Printer's USB cable into your computer.

The printer should now be ready for use in Windows 8 or 10.

If you plugged in the printer without doing the above steps first, the printer is installed as an "Other Device" and you will have to install the driver this way:

1. Open the Windows Control Panel
2. Click on "Hardware and Sound"
3. Under "Devices and Printers" heading click on "Device Manager"
4. Expand "Other Devices"
5. Right-click on the Tharo Printer and select "Update Driver Software"
6. Select "Browse my computer for driver software"
7. Click “Browse” and browse to where the "Tharo_Driver_Win8_Win10" folder and then click on “Next”
8. Click on “Install”
9. Click on “Close” to exit the wizard

The printer should now be ready for use in Windows 8 or 10.

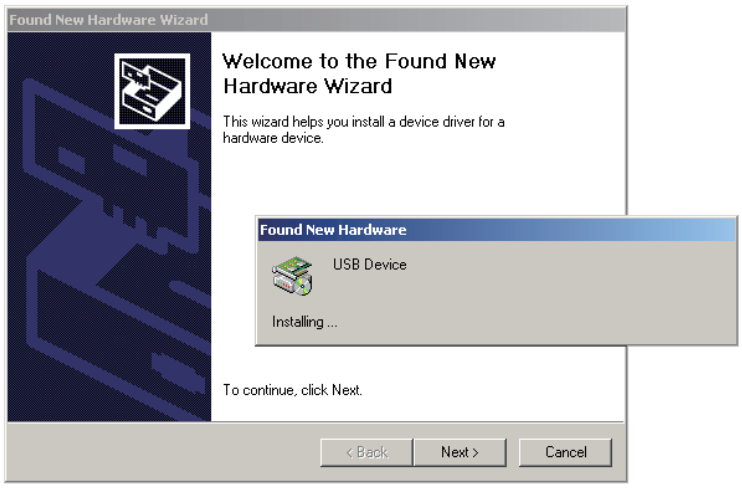
2 Printer Setup

The printer can be installed on Windows releases other than Windows 8 or Windows 10 without any special steps.

Insert the product CD into CD/DVD drive of your computer.

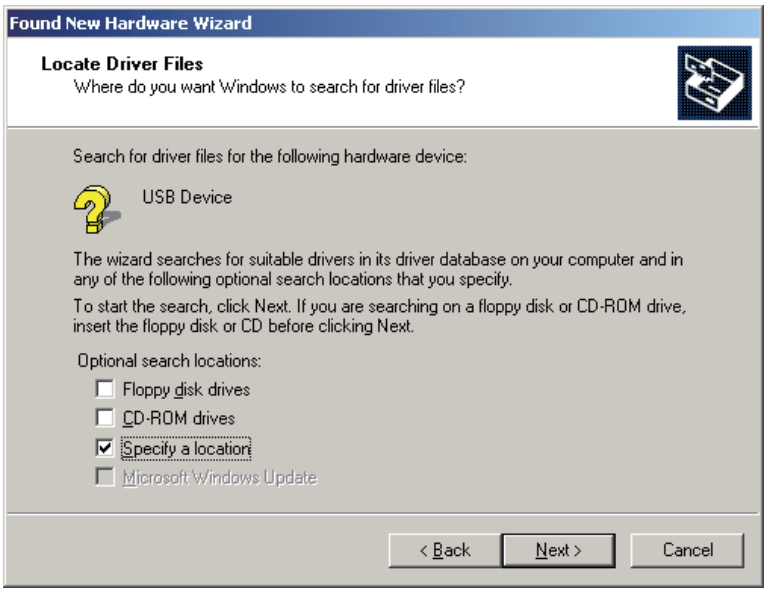
Turn the printer on and connect it to your computer with a USB cable.
The “Found New Hardware Wizard” should take over and install the drivers.
At some point you will be able to specify a location of the drivers.
Simply point the Wizard to the thr.inf file in the **Windows Driver** folder on the product CD.

1. USB is a Plug & Play facility. Once the USB cable is connected from PC to the printer, the PC will automatically detect the new device and begin the installation process.



2. Select ‘Specify a location’ and specify the path of the printer driver.

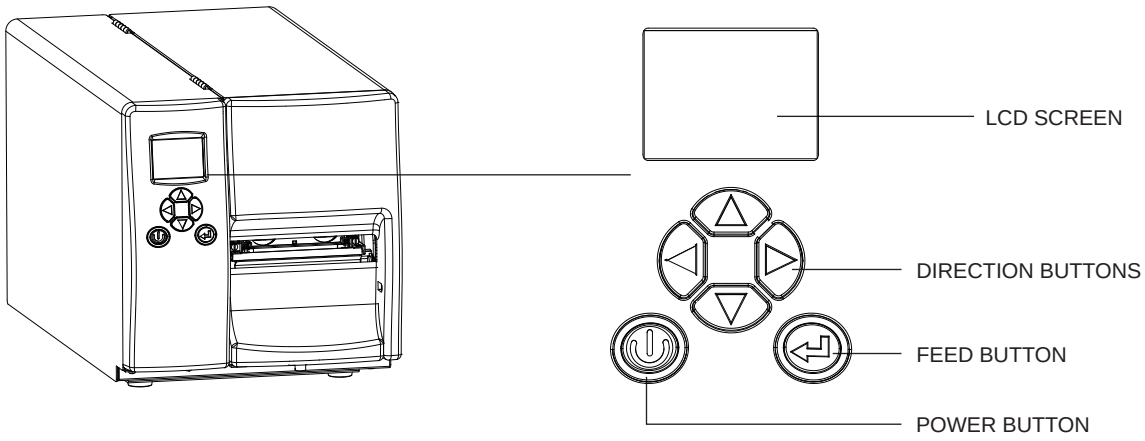
3. Follow the instructions in the Wizard to complete the installation.



3 Printer Settings and Control

3.1 Operation Panel

Introduction



POWER Button

Press the POWER button to turn on the printer.
Press and hold the POWER button for 3 seconds to turn the printer off.

FEED Button

Press the FEED button to advance the media.
If you are using continuous labels, the printer will advance a length of media.
If you are using media with gaps or black marks, the printer will advance one label.*

*If the printer feeds more than one label or the label does not stop in the correct position, you should perform a label calibration for your media. See Section 3.4 Label Calibration and Self-Test.

PAUSE PRINTING using the FEED Button

Pressing the FEED button while the printer is printing will PAUSE the printer.
When the FEED button is pressed again, the printer resumes printing.

Example: While a 10-label print job is running, you press the FEED button to pause the printer.
Two of the labels have been printed. To resume printing and print the remaining eight labels, you will need to press the FEED button again.

CANCEL PRINTING using the FEED Button

Press and hold the FEED button for 3 seconds while the printer is printing to CANCEL the print job.
The current print job is then cancelled.

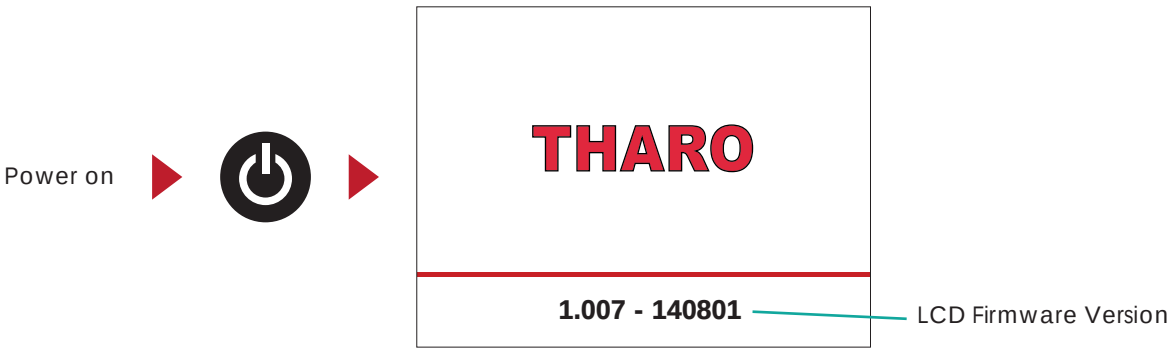
Example: While a 10-label print job is running, you press and hold the FEED button for 3 seconds.
Two of the labels have been printed.
The print job is cancelled and the remaining eight labels will not be printed.

3 Printer Settings and Control

3.2 LCD Interface Introduction

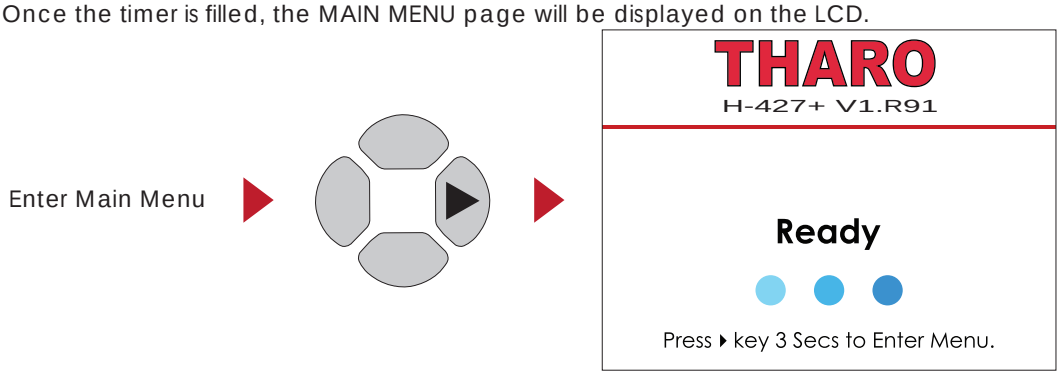
Getting Started

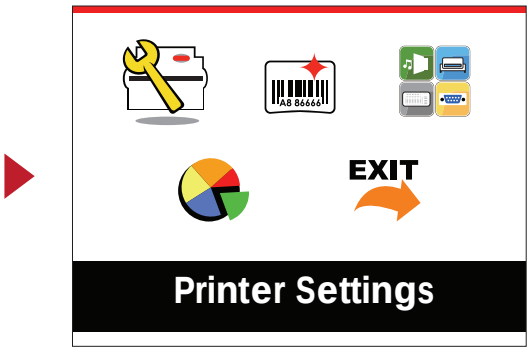
Press the POWER button to turn on the printer. You will see the START UP SCREEN while the printer is booting up.



Once the printer has booted, the LCD screen will display “Ready“.
This indicates the printer is online and ready for use.

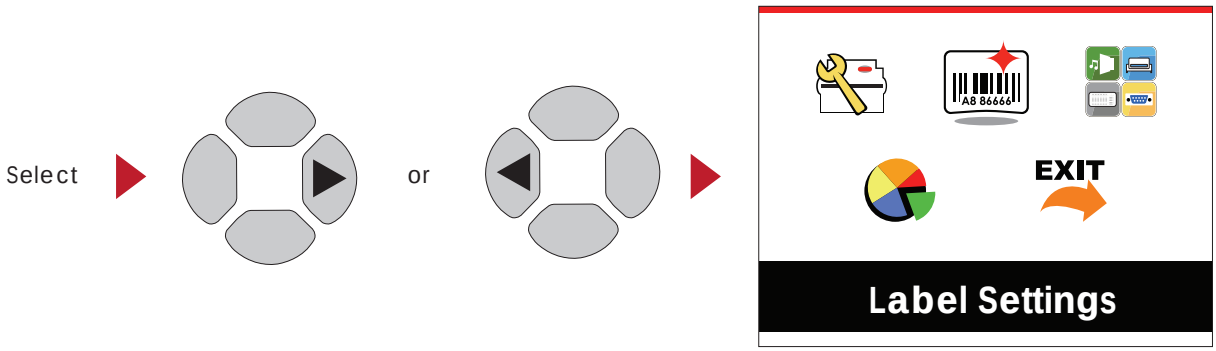
As the text on the screen says, you can enter the Main Menu by pressing and holding the ▸ button for 3 seconds.
A timer of 3 blue circles will displayed (one for each second) to show your progress.
Once the timer is filled, the MAIN MENU page will be displayed on the LCD.

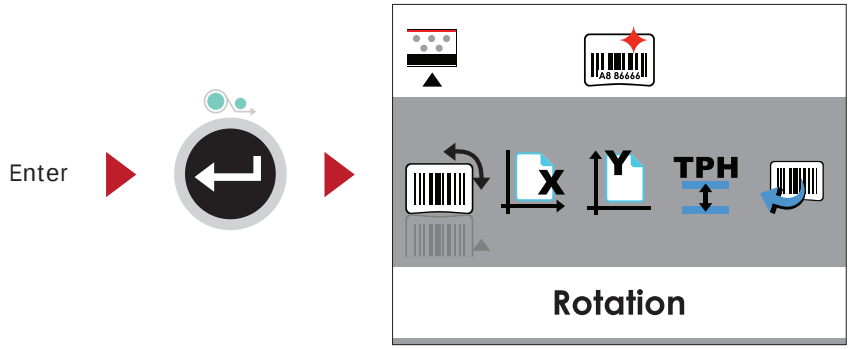




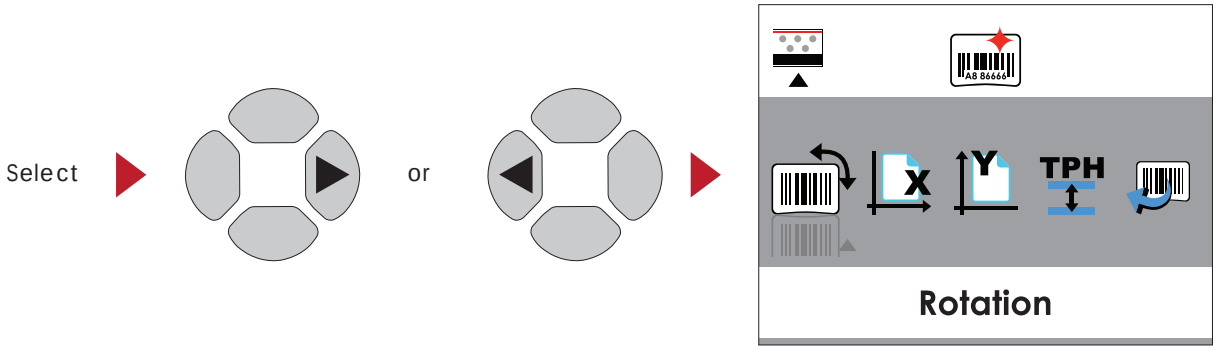
Navigating and making Changes

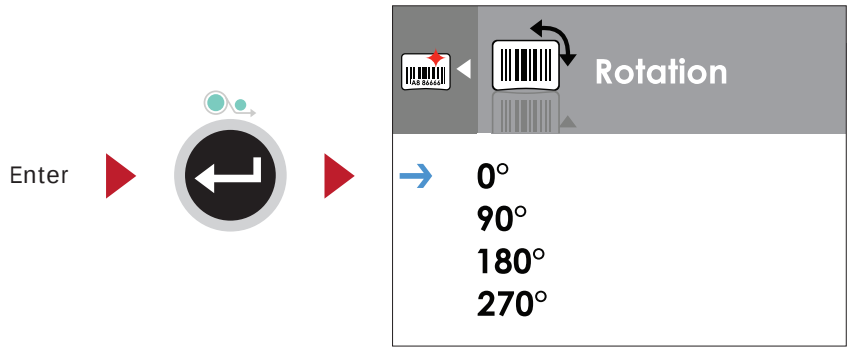
On the MAIN MENU page, press the ▸ or ◂ button to move the cursor.
Highlight a selection and press the FEED button, you will then enter the SETTING PAGES for that selection.



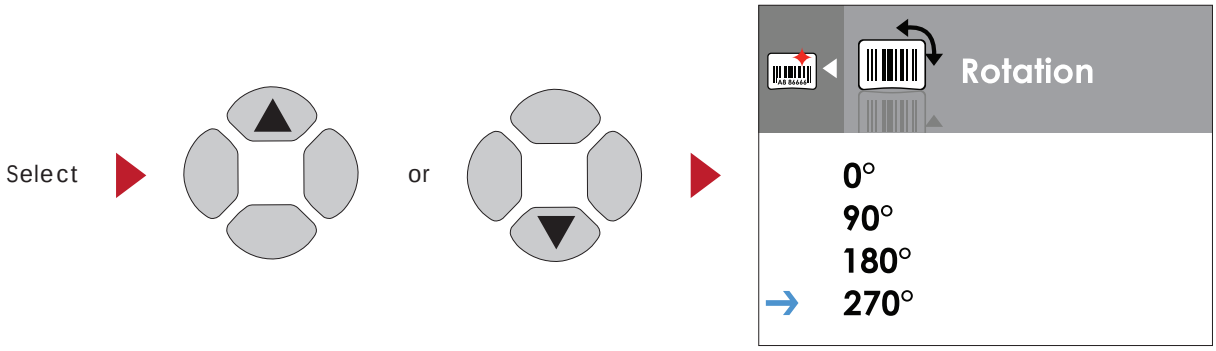


On the SETTING PAGES, press the ▸ or ◂ buttons to move the cursor.
Highlight a function and press FEED button, you will then enter the SETTING VALUE PAGES for that function.

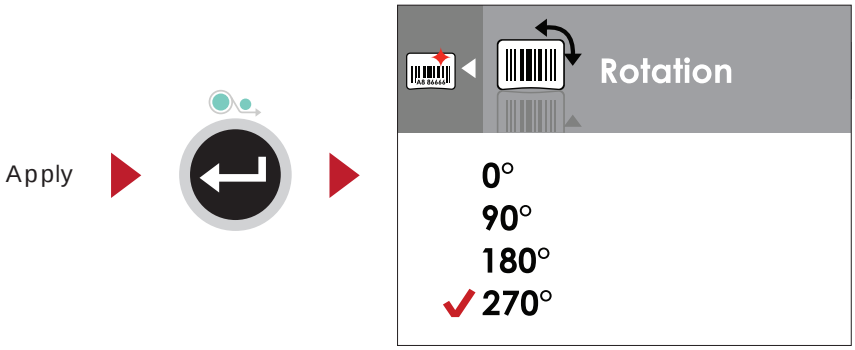




On SETTING VALUE PAGES, press the ▲ or ▼ button to change the setting values.



Press the FEED button to apply the value you just selected, and a red tick will appear next to the value.



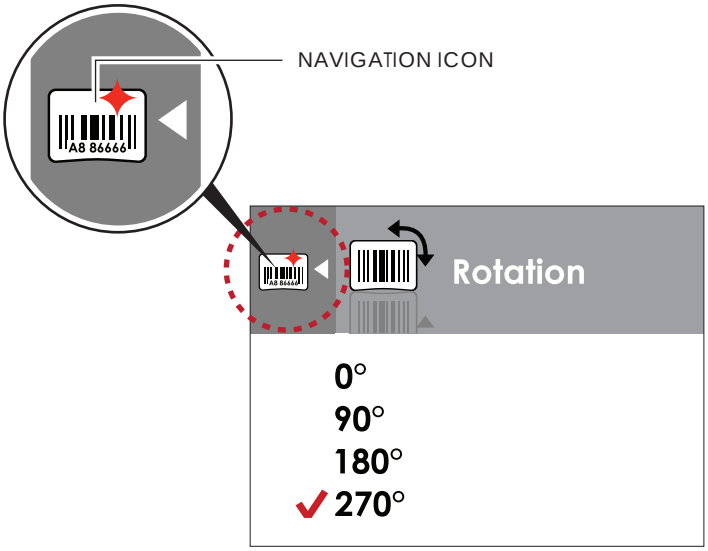
Notice

* The blue arrow indicates the current value.

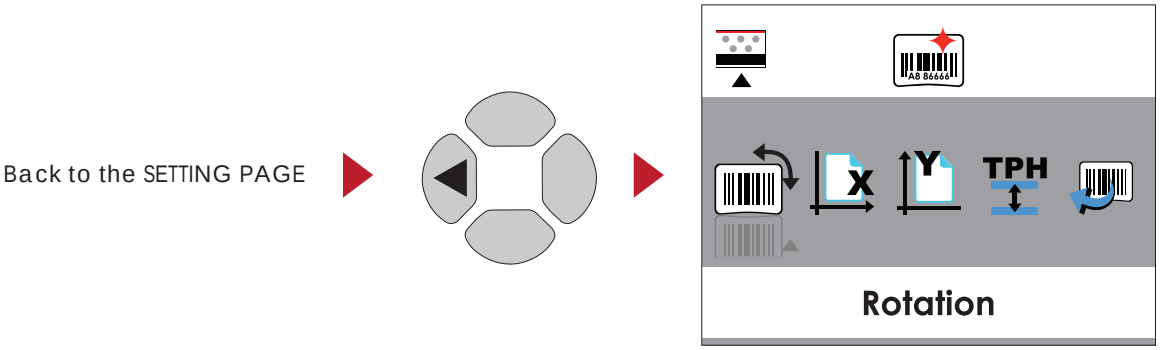
** The red checkmark indicates that the selected value is applied now.

Exit from the Current Page and Return to Ready Status

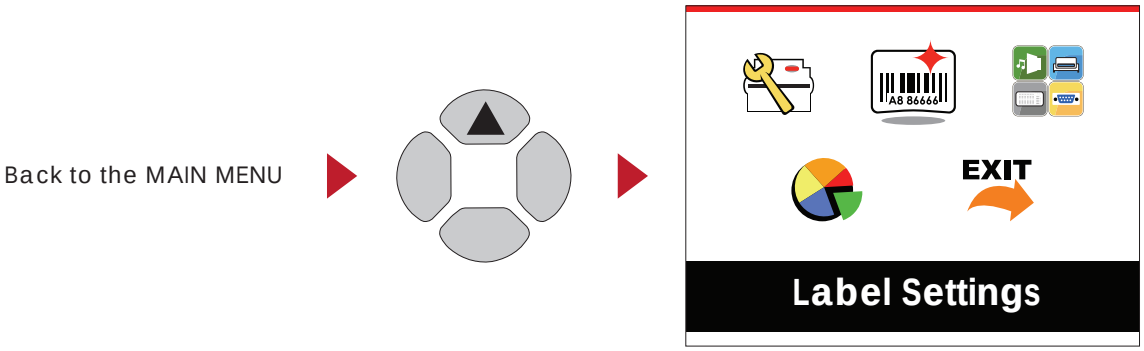
The navigation icon on top-left corner of the screen displays the icon for the last level screen.



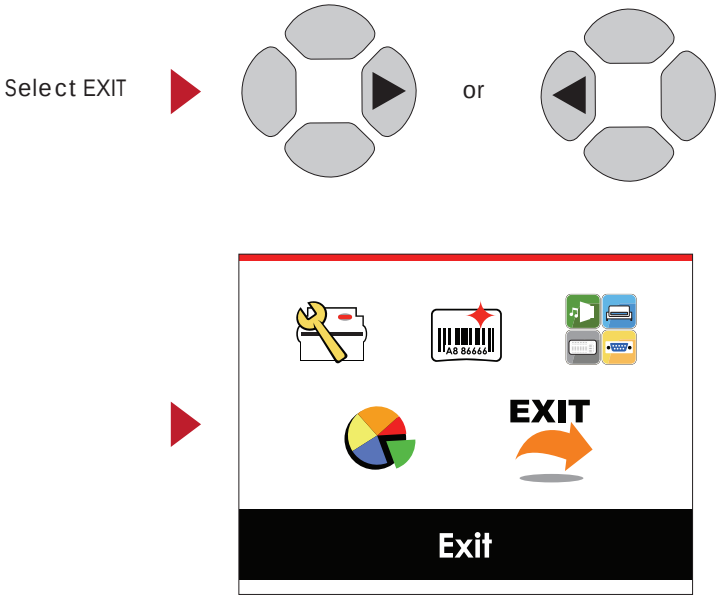
On SETTING VALUE PAGES, press the ◀ button to go back to the SETTING PAGE level screen.

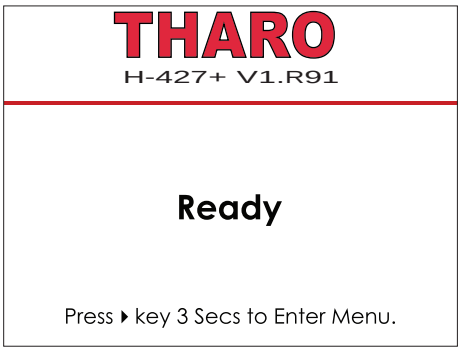


On SETTING PAGES, press the ▲ button to go back to the MAIN MENU screen.



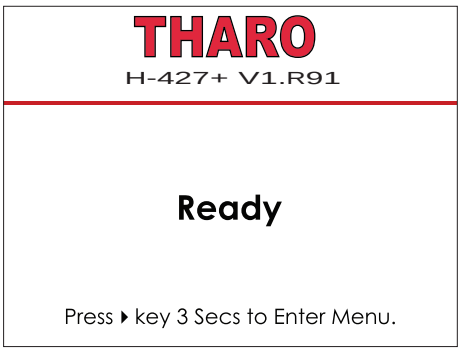
To Exit the MAIN MENU PAGE, use the ▸ or ◂ button to highlight the “EXIT” icon and then press the FEED button.



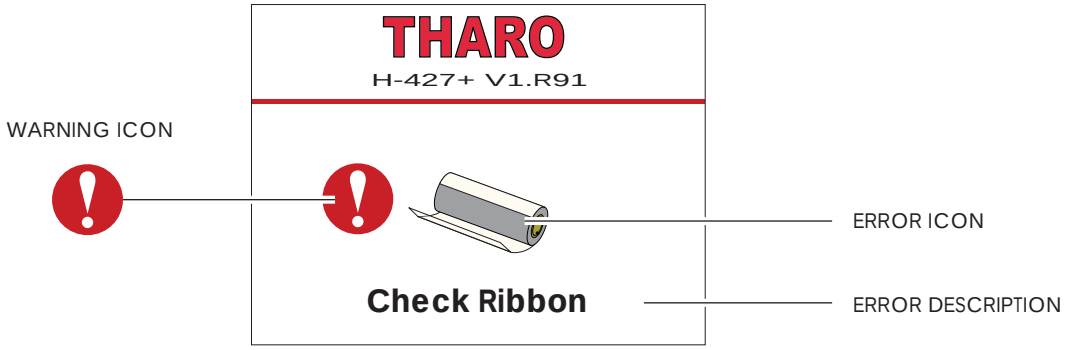


Status of LCD Interface

When printer is on standby (ready to print), the LCD will display “Ready” on screen.
You can only print when you see the “Ready“ status.



The LCD screen will display error messages on the screen when they occur.
See section 3.5 for the list of errors, causes and solutions.



LOCKED/UNLOCKED Icon Definition

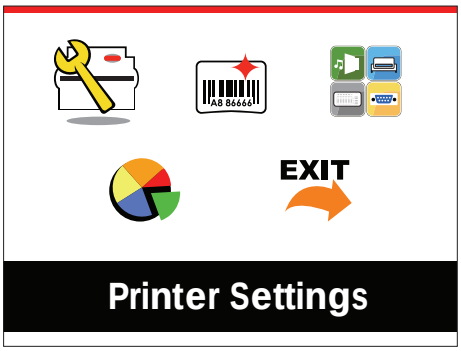
If the printer setting is UNLOCKED, the printer will process any commands to change that setting. Press the RIGHT key to LOCK the value.

If the printer setting is LOCKED, the printer will ignore any commands to change that setting. Press the RIGHT key to UNLOCK the value.

3 Printer Settings and Control

3.3 LCD Interface Function

Main Menu Page



	Printer Settings - Setting options for printing such as Printing speed, darkness, etc.
	Label Settings- Setting options for the label such as label rotation, Printing position, label offset, etc.
	Devices- Setting options for optional modules and communication ports.
	Printer Control- Includes self-diagnosis functions for the printer such as a TPH test and self-test page printing.
	Exit- To Exit the Main Menu.

3 Printer Settings and Control

The “Wizard” menu provides quick access to the more commonly changed printer settings.

Available Settings

Printer Settings

LCD Language			English
			Deutsch
			□□□□
			□□□□
			Français
			Español
			日本語
			Italiano
			Русский
			Türk
Wizard	Speed		2-7 based on print resolution
	Darkness		0-19
	Media Type		Label with Gaps
			Label with Marks
			Continuous
	Print Mode		Direct Thermal
			Thermal Transfer
	Tear-off Position		0-40
Settings	Darkness		0-19
	Speed		2-7 based on print resolution
	Sensor	Media Detection	Auto Select
			See-Through
			Reflective
		Media Type	Label with Gaps
			Label with Marks
			Continuous
	Print Mode		Direct Thermal
			Thermal Transfer
	Tear-off Position		0-40
	Top of Form		OFF
			FULL
			TPH Open Only - After Print Head is opened/closed
	Code Page		850
			852
			437
			860
			863
			865
			857
			861
			862
			855
			866
			737
			851
			869
			Win 1252
			Win 1250
			Win 1251
			Win 1253
			Win 1254
			Win 1255
			Win 1257
Rotation			0°
			90°
			180°
			270°
Horizontal Offset			-100-100 (default 0)
Vertical Offset			-100-100 (default 0)
Start Offset			-100-100 (default 0)
Recall Label			001 Form Name
			002 Form Name

Label Settings

Devices

Buzzer		Apply
		Cancel
Option Setting	Option	None
		Cutter
		Label Dispenser
		Applicator
	Smart Backfeed	Apply
		Cancel
LAN Settings	Port NO.	09100
	DHCP	Disable
		Enable
	Default Gateway	192.168.000.254
	Dynamic IP	192.168.102.076
	Subnet Mask	255.255.255.000
LCD Password		Disable
		Enable
Serial Port Settings	Baud Rate	4800 bps
		9600 bps
		19200 bps
		38400 bps
		57600 bps
		115200 bps
	Parity	None
		Odd
		Even
	Data bits	7 bits
		8 bits
	Stop bits	1 bits
		2 bits
RTC Settings	Clock Display	Apply
		Cancel
	RTC Setting	YYYY/MM/DD
		HH:MM:SS

Printer Control

Calibration		Apply
		Cancel
Self-test		Apply
		Cancel
Clear Memory	Label Formats	Apply
		Cancel
	Graphics	Apply
		Cancel
	Bitmap Fonts	Apply
		Cancel
	True Type Fonts	Apply
		Cancel
	Asian Fonts	Apply
		Cancel
	ALL	Apply
		Cancel
TPH Test		Apply
		Cancel
Restore Defaults		Apply
		Cancel

Exit

Exit

3.4 Label Calibration and Self Test

Label Calibration

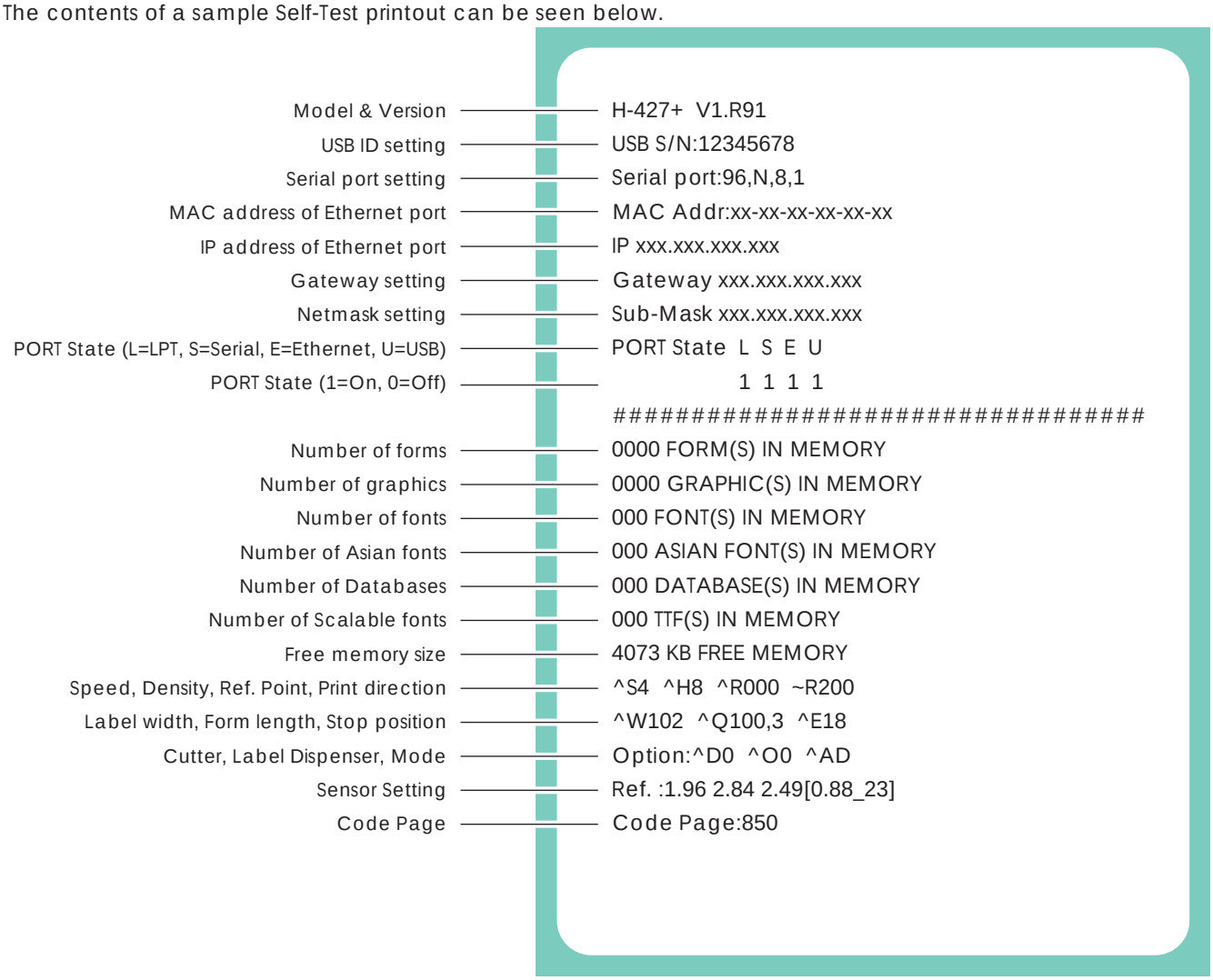
The printer can automatically detect and store label height.
That means the host computer does not need to transmit the label height to the printer.

Self Test

The Self Test function lets you check whether the printer is functioning normally.
Follow these steps to run the Label Calibration and Self Test.

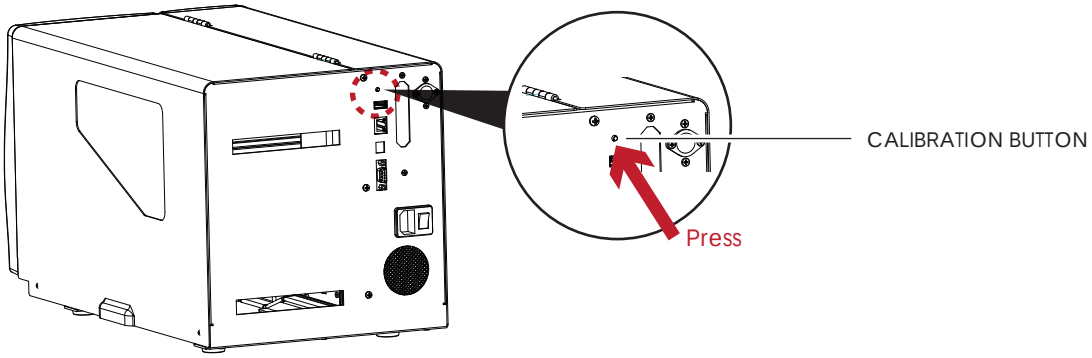
1. Check that the label stock is loaded correctly.
2. Turn off the printer and press the FEED key.
3. Turn the printer on, keeping the FEED button pressed. When the LED starts to flash red, release the FEED button. The printer will now perform a Label Calibration.
4. Once the Label Calibration is complete, the printer will print a Self Test label.

The contents of a sample Self-Test printout can be seen below.

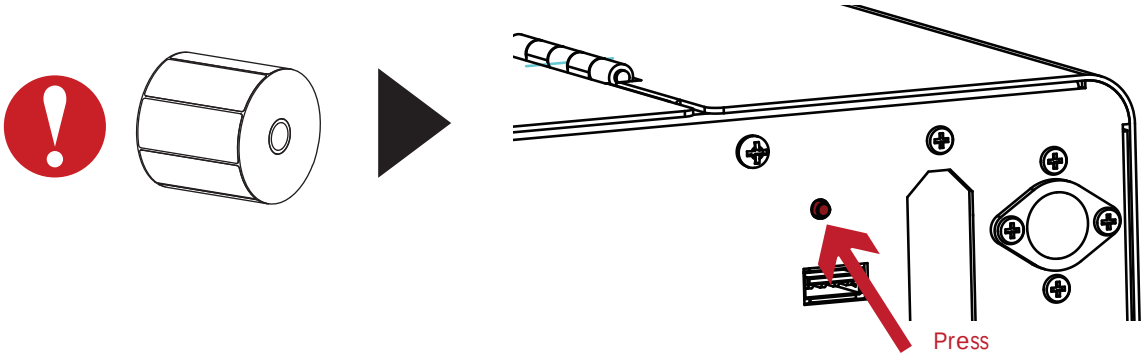


Label Calibration Button

The Label Calibration button is used to perform a Label Calibration.
This is useful to correct any Media Errors that may occur when changing the labels to another type, such as changing gap labels to black mark labels or continuous media.



Press and hold the Calibration Button for 2 seconds to start the Label Calibration.

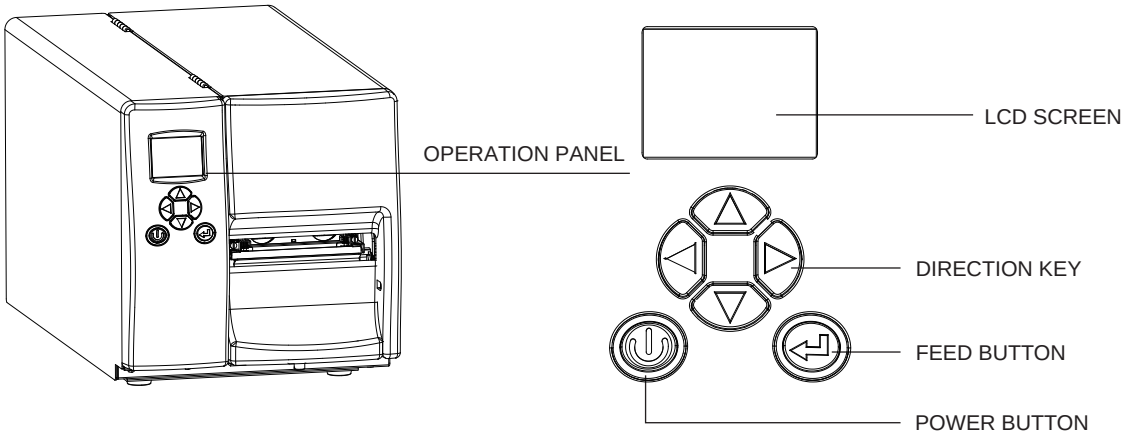


Note

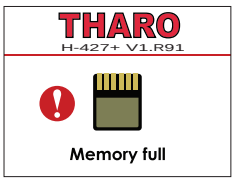
* Pressing the Calibration Button is equivalent to the auto-sensing command ''~S,SENSOR''.

3.5 Error Alerts

In the event of a problem that prevents normal functioning of the printer, you will see an error message on LCD screen and hear some beep signals. Please refer to below table for the errors, causes and possible solutions.



	Type	Beeps	Description	Solution
	Print Head Error	2 x 4 beeps	The print head mechanism is not locked in place.	Open the print mechanism and close it again.
	Print Head Error	None	High temperature at the print head.	Once the print head has cooled down, the printer goes back to standby mode.
	Media Error	2 x 3 beeps	No ribbon is installed and using Direct Thermal label stock.	Make sure that the printer is set to Direct Thermal printing mode.
			The ribbon is used up or the label supply hub is not moving.	Replace the ribbon roll.

	Type	Beeps	Description	Solution
	Media Error	2 x 2 beeps	No labels are detected.	Make sure that the label sensor is positioned correctly. If the sensor still does not detect the paper, run the auto-detection function again.
			Label stock is used up.	Replace the label roll.
			Printer feed problem.	Possible reasons: the print media has become trapped around the rubber roller; th sensor cannot detect a gap or black mark between the labels; there is no paper. Please reset the sensor.
	File Error	2 x 2 beeps	The memory is full. The printer prints the message "File System full ".	Delete unnecessary data or install additional memory.
			Unable to find file. The printer prints the message "File Name not found"	Use the "~X4" command to print all files. Then check whether the files exist and whether the names are correct.
			A file of the same name already exists. The printer prints the message "Duplicate Name".	Change the name of the file and try storing it again.

3.6 USB Host and Standalone Mode

USB Host Uses

The USB Host port supports the use of a USB memory stick, keyboard or scanner.

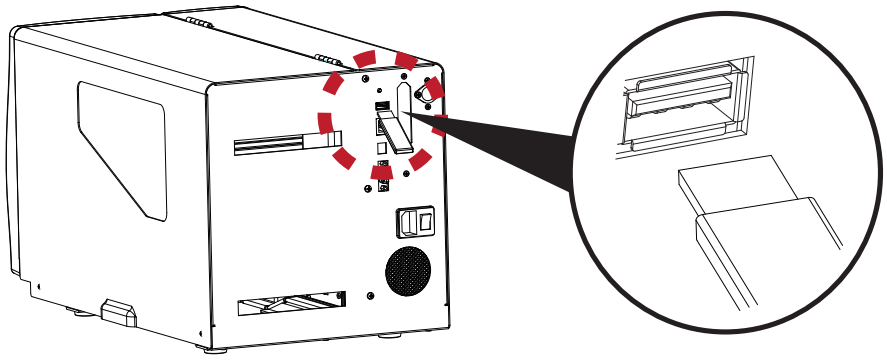
- A USB memory stick can be used to extend the user accessible storage memory up to 32GB

The printer's Firmware also can be updated using a USB memory stick.

- Connect a USB keyboard to printer for Keyboard Mode/Standalone operation.
- Plug-in an USB scanner to operate the printer in Keyboard Mode/Standalone.

Using Extended Memory

- The printer will create a Folder called "\LABELDIR" and switch "User Flash" to "Extended Memory" automatically when the user plugs a USB memory stick into the printer.
- Connect the printer to a PC with the USB Stick plugged in and use EASYLABEL (Silver or higher) software to download Graphics, Fonts, Label Formats and Database files to the printer.



Updating Firmware

- Remove the USB memory stick from printer and plug-in it to a PC's USB port. Delete any existing firmware (*.bin) file from \LABELDIR\FW. If there is no FW folder in the LABELDIR directory, create one.
- Copy the new firmware (xxxx.bin) into the Folder \LABELDIR\FW. Then remove the USB Memory Stick from the PC and plug it back into the printer.
- The printer will automatically update the firmware when the firmware on the USB stick is newer than the firmware loaded in the printer.
- Do Not remove the USB memory stick until the firmware is finished updating and you see 'Ready' on the LCD.

USB Keyboard

- Plug a USB keyboard into the printer and the “Enter Standalone?” prompt will appear on the LCD. Press the “Y” key on keyboard to enter Standalone Mode. You can also press “F1” on the keyboard to enter Standalone Mode from the “Ready” screen.
- When in Standalone Mode the keys on the keyboard have the following functions:
    1. Press the “ESC” key on the keyboard to go back to the previous dialog.
    2. Use the Arrow key on the keyboard to navigate when in Standalone Mode.
    3. Use the Alphabetic keys and the Enter key on the keyboard as you usually would to enter variables and Print Quantity when the printer prompts for them on the LCD when in Standalone Mode.

There are seven selections in Standalone Mode:

1. Recall Label - This selection allows you select a label that is stored in memory and print it.
2. Keyboard Country Code - This selection allows you to set the Country Code to match the keyboard you are using.
3. Code Page - This selection allows you to set the Code Page.
4. RTC Settings - This selection allows you to set the Real Time Clock (RTC)
5. Edit Database - This selection allows you to browse and edit records in any database stored in the printer memory. It is NOT possible to add or delete records.
6. Edit Label - This selection allows you to edit the TPL of any label format that is stored in the printer memory.
7. Exit Standalone - This selection allows you to EXIT Standalone mode and return to the Ready screen.

Scanner

- When a USB scanner is plugged into the printer the LCD will prompt “Enter Standalone?”. Tap the “Y” to enter Standalone Mode operation.
- In Standalone Mode the scanner can be used to enter variables and Print Quantity when the printer prompts for them on the LCD.

Note

* The USB Host port cannot be used as a USB HUB.

* The printer supports FAT32 formatted USB Memory Sticks up to 32GB only. The certified venders are Transcend, Apacer, Patriot, Corsair and Kingston.

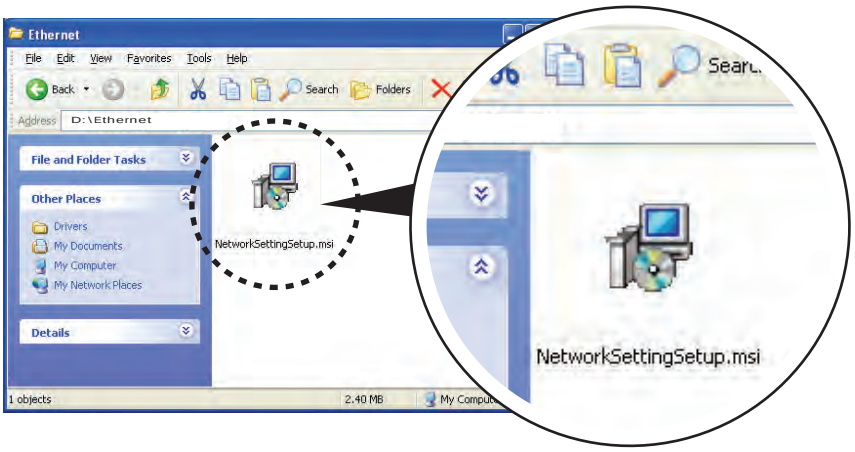
* The user may copy the entire \LABELDIR directory from the USB memory stick to the PC or vice-versa. Copying of any of the individual subfolders or individual files in the LABELDIR directory is not supported.

4 NetSetting for Ethernet

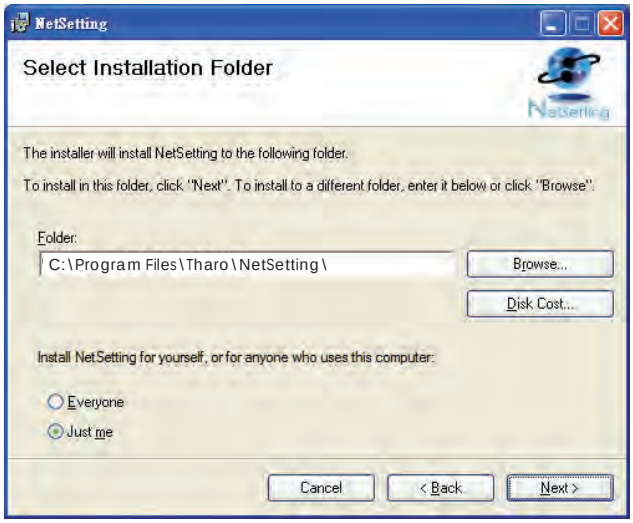
4.1 Installing the NetSetting software

The NetSetting software is used to manage the network configuration of the Ethernet port.
NetSetting is available on the CD that ships with the printer or it can be downloaded from our website (www.tharo.com).
To install NetSetting:

1. Insert the Printer CD in your computer's CD/DVD drive. Browse the contents of the CD and open the "Ethernet" folder.
2. Doubleclick on the NetworkSettingSetup.msi icon to start the installation.



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

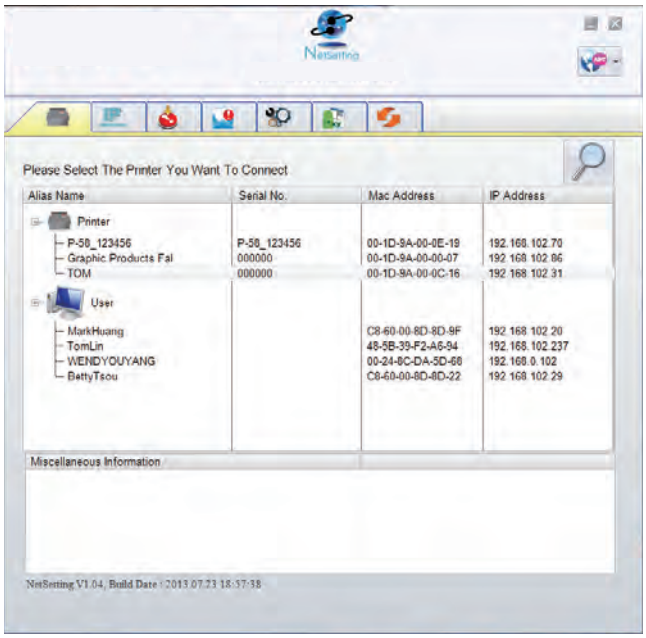


5. Click "Next" to continue the installation.
6. Once the installation has completed, you will see the NetSetting icon on your desktop.

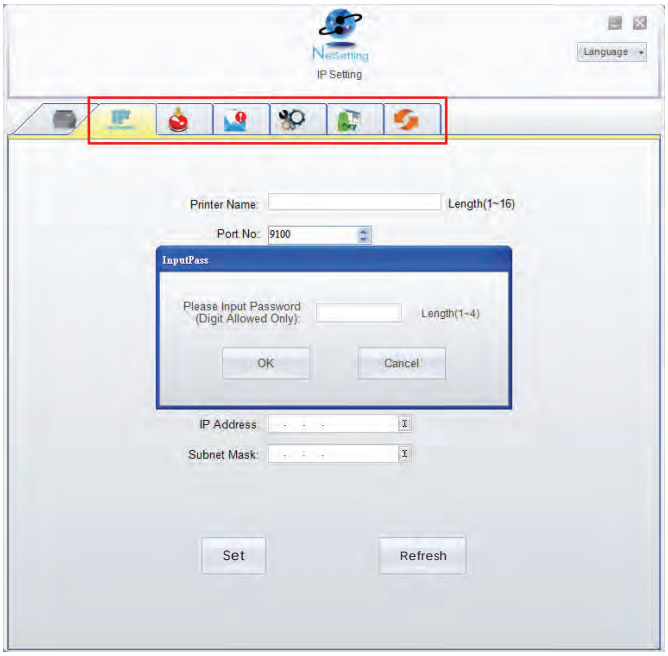
4 NetSetting for Ethernet

4.2 NetSetting Interface

Doubleclick on the NetSetting icon to start the program.
You will see the start page below. The start page will display the basic information of any connected printer and your PC.



Click on the magnifying glass icon to search your network for Tharo Ethernet printers.
Any printers that are detected are listed on the start page.



There are six tabs on the top of interface which are used to access different network configuration settings.
You will need to enter a password to enter the configuration pages.

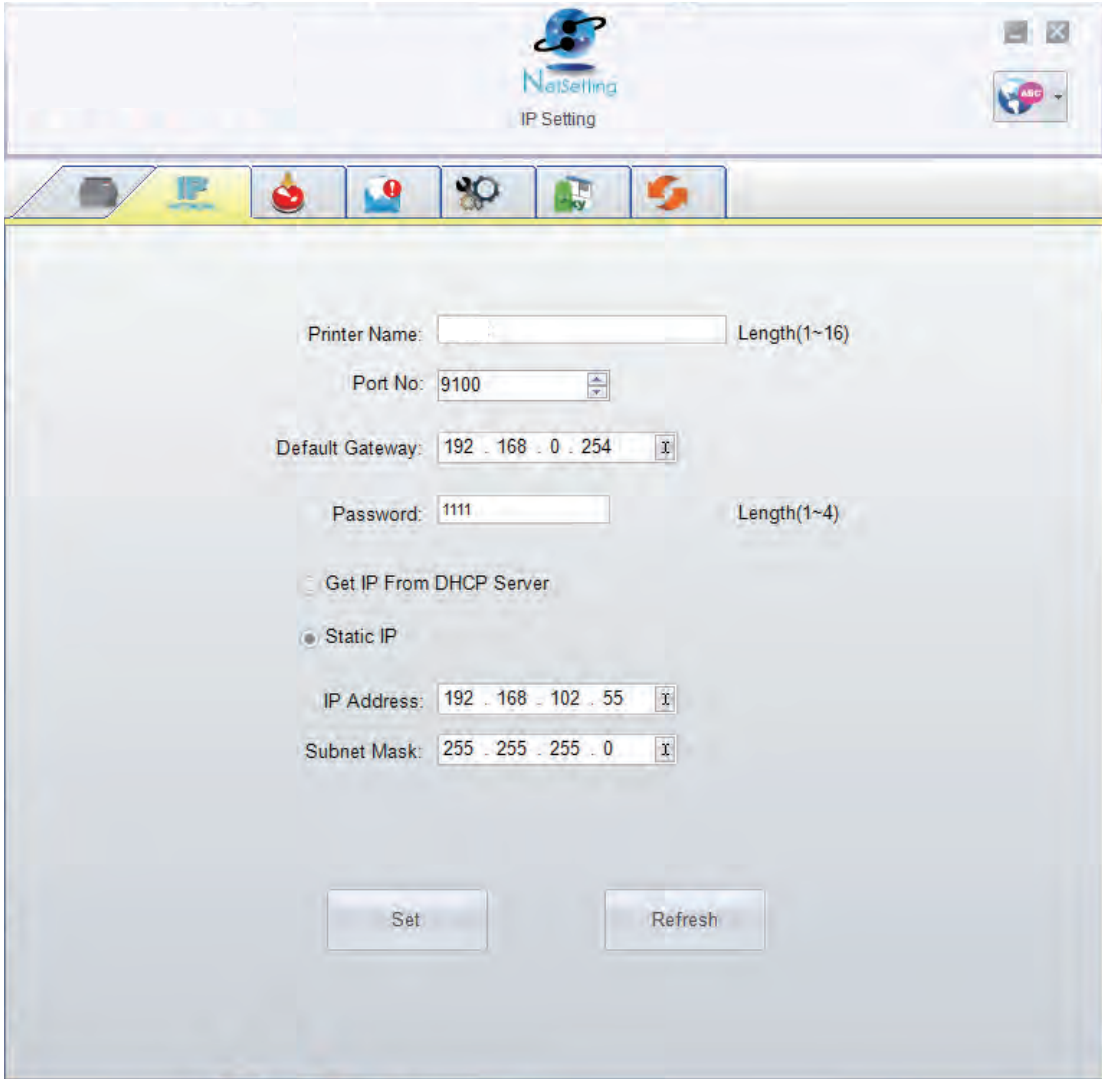
Notice

* The default password is “1111”. You can change the password from the “IP Setting” tab.

4 NetSetting for Ethernet

IP Setting

On the IP Setting tab you can change the Printer Name, Port Number, Default Gateway and Password. You can also set the printer's IP address either by DHCP or by Static IP.



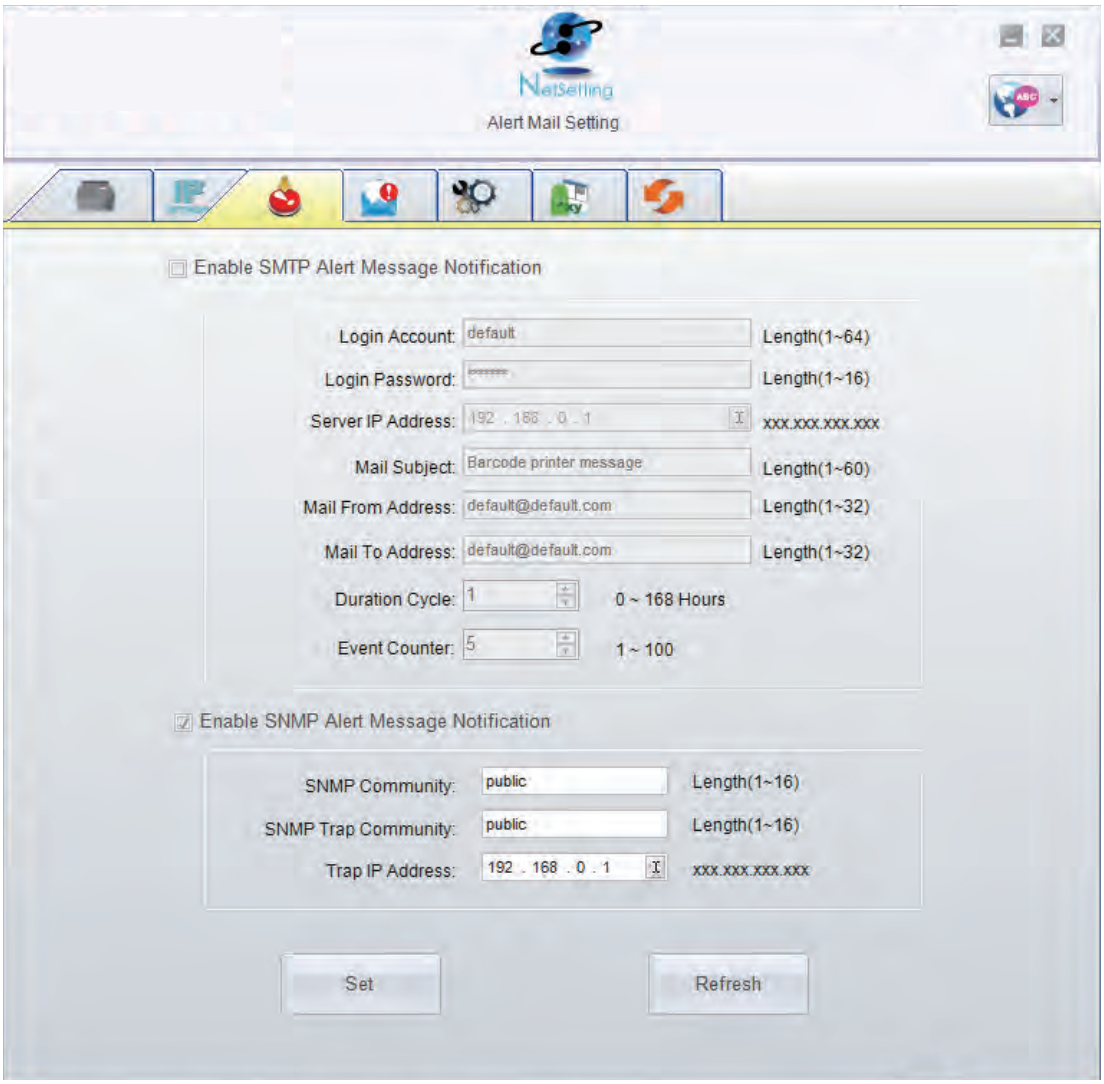
Click the "Set" button to apply the settings and the "Refresh" button to re-query the printer and refresh the values.

Notice

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

Alert Mail Setting

The Printer can send the alert messages to a designated mail account when errors occur. 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 the “Alert Mail Setting” tab.



Click the “Set” button to apply the settings and the “Refresh” button to re-query the printer and refresh the values.

Alert Message Setting

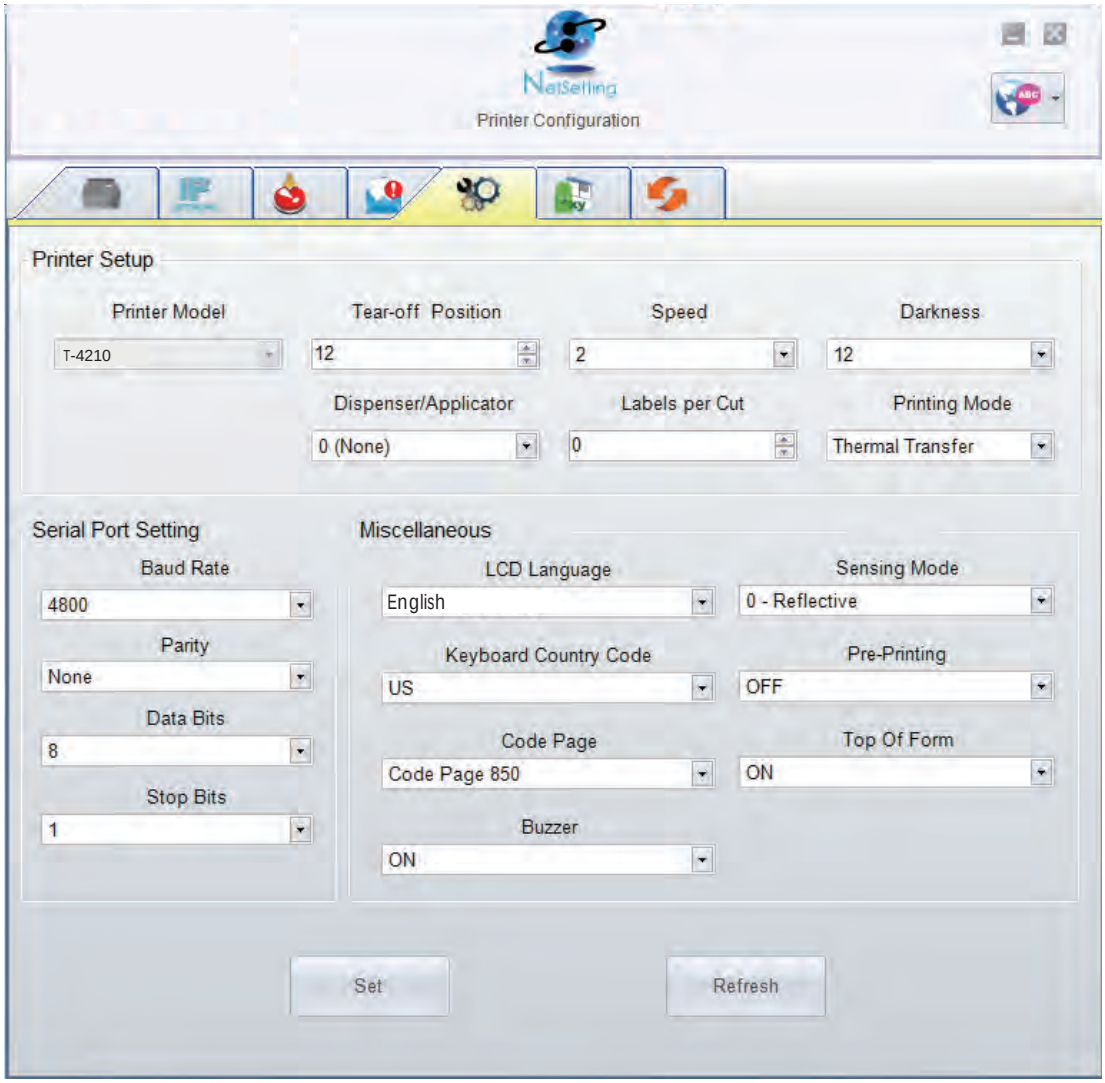
Here you can specify which errors should trigger sending an email. The alert messages can be sent by SMTP, SNMP or both.

Click the “Set” button to apply the settings and the “Refresh” button to re-query the printer and refresh the values.

4 NetSetting for Ethernet

Printer Configuration

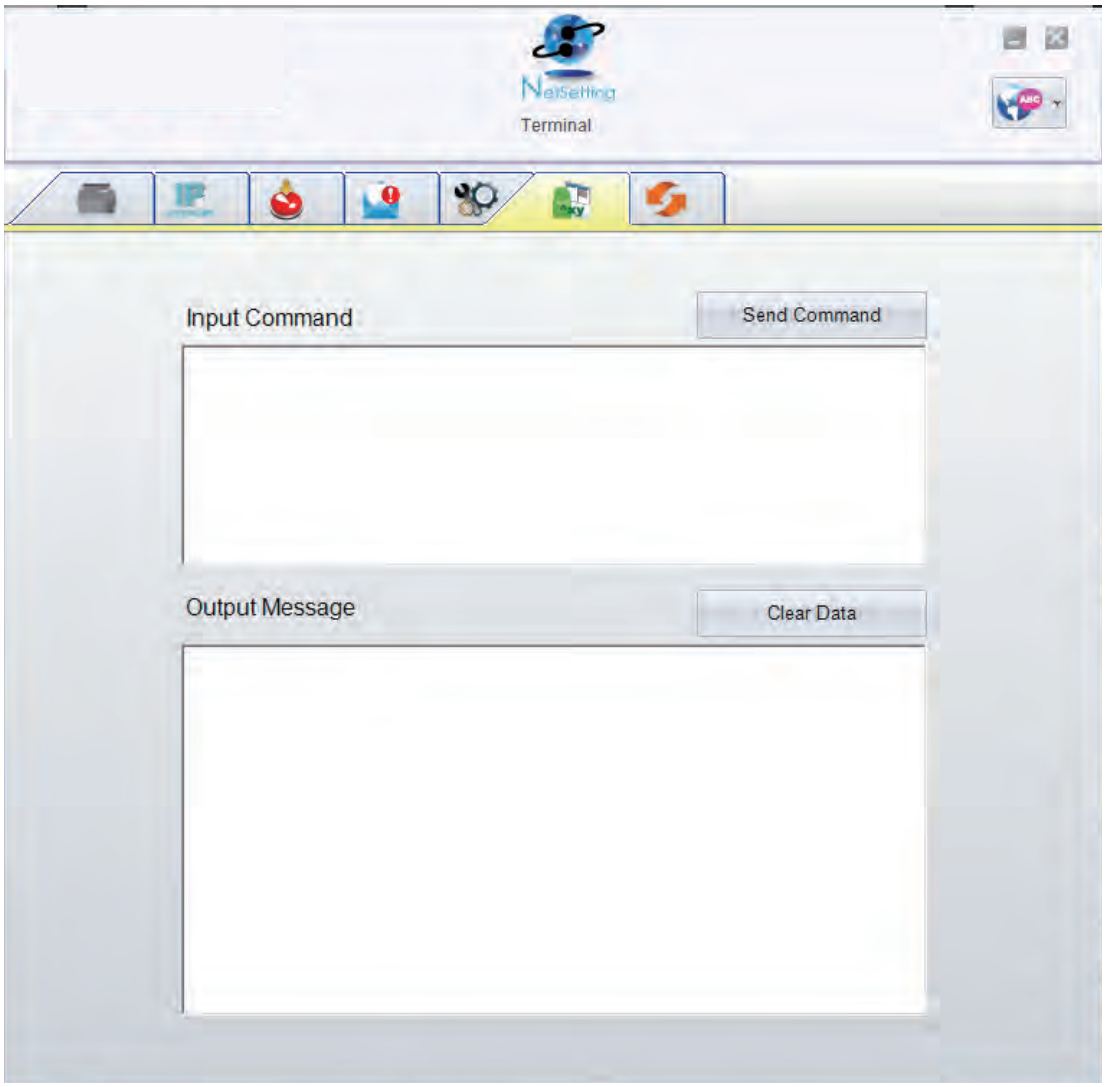
This tab allows you to change the configuration of the connected printer. Many of the printer settings can be modified on this setting page.



Click the “Set” button to apply the settings and the “Refresh” button to re-query the printer and refresh the values.

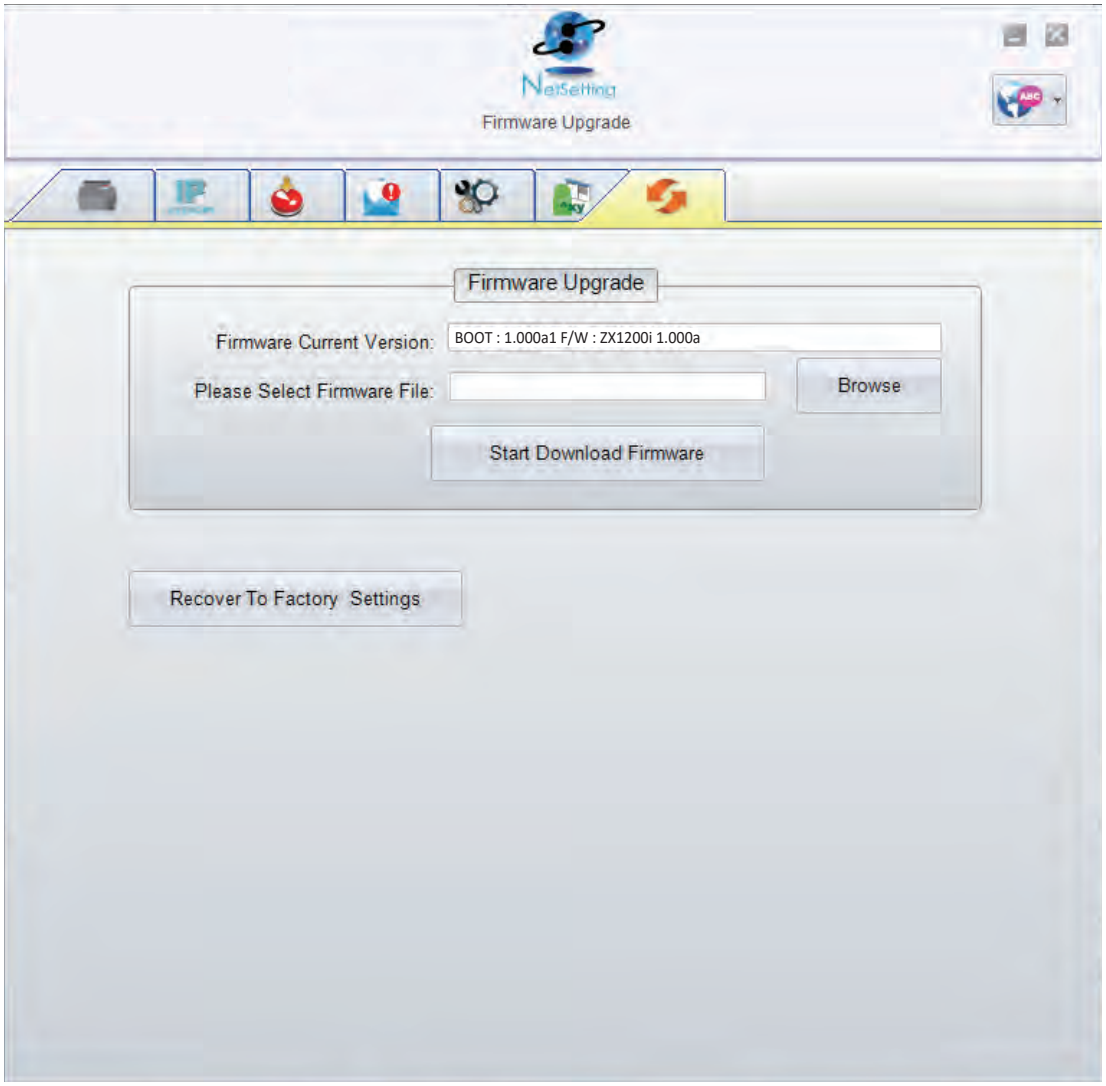
Terminal

The “Terminal” tab provides a communication interface for operator to control the printer. Enter printer commands into the "Input Command" window and press the “Send Command” button, the commands will be sent to the printer.
For the commands that return a response message, the message will be displayed in "Output Message" window. Click on the “Clear Data” button to clear these messages.



Firmware Upgrade

The current printer firmware version is shown on the “Firmware Upgrade” tab. You may also upgrade the printer firmware from this screen. Simply click the “browse” button and specify the firmware file location.
Then click the “Start Download Firmware” button. The printer firmware will be updated remotely.



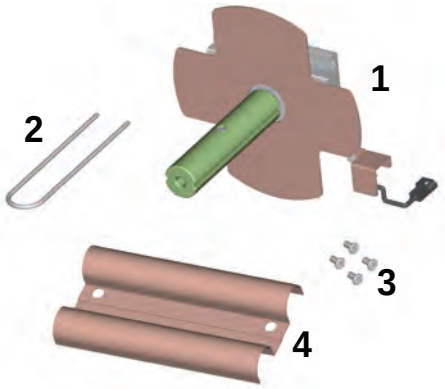
In addition to the firmware update, you can click the “Recover To Factory Settings” button to restore all of the printer configuration settings back to factory default.

5 Accessories

5.1 **H-400+** Internal Rewinder

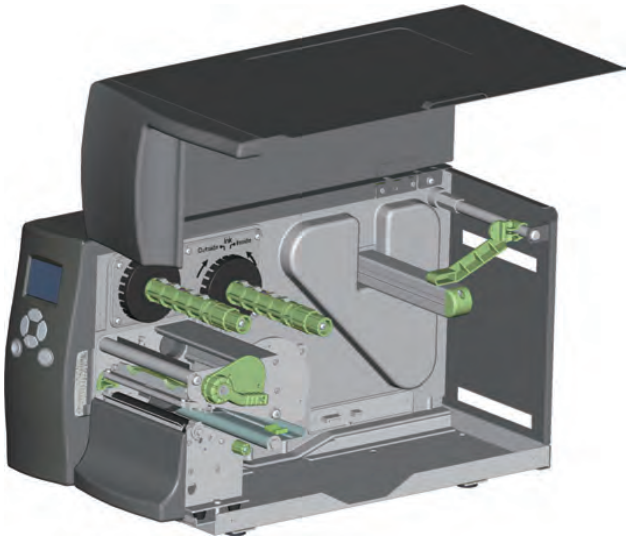
Components

1. Rewind Module
2. U Shaped Clip
3. Screws (4)
4. Rewind Guide

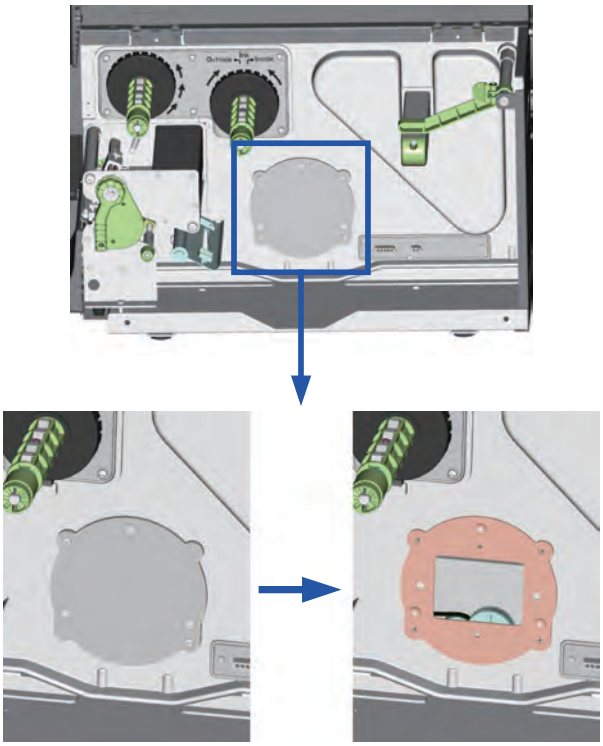


Suggested Label Liner thickness:
0.06mm +/- 10% weight 65g/m2 +/- 6%

1. Open the Top Cover of the Printer.

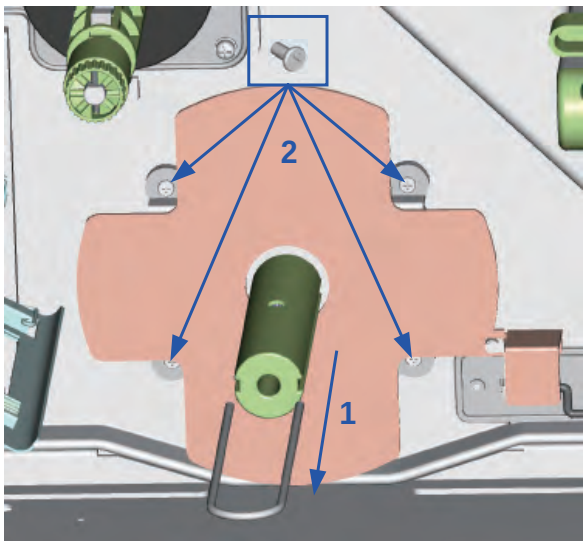


2. Remove the Rewind Module Cover Plate.

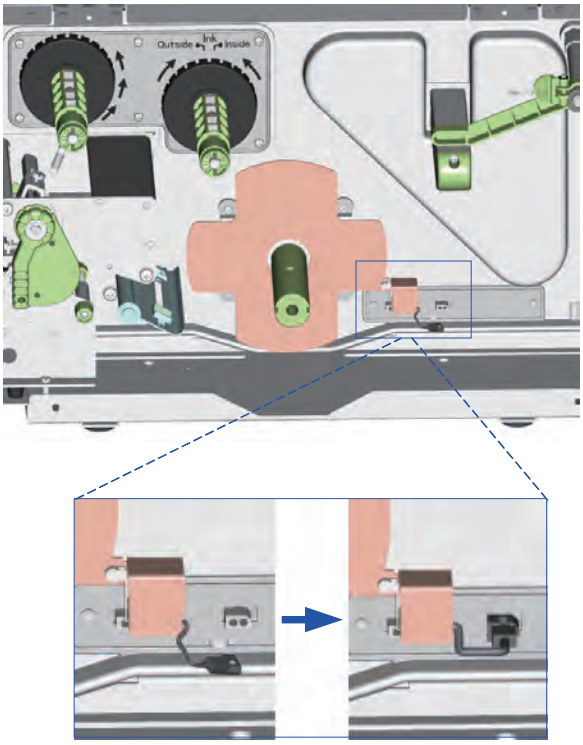


3. Remove the U Shaped Metal Clip from the rewind shaft (1).

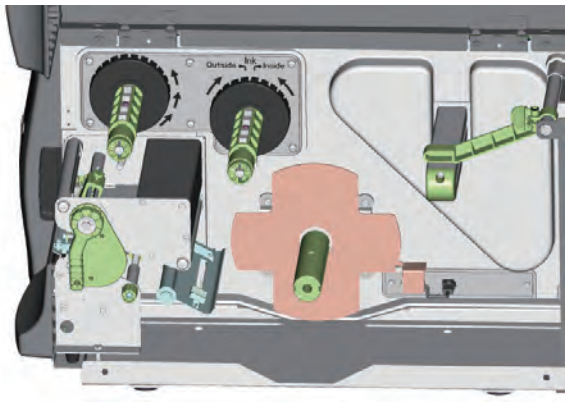
4. Install the Internal Rewind module using the 4 supplied screws (2).



5. After installing the Internal Rewind Module, plug the cable connector into the rewind control socket.

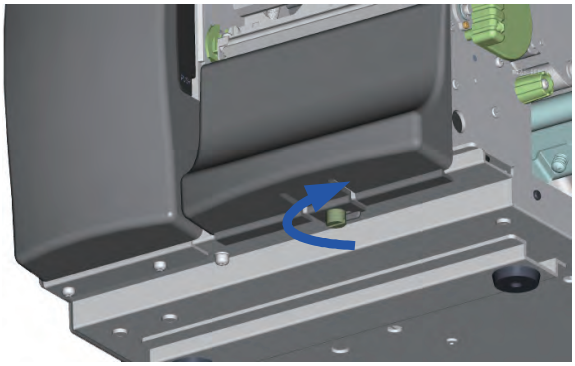


6. The Rewind Module Installation is complete.



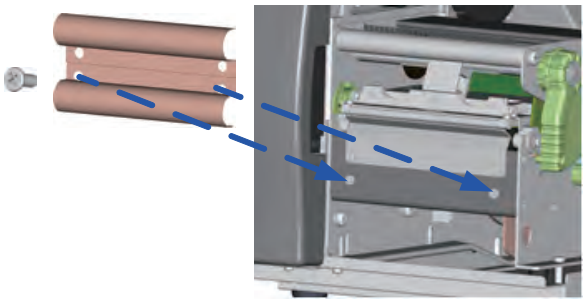
5.2 Installing the Rewinder Guide

1. Face the front of the Printer and remove the Lower Cover Plate Screw.



2. Remove the Lower Cover Plate.

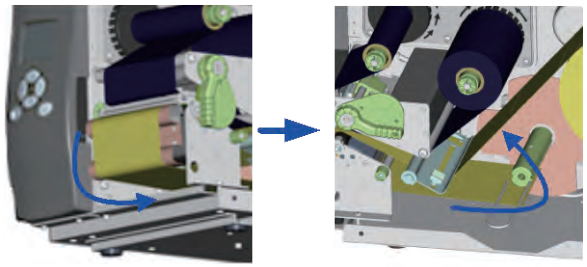
3. Mount the Label Rewind Guide onto the Printhead Mechanism and secure with the screws provided.



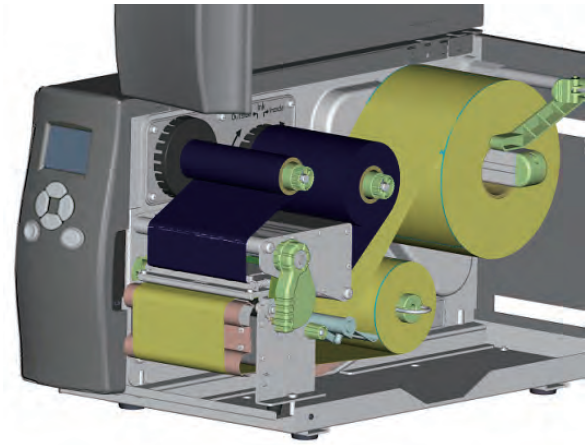
4. The Label Rewind Guide is now installed. Install the label stock.

5. Feed the label stock through the Printhead Mechanism and around the Label Rewind Guide.

6. Wrap the liner around the Rewind Module and use the U Shaped Metal Clip to secure the liner.



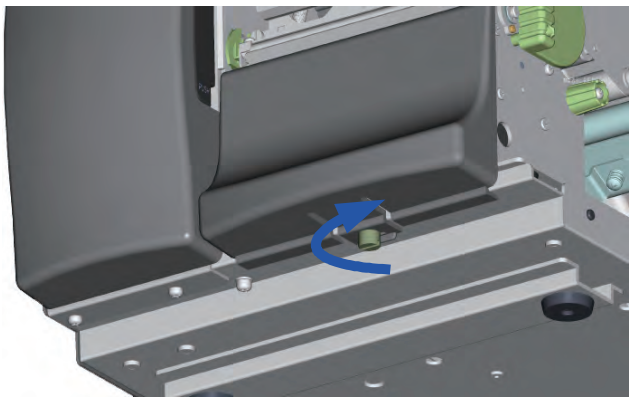
7. Close the top cover to complete Label Rewind Guide installation.



5.3 **H-400+** Label Dispenser Setup

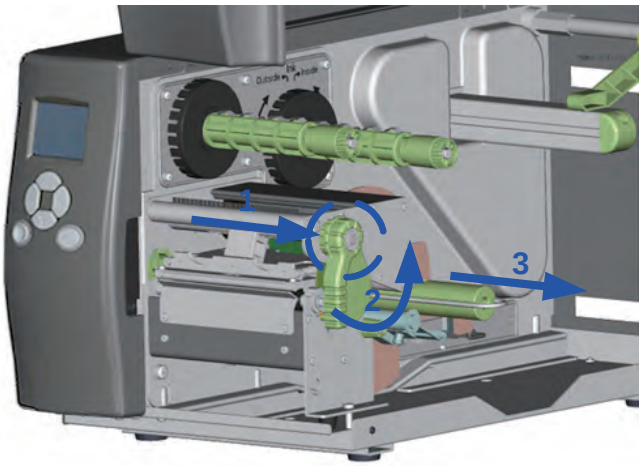
1. Face the front of the Printer and remove the Lower Cover Plate Screw.

2. Remove the Lower Cover Plate.

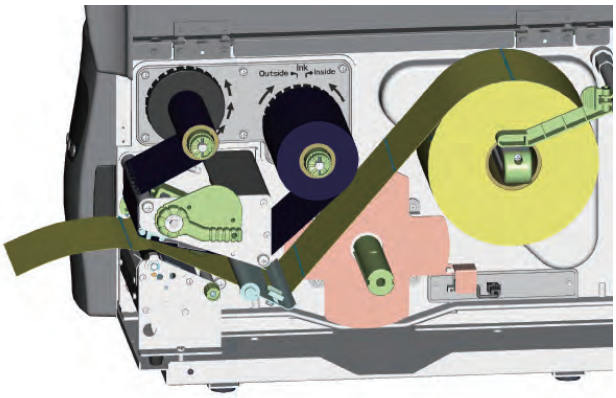


3. Pull the Printhead Lever out and rotate it upward to the right (counterclockwise) to open the Printhead. (2)

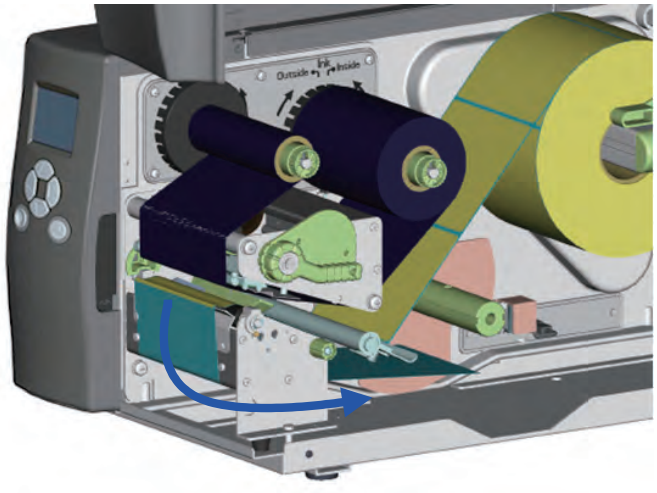
4. Remove the U Shaped Metal Clip (3) from the rewind shaft



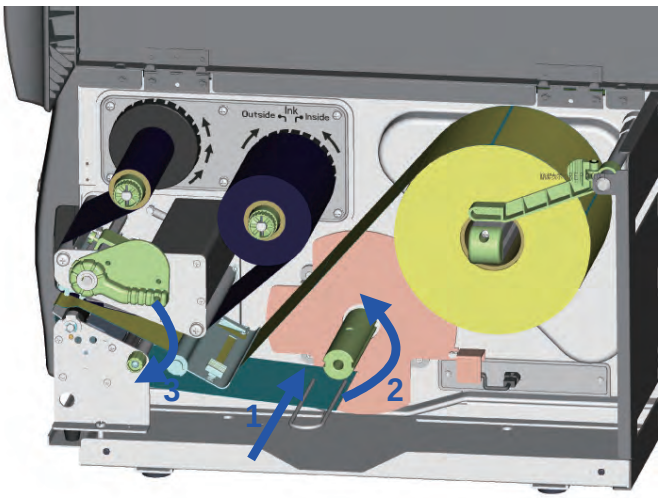
5. Install the label stock as shown. For more detailed instructions see the “Loading Labels” instructions in this manual.



6. Peel off several labels to expose about 16” (40 cm) of liner. Then feed the liner between the Tear-Off Bar and the Lower Cover Plate.

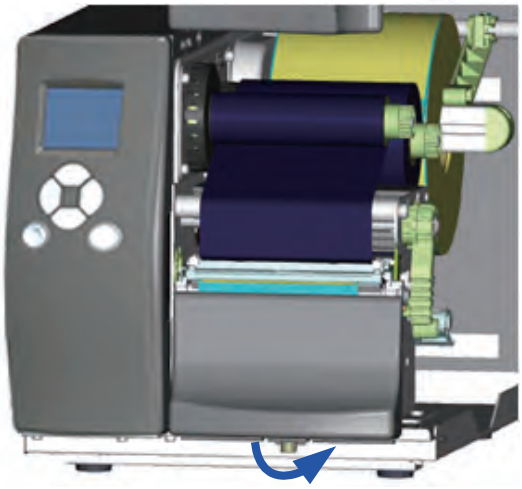


7. Wrap the liner around the Rewind Module (1), and use the U Shaped Metal Clip (2) to secure the liner.

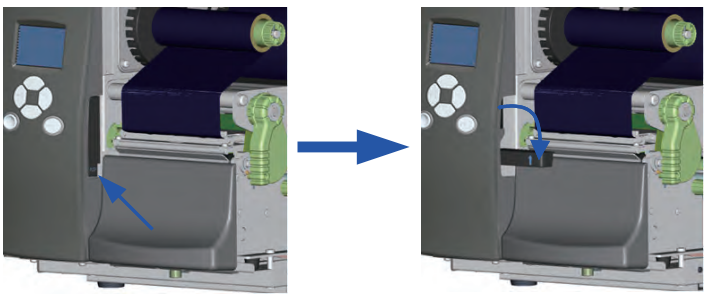


8. Rotate the Printhead Lever back to its original position.

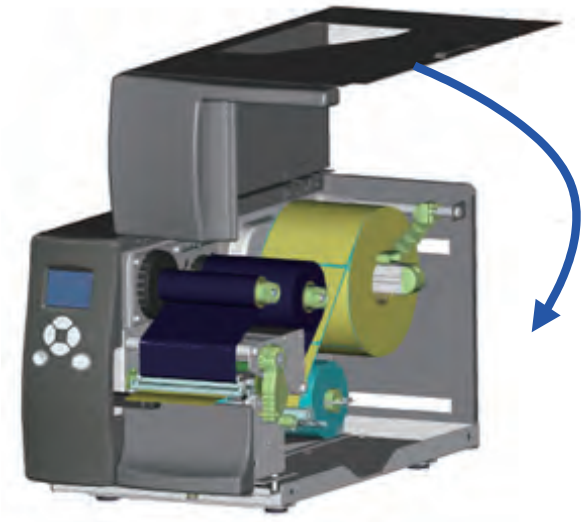
9. Replace the Lower Cover Plate and tighten the Lower Cover Plate Screw.



10. Press the Sensor to flip it open.



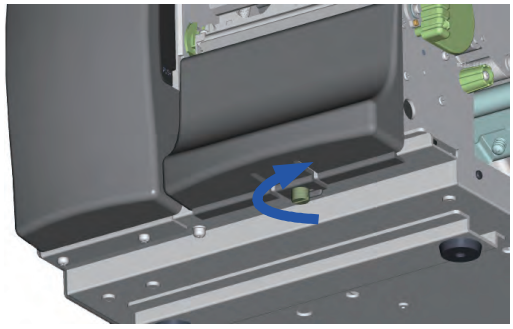
11. Close the top cover to complete the Strip-and-Peel setup.



H-600 + Label Dispenser Setup

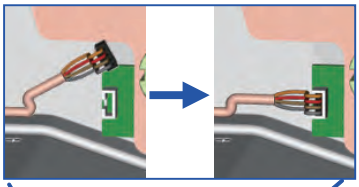
1. Renove the screw marked in the illustration on the front of the printer which secures the lower cover plate.

2. Remove the lower cover plate.

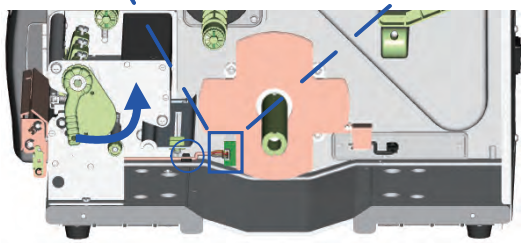


3. Secure the module to the the printer with supplied screws.

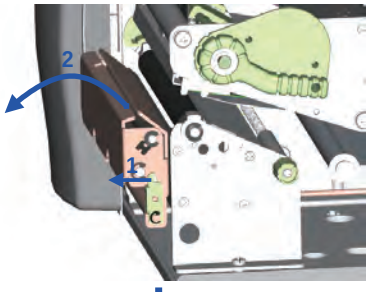
4. Connect the dispenser cable connector to the dispenser jack on the printer.



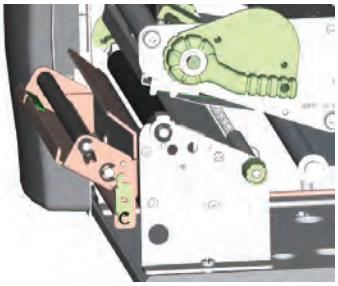
5. Route the connection cable along the bottom of the printer housing using the cable clips.



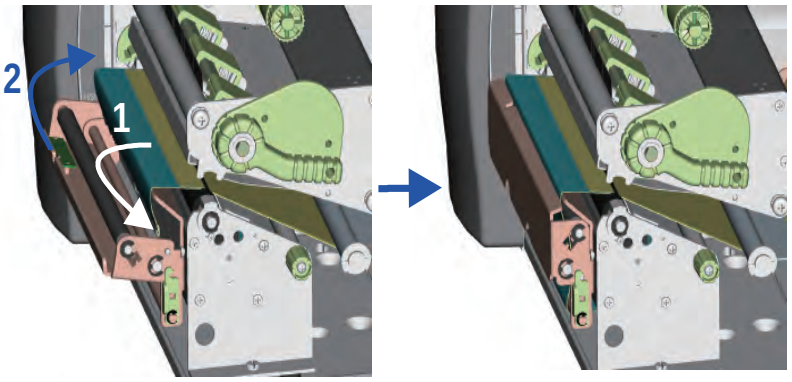
6. Pull the handle on the dispenser as shown with the blue arrow (1).



7. Open the dispenser as shown with the blue arrow (2).

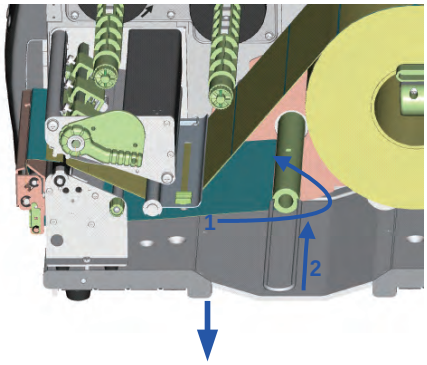


8. Pass the label liner through the print mechanism and from the bottom up onto the rewinder as shown.

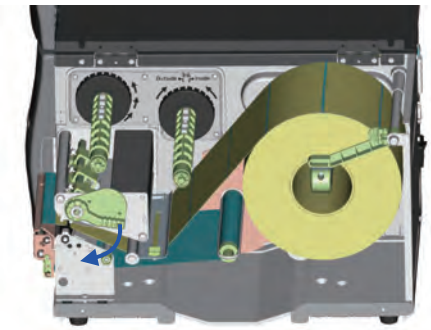


9. Close the dispenser.

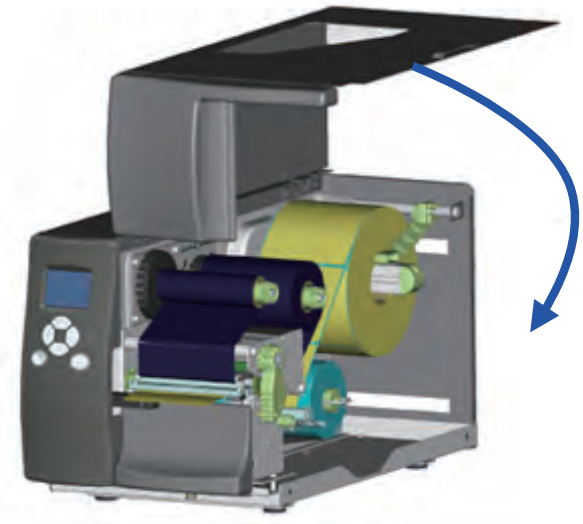
10. Wind the label liner around the rewinder and secure it using the retention clip.



11. Return the print head release levet to its original position.



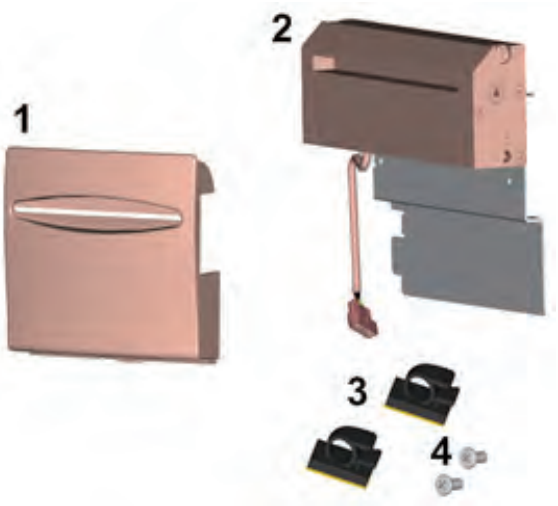
12. Close the printer cover to complete installation of the dispenser.



5.4 Cutter Installation

Components

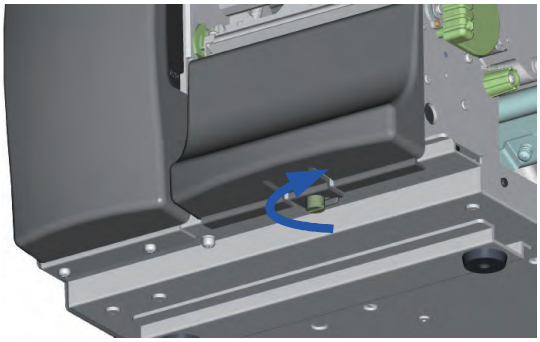
1. Cutter Cover
2. Cutter Module
3. Cable Clips
4. Screws



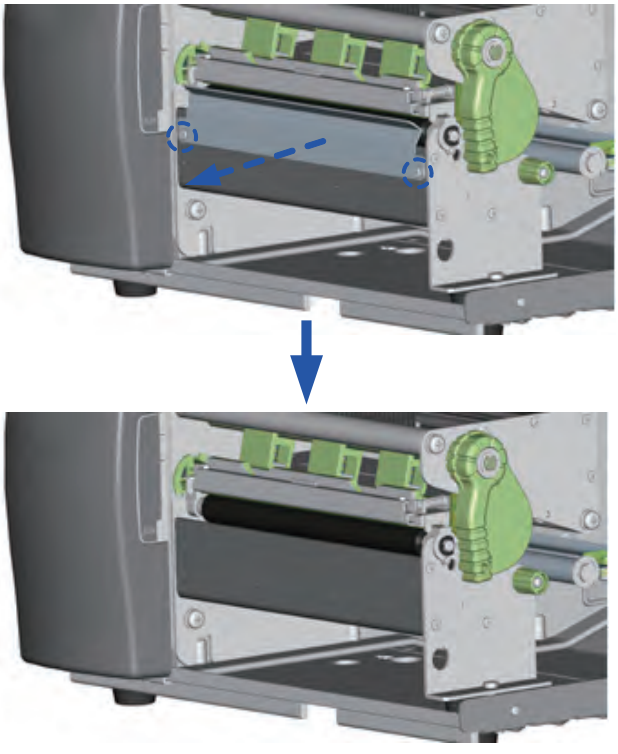
Do not use to cut adhesive labels! Glue residue will be left on the cutter blade and impair its function.
The cutter has a blade life of 500,000 cuts when using paper weighing 160 g/m² and 250,000 cuts when using paper weighing 200 g/m².

1. Face the front of the Printer and remove the Lower Cover Plate Screw.

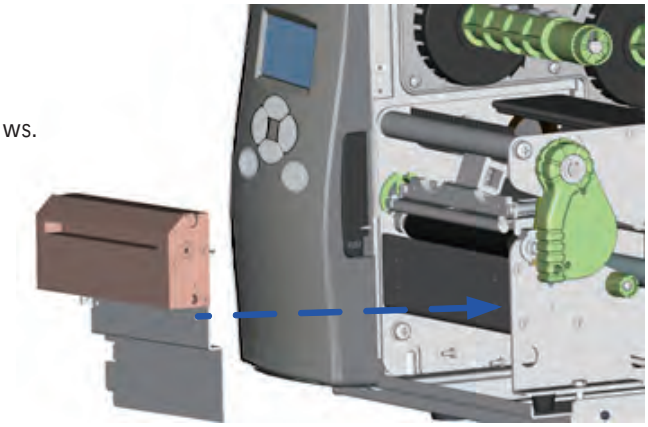
2. Remove the Lower Cover Plate.



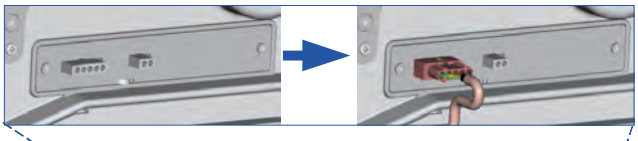
3. Remove the two screws in the front of the Printer to remove the Tear Off Bar.



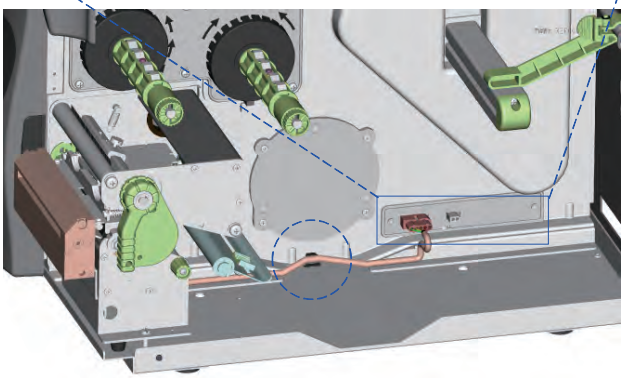
4. Secure the Cutter to the Printer with two screws.



5. Plug the Cutter cable into the cutter connector on the center wall.

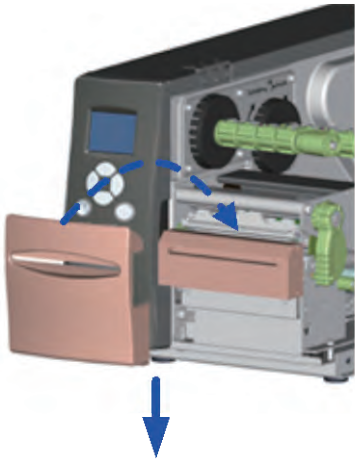


6. Insert the cable into the locks. Peel the backing off the locks and then secure them to the bottom plate

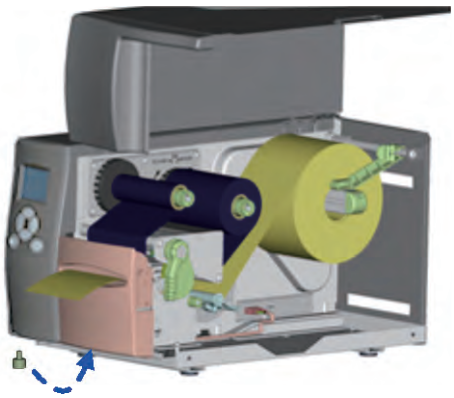


7. Hang the Cutter Cover on the Cutter and then tighten the Lower Cover screw.

8. Load the media into the Printer and close the Top Cover to complete the Cutter installation.



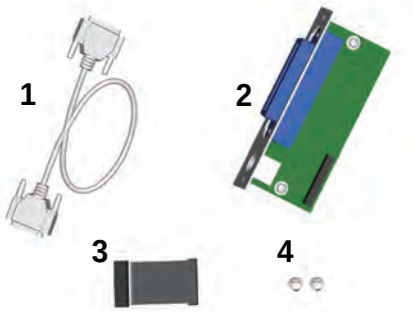
The minimum form length for cutting should be 30mm (1.18”).



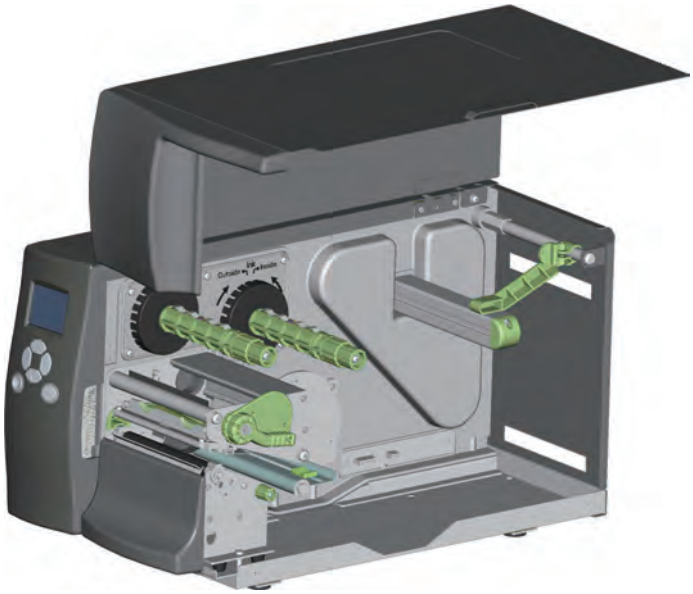
5.5 Installing the Parallel Adapter

Components

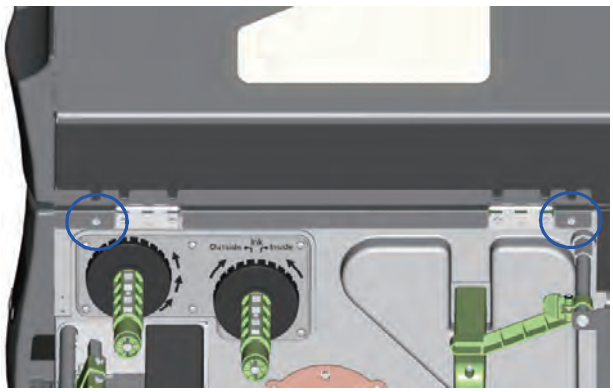
1. Parallel Cable
2. Parallel Adapter
3. Connection Cable
4. Screws



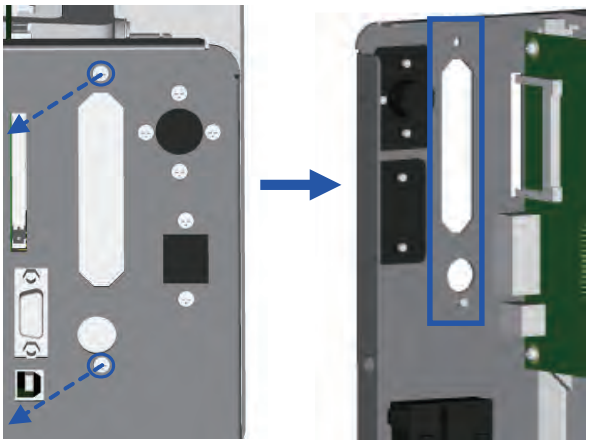
1. Place the Printer on a flat surface and open the Top Cover.



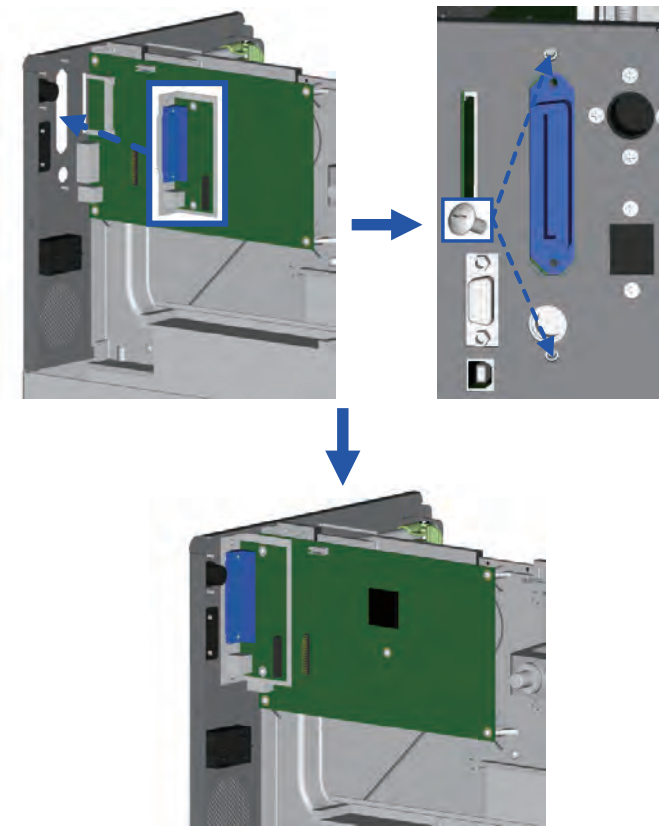
2. Remove the two screws marked in the illustration on the right. Close the Top Cover. Then remove the left-hand side of the printer housing by lifting it up.



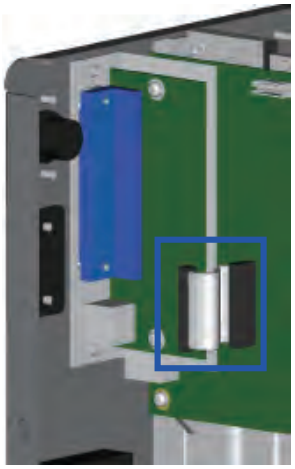
3. Remove the parallel port cover plate screws and the parallel port cover plate.



4. Install the Parallel Adapter in its place and secure it with two screws.



5. Attach the 30-pin Connection Cable to the motherboard.



6. Replace the left-hand side of the printer housing and secure it with two screws.

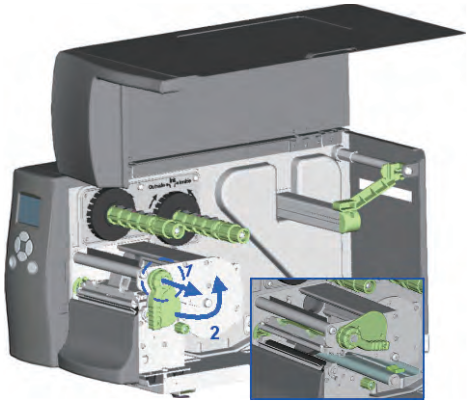
7. The installation of the Parallel Adapter is complete.

6 Maintenance and Adjustment

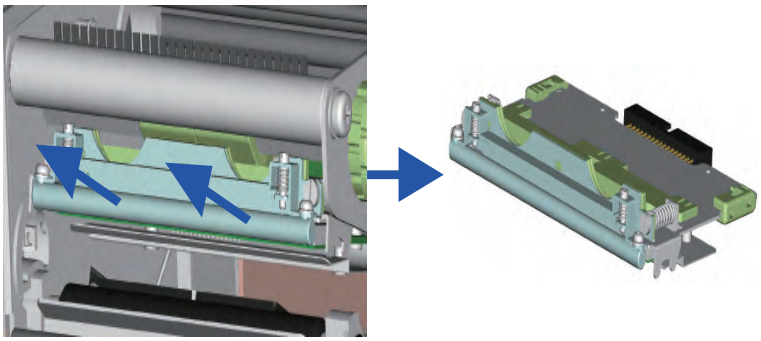
6.1 Removing / Installing the print head module

1. Open the Printer's top cover.

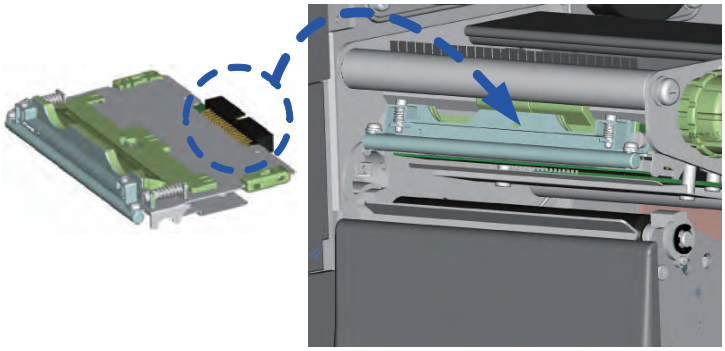
2. Pull the Printhead Lever out and rotate it upward to the right (counterclockwise) to open the Printhead.



3. Gently pull the Printhead assembly towards you.



4. To replace the Printhead, line up the plug and side guides of the Printhead assembly and gently insert the Printhead back into its carriage.

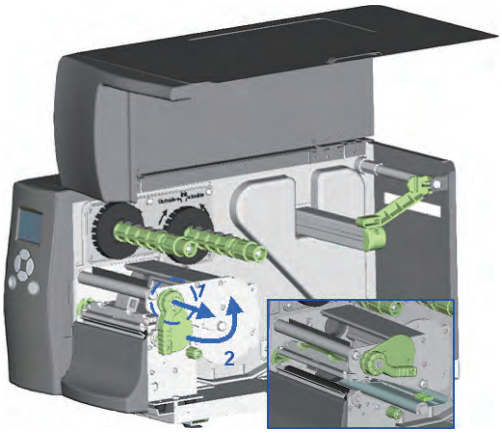


6.2 Adjusting the print line

When printing on stiff or thick paper, the Print Line needs to be moved forward (paper feed direction) in order to achieve better print quality.

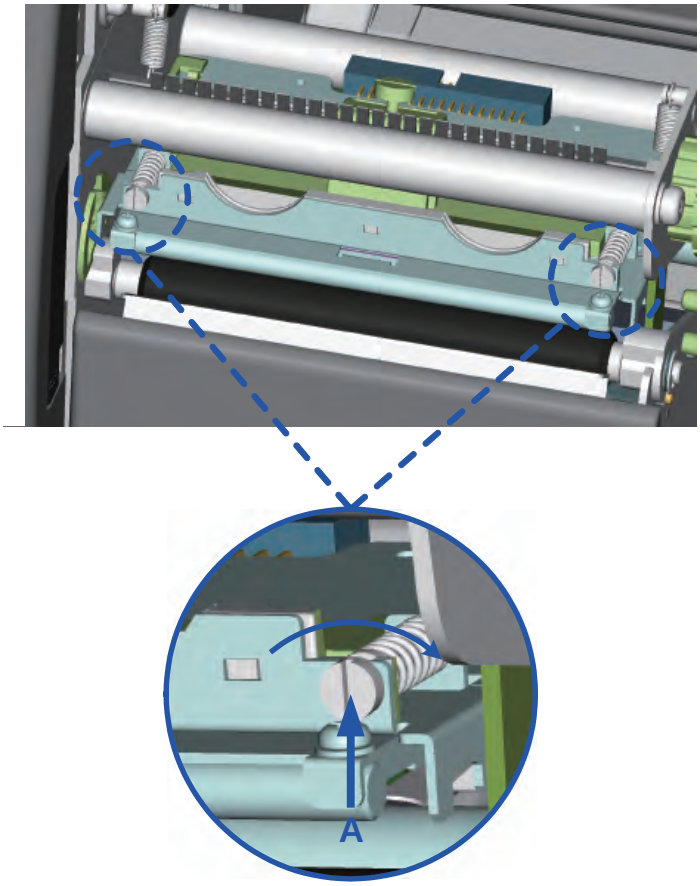
1. Open the Printer's top cover.

2. Pull the Printhead Lever out and rotate it upward to the right (counterclockwise) to open the Printhead.



3. Move the Print Line all the way back by turning the screws on each side of the Printhead (marked A) counterclockwise.

4. Then turn the screws clockwise a quarter turn at a time to move the Print Line forward. Adjust both screws by the same amount to ensure that the Print Line and the Platen Roller are parallel.



5. Print a test label with a black bar across the entire width of the label to check print quality and repeat step 4 as necessary to achieve proper print quality.

6.3 Adjusting the ribbon tension

Due to differences in ribbon material, ribbon wrinkles may occur during printing.
When this happens increase the ribbon tension by:

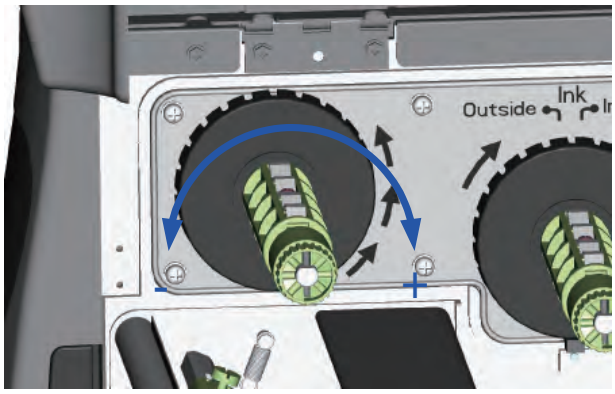
1. Pushing the end of the shaft in.

2. Then turn the ribbon shaft clockwise to increase the tension.

If narrower ribbons are being used (especially ribbon widths of less than 2”),
the Printer might have a problem feeding labels.
When this happens decrease the ribbon tension by:

1. Pushing the end of the shaft in.

2. Then turn the ribbon shaft counterclockwise to decrease the tension.



6.4 Cleaning the thermal print head

Printing labels will cause dirt such as paper dust, particles of ink and label adhesive to accumulate on the thermal print head. This can cause poor print quality and incomplete print outs. When this happens, the print head must be cleaned:

1. Turn off the printer.

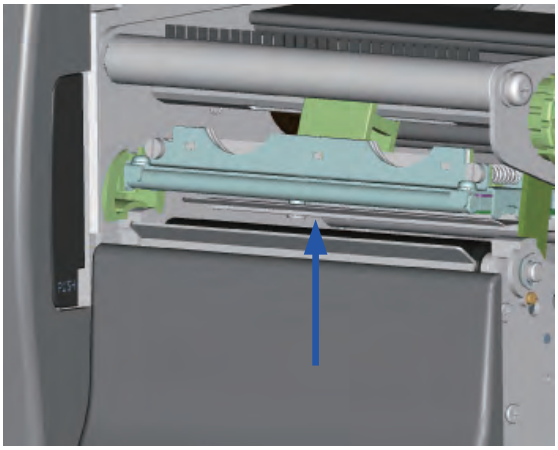
2. Open the top cover.

3. Remove the ribbon.

4. Release the print head by turning the print head release lever counterclockwise.

5. Clean the print head surface (see Blue arrow) with a special cleaning pen or a cotton swab soaked in Isopropyl Alcohol.

6. Allow the print head to dry for 2-3 minutes before turning the printer back on.



Note

* The print head should be cleaned once a week or when the print media is changed.

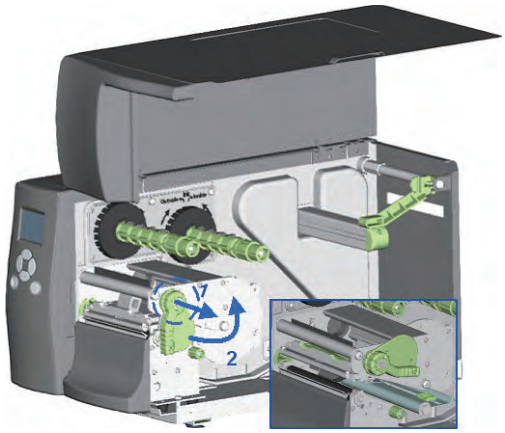
**To help keep the print head clean, the top cover should be closed when printing.

***To ensure print quality and prolong print head life, do NOT use dusty or dirty print media in the printer.

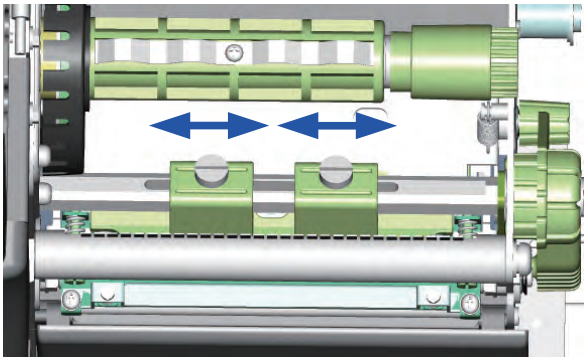
6.5 Printhead balance and tension adjustment

If one side of the printed labels is not being printed clearly, or if ribbon wrinkles occur, then adjust the Thermal Printhead Spring Box position/tension to cure the problem.

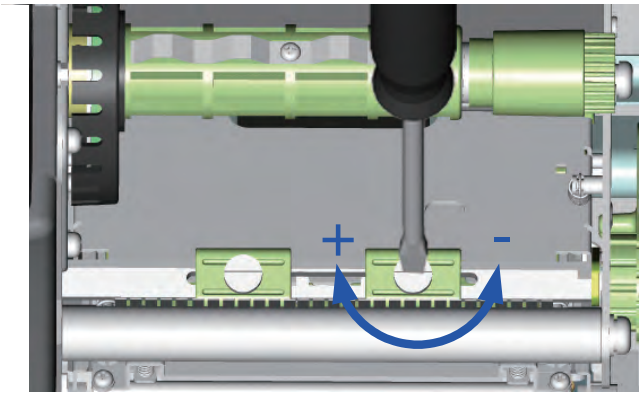
1. Pull the Printhead Lever out and rotate it upward to the right (counterclockwise) to open the Printhead.



2. Move the Thermal Printhead Spring Box on the right side. Normally, the wider the paper, the farther the Thermal Printhead Spring Box will be from the center wall and for narrower paper, the Thermal Printhead Spring Box will be closer to the center wall.



3. To adjust the TPH Spring Box pressure, use a flat tip screwdriver to turn the screw clockwise to increase the pressure or counterclockwise to decrease the pressure.



6.6 Ribbon shield adjustment

If ribbon wrinkle occurs during printing, adjust the ribbon shield.

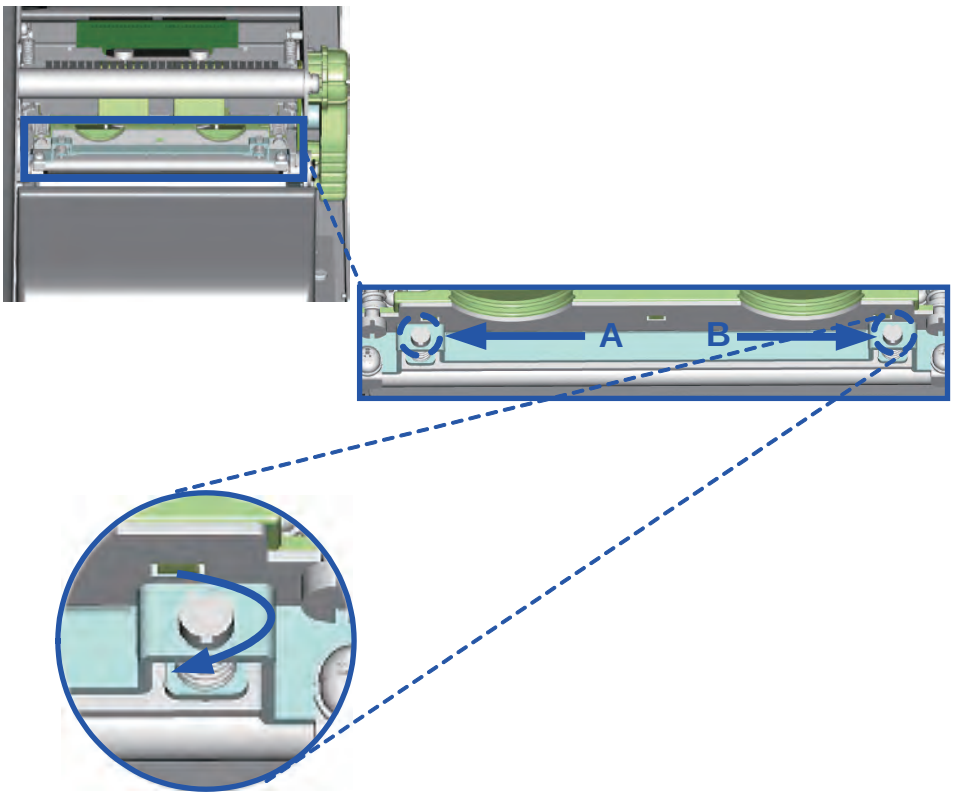
Example:
If ribbon wrinkle occurs as shown in figure (a), please turn the ribbon shield screw A clockwise,
and if ribbon wrinkle occurs as shown in figure (b), please turn the ribbon shield screw B clockwise.

(a)

(b)

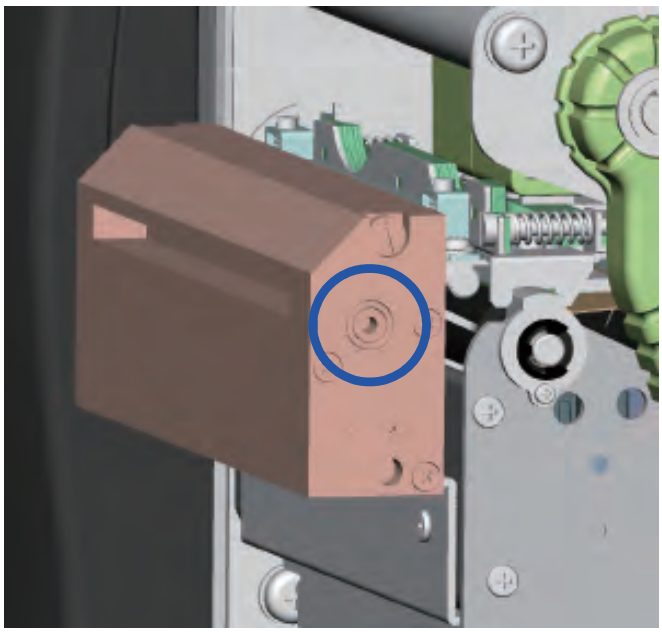
For best results, only adjust the screw by one half turn for each test print.

The maximum adjustment of the screw is two revolutions.
If the screws are turned more than the acceptable range, the paper feed may not be smooth.



6.7 Cleaning the Cutter

1. If the Cutter jams or malfunctions turn the Printer Off.
2. Remove the Cutter assembly from the Printer.
3. Remove any jammed paper.
4. Wet a cotton swab in Isopropyl Alcohol and use it to remove any build-ups of adhesive.
5. There is a hole (circled) on each side of the Cutter. Insert a 3mm hex key into one of these holes and use the key to turn the cutter blade clockwise to allow access to the entire length of the blade.
6. Allow the Cutter to dry.



7. Re-install the Cutter assembly and turn the Printer back On. The cutter blade will go back to its original position.

Note

* Remember to turn off the printer before touching the cutter

**The labels should be at least 30 mm long to ensure correct functioning of the cutter.

6.8 Troubleshooting

Problem	Solution
The printer is switched on but the LED does not light up.	♦ Check the power supply.
The LED lights up red and printing has stopped	♦ Check for software setting or program command errors. ♦ Look for the error in Section 3.3 Error Alerts ♦ Check if the print head mechanism is closed correctly.
The label stock passes through the printer but no image is printed.	♦ Check that the ribbon is installed with the inked side facing the label media. ♦ Select the correct printer driver. ♦ Select the correct label stock and print mode.
The label stock jams during printing.	♦ Clear the paper jam. Check that the print head is clean.
There is no printed image on some parts of the label.	♦ Check if there is any label or ribbon stuck on the thermal print head. ♦ Check for errors in the application software. ♦ Check if the starting position has been set correctly ♦ Check the ribbon for wrinkles.
There is no printed image on part of the label or the image is blurred.	♦ Check the thermal print head for dust or other dirt. ♦ Use the internal “~T” command to perform a Test Print and check if the print head can print across the entire width. ♦ Check the quality of the print media.
The printed image is positioned incorrectly.	♦ Check if there is paper or dust covering the label sensor. ♦ Check if the label stock is suitable for use. Contact your reseller. ♦ Check the paper guide.
Skipping labels during printing.	♦ Check the label height setting. ♦ Check if there is dust covering the label sensor. ♦ Perform a label Calibration
The printed image is blurred.	♦ Check the print darkness setting. ♦ Check if the print head is dirty.
The cutter does not cut off the labels in a straight line.	♦ Check if the label stock is installed correctly.
The cutter does not cut off the labels completely.	♦ Check if the label thickness exceeds 0.2 mm.
When using the cutter, the labels are not fed through or are cut off incorrectly.	♦ Check if the cutter has been correctly installed. ♦ Check if the paper guides are sticky.
The label dispenser is not functioning normally.	♦ Check if there is dust on the label dispenser sensor. ♦ Check if the label stock is installed properly.

Note

* If any problems occur that are not described above, please contact your reseller.

APPENDIX

PRODUCT SPECIFICATIONS

Model		H-427+	H-435+
Print Method		Thermal Transfer / Direct Thermal	
Resolution		203 dpi (8 dot/mm)	300 dpi (12 dots/mm)
Print Speed		7 IPS (177 mm/s)	5 IPS (127 mm/s)
Print Width		4.09" (104 mm)	
Print Length		Min. 0.16" (4 mm)**; Max. 100" (2540 mm)	Min. 0.16" (4 mm)**; Max. 45" (1143 mm)
Processor		32 bit RISC CPU	
Memory	Flash	8 MB Flash (4 MB for user storage)	
	SDRAM	16 MB	
Sensor Type		Adjustable reflective sensor and transmissive sensor, left aligned	
Media	Types	Continuous form, gap labels, black mark sensing and punched hole; label length set by auto sensing or programming	
	Width	Standard: Min. 1" (25.4 mm) – Max. 4.64"(118 mm) With Cutter: Max. 4.61" (117 mm) With Dispenser / Rewinder: Max. 4.64" (118 mm)	
	Thickness	Min. 0.003" (0.06 mm) – Max. 0.01" (0.25 mm)	
	Label Roll Diameter	Max. 8" (203.2 mm) with 3" (76.2 mm) core Max. 6" (152.4 mm) with 1.5" (38.1 mm) core	
	Core Diameter	1.5" (38.1 mm) - 3" (76.2 mm)	
Ribbon	Types	Wax, wax / resin, resin	
	Length	1476' (450 m)	
	Width	Min. 1.18"(30 mm) – Max. 4.33" (110 mm)	
	Ribbon Roll Diameter	2.99" (76 mm)	
	Core Diameter	1" (25.4 mm)	
Software	Printer Language	TPL	
	Label Design Software	EASYLABEL Start	
	Driver	Windows and CUPS (Linux and Mac)	
Resident Fonts	Bitmap Fonts	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	
	Scalable Fonts	90°, 180°, 270° rotatable	
Download Fonts	Bitmap Fonts	90°, 180°, 270° rotatable, single characters 90°, 180°, 270° rotatable	
	Asian Fonts	90°, 180°, 270° rotatable and 8 times expandable in horizontal and vertical directions	
	Scalable Fonts	90°, 180°, 270° rotatable	
Barcodes	1-D Bar Codes	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	
	2-D Bar Codes	PDF417, Datamatrix code, MaxiCode, QR code, Micro PDF417, Micro QR code and Aztec code	
Code Pages		Codepage 437, 850, 851, 852, 855, 857, 860, 861, 862, 863, 865, 866, 869 and 737 Windows 1250, 1251, 1252, 1253, 1254, 1255 and 1257 Unicode(UTF8, UTF16)	
Graphics		Resident graphic file types are BMP and PCX, other graphic formats are downloadable from the software	
Interfaces		USB 2.0 Serial port: RS-232 (DB-9) Ethernet 10/100 Mbps USB Host	
Control Panel		Color TFT LCD with navigation button Calibration button Control key: FEED Power on / off button	
Power		Auto Switching 100-240V AC, 50-60Hz	
Real Time Clock		Standard	
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, cUL, CCC	
Dimension	Length	20.15" (512 mm)	
	Height	11.45" (291 mm)	
	Width	10.78" (274 mm)	
Weight		33 lbs (15 Kg), excluding consumables	
Options &Accessories		Cutter Module Label Dispenser + Internal Rewinder Parallel port adopter module (Centronic female 36-pin) Applicator Interface External label roll holder for 10" (250 mm) 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.

APPENDIX

PRODUCT SPECIFICATIONS

Model		H-627+	H-635+
Print Method		Thermal Transfer / Direct Thermal	
Resolution		203 dpi (8 dot/mm)	300 dpi (12 dots/mm)
Print Speed		7 IPS(177 mm/s)	5 IPS(127 mm/s)
Print Width		6.61"(168 mm)	
Print Length		Min. 0.16"(4 mm)**:Max. 118"(3000 mm)	Min. 0.16"(4 mm)**:Max. 54"(1371 mm)
Processor		32 bit RISC CPU	
Memory	Flash	8 MB Flash (4 MB for user storage)	
	SDRAM	32 MB	
Sensor Type		Adjustable reflective sensor and transmissive sensor, left aligned	
Media	Types	Continuous form, gap labels, black mark sensing and punched hole; label length set by auto sensing or programming	
	Width	Tear : 2"(50.8 mm) Min. - 7"(178 mm) Max. Cutter : 6.5"(165 mm) Max. Peeler with Rewind : 7"(178 mm) Max.	
	Thickness	Min. 0.003"(0.076 mm) - Max. 0.01"(0.25mm)	
	Label Roll Diameter	Max. 8" (203.2 mm) with 3" (76.2 mm) core Max. 6" (152.4 mm) with 1.5" (38.1 mm) core	
	Core Diameter	1.5" (38.1 mm) - 3" (76.2 mm)	
Ribbon	Types	Wax, wax / resin, resin	
	Length	1476' (450 m)	
	Width	Min. 2.36" - Max. 6.85"(60 mm - 174 mm)	
	Ribbon Roll Diameter	2.99" (76 mm) Max.	
	Core Diameter	1" (25.4 mm)	
Printer Language		TPL	
Software	Label Design Software	EASYLABEL Start	
	Driver	Windows	
Resident Fonts	Bitmap Fonts	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 TTF Fonts(Bold/Italic/Underline). 0°,90°, 180°, 270° rotatable	
	Scalable Fonts	90°, 180°, 270° rotatable	
Download Fonts	Bitmap Fonts	90°, 180°, 270° rotatable, single characters 90°, 180°, 270° rotatable	
	Asian Fonts	90°, 180°, 270° rotatable and 8 times expandable in horizontal and vertical directions	
	Scalable Fonts	90°, 180°, 270° rotatable	
Barcodes	1-D Bar Codes	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	
	2-D Bar Codes	PDF417, Datamatrix code, MaxiCode, QR code, Micro PDF417, Micro QR code and Aztec code	
Code Pages		Codepage 437, 850, 851, 852, 855, 857, 860, 861, 862, 863, 865, 866, 869 and 737 Windows 1250, 1251, 1252, 1253, 1254, 1255 and 1257 Unicode UTF8,UTF16BE,UTF16LE	
Graphics		Resident graphic file types are BMP and PCX, other graphic formats are downloadable from the software	
Interfaces		USB 2.0 Serial port: RS-232 (DB-9) Ethernet 10/100 Mbps USB Host	
Control Panel		Color TFT LCD with navigation button Calibration button Control key: FEED Power on / off button	
Power		Auto Switching 100-240V AC, 50-60Hz	
Real Time Clock		Standard	
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, cUL, CCC	
Dimension	Length	20.31"(516 mm)	
	Height	11.22"(285 mm)	
	Width	13.58"(345 mm)	
Weight		36.8 lbs (16.7kg),excluding consumables	
Options &Accessories		Cutter Module Label Dispenser + Internal Rewinder Parallel port adopter module (Centronic female 36-pin) Applicator Interface (1 input, 3 outputs, power 500mA @ 5V, for project base) External label roll holder for 10" (250 mm) 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.

APPENDIX

INTERFACE

- Parallel Port (Optional)

  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	Computer / printer
2-9	Data 0-7	Computer
10	/Acknowledge	Printer
11	Busy	Printer
12	/Paper empty	Printer
13	/Select	Printer
14	/Auto-Linefeed	Computer / printer
15	N/C	
16	Signal Gnd	
17	Chassis Gnd	
18	+5V, max 500mA	
19-30	Signal Gnd	Computer
31	/Initialize	Computer / printer
32	/Error	Printer
33	Signal Ground	
34-35	N/C	
36	/Select-in	Computer / printer

- Serial Port

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

RS232 Housing(9-pin to 9-pin)

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

Notice

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

APPENDIX

INTERFACE

- USB Port

Computer Connector: Type A

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

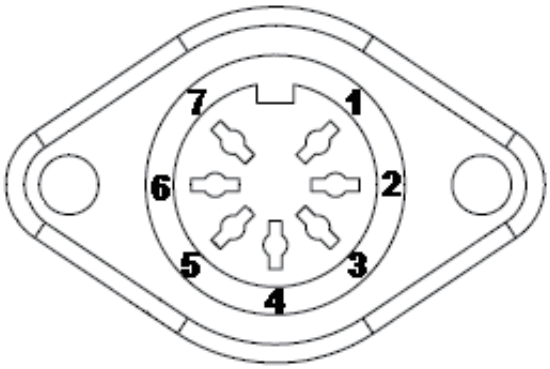
Connector Type: Type B

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

- Ethernet Port (RJ-45)

PIN NO.	FUNCTION
1	T+
2	T-
3	R+
4	N/C
5	N/C
6	R-
7	N/C
8	N/C

- Applicator Port (Optional)



PIN NO.	1	2	3	4	5	6	7
FUNCTION	Print Signal	+5 V	Printer Error Signal	+24 V	Printed Signal	Printing Signal	Ground