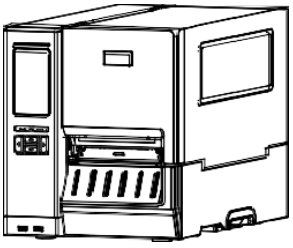
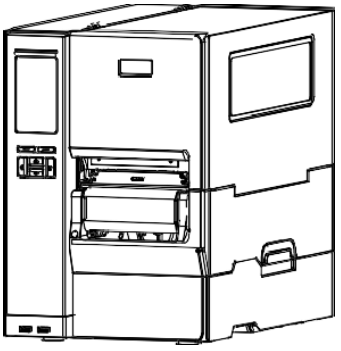
Fastmark M10XPd/Gen-2

Thermal Barcode Printer

(Direct & Transfer)

User's Guide





Document #121886

Copyright Information

Agency Compliance and Approvals

EN 55032, Class AEN
EN 55024
EN 60950-1
EN 62368

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 take adequate measures.

FCC part 15B, Class A

AICES-003, Class A

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 manufacturer's instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conform à la norme NMB-003 du Canada.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

AS/NZS CISPR 22, Class A

UL 60950-1 (2nd Edition)
CSA C22.2 No. 60950-1-07 (2nd Edition)

UL 62368-1, 2nd Edition, 2014-12-01 (Audio/video, Information and Communication Technology Equipment - Part 1: Safety Requirements)
CAN/CSA C22.2 No. 62368-1-14, 2nd Edition, 2014-12 (Audio/video, Information and Communication Technology Equipment - Part 1: Safety Requirements)

EN 62368-1:2014/A11:2017

	GB 4943.1 GB 9254, Class A GB 17625.1 此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰， 在这种情况下，可能需要用户对干扰采取切实可行的措施。
	Energy Star for Imaging Equipment Version 3.0
	IS 13252(Part 1)/ IEC 60950-1

Note: There may have certification differences in the series models, please refer to product label for accuracy.

Important safety instructions:

1. Read all of these instructions and keep them for later use.
2. Follow all warnings and instructions on the product.
3. Disconnect the power plug from the AC outlet before cleaning or if faults happen.
4. Do not use liquid or aerosol cleaners. Using a damp cloth is suitable for cleaning.
5. The mains socket shall be installed near the equipment and easily accessible.
6. The unit must be protected against moisture.
7. Ensure the stability when installing the device, Tipping or dropping could cause damage.
8. Make sure to follow the correct power rating and power type indicated on marking label provided by manufacture.
9. Please refer to user manual for maximum operating ambient temperature.

WARNING:

Hazardous moving parts, keep fingers and other body parts away.

CAUTION:

(For equipment with RTC (CR2032) battery or rechargeable battery pack)

Risk of explosion if battery is replaced by an incorrect type.

Dispose of used batteries according to the Instructions as below.

1. DO NOT throw the battery in fire.
2. DO NOT short circuit the contacts.

3. DO NOT disassemble the battery.
4. DO NOT throw the battery in municipal waste.
5. The symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

The printhead may be hot and could cause severe burns. Allow the printhead to cool.

CE Statement:

This equipment complies with EU radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

All operational modes:

2.4GHz: 802.11b, 802.11g, 802.11n (HT20), 802.11n (HT40)

5GHz: 802.11a,

The frequency, mode and the maximum transmitted power in EU are listed below:

2400 MHz – 2483.5 MHz: 19.88 dBm (EIRP)

5150 MHz – 5250 MHz: 17.51 dBm (EIRP)

5150-5350MHz for Only indoor use

5470-5725MHz for indoor/outdoor use

Restrictions In AZE

National restrictions information is provided below

Frequency Band	Country	Remark
5150-5350MHz	**Azerbaijan**	**No license needed if used indoor and power not exceeding 30mW**
5470-5725MHz		

Hereby, AMT Datasouth Corp. declares that the radio equipment type [Wi-Fi] IEEE 802.11 a/b/g/n is in compliance with Directive 2014/53/EU

RF exposure warning (Wi-Fi)

This equipment must be installed and operated in accordance with provided instructions and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be providing with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

SAR Value: 0.736 W/kg

RF exposure warning (For Bluetooth)

The equipment complies with FCC RF exposure limits set forth for an uncontrolled environment.

The equipment must not be co-located or operating in conjunction with any other antenna or transmitter.

Canada, Industry Canada (IC) Notices
This Class B digital apparatus complies with Canadian ICES-003 and RSS-210.
Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Radio Frequency (RF) Exposure Information
The radiated output power of the Wireless Device is below the Industry Canada (IC) radio frequency exposure limits. The Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.

This device has been evaluated for and shown compliant with the IC Specific Absorption Rate (“SAR”) limits when installed in specific host products operated in portable exposure conditions. **(For Wi-Fi)**

This device has also been evaluated and shown compliant with the IC RF Exposure limits under portable exposure conditions. (Antennas are less than 20 cm from a person's body). **(For Bluetooth)**

Canada, avis de l'Industry Canada (IC)
Cet appareil numérique de classe B est conforme aux normes canadiennes ICES-003 et RSS-210.
Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interférence et (2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent affecter son fonctionnement.

Informations concernant l'exposition aux fréquences radio (RF)
La puissance de sortie émise par l’appareil sans fil est inférieure à la limite d'exposition aux fréquences radio de l'Industry Canada (IC). Utilisez l’appareil sans fil de façon à minimiser les contacts humains lors du fonctionnement normal.

Ce périphérique a été évalué et démontré conforme aux limites SAR (Specific Absorption Rate – Taux d'absorption spécifique) par l'IC lorsqu'il est connecté à des dispositifs hôtes spécifiques opérant dans des conditions d'utilisation mobile. **(Pour le Wi-Fi)**

Ce périphérique a également été évalué et démontré conforme aux limites d'exposition radio-fréquence par l'IC pour des utilisations par des opérateurs mobiles (les antennes sont à moins de 20 cm du corps d'une personne). **(Pour le Bluetooth)**

NCC 警語:

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或 變更原設計之特性及功能。(即低功率電波輻射性電機管理辦法第十二條)

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善 至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫 療用電波輻射性電機設備之干擾。(即低功率電波輻射性電機管理辦法第十四條)

For MFi Bluetooth

Made for
iPhone | iPad | iPod

Use of the Made for Apple badge means that an accessory has been designed to connect specificallyto the Apple product(s) identified in the badge, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance withsafety and regulatory standards.

For US Model

Made for iPhone®XS Max, iPhone XS, iPhone XR, iPhone X, iPhone 8, iPhone 8 Plus, iPhone 7,iPhone 7 Plus, iPhone SE, iPhone 6s, iPhone 6s Plus, iPhone 6, iPhone 6 Plus, iPhone 5s, iPad Pro® 12.9-inch (2nd generation), iPad Pro 10.5-inch, iPad® (6th generation), iPad (5th generation), iPad Pro 9.7-inch, iPad Pro 12.9-inch (1st generation), iPad Air® 2,iPad mini™ 4, iPad mini 3, iPad Air, iPad mini 2, iPod touch® (6th generation)

iPad, iPad Air, iPad Pro, iPhone are trademarks of Apple Inc., registered in the U.S. and othercountries.

http://www.amtdatasouth.com/support-1/downloads/

Contents

1. Introduction

1.1 Product Introduction

Thank you very much for your purchase.

The new high-performance Fastmark M10XPd Series printer was designed to deliver the cleanest and highest quality barcodes. It features a die-cast print mechanism housed in a very strong yet lightweight cabinet. This new design results in a more durable printer that is suited for your most heavy-duty demand cycles.

The Fastmark M10XPd prints at 203 dpi resolution at speeds up to an amazing 14 inches per second, Fastmark M10XPd offers higher 300 dpi resolution at speeds up to 12 inches per second, and the Fastmark M10XPd series features 600 dpi high resolution which makes it ideal for printing very small 2D barcodes, graphics, fine print and other ultra-high-resolution images.

The Fastmark M10XPd Series printers are loaded with standard features including a color touch display with a brand-new GUI design and six menu buttons to provide a great user experience, support for 600-meter long ribbons, 8” OD media rolls, built-in Ethernet, RS-232 interface, two USB hosts for keyboard and scanner connections, USB 2.0 and serial interfaces. Parallel, GPIO ports, and internal Bluetooth module are available as an option.

This document provides an easy reference for operating the Fastmark M10XPd series printers. To print label formats, please refer to the instructions provided with your labeling software.

- Applications

  - Industrial-duty Printing
  - Work in process
  - Compliance labeling
  - Order Fulfillment
  - Distribution
  - Shipping/Receiving
  - Healthcare Labeling and Patient Safety
  - Electronics & Jewelry labeling

1.2 Product Features

1.2.1 Standard Features

The printer offers the following standard features.

Product standard features							
Model	**STANDARD**			**INTERNAL REWIND**			
	M10XPd			**M10XPd (w/ internal rewinder)**			
Resolution	203 dots/inch (8 dots/mm)	300 dots/inch (12 dots/mm)	600 dots/inch (24 dots/mm)	203 dots/inch (8 dots/mm)	300 dots/inch (12 dots/mm)	600 dots/inch (24 dots/mm)	
Printing method	■ Thermal transfer & direct thermal						
Mechanism	■ Die-cast base and frame/ Metal cover with two hinges & large clear media view window						
LCD display/ Operation buttons	■ Multi-language selectable ■ Large Backlit LCD display (16 bits Color, Resolution 480 x 272; Resistive Touch Screen) ■ 6 operation buttons (menu, select, up, down, left/pause, right/feed) ■ 1 LED (with 2 LEDs / Green & Red)						
Processor	■ 32-bit RISC high performance processor						
Memory	■ 512MB Flash memory ■ 256MB DDR2 ■ USB device memory (FAT32) ■ microSD card, up to 32 GB						
Interface	■ RS-232 (Max. 115,200 bps) ■ USB 2.0 (High speed mode) ■ Internal Ethernet ■ USB host *2 (Front side), connecting USB storage device						
Sensors	■ Gap transmissive sensor (Position adjustable, 15mm → 98mm) ■ Black mark reflective sensor (Position adjustable, 15mm →92mm) ■ Ribbon end sensor (transmissive) ■ Ribbon encoder sensor ■ Head open sensor ■ Media near end sensor						
Internal font	■ 8 alpha-numeric bitmap fonts ■ One Monotype Imaging® CG Triumvirate Bold Condensed scalable font ■ Built-in Monotype True Type Font engine						

<table>
<tr><td>Supported code page</td><td colspan="2">■ Codepage 437 (English - US)
■ Codepage 737 (Greek) -
■ Codepage 850 (Latin-1)
■ Codepage 852 (Latin-2)
■ Codepage 855 (Cyrillic) -
■ Codepage 857 (Turkish)
■ Codepage 860 (Portuguese)
■ Codepage 861 (Icelandic) -
■ Codepage 862 (Hebrew) -
■ Codepage 863 (French Canadian)
■ Codepage 864 (Arabic) -
■ Codepage 865 (Nordic)
■ Codepage 866 (Russian) -
■ Codepage 869 (Greek 2) -
■ Codepage 950 (Traditional Chinese)
■ Codepage 936 (Simplified Chinese)
■ Codepage 932 (Japanese)
■ Codepage 949 (Korean)
■ Codepage 1250 (Latin-2)
■ Codepage 1251 (Cyrillic)
■ Codepage 1252 (Latin-1)
■ Codepage 1253 (Greek)
■ Codepage 1254 (Turkish)
■ Codepage 1255 (Hebrew) -
■ Codepage 1256 (Arabic)
■ Codepage 1257 (Baltic)
■ Codepage 1258 (Vietnam)
■ ISO-8859-1: Latin-1 (Western European)
■ ISO-8859-2: Latin-2 (Central European)
■ ISO-8859-3: Latin-3 (South European)
■ ISO-8859-4: Latin-4 (North European)
■ ISO-8859-5: Cyrillic
■ ISO-8859-6: Arabic
■ ISO-8859-7: Greek
■ ISO-8859-8: Hebrew
■ ISO-8859-9: Turkish
■ ISO-8859-10: Nordic
■ ISO-8859-15: Latin-9
■UTF-8</td></tr>
<tr><td>Supported bar code</td><td>1D bar code
Code128 subsets A.B.C, Code128UCC, EAN128, Interleave 2 of 5, Code 39, Code 93, EAN-13, EAN-8, Codabar, POSTNET, UPC-A, UPC-E, EAN and UPC 2(5) digits, MSI, PLESSEY, China Post, ITF14, EAN14, Code 11, TELPEN, PLANET, Code 49, Deutsche Post Identcode, Deutsche Post Leitcode, LOGMARS, RSS-Stacked, GS1 DataBar.</td><td>2D bar code
CODABLOCK F mode, DataMatrix, Maxicode, PDF-417, Aztec, MicroPDF417, QR code, RSS Barcode (GS1 Databar)</td></tr>
<tr><td>Command set</td><td colspan="2">TSPL-EZ™</td></tr>
<tr><td>Font & bar code rotation</td><td colspan="2">0, 90, 180, 270 degree</td></tr>
</table>

Others	■ Standard for real time clock ■ Standard for buzzer ■ Standard industry emulations right out of the box including Eltron® and Zebra® language support ■ Built-in Monotype True Type Font engine ■ Downloadable fonts from PC to printer memory ■ Printhead pressure force & pressure location adjustable

1.2.2 Printer Optional Features

The printer offers the following optional features.

Product option feature	User option	Dealer option	Factory option
Option Card (GPIO + Parallel)		○	
Internal Bluetooth module in front panel			○
Wi-Fi module (Slot-in)		○	
Peel-off module assembly Minimum label peeling height: 0.5”	○		
Regular cutter (Guillotine cutter) Paper thickness: 0.06 ~ 0.15 mm	○		
Plus keyboard display unit	○		
Plus programmable smart keyboard	○		

1.3 Printer Specifications

Printer Specifications		
Model	**STANDARD**	**REWIND**
	M10XPd	**M10XPd** **(w/ internal rewinder)**
Physical dimensions	10.9” (W) x 19.8” (D) x 12.8” (H)	10.9” (W) x 19.8” (D) x 16.2” (H)
Weight	34.02 lbs.	41.73 lbs.
Power	Internal switching power supply ■Input: AC 100-240V, 4-2A, 50-60Hz ■Output: DC 5V, 5A; DC 24V, 7A; DC 36V, 1.4A; Total 243W ***Note: The max. full web black bar is limited to 5 mm only, otherwise printer may stop printing to protect power supply.***	
Environmental condition	Operation: 5 ~ 40˚C (41 ~ 104˚F), 25~85% non-condensing Storage: -40 ~ 60 ˚C (-40 ~ 140˚F), 10~90% non-condensing	

1.4 Print Specifications

Print Specifications	203 dpi models	300 dpi models	600 dpi models
Printhead resolution (dots per inch/mm)	203 dots/inch (8 dots/mm)	300 dots/inch (12 dots/mm)	600 dots/inch (24 dots/mm)
Printing method	Thermal transfer and direct thermal		
Dot size (width x length)	0.125 x 0.125 mm (1 mm = 8 dots)	0.084 x 0.084 mm (1 mm = 12 dots)	0.042 x 0.042 mm (1 mm = 24 dots)
Print speed (inches per second)	Up to 14 IPS	Up to 12 IPS	Up to 6 IPS
Max. print width	104 mm (4.09")		
Max. print length	1000" (25,400 mm)	450" (11,430 mm)	100" (2,540 mm)
Printout bias	Vertical: 0.027" ~ 0.039" (0.7 ~ 1mm)		

1.5 Ribbon Specifications

Ribbon Specifications	
Ribbon outside diameter	OD Max. 3.54" (90 mm)
Ribbon length	656 Yards (600 meters)
Ribbon core inside diameter	1" (25.4 mm)
Ribbon width	1"~4.5" (25.4 mm ~ 114.3 mm)
Ribbon wound type	Ink coated outside wound, ink coated inside wound
Ribbon end type	Transparency

1.6 Media Specifications

Media Specifications			
Media roll capacity	Max. 8" (203.2 mm) OD; 1.5" or 3" ID core, Rewind 3" only		
Media core diameter	3" (76.2 mm) or 1.5" (38.1 mm) ID core		
Media type	Continuous, die-cut, black mark, fan-fold, notch		
Media wound type	Outside wound		
Media width	0.78" ~ 4.49" (20 mm ~ 114 mm)		
Media thickness	0.002" ~ 0.011" (0.06 mm ~ 0.28 mm)		
Label length	0.20" ~ 1,000" (5 mm ~ 25,400 mm)	0.20" ~ 450" (5 ~ 11,430 mm)	0.20" ~ 100" (5 ~ 2,540 mm)
Black mark	Min. .315" (8 mm) Wide x 0.079" (2 mm) High		
Gap height	Min. 0.079" (2 mm)		

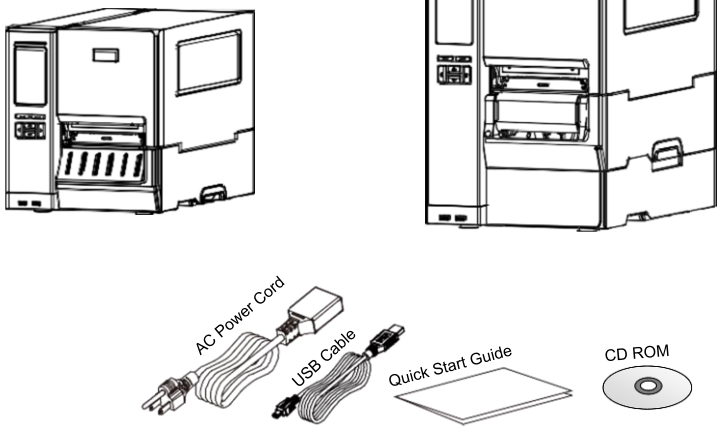
2. Operations Overview

2.1 Unpacking and Inspection

This printer has been specially packaged to withstand damage during shipping. Please carefully inspect the packaging and printer upon receipt. Please retain the packaging materials in case you need to reship the printer.

Unpacking the printer, the following items are included in the carton.

- One printer unit (M10XPd Series)
- One power cord
- One USB interface cable
- One quick installation guide
- CD ROM



If any parts are missing, please contact the Customer Service Department of your purchased reseller or distributor.

2.2 Printer Overview

2.2.1 Front View

M10XPd Series

1. LED indicator
2. LCD display
3. Front panel buttons
4. USB host x 2
5. Media view window
6. Paper exit chute
7. Printer cover handle

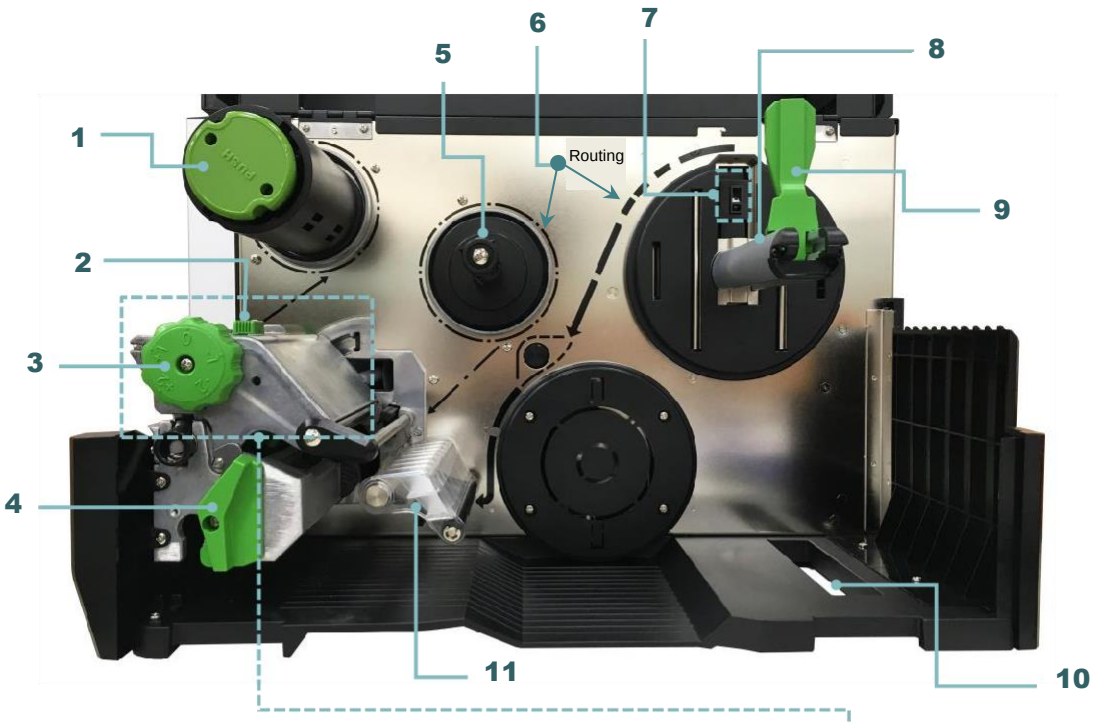
M10XPd Rewind Series

1. LED indicator
2. LCD display
3. Front panel buttons
4. USB host x 2
5. Media view window
6. Paper exit chute
7. Printer cover handle
8. Printer lower cover (M10XPd Rewind Series only)

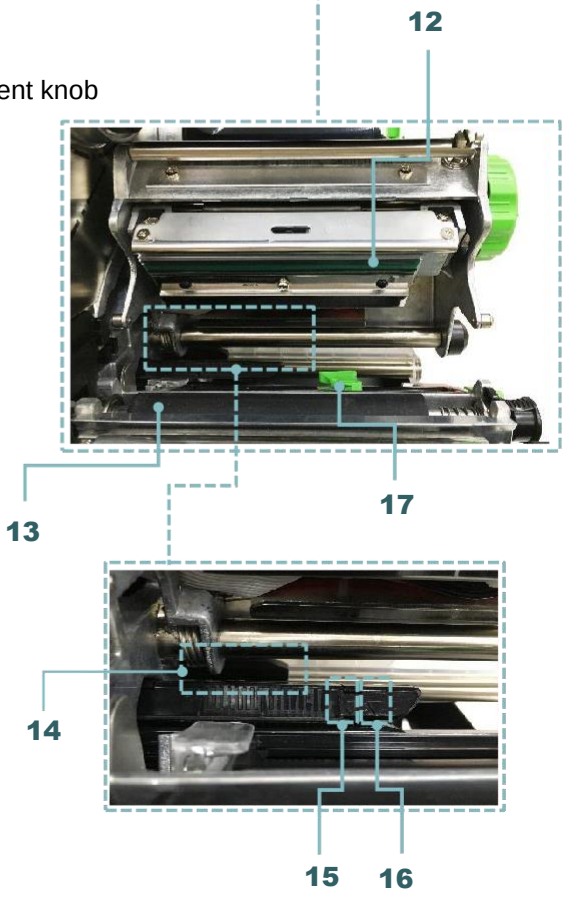
2.2.2 Interior view

M10XPd Series

Without Internal Rewind

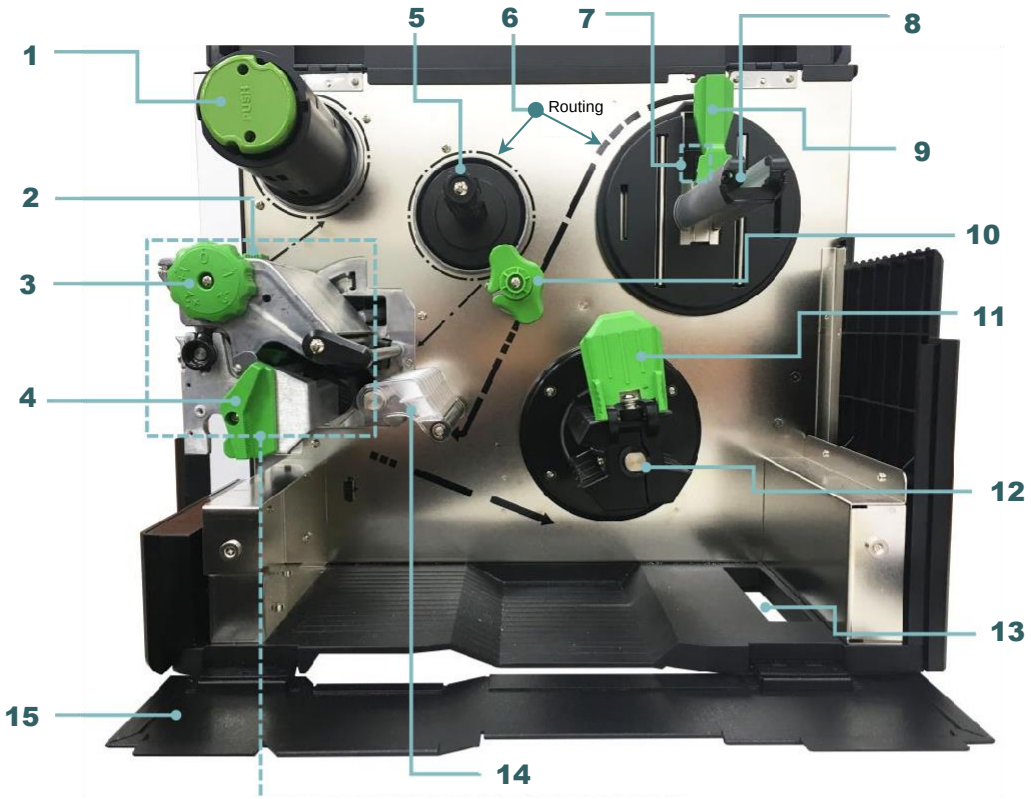


1. Ribbon rewind spindle
2. Printhead pressure position adjustment knob
3. Printhead pressure adjustment knob
4. Printhead release lever
5. Ribbon supply spindle
6. Ribbon & Media Routing
7. Media near end sensor (adjustable, M10XPd Series only)
8. Label supply spindle
9. Label roll guard
10. External label entrance chute
11. Damper
12. Printhead
13. Platen roller
14. Ribbon sensor
15. Black mark sensor (shown as ↓)
16. Gap sensor (shown as ▽)
17. Front label guide

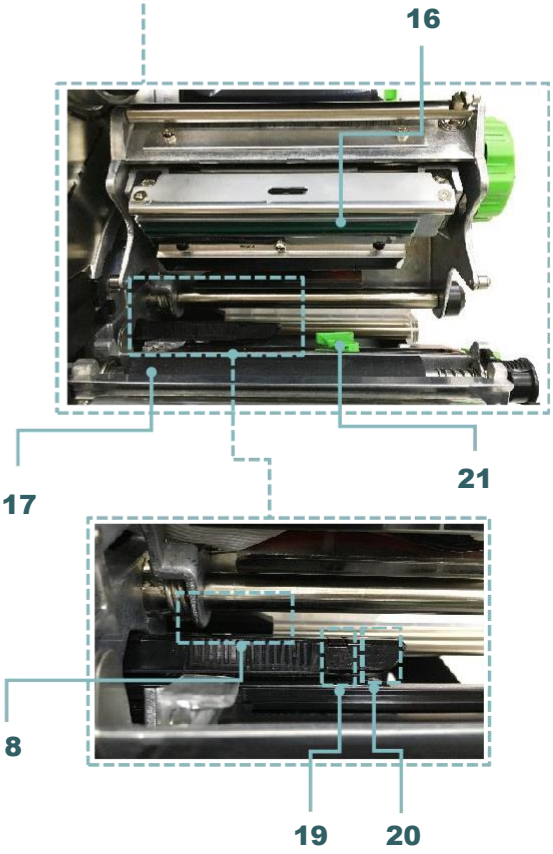


M10XPd Rewind Series

With Internal Rewind

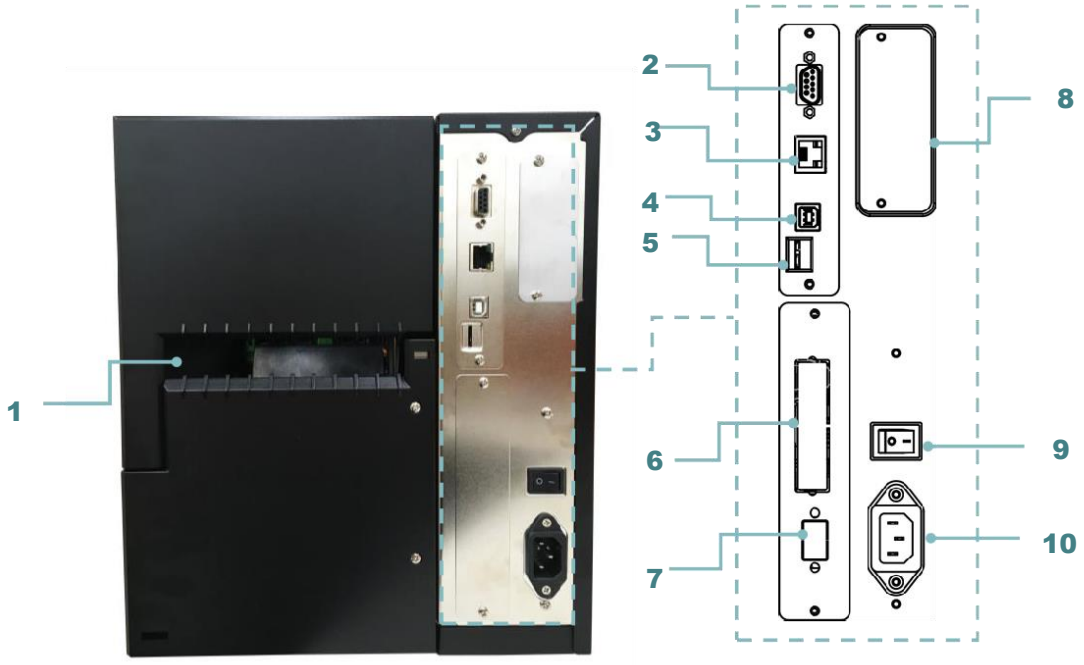


1. Ribbon rewind spindle
2. Printhead pressure position adjustment knob
3. Printhead pressure adjustment knob
4. Printhead release lever
5. Ribbon supply spindle
6. Ribbon & Media Routing
7. Media near end sensor (adjustable, M10XPd Series only)
8. Label supply spindle
9. Label roll guard
10. Media guide bar & rear label guide
11. Media rewind guide
12. Media rewind spindle
13. External label entrance chute
14. Damper
15. Printer lower cover
16. Printhead
17. Platen roller
18. Ribbon sensor
19. Black mark sensor (shown as ↓)
20. Gap sensor (shown as ▽)
21. Label guide



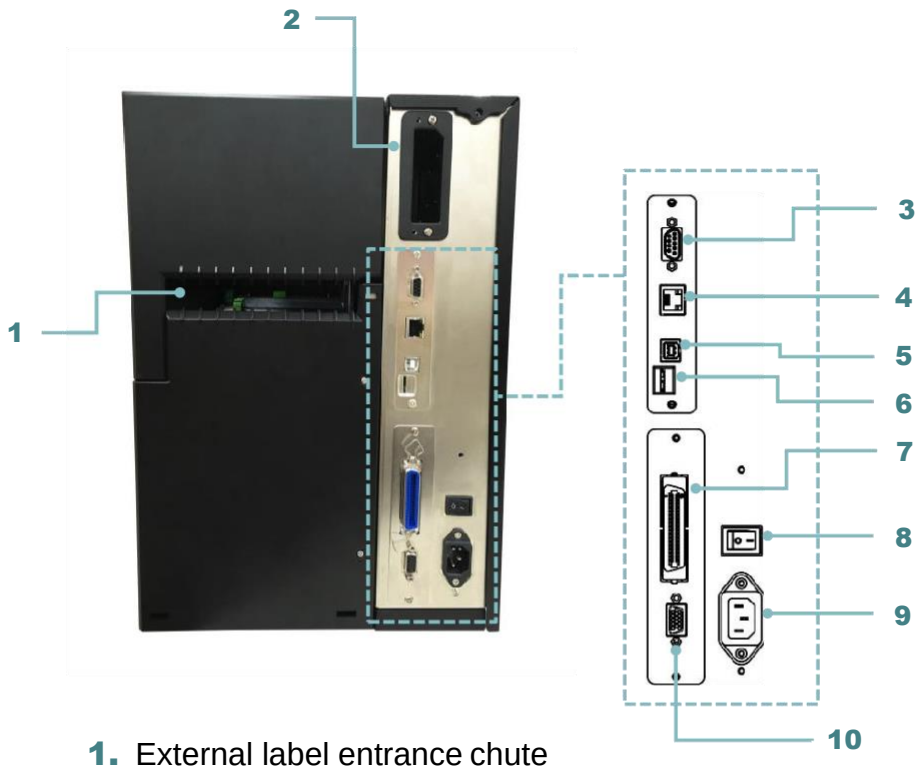
2.2.3 Rear View

M10XPd Series



1. External label entrance chute
2. RS-232C interface
3. Ethernet interface
4. USB interface
5. microSD card slot
6. Centronics interface (Option)
7. GPIO interface (Option)
8. Slot-in Wi-Fi interface (Option)
9. Power switch
10. Power cord socket

Note:
The interface picture here is for reference only. Please refer to the product specification for the interface availability.



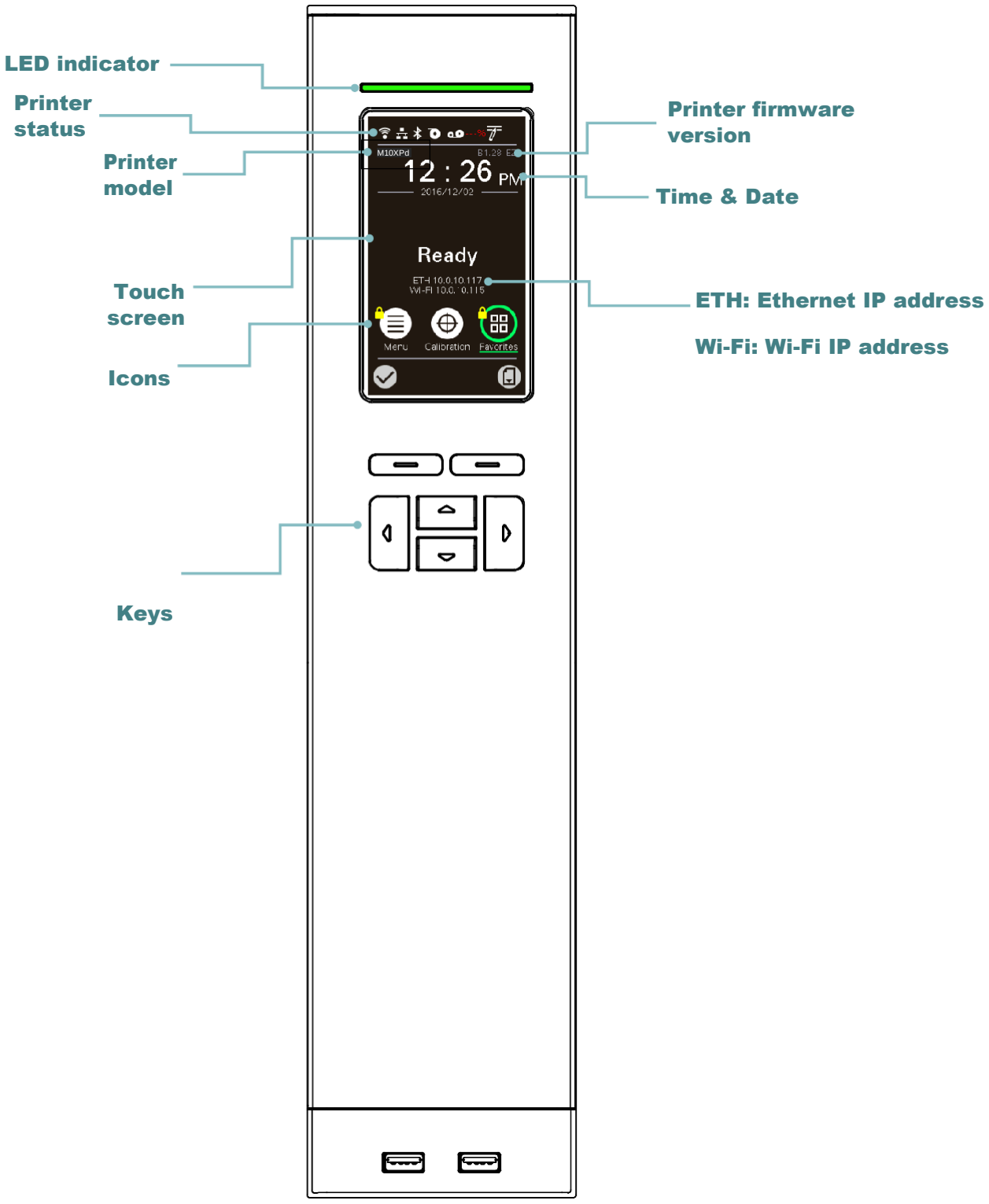
1. External label entrance chute
2. Slot-in Wi-Fi module (Option)
3. RS-232C interface
4. Ethernet interface
5. USB interface
6. microSD card slot
7. Centronics interface (Option)
8. Power switch
9. Power cord socket
10. GPIO interface (Option)

Note:
The interface picture here is for reference only. Please refer to the product specification for the interface availability.

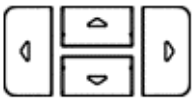
*** Recommended microSD card specification.**

Type	microSD card spec	microSD card capacity	Approved microSD card manufacturer
microSD	V2.0 Class 4	4G	Transcend
	V2.0 Class 4	8G	Transcend
	V3.0 Class 10 UHS-I	16G	Transcend
	V3.0 Class 10 UHS-I	32G	Transcend
	V3.0 Class 10	16G	Kingston
	V2.0 Class 4	16G	Scandisk
	V3.0 Class 10 UHS-I	16G	Scandisk
- The DOS FAT file system is supported for the microSD card. - Folders/files stored in the microSD card should be in the 8.3 filename format. - The mini SD / SD card adapter is required.			

2.3 Operator Control



2.3.1 LED Indication and Keys

LED	Status	Indication	
	Green	Solid	This illuminates when the power is on and the device is ready to use.
		Flash	This illuminates when the system is downloading datafrom PC to memory or the printer is paused.
	Amber	This illuminates when the system is clearing data from printer.	
	Red	Solid	This illuminates with printer head open and cutter error.
		Flash	This illuminates with a printing error, such as head open,paper empty, paper jam, or memory error etc.
Keys	**Function**		
Select keys	The labels on the footer of the UI will explain the function for left and right soft key. Check the labels on the footer of the UI screen. The meaning of the select keys will vary.		
Navigational keys 	Used to select icons, menu selection, and navigation in the UI.		

2.3.2 Main page Icons

Indicated icon	Indication
	Wi-Fi device is ready (option)
	Ethernet is connected
	Bluetooth device is ready (option)
	Media capacity (%)
	Ribbon capacity (m)
	TPH cleaning
	Security lock
Icon button	**Function**
	Enter the menu
	Calibrate the media sensor

	Enter the “Favorites” option (please refer to section 7.9)
	Enter cursor (be marked in green) located option
	Feed button (advance one label)

2.3.3 Power-On Utilities

M10XPd Series have power-on utilities for the user to set sensor calibration, self-test, factory default functions. Please refer to the template below to setup the settings.

Follow the steps below for different power-on utilities.

1. Turn off the printer power switch.
2. Hold on the right side of the select key () then turn on the power switch.
3. Release the button when LCD monitor indicates with different functions.
4. The printer will setup the functions showing on the LCD monitor accordingly.

The sequences of the settings:

Power on utilities	The LED color will be changed as following pattern:						
LED color / *Functions* (showing on LCD monitor)	Amber	Red (5 blinks)	Amber (5 blinks)	Green (5 blinks)	Green/Amber (5 blinks)	Red/Amber (5 blinks)	Solid green
1. Sensor Calibration (Gap / black mark sensor)		*Release*					
2. Self-test and enter dump mode			*Release*				
3. Factory Default				*Release*			
4. Bline Calibration					*Release*		
5. Gap Calibration						*Release*	
6. READY (Skip AUTO.BAS)							*Release*

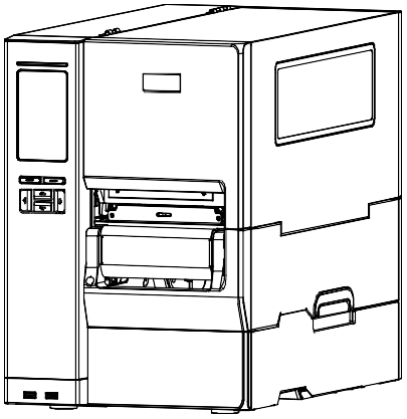
3. Setup

3.1 Setting up the printer

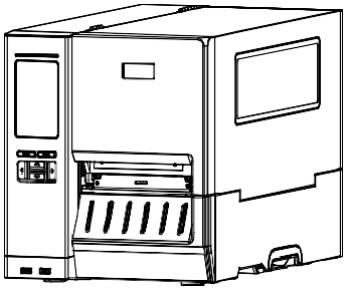
1. Place the printer on a flat, secure surface.
2. Make sure the power switch is off.
3. Connect the printer to the computer with the provided USB cable.
4. Plug the power cord into the AC power cord socket at the rear of the printer, and then plug the power cord into a properly grounded power outlet.

Note: Please turn OFF printer power switch prior to plugging in the power cord to the printer power jack.

M10XPd Rewind Series

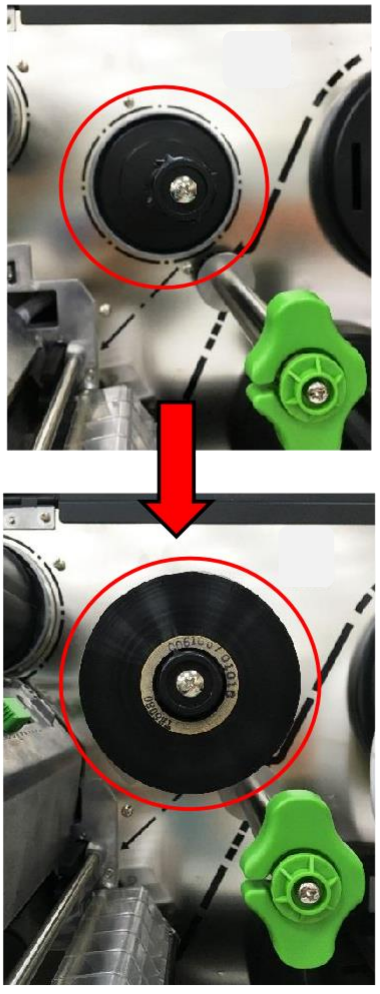


M10XPd Series

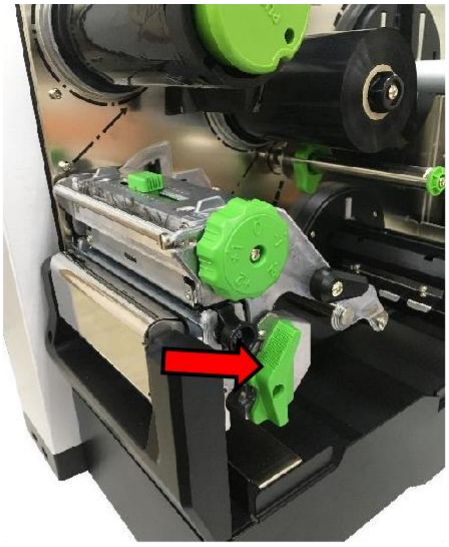
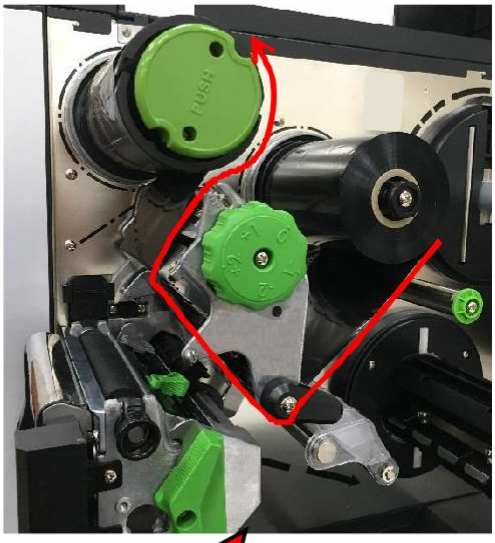
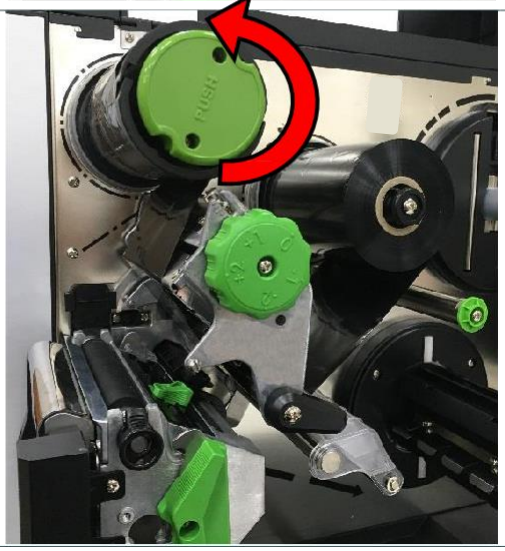


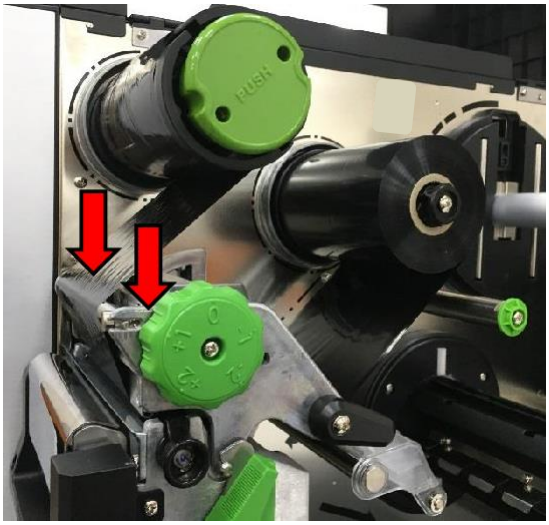
3.2 Loading the Ribbon

1. Open the printer right side cover.



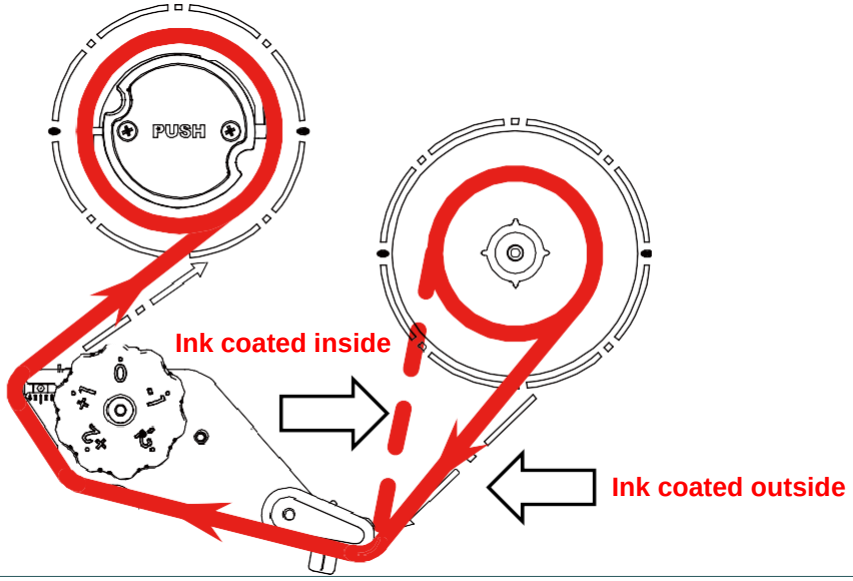
2. Install the ribbon onto ribbon supply spindle.

	3. Push the Printhead release lever to open printhead mechanism.
	4. Thread ribbon below the ribbon guide bar through ribbon sensor slot and follow the loading path printed on the printer chassis or cover label.
	5. Wind the ribbon rewind spindle counterclockwise roughly 3~5 circles until the ribbon is smooth, properly stretched and wrinkle-free.

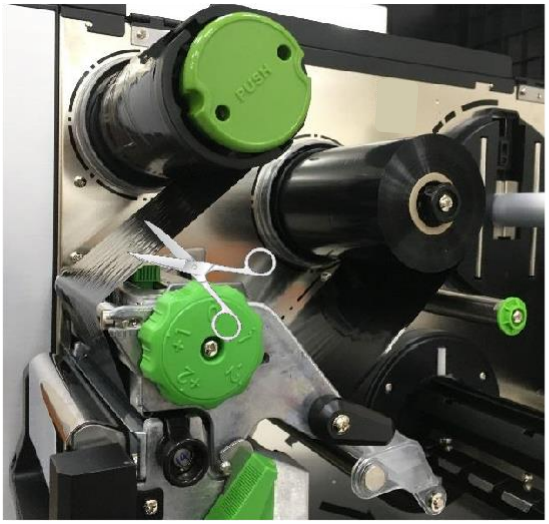
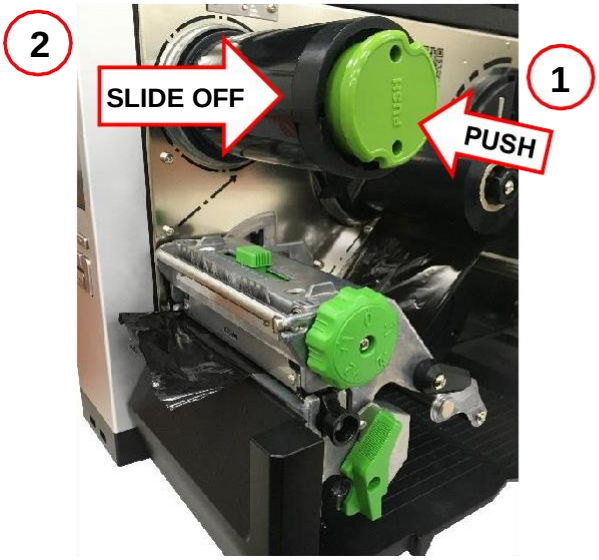


6. Close the printhead mechanism by pushing down on both sides of the printhead assembly.

Ribbon loading path



3.3 Remove Used Ribbon

	1. Cut/Break the ribbon between ribbon guide plate and the ribbon rewind spindle.
	2. Push the ribbon release button and slide the ribbon off to release the ribbon on the ribbon rewind spindle at the same time.

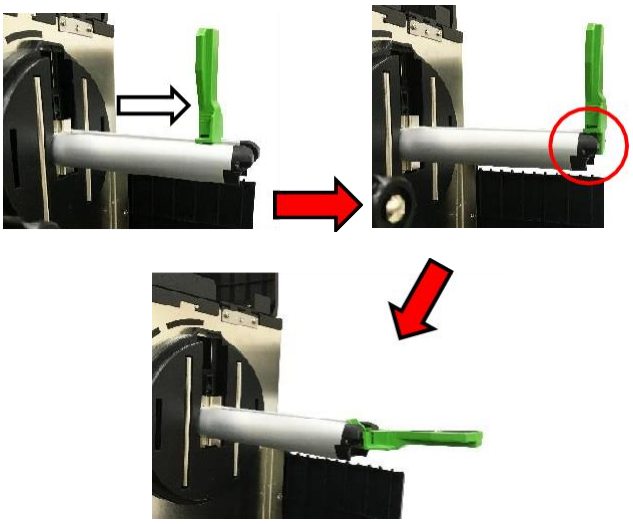
3.4 Loading Media

3.4.1 Loading label Media

Standard Printer Configuration

1. Open the printer right side cover.

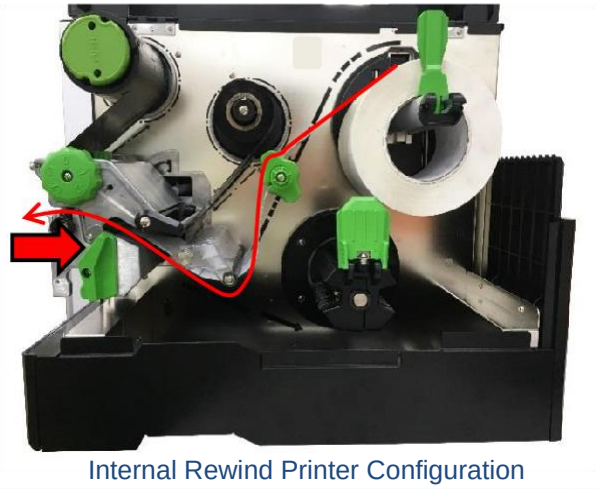
Internal Rewind Printer Configuration



2. Move the label roll guard horizontally to the end of label spindle, then flip down the label roll guard.

3. Place the media roll on the label supply spindle and use label roll guard to affix it.

Note:
The media end sensor is adjustable, which can detect the capacity of media and remind users to change the media roll.



Internal Rewind Printer Configuration

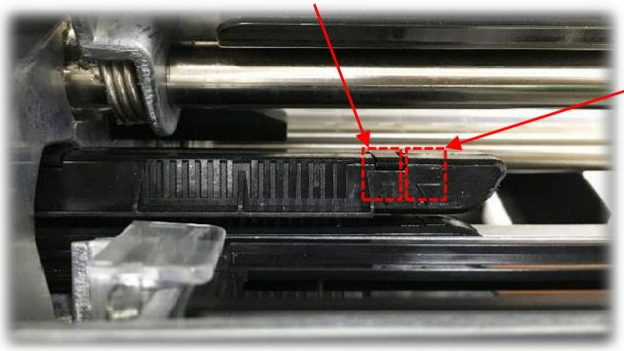
4. Push the printhead release lever and install the label through the media guide bar, damper, media sensor, and label guide to install the media.

Standard Printer Configuration

5. Move the media sensor by adjusting the media sensor position adjustment knob, make sure the gap or black mark sensor is at the location where media gap/black mark will pass through for sensing.

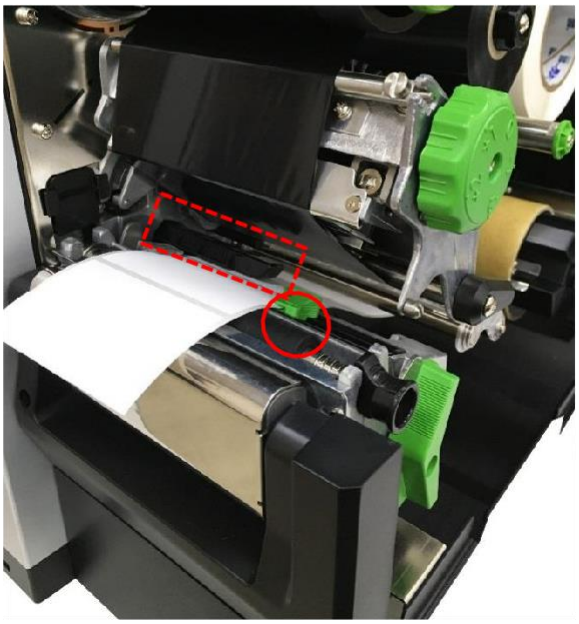
Black mark sensor

(shown as ↓)



Gap sensor

(shown as▽)



6. Adjust the label guide to fix the media position.

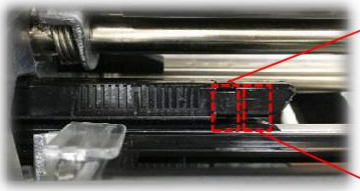
Note:

*** Please install the media through the media sensor.**

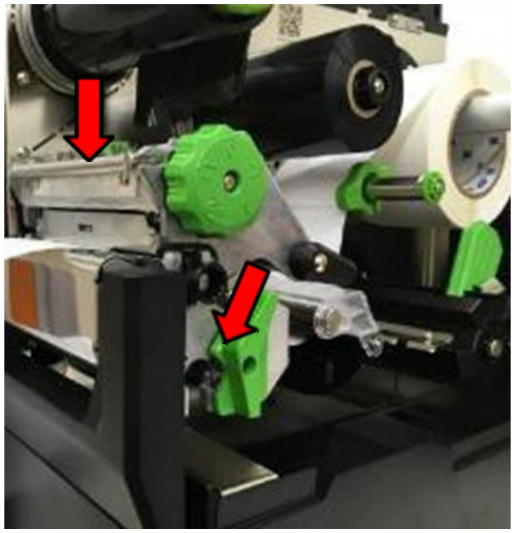
*** The sensor location is marked by a triangle mark ▽ (gap sensor) and arrow mark ↓ (black mark sensor) at the sensor housing.**

*** The media sensor position is adjustable, make sure the gap or black mark is at the location where media gap/black mark will pass through for sensing.**

Black mark sensor



Gap sensor



7. Close the printhead mechanism on both sides and make sure the latches are engaged securely.
8. Set media sensor type and calibrate the selected sensor.

Note:

*** Please calibrate the gap/black mark sensor when changing media.**

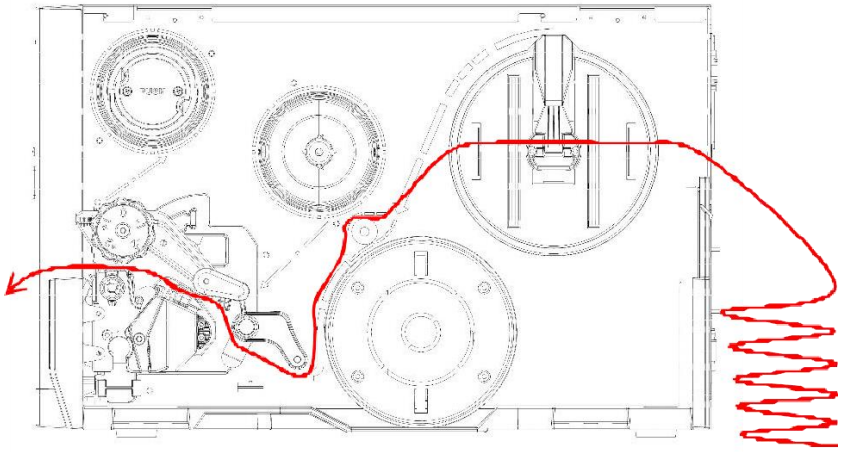
3.4.2 Loading the Fanfold/External Media

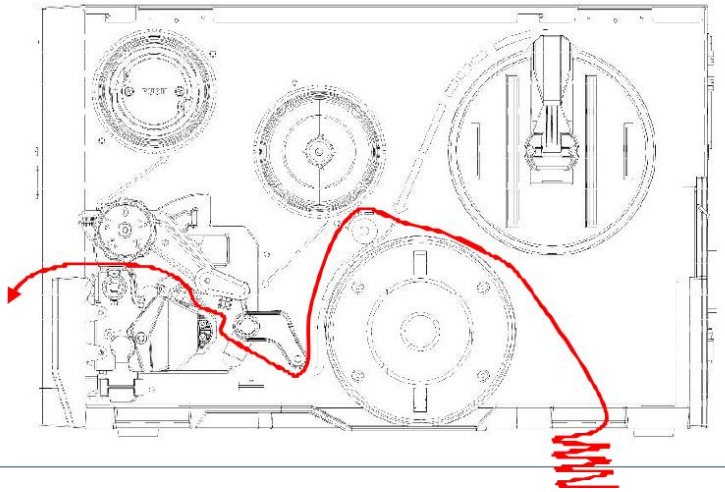
Standard Printer Configuration

1. Open the printer right side cover.
2. Insert the fanfold media through the bottom or rear external label entrance chute.
3. Please refer to section 3.4.1 step 4~8 for loading media.

Note:
Calibrate the gap/black mark sensor when changing media.

Loading path for fan-fold labels



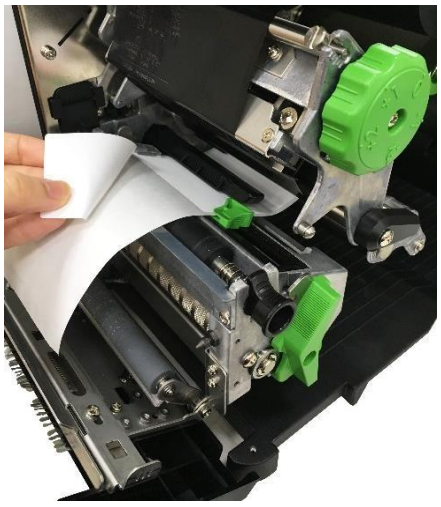


3.4.3 Loading Media in Peel-off Mode (Optional for M10XPd Rewind Series)

Internal Rewind Printer Configuration

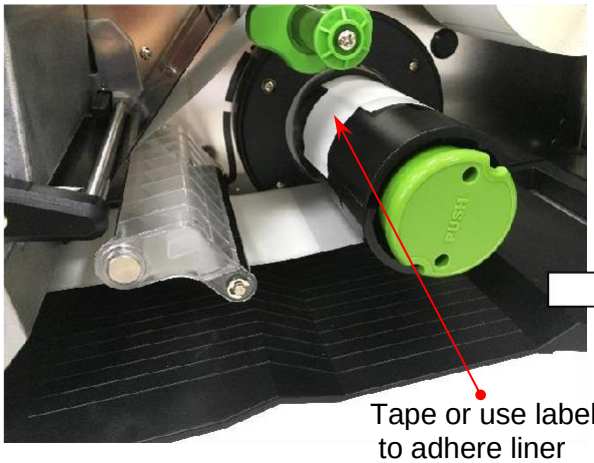
1. Open the printer right side cover.
2. Please refer to section 3.4.1 for loading media.
3. Use the front display panel to do the calibration first and set the printer mode to peeler mode.

Note:
Please calibrate the gap/black mark sensor before loading media in the peel- off mode to avoid a paper jam.



4. Open printhead release lever, label guide bar release lever, and peel-off module to pull approximately two feet of the label through the front of the printer.
5. Remove several labels (approx. 6-inches) to expose the liner.

6. Feed the leading edge of liner through the peel-off roller.



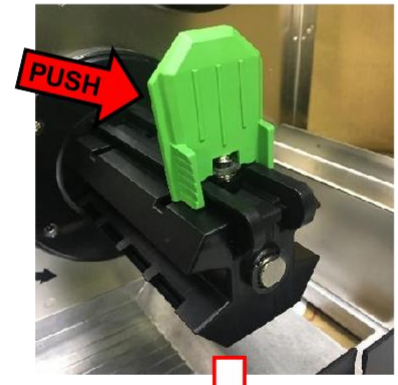
7. Wrap the liner onto the core, tape the liner onto the spindle. Wind the spindle until the liner is stretched properly.

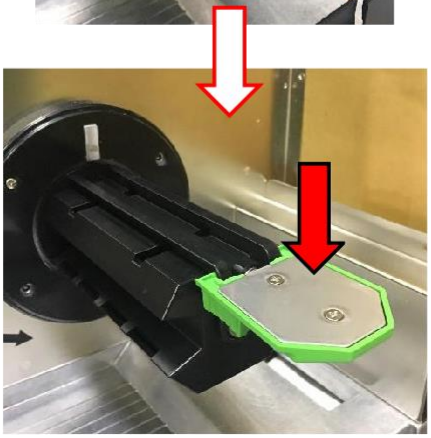
8. Close printhead release lever and use the front display panel to set the print mode to “Peel off”.
9. Press the FEED button to test.

3.4.4 Loading Media in Rewind Mode (Optional for M10XPd Rewind Series)

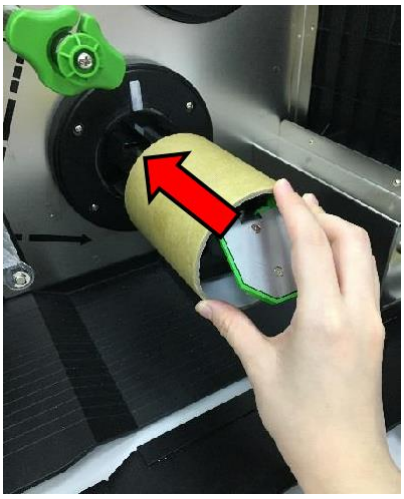
1. Open the printer right side cover.
2. Please refer to section 3.4.1 for loading media.

3. Use the front display panel to do the calibration and set the printer mode to rewind mode.





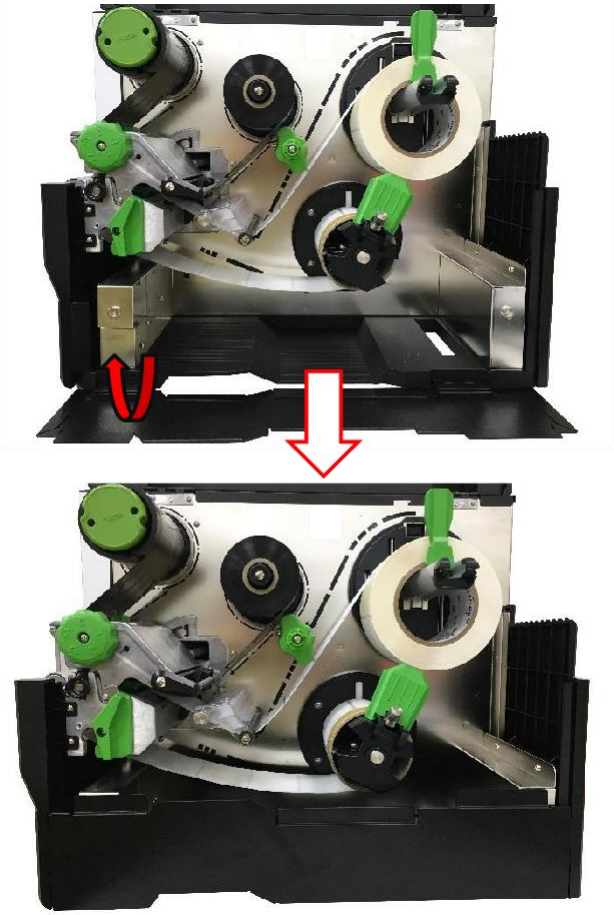
4. Open the printer lower cover, then push the label guide to the far-right side and pull it down.



5. Install the paper core onto the rewind spindle.

6. Open printhead release lever and label guide bar release lever to pull approximately two feet of the label through the front of the printer.
7. Feed the leading edge of media through the redirect front panel as shown.

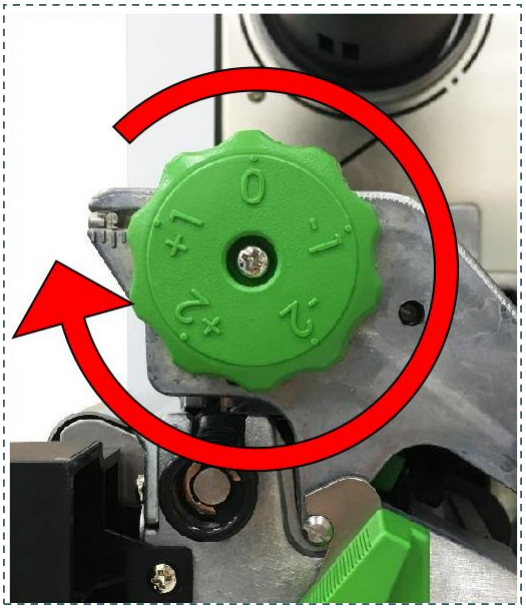
8. Wrap the label onto the internal rewind spindle and tape the label onto the paper core. Wind the spindle counterclockwise until the label is stretched properly.



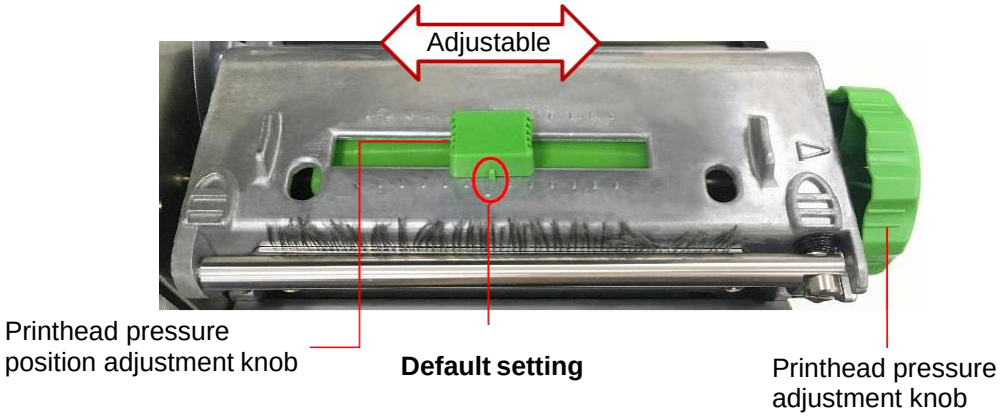
9. Adjust the media rewind guide to fit the label width.
10. Close printhead release lever and printhead lower cover.

4. Adjustment Knob

4.1 Printhead Pressure and Position Adjustment



The printhead pressure adjustment knob has 5 levels of adjustment. Because the printer's paper alignment is to the left side of mechanism, different media widths require the different pressure to print the label correctly. Therefore, it may require adjusting the printhead pressure adjustment knob to get the best print quality.

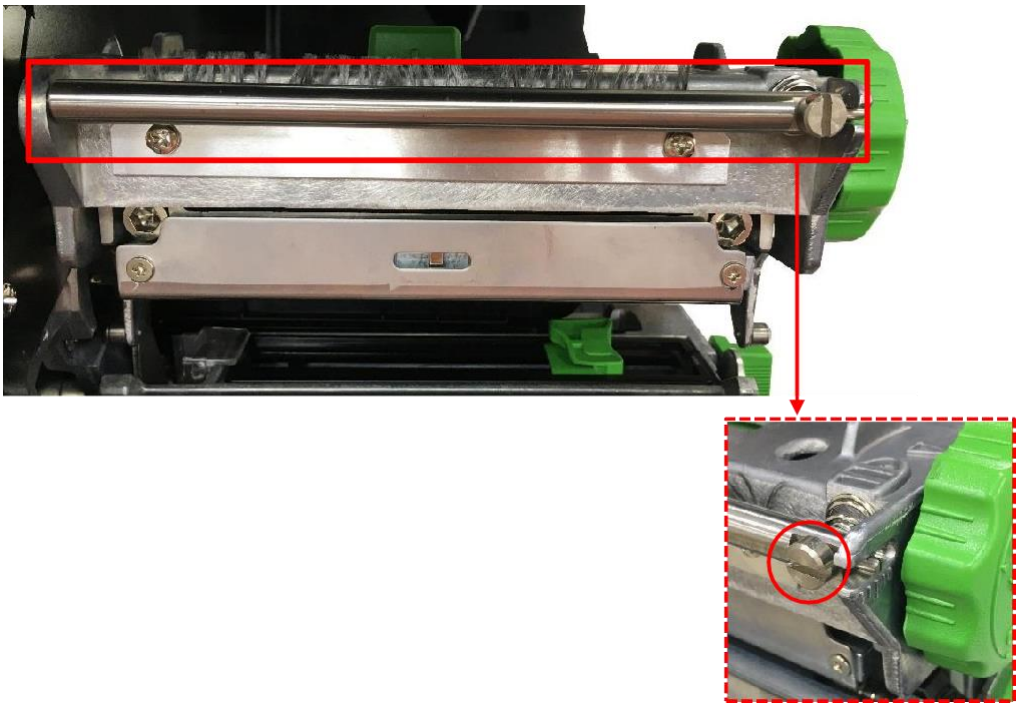


Note:

For a label width less than 2 inches, please slide the **Printhead pressure position adjustment knob** towards the left edge of the label as much as possible (to prevent unnecessary friction between the printhead and platen roller).

4.2 Ribbon Tension Adjustment Module

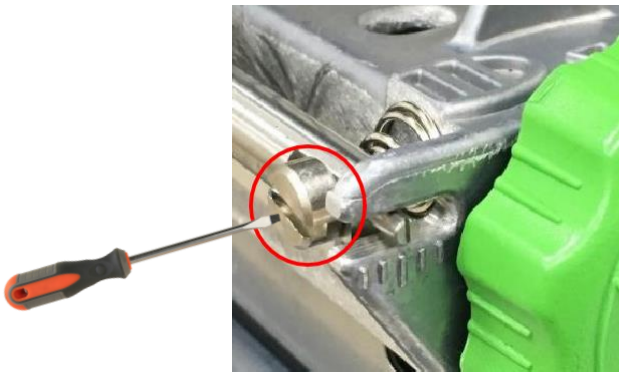
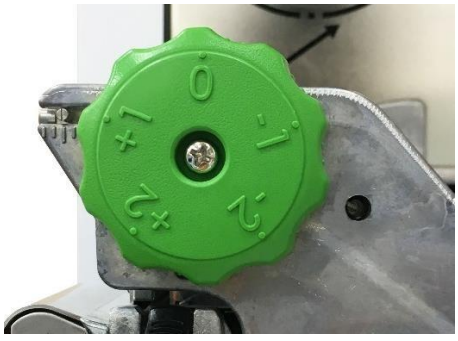
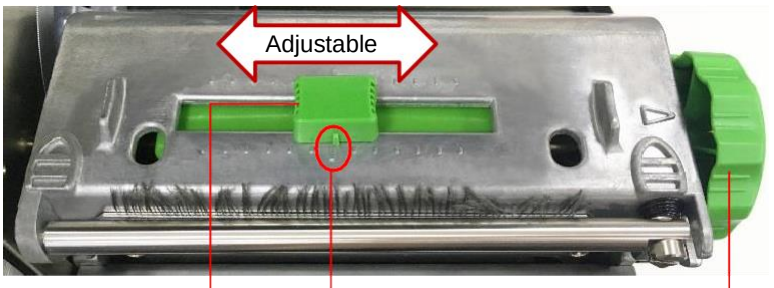
The ribbon tension adjustment screw has 5 positions for adjustment. Because the printer's ribbon alignment is to the left side of mechanism, different ribbon or media widths require different tension to print correctly. Therefore, it may require rotating the ribbon tension adjustment screw to get your best print quality.



Ribbon Tension Adjustment Screw

4.3 Mechanism Fine Adjustment to Avoid Ribbon Wrinkles

This printer has been fully tested before delivery. There should be no ribbon wrinkle present on the media for general-purpose printing applications. Ribbon wrinkle is related to the media width, thickness, printhead pressure balance, ribbon film characteristics, print darkness setting…etc. In case ribbon wrinkle occurs, please follow the instructions below to adjust the printer parts.

<table>
<tr><td rowspan="2">Adjustable Printer Parts</td><td>Ribbon Tension Adjustment Screw has 5 positions for adjustment. Use flat blade screwdriver to change the ribbon tension position.
 
Ribbon Tension Adjustment Screw</td></tr>
<tr><td>The Printhead Pressure Adjustment Knob has 5 levels of settings. Switch the Printhead Pressure Adjustment Knob and coordinate with the Printhead Pressure Position Adjustment Knob to adjust the pressure and position on printhead.
 
Print Head Pressure Adjustment Knob
 

Print Balance adjustment
Default Stetting
Printhead Pressure adjustment knob</td></tr>
</table>

Symptom	1. Wrinkle happens from label lower left to upper right direction (“ ⁀ ”)	2. Wrinkle happens from label lower right to upper left direction (“ ‿ ”)
Wrinkle Example	 Feed direction 	
	If the wrinkle on the label starts from the lower left side to upper right side, please do the following adjustment. 1. Switch the ribbon tension adjustment knob clockwise per 1 level and print the label again to check if the wrinkle is gone.  2. If the ribbon tension adjustment knob is positioned inward of graduated center mark but didn’t improve the ribbon wrinkle, please switch the printhead pressure position adjustment knob per 1 level and print the label again to check if the wrinkle is gone. 3. If the ribbon wrinkle still won’t improve after moving the printhead pressure position adjustment knob, please adjust the printhead pressure adjustment knob per 1 level again to check if the wrinkle is gone.	If the wrinkle on the label starts from the lower right side to upper left side, please do the following adjustment. 1. Switch the ribbon tension adjustment knob counterclockwise per 1 level and print the label again to check if the wrinkle is gone.  2. If the ribbon tension adjustment knob is positioned outward of graduated center mark but didn’t improve the ribbon wrinkle, please switch the printhead pressure position adjustment knob per 1 level and print the label again to check if the wrinkle is gone. 3. If the ribbon wrinkle still won’t improve after moving the printhead pressure position adjustment knob, please adjust the printhead pressure adjustment knob per 1 level again to check if the wrinkle is gone.

5. PAL™ Print and Program Overview

Printers featuring PAL™ Print and Program utility can be used in several ways in any given environment. This section describes 3 common ways this advanced capability is used. For help and assistance determining the best way to use this utility in your situation, please consult your sales representative.

PALSECURE ON DEMAND™

Also available is PALSECURE ON DEMAND™ Label Reprints: allows healthcare professionals to print secure data on labels and wristbands anywhere in the hospital – no network connection required. This solution provides label printing on demand, using automatic encryption of patient data and decryption only with an authorized printer/scanner combination. Please enquire with your sales representative for more information.

Traditional Printing

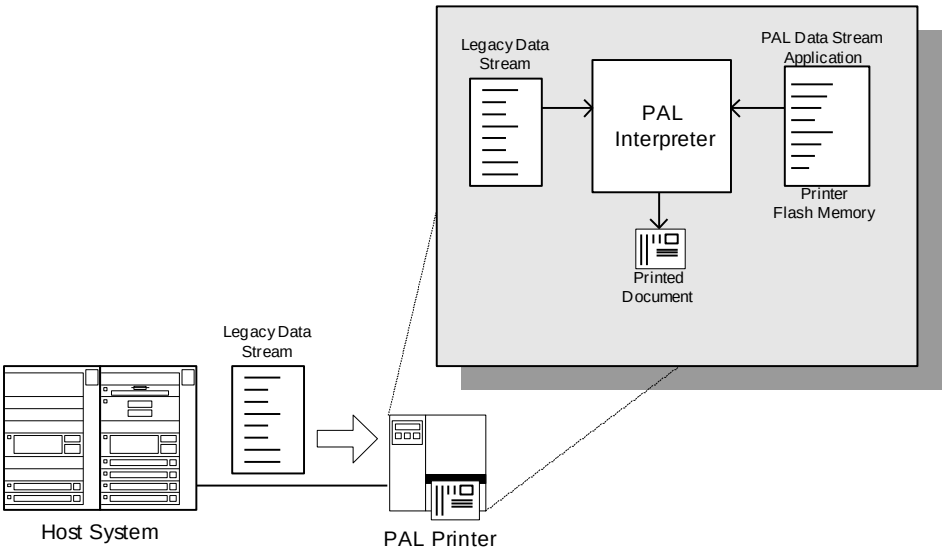
This environment represents the most common use of printers. Generally, a single print job (PAL™ print sequences) generates a single label. In this role the PAL™ Print and Program interpreter accepts the print job, performs the required operator processing and prints the; label, tag, or ticket. Using a Windows driver in conjunction with a Windows application program is a typical way to print in this environment. Alternatively, PAL™ print sequences may also be generated by any host application written to take advantage of this powerful language. When a PAL™ capable printer is used this way, no special “PAL™ program” must be loaded on the printer. Print sequences generated by a Windows driver or host program are simply sent to the printer resulting in print output just like traditional printers.

Legacy Data Stream Interpretation

PAL™ Print and Program capable printers uniquely address applications where upgrading to modern cost-effective technology is desired. Often cost-prohibitive software reprogramming to change a data stream prevents an organization from moving to new printing technologies.

Using a PAL™ Print and Program capable printer solves this problem. In this case a PAL™ program is written which interprets a data stream normally sent to the legacy device being replaced. This program is stored on the printer and is automatically executed each time the printer is powered on. This program is able to produce a new label format based on this legacy data. Even though the host computer is sending the exact same legacy data to the printer, the label format can be completely different. For example, the new format may include bar codes, scaled and/or rotated fonts, lines, logo's etc. Even though the legacy device being replaced does not support these print abilities, the new label format can.

For example, text only outputs such as produced by a dot-matrix printer or card embosser may now be presented in a more functional format. Information in the data stream can be reformatted into any size font in any rotation, or even printed as bar code. This example demonstrates how PAL™ Print and Program capable printers can replace a legacy print device with no host software changes required.



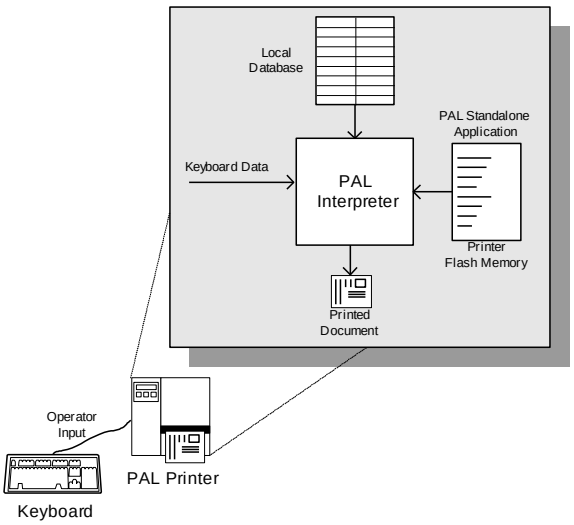
Standalone/Downtime Applications

PAL™ Print and Program capable printers may be programmed to operate independent of a PC/host connection. This standalone ability may be used in cases where no PC/host connection is needed or as a fail-safe backup when the PC/host or network is unavailable. The Standalone Application program is stored in the printer memory and can accept input from a keyboard, bar code scanner, or other serial device such as an electronic scale. These programs may use the printer's LCD to prompt for user input and may also include databases. Unlike other bar code printers that allow basic static forms to be loaded in the printer, PAL™ Print and Program capable printers provide advanced capabilities.

Examples of these advanced capabilities are:

- Ability to operate on line from host or off line in stand-alone mode
- Ability to range check user input
- Ability to combine data from multiple fields into a single bar code
- Ability to access database stored in printer
- Ability to perform math calculations (addition, subtraction, multiplication, division, etc.)
- Ability to perform logical calculations (equal to, less than, greater than, etc.)

Shown below is an example where a stand-alone PAL™ application and database is stored in the printer. Operator input combined with internal database information is used to create a label. For example, this application could request a part number and physical dimensions of a particular part by prompting for this information on the printer LCD. After the operator inputs the requested information on the keyboard, the printer could calculate the volume, and then based on the part number, lookup the part description in a database to produce a label.



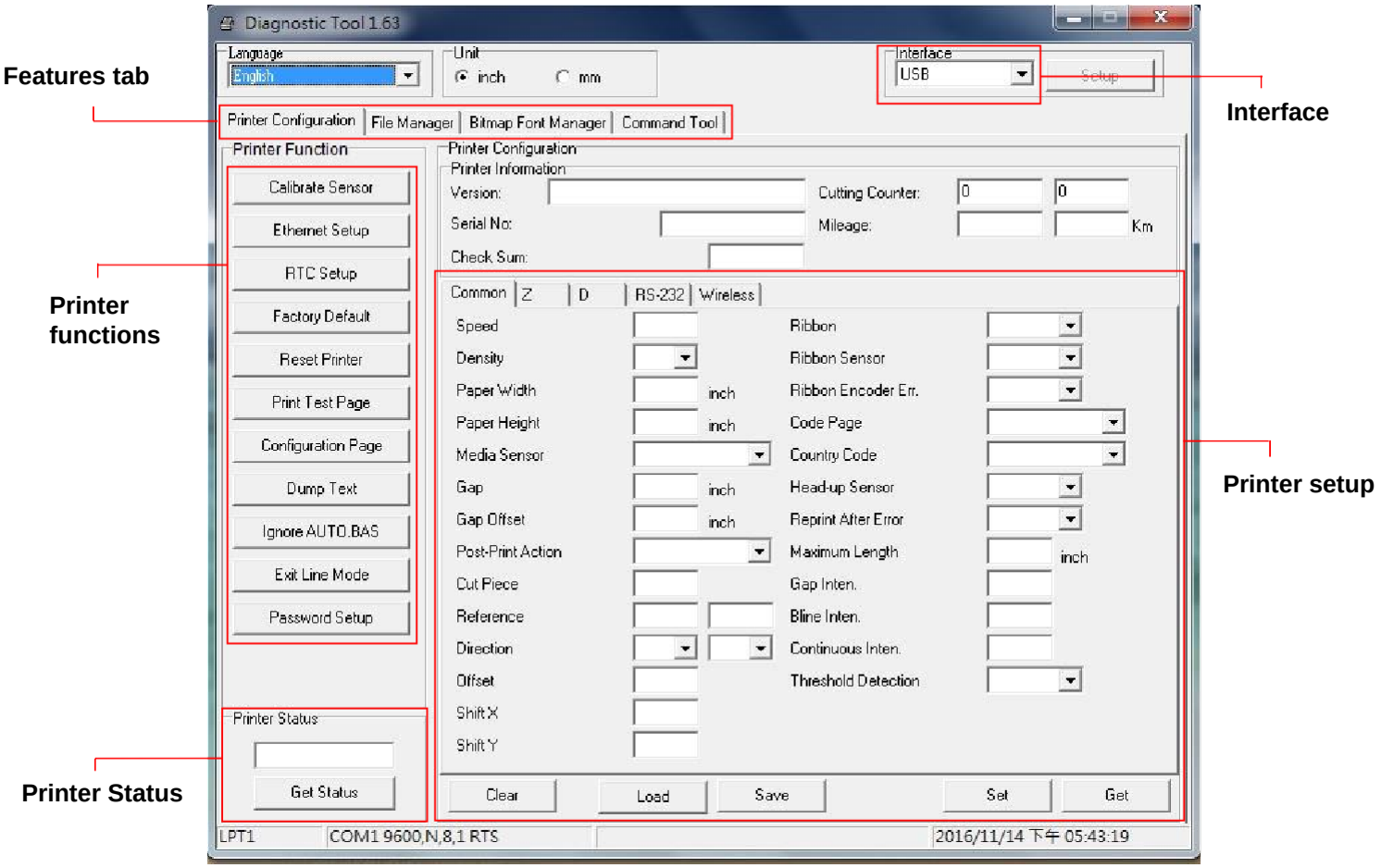
6. Diagnostic Tool

AMTDS's Diagnostic Utility is an integrated tool incorporating features that enable you to explore a printer's settings/status; change a printer's settings; download graphics, fonts, and firmware; create a printer bitmap font; and send additional commands to a printer. With the aid of this powerful tool, you can review printer status and settings in an instant, which makes it much easier to troubleshoot problems and other issues.

6.1 Start the Diagnostic Tool

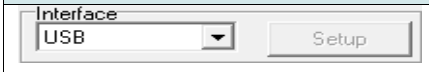
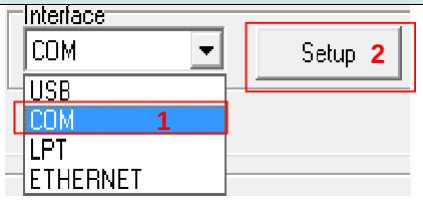
1. Double click on the Diagnostic tool icon  DiagTool.exe to start the software.

2. There are four features (Printer Configuration, File Manager, Bitmap Font Manager, Command Tool) included in the Diagnostic utility.



6.2 Printer Function

1. Connect the printer and computer with a cable.
2. Select the PC interface connected to the bar code printer.

USB cable	Other cable
 The default interface setting is USB interface. If a USB cable is connected to the printer, no other settings need to be changed in the interface field.	

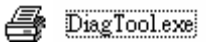
3. Click the “Printer Configuration” tab to adjust settings.
4. The detail functions in the Printer Function Group are listed as below.

Function	Description
Calibrate Sensor	Calibrate the sensor specified in the Printer Setup group media sensor field
Ethernet Setup	Setup the IP address, subnet mask, gateway for the onboard Ethernet
RTC Setup	Synchronize printer Real Time Clock with PC
Factory Default	Initialize the printer and restore the settings to factory default.
Reset Printer	Reboot printer
Print Test Page	Print a test page
Configuration Page	Print printer configuration
Dump Text	To activate the printer dump mode.
Ignore AUTO.BAS	Ignore the downloaded AUTO.BAS program
Exit Line Mode	Exit line mode.
Password Setup	Set the password to protect the settings

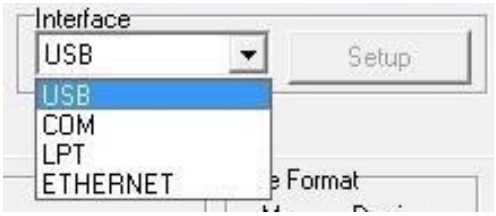
6.3 Setting Ethernet by Diagnostic Tool

The Diagnostic Utility is enclosed in the CD disk \ Utilities directory. Users can use Diagnostic Tool to setup the Ethernet by RS-232, USB and Ethernet interfaces. The following contents will instruct users how to configure the Ethernet by these three interfaces.

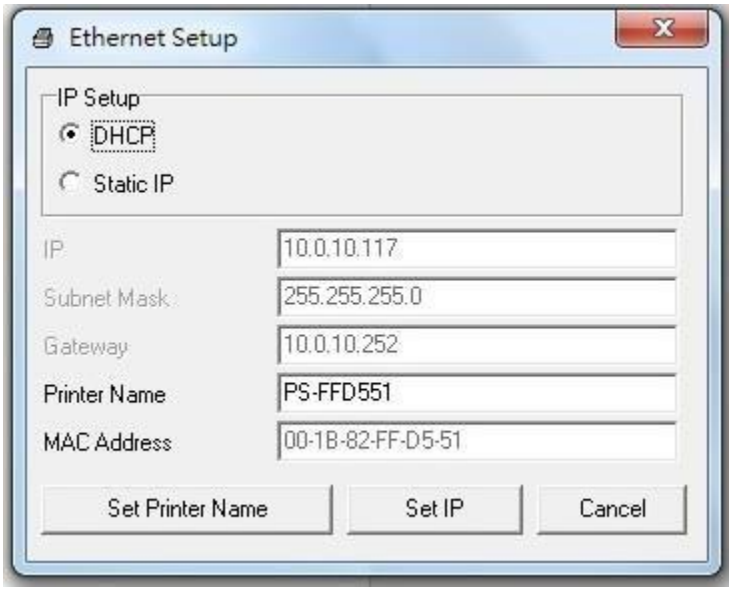
6.3.1 Using USB interface to setup Ethernet interface

1. Connect the printer and computer with a USB cable.
2. Turn on the printer power switch.
3. Start the Diagnostic Utility by double clicking on the 

icon.
4. The Diagnostic Utility default interface setting is USB interface. If USB interface is connected to the printer, no other settings need to be changed in the interface field.



5. Click on the “Ethernet Setup” button from “Printer Function” group in Printer Configuration tab to setup the IP address, subnet mask and gateway for the onboard Ethernet.



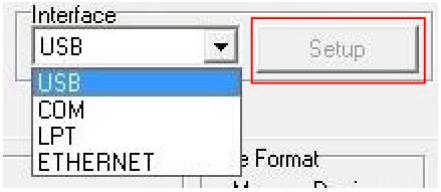
6.3.2 Using RS-232 interface to setup Ethernet interface

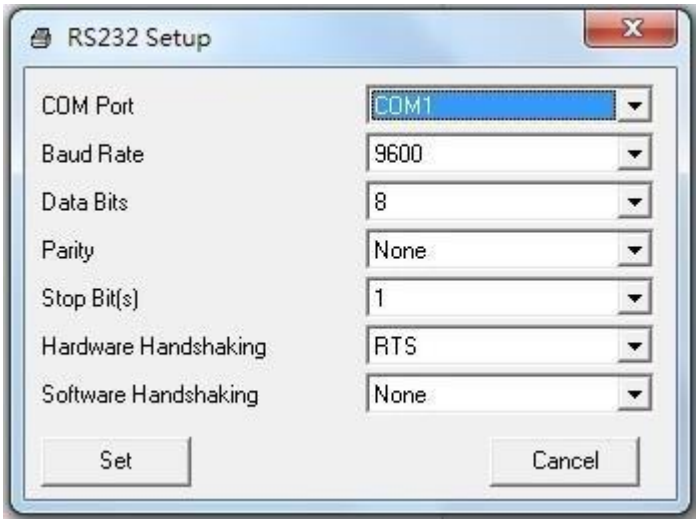
1. Connect the computer and the printer with a RS-232 cable.

2. Turn on the printer power.

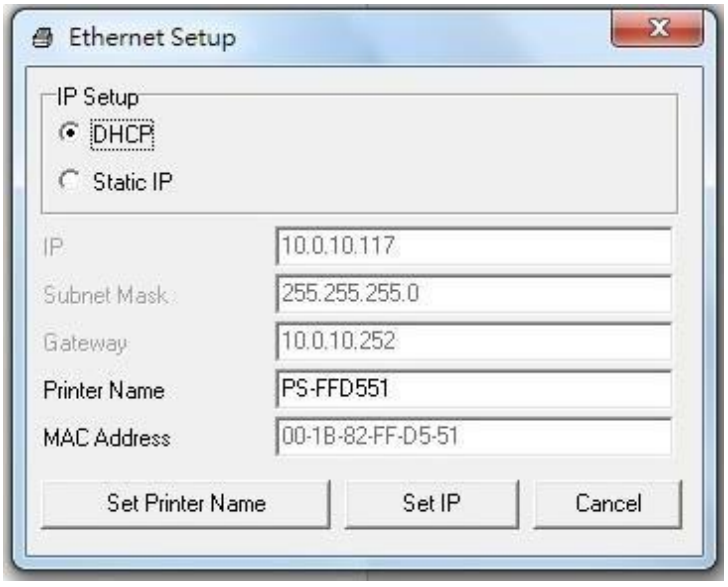
3. Start the Diagnostic Utility by double clicking on the DiagTool.exe icon.

4. Select “COM” as interface then click on the “Setup” button to setup the serial port baud rate, parity check, data bits, stop bit and flow control parameters.





5. Click on the “Ethernet Setup” button under Printer Function on the Printer Configuration tab to setup the IP address, subnet mask and the gateway for the onboard Ethernet.



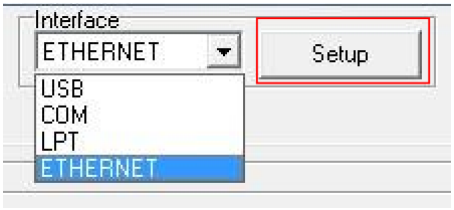
6.3.3 Using Ethernet interface to setup Ethernet interface

1. Connect the computer and the printer to the LAN.

2. Turn on the printer power.

3. Start the Diagnostic Utility by double clicking on the   icon.

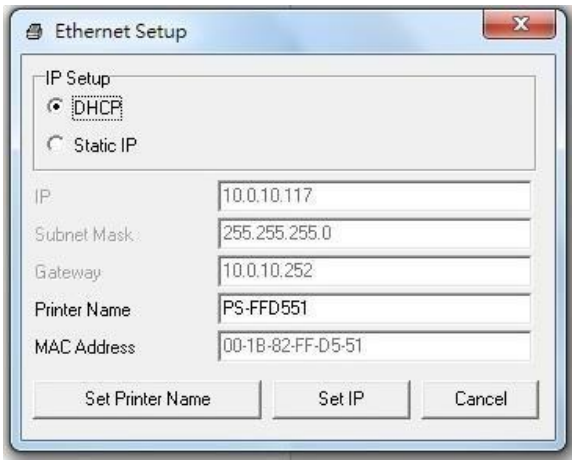
4. Select “Ethernet” as the interface then click on the “Setup” button to setup the IP address, subnet mask and gateway for the onboard Ethernet.



5. Click the “Discover Device” button to explore the printers that exist on the network.

6. Select the printer on the left side of listed printers, the corresponding IP address will be shown in the “IP address/Printer Name” field.

7. Click “Change IP Address” to configure the IP address obtained by DHCP or static.



The default IP address is obtained by DHCP. To change the setting to static IP address, click the "Static IP" radio button then enter the IP address, subnet mask and gateway. Click "Set IP" for the settings to take effect.

Users can also change the "Printer Name" field to another user preferred name. Click "Set Printer Name" for this to take effect.

Note: After clicking the "Set Printer Name" or "Set IP" button, the printer will reset to invoke the settings.

8. Click "Exit" button to exit the Ethernet interface setup and go back to Diagnostic Tools' main screen.

"Factory Default" button

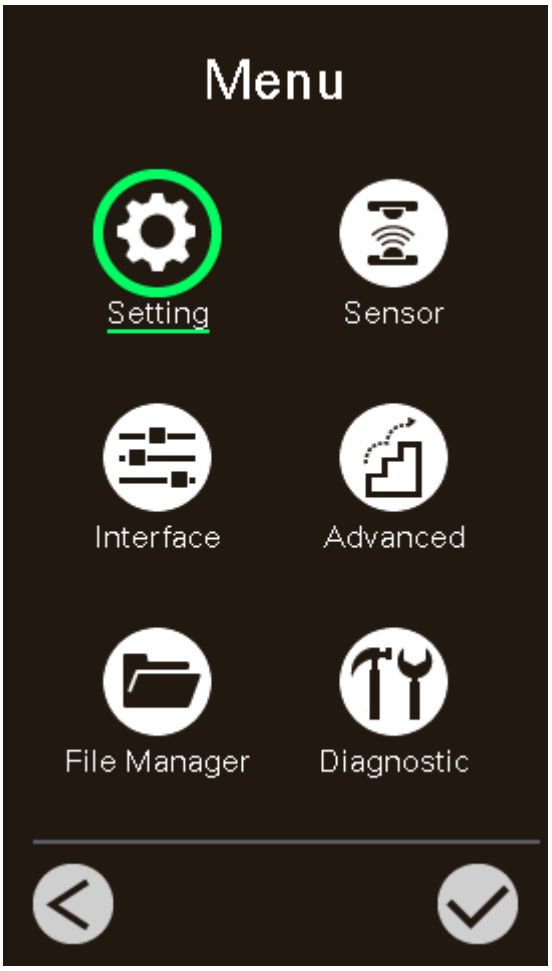
This function will reset the IP, subnet mask, gateway parameters obtained by DHCP and reset the printer name.

"Web setup" button

An exception to using the Diagnostic Utility to setup the printer is you can also explore and configure the printer settings and status or update the firmware with a web browser. This feature provides a user-friendly setup interface and the capability to manage the printer remotely over a network.

7.0 LCD Menu Function

7.1 Enter the Menu



*** By touch display:**

Tap the “Menu” icon on LCD main page to enter the menu.

*** By Keys:**

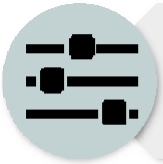
Use navigational keys to select the “Menu” icon (marked in green) and press the left soft key button to enter the menu.

7.2 Menu Overview

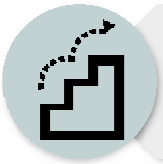
There are 6 categories for the menu. You can easily change the settings of the printer without connecting to the computer. Please refer to the following sections for more details.

This “Setting” category can set up the printer settings for TSPL & ZPL2.

This "Sensor" option is used to calibrate the selected media sensor. We recommend calibrating the sensor before printing when changing the media.

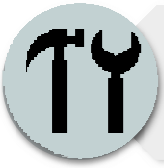


This "Interface" option is used to set the printer interface settings.



This "Advanced" option is used to set the printer LCD settings, initialization, cutter type, media low warning setting %...etc.

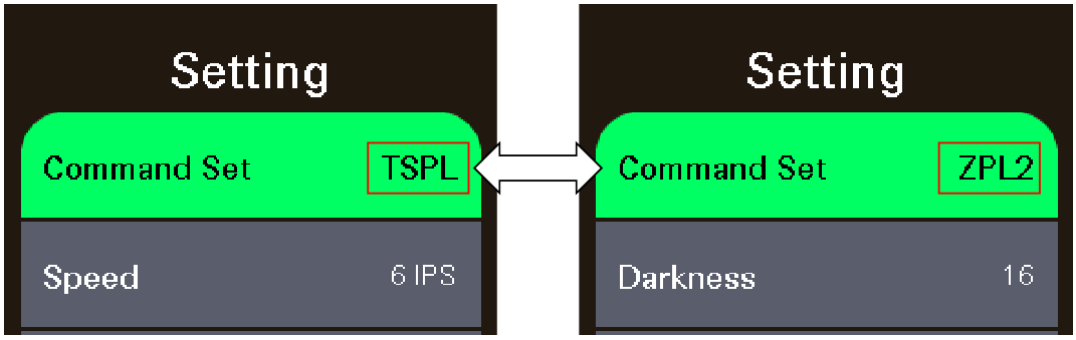
This "File Manager" option is used to check/ manage the printers’ available memory.



This "Diagnostic" option is used to query the printer to troubleshoot problems and other issues.

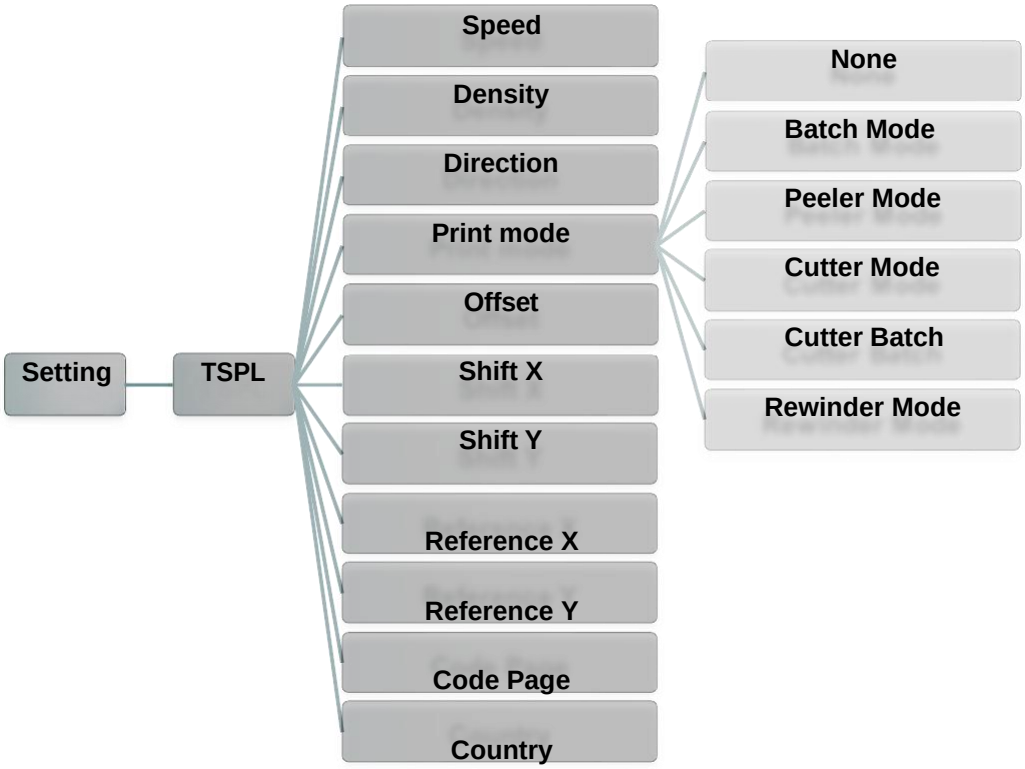
7.3 Setting

Tap the “Command Set” item on LCD to switch between TSPL and ZPL2. Or select the “Command Set” item by navigational key and press right soft key to switch between TSPL and ZPL2.

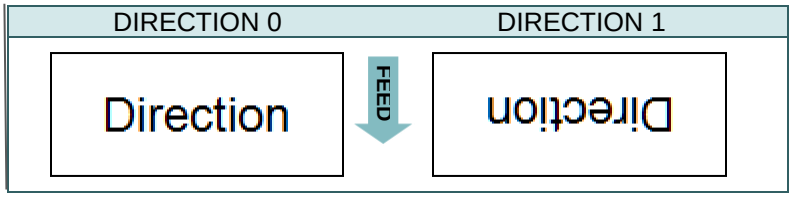


7.3.1 TSPL

This “TSPL” category can set the printer settings for TSPL.



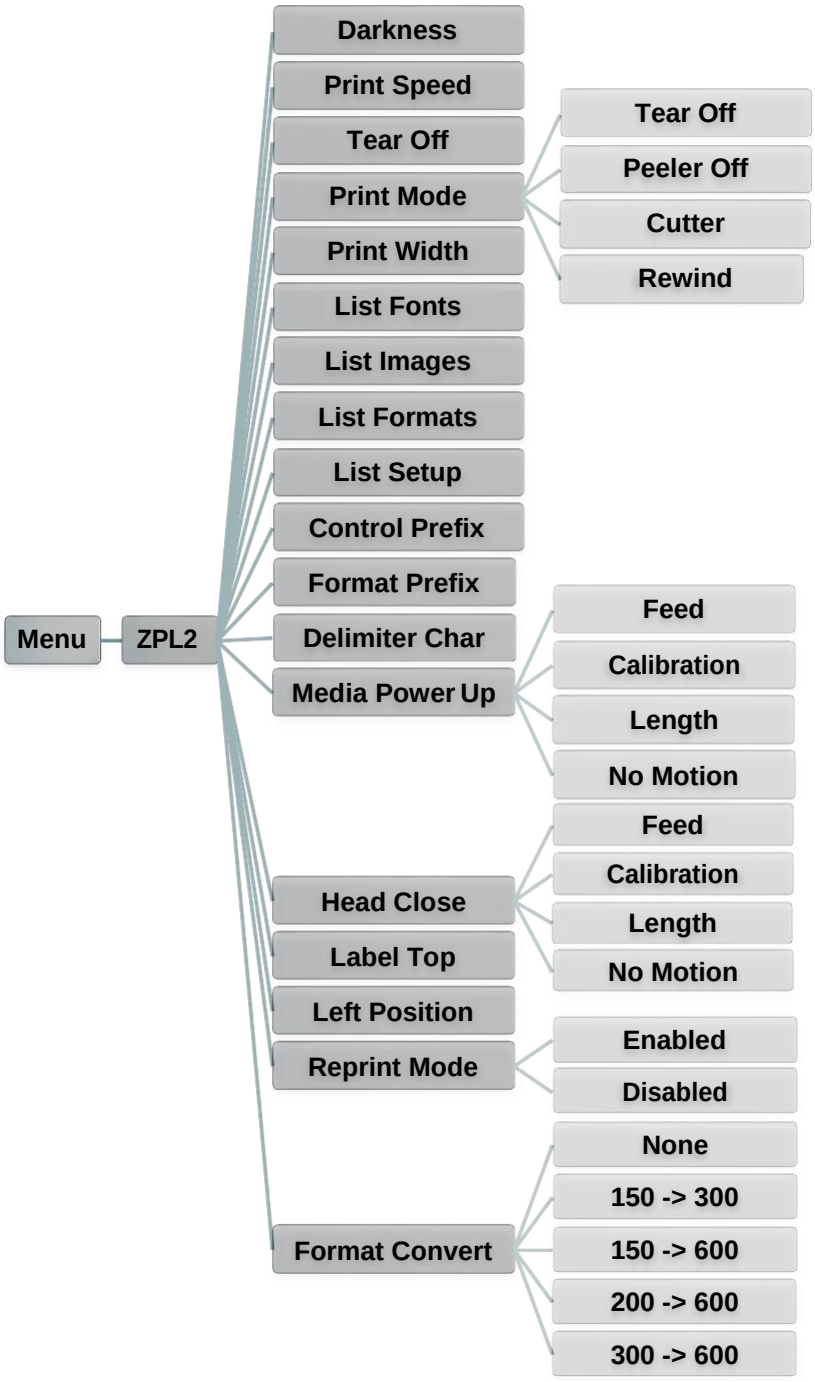
Item	Description	Default
Speed	Use this item to setup print speed. Available setting range is 2~14 for 203dpi, 2~12 for 300dpi and 1~6 for 600dpi.	**203 dpi: 6** **300 dpi: 4** **600 dpi: 3**
Density	Use this option to setup printing darkness. The available setting range is from 0 to 15, and the step is 1. You may need to adjust your density based on selected media.	**8**

<table>
<tr><td>Direction</td><td>The direction setting value is either 1 or 0. Use this item to setup the printout direction.
 
</td><td>0</td></tr>
<tr><td>Print mode</td><td>This item is used to set the print mode. There are 6 modes as shown below,
<table>
<tr><th>Printer Mode</th><th>Description</th></tr>
<tr><td>None</td><td>Next label top of form is aligned to the printhead burn line location. (Tear Off Mode)</td></tr>
<tr><td>Batch Mode</td><td>Once image is printed completely, label gap/black mark will be fed to the tear plate location for tear off.</td></tr>
<tr><td>Peeler Mode</td><td>Enable the label peel off mode.</td></tr>
<tr><td>Cutter Mode</td><td>Enable the label cutter mode.</td></tr>
<tr><td>Cutter Batch</td><td>Cut the label once at the end of the printing job.</td></tr>
<tr><td>Rewinder Mode</td><td>Enable the label rewinder mode.</td></tr>
</table></td><td>Batch Mode</td></tr>
<tr><td>Offset</td><td>This item is used to fine tune the media stop location. Available setting values range from -999 dots to 999 dots.</td><td>0 dot</td></tr>
<tr><td>Shift X</td><td rowspan="2">This item is used to fine tune the print position. Available setting values range from -999 dots to 999 dots.</td><td>0 dot</td></tr>
<tr><td>Shift Y</td><td>0 dot</td></tr>
<tr><td>Reference X</td><td rowspan="2">This item is used to set the origin of the printer coordinate system both horizontally and vertically. Available setting values range from 0 dots to 999 dots.</td><td>0 dot</td></tr>
<tr><td>Reference Y</td><td>0 dot</td></tr>
<tr><td>Code page</td><td>Use this item to set the code page of international characters set.</td><td>850</td></tr>
<tr><td>Country</td><td>Use this option to set the country code. Available setting values range from 1 to 358.</td><td>001</td></tr>
</table>

Note: If printing from enclosed software/driver, the software/driver will send out the commands, which will overwrite the settings set from the panel.

7.3.2 ZPL2

This “ZPL2” category can set up the printer settings for ZPL2.



Item	Description	Default
Density	Use this item to setup printing darkness. The available setting range is from 0 to 30. You may need to adjust your density based on selected media.	**16**
Print Speed	Use this item to setup print speed. Available setting range is 2~18 for 203dpi, 2~14 for 300dpi and 1.5 ~6 for 600dpi.	**203 dpi: 6** **300 dpi: 4** **600 dpi: 3**

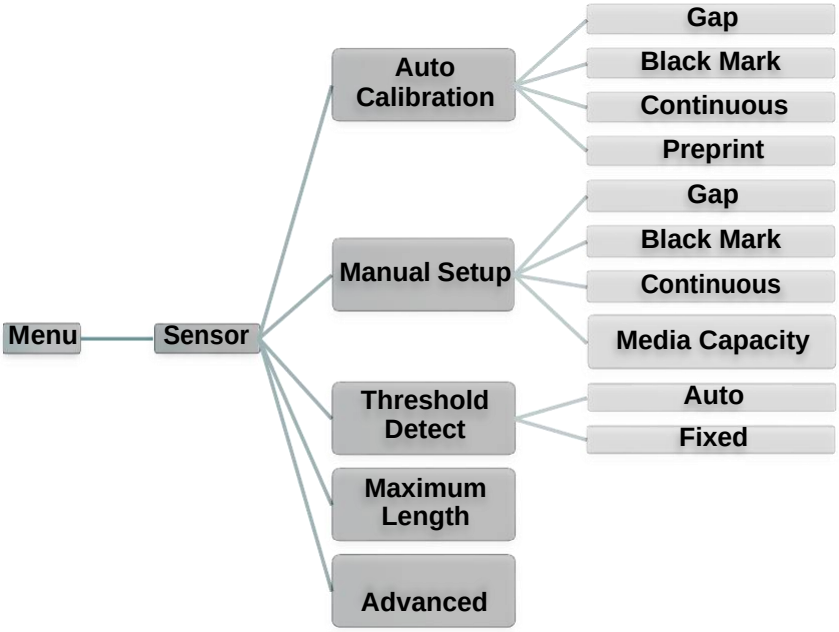
<table>
<tr><td>Tear Off</td><td>This item is used to fine tune a media stop location. Available setting values range from -120~120 dots.</td><td>0 dot</td></tr>
<tr><td>Print mode</td><td>This item is used to set the print mode. There are 4 modes as below,
<table><tr><th>Printer Mode</th><th>Description</th></tr><tr><td>Tear Off</td><td>Next label top of form is aligned to the printhead burn line location.</td></tr><tr><td>Peeler Off</td><td>Enable the label peel off mode.</td></tr><tr><td>Cutter</td><td>Enable the label cutter mode</td></tr><tr><td>Rewind</td><td>Enable the label rewind mode</td></tr></table></td><td>Tear Off</td></tr>
<tr><td>Print Width</td><td>This item is used to set print width. The available values range from 2 ~ 999 dots.</td><td>812</td></tr>
<tr><td>List Fonts</td><td>This feature is used to print a currently available printer fonts list to the media. The fonts are stored in the printer’s DRAM, Flash or optional memory card.</td><td>N/A</td></tr>
<tr><td>List Images</td><td>This feature is used to print a currently available printer images list to the media. The images are stored in the printer’s DRAM, Flash or optional memory card.</td><td>N/A</td></tr>
<tr><td>List Formats</td><td>This feature is used to print a currently available printer formats list to the media. The formats are stored in the printer’s DRAM, Flash or optional memory card.</td><td>N/A</td></tr>
<tr><td>List Setup</td><td>This feature is used to print a current printer configuration to the media.</td><td>N/A</td></tr>
<tr><td>Control Prefix</td><td>This feature is used to set control prefix character.</td><td>N/A</td></tr>
<tr><td>Format Prefix</td><td>This feature is used to set format prefix character.</td><td>N/A</td></tr>
<tr><td>Delimiter Char</td><td>This feature is used to set delimiter character.</td><td>N/A</td></tr>
<tr><td>Media Power Up</td><td>This option is used to set the action of the media when you turn on the printer.
<table><tr><th>Selections</th><th>Description</th></tr><tr><td>Feed</td><td>Printer will advance one label</td></tr><tr><td>Calibration</td><td>Printer will calibrate the sensor levels, determine length and feed label</td></tr><tr><td>Length</td><td>Printer will determine length and feed label</td></tr><tr><td>No Motion</td><td>Printer will not move media</td></tr></table></td><td>No Motion</td></tr>
<tr><td>Head Close</td><td>This option is used to set the action of the media when you close the printhead.
<table><tr><th>Selections</th><th>Description</th></tr><tr><td>Feed</td><td>Printer will advance one label</td></tr><tr><td>Calibration</td><td>Printer will calibrate the sensor levels, determine length and feed label</td></tr><tr><td>Length</td><td>Printer determines length and feeds label</td></tr><tr><td>No Motion</td><td>Printer will not move media</td></tr></table></td><td>No Motion</td></tr>
<tr><td>Label Top</td><td>This option is used to adjust print position vertically on the label. The range is -120 to +120 dots.</td><td>0</td></tr>
<tr><td>Left Position</td><td>This option is used to adjust print position horizontally on the label. The range is -9999 to +9999 dots.</td><td>0</td></tr>
<tr><td>Reprint Mode</td><td>When reprint mode is enabled, you can reprint the last label by pressing  button on printer’s control panel.</td><td>Disabled</td></tr>
</table>

Format Convert	Selects the bitmap scaling factor. The first number is the original dots per inch (dpi) value; the second, the dpi to which you would like to scale.	**None**

Note: If printing from enclosed software/driver, the software/driver will send out the commands, which will overwrite the settings set from the panel.

7.4 Sensor

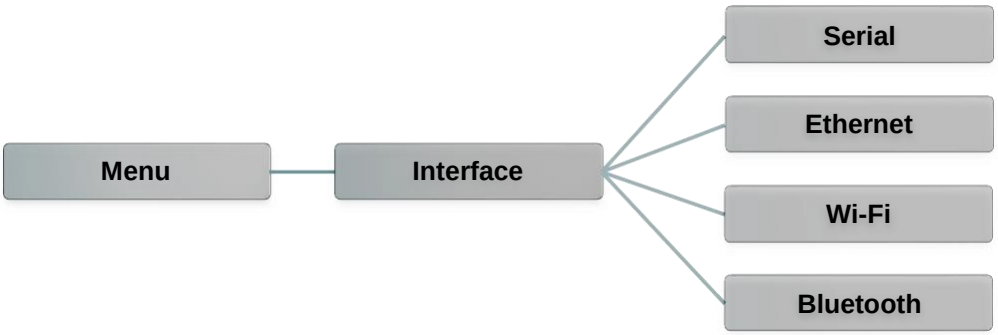
This option is used to calibrate the selected sensor. We recommend calibrating the sensor before printing when changing the media.



Item	Description	Default
Auto Calibration	This option is used to set the media sensor type and calibrate the selected sensor automatically. Printer will feed 2 to 3 gap labels to calibrate the sensor sensitivity automatically.	**N/A**
Manual setup	In case “Automatic” cannot calibrate the media, please use “Manual” function to set the paper length and gap/ b-line size then scan the gap/black mark to calibrate the sensor sensitivity. **Note: The “Media Capacity” item is used to calibrate the media capacity sensor %.**	**N/A**
Threshold Detect	This option is used to set sensor sensitivity in fixed or auto.	**Auto**
Maximum Length	This option is used to set the maximum length for label calibration.	**254 mm**
Advanced	This function can set the minimum paper length and maximum gap/b-line length for auto-calibrating the sensor sensitivity.	**0 mm**

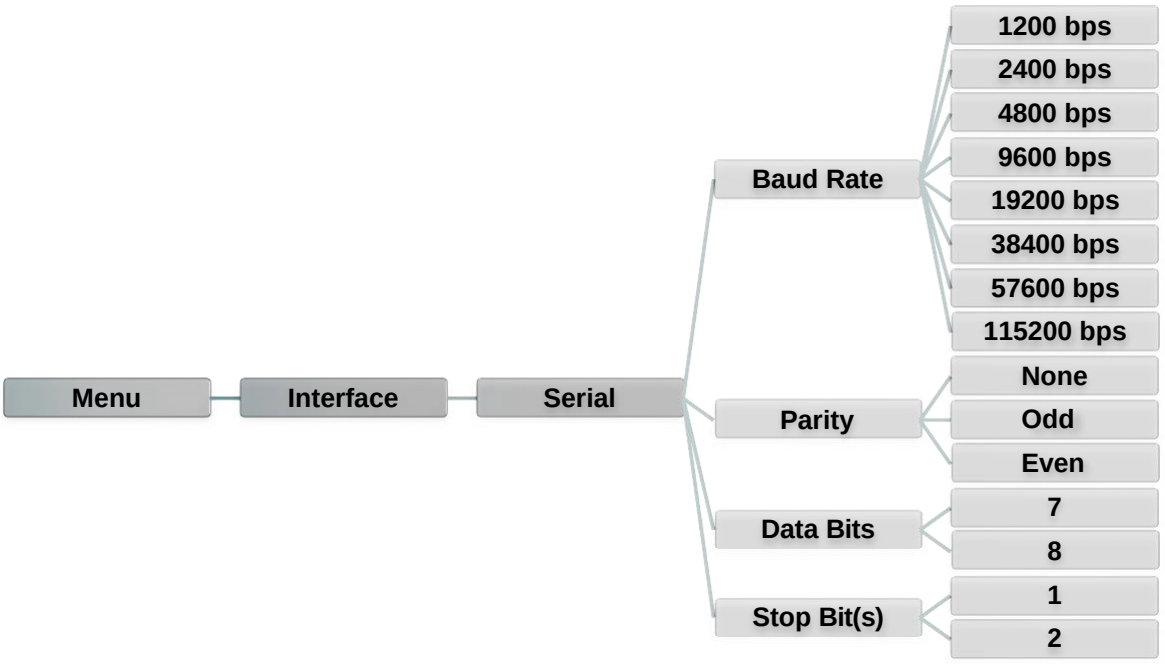
7.5 Interface

This option is used to set the printer interface settings.



7.5.1 Serial Comm.

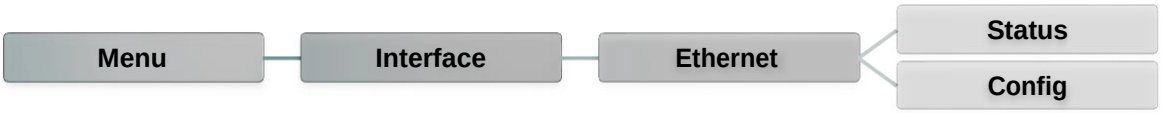
This option is used to set the printer RS-232 settings.



Item	Description	Default
Baud Rate	This item is used to set the RS-232 baud rate.	**9600**
Parity	This item is used to set the RS-232 parity.	**None**
Data Bits	This item is used to set the RS-232 Data Bits.	**8**
Stop Bit(s)	This item is used to set the RS-232 Stop Bits.	**1**

7.5.2 Ethernet

Use this menu to configure internal Ethernet configuration, check the printer's Ethernet module status, and reset the Ethernet module.



Item	Description	Default
Status	Use this menu to check the Ethernet IP address and MAC setting status.	**N/A**
Config.	**DHCP:** This item is used to turn ON or OFF the DHCP (Dynamic Host Configuration Protocol) network protocol. **Static IP:** Use this menu to set the printer's IP address, subnet mask and gateway.	**DHCP**

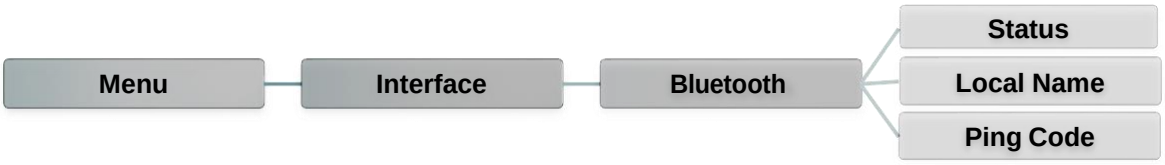
7.5.3 Wi-Fi

This option is used to set the printer Wi-Fi settings.

Item	Description	Default
Status	Use this menu to check the Wi-Fi IP address, MAC setting status….	**N/A**
Config.	**DHCP:** This item is used to set ON or OFF the DHCP (Dynamic Host Configuration Protocol) network protocol. **Static IP:** Use this menu to set the printer's IP address, subnet	**DHCP**
SSID	Use this menu to set the Wi-Fi SSID	**N/A**
Security	Use this menu to set the Wi-Fi security	**Open**
Password	Use this menu to set the Wi-Fi password	**N/A**

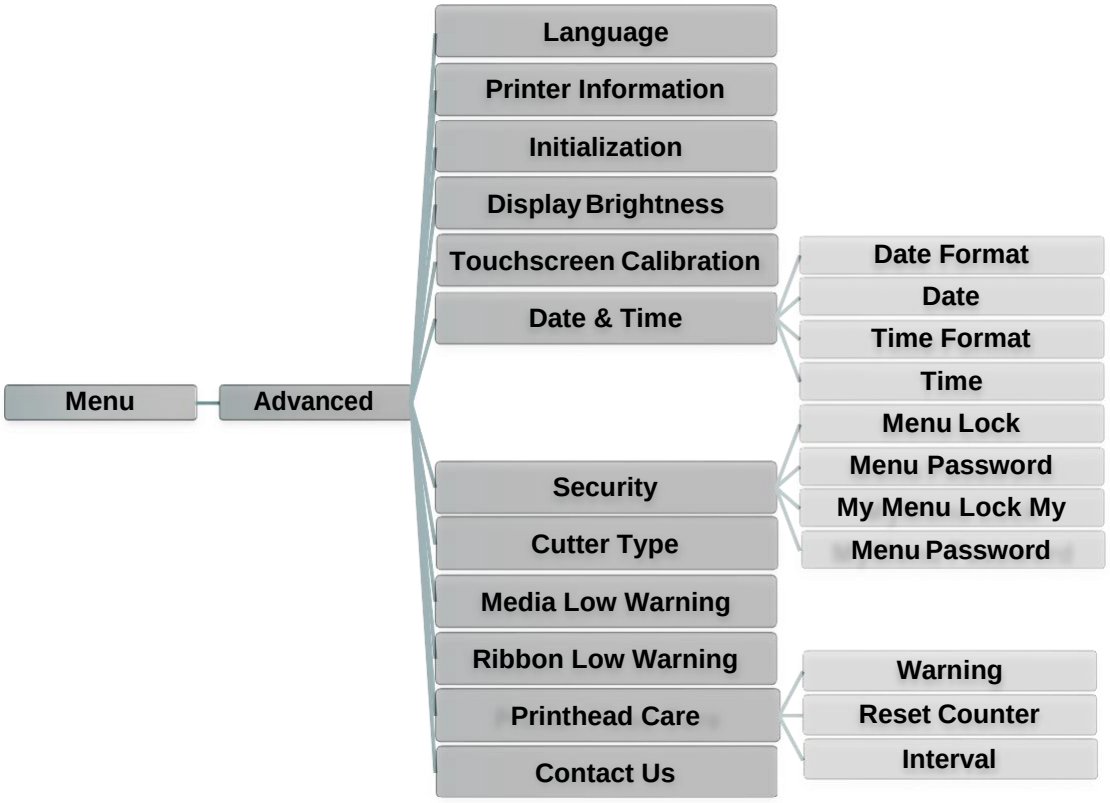
7.5.4 Bluetooth

This option is used to set the printer Bluetooth settings.



Item	Description	Default
Status	Use this menu to check the Bluetooth status.	**N/A**
Local Name	This item is used to set the local name for Bluetooth.	**RF-BHS**
Pin Code	This item is used to set the local pin code for Bluetooth.	**0000**

7.6 Advanced



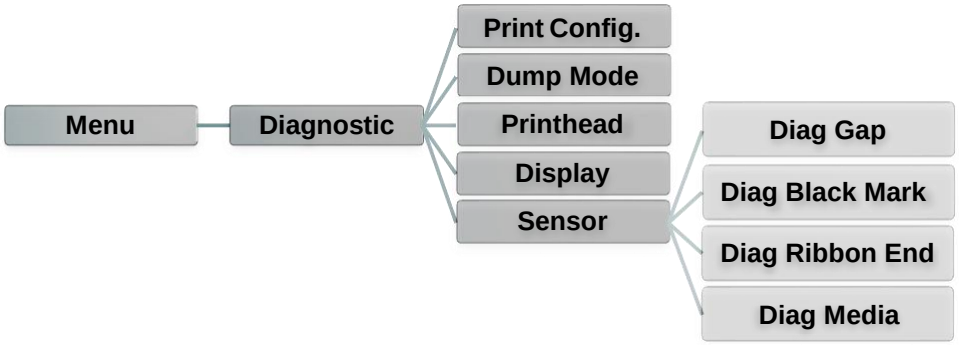
Item	Description	Default
Language	This item is used to setup the language on the display.	**English**
Printer Information	This feature is used to check the printer serial number, printed mileage (m), printed labels (pcs) and cutting counter.	**N/A**
Initialization	This feature is used to restore printer settings to defaults.	**N/A**
Display Brightness	This item is used to setup the brightness for the display. (Range 0~100)	**50**
Touchscreen Calibration	This feature is used to calibrate the touchscreen for best results.	**N/A**
Date & Time	This item is used to setup the date and time on display.	**N/A**
Security	This feature is used to set the password for locking the menu or favorites. The default password is 8888.	**Disable**
Cutter Type	This item is used to set the cutter type.	**Guillotine**
Media Low Warning	This item is used to set the warning for media low %. For example, if setting value is 10%, when media capacity is lower than 10%, the % will be shown in red.	**10%**
Ribbon Low Warning	This item is used to set the warning for ribbon low %. For example, if setting value is 10%, when ribbon capacity is lower than 10%, the % will be shown in red.	**10%**

<table>
<tr>
<td>Printhead Maintenance</td>
<td>This item is used to check printhead status and to set the settings for printhead care.
<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Warning</td><td>This item is used to enable/disable the clean printhead warning. If enabling this feature, once the printhead has reached the set mileage then the warning icon will be shown on printer UI for reminding the user to clean the printhead. The default setting is disable.</td></tr>
<tr><td>Reset Counter</td><td>This item is used to reset the clean printhead warning mileage after cleaning the printhead.</td></tr>
<tr><td>Interval</td><td>This item is used to set the expected mileage for reminding user to clean the printhead. You have to enable the “TPH warning lock” to use. The default setting is 1 km.</td></tr>
<tr><td>Key sound</td><td>This item is used to enable/disable the sound of front panel buttons.</td></tr>
</table>
</td>
<td>N/A</td>
</tr>
<tr>
<td>Contact us</td>
<td>This feature is used to check the contact information for tech support service</td>
<td>N/A</td>
</tr>
</table>

7.7 File Manager

This feature is used to check the printers’ available memory, show the files list, delete the files or run the files that are saved in the printer DRAM/Flash/Card memory.

7.8 Diagnostic



Item	Description
Print Config.	This feature is used to print the current printer configuration to a label. On the configuration printout, there is a printhead test pattern, which is useful for checking if there is any dot damage on the printhead heater element.

Self-test printout

```
------------------------------
     SYSTEM INFORMATION
------------------------------
       MODEL: XXXXXX
    FIRMWARE: X.XX
    CHECKSUM: XXXXXXXX
         S/N: XXXXXXXXXXX
         TCF: NO
        DATE: 1970/01/01
        TIME: 00:04:18
  NON-RESET: 110      m (TPH)
       RESET: 110      m (TPH)
  NON-RESET: 0          (CUT)
       RESET: 0          (CUT)
------------------------------

------------------------------
      PRINTING SETTING
------------------------------
       SPEED: 5 IPS
     DENSITY: 8.0
       WIDTH: 4.00 INCH
      HEIGHT: 4.00 INCH
         GAP: 0.00 INCH
   INTENSION: 5
   CODEPAGE: 850
    COUNTRY: 001
------------------------------

------------------------------
          Z SETTING
------------------------------
    DARKNESS: 16.0
       SPEED: 4 IPS
       WIDTH: 4.00 INCH
       TILDE: 7EH  (~)

       CARET: 5EH  (^)
   DELIMITER: 2CH  (,)
    POWER UP: NO MOTION
  HEAD CLOSE: NO MOTION
------------------------------

------------------------------
        RS232 SETTING
------------------------------
        BAUD: 9600
      PARITY: NONE
   DATA BIT: 8
   STOP BIT: 1
------------------------------
```

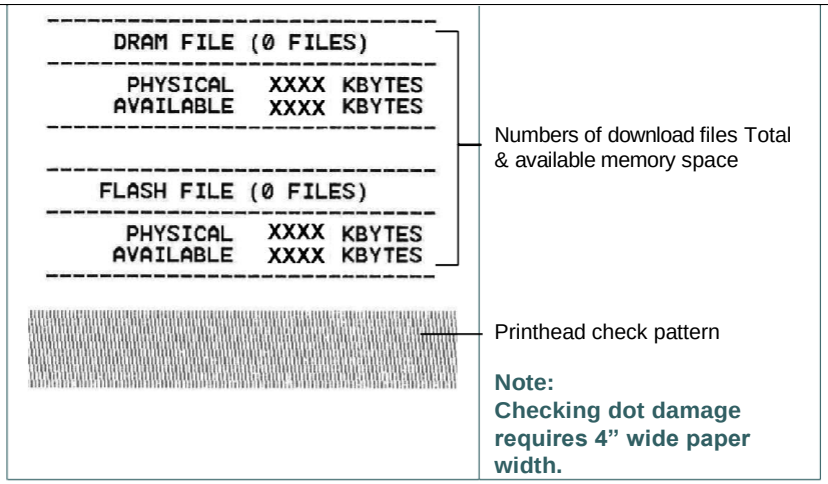
Model name
F/W version
Firmware checksum
Printer S/N
Configuration file
System date
System time
Printed mileage (meter)
Cutting counter

Print speed (inch/sec)
Print darkness
Label size (inch)
Gap distance (inch)
Gap/black mark sensor intension
Code page
Country code

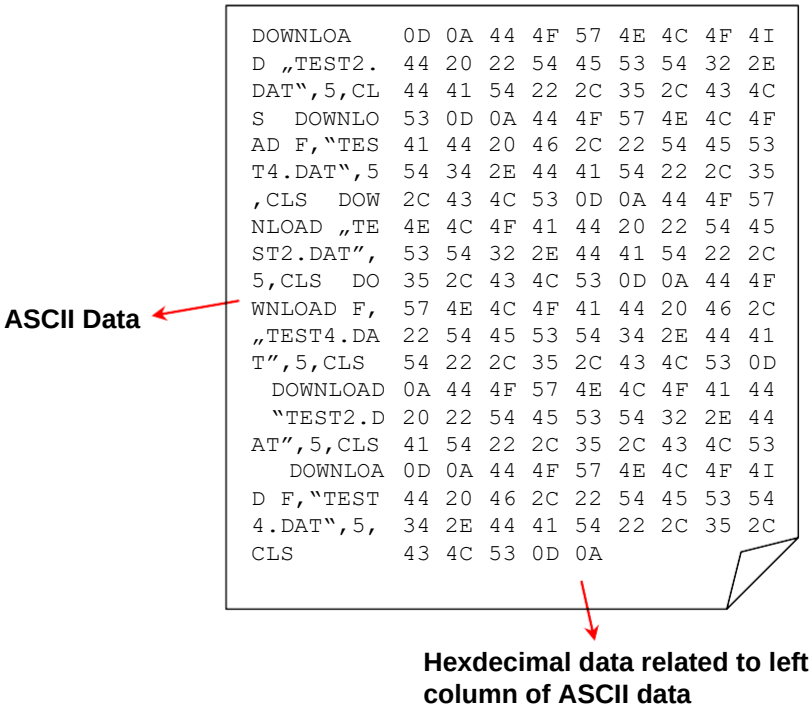
ZPL setting information
Print darkness
Print speed (inch/sec)
Label size
Control prefix
Format prefix
Delimiter prefix
Printer power up motion
Printhead close motion

Note:
ZPL is emulating for Zebra® language.

RS232 serial port configuration

<table>
<tr><td></td><td>


</td></tr>
<tr><td>Dump Mode</td><td>Captures the data from the communications port and prints out the data received by the printer. In the dump mode, all characters will be printed in 2 columns. The left side characters are received from your system and the right side data is the corresponding hexadecimal value of the characters. It allows users or engineers to verify and debug the program.



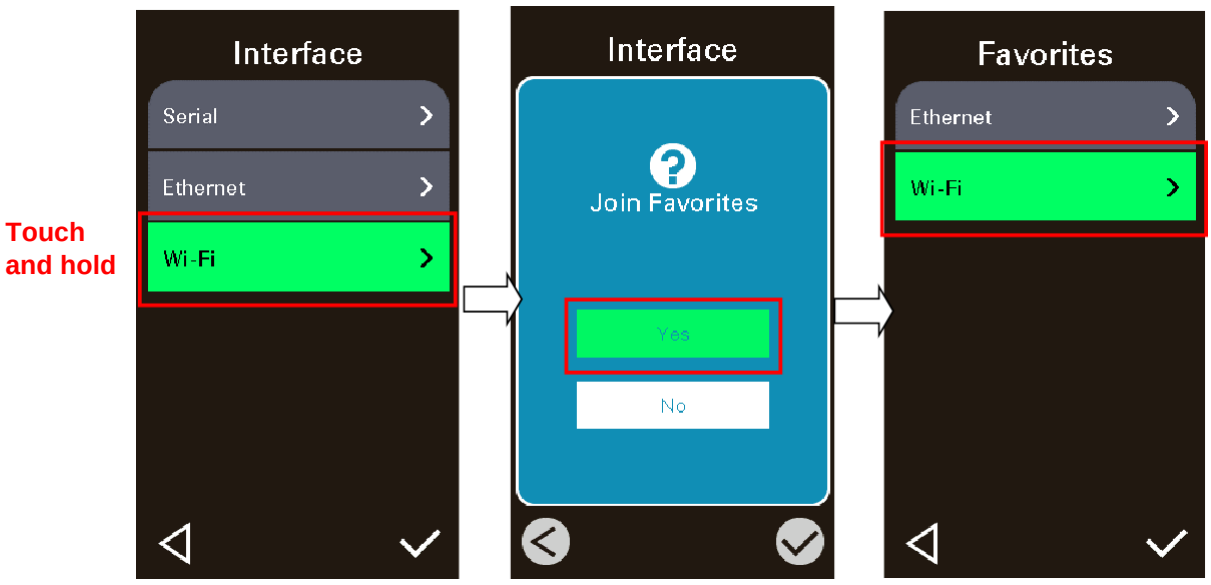
Note:
Dump mode requires 4” wide paper width.</td></tr>
<tr><td>Printhead</td><td>This feature is used to check printhead’s temperature and bad dots.</td></tr>
<tr><td>Display</td><td>This feature is used to check LCD’s color state.</td></tr>
<tr><td>Sensor</td><td>This feature is used to check sensors intensity and reading state.</td></tr>
</table>

7.9 Favorites

This feature is used to create your own favorites list. You can organize the commonly used setting options in “Favorites” .

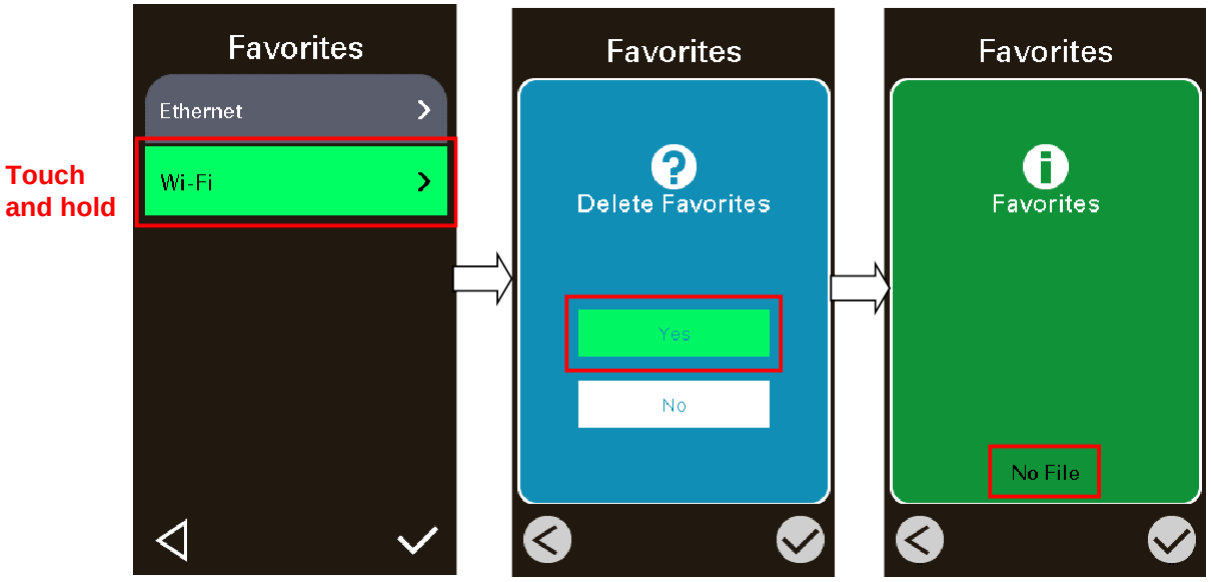
7.9.1 Get organized “Favorites” list

Touch and hold a favorite option item, until “Join Favorites” setting screen pops up. Tap “Yes” to add this setting option item to “Favorites”.



7.9.2 Delete favorites item

Touch and hold the option item, until “Delete Favorites” setting screen pops up. Tap “Yes” to delete this setting option item on “Favorites”.

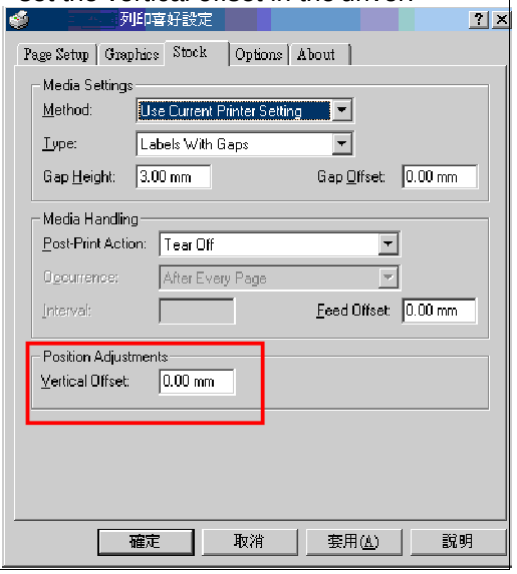


8 Troubleshooting

The following guide lists the most common problems that may be encountered when operating this bar code printer. If the printer still does not function after all suggested solutions have been invoked, please contact the Customer Service Department of your purchased reseller or distributor for assistance.

Problem	Possible Cause	Recovery Procedure
Power indicator does not illuminate	* The power cord is not properly connected. * The power switch is off.	* Plug the power cord in printer and outlet. * Switch the printer on.
Carriage Open	* The printer carriage is open.	* Please close the print carriage.
Not Printing	* Check if interface cable is securely connected to the interface connector. * Check if wireless or Bluetooth device is connected between host and printer. * The port specified in the Windows driver is not correct.	* Re-connect cable to interface or change to a new cable. * Please reset the wireless device settings. * Select the correct printer port in the driver. * Clean the printhead. * Printhead's harness connector is not securely connected with printhead. Turn off the printer and re-plug the connector again. * Check your program if there is the command PRINT at the end of the file and there must have CRLF at the end of each command line.
No print on the label	* Label or ribbon is not loaded correctly. * Using wrong type media or ribbon	* Follow the instructions in loading the media and ribbon. * Ribbon and media are not compatible. * Verify the ribbon-inked side. * The print density setting is incorrect.
No Ribbon	* Running out of ribbon. * The ribbon is installed incorrectly.	* Supply a new ribbon roll. * Please refer to the steps in user's manual to reinstall the ribbon.
No Paper	* Running out of label. * The label is installed incorrectly. * Gap/black mark sensor is not calibrated.	* Supply a new label roll. * Please refer to the steps in user's manual to reinstall the label roll. * Calibrate the gap/black mark sensor.
Paper Jam	* Gap/black mark sensor is not set properly. * Make sure label size is set properly. * Labels may be stuck inside the printer mechanism.	* Calibrate the media sensor. * Set media size correctly. * Remove the stuck label inside the printer mechanism.
Take Label	* Peel function is enabled.	* If the peeler module is installed, please remove the label. * If there is no peeler module in front of the printer, please switch off the printer and install it. * Check if the connector is plugged in correctly.
Can't download the file to memory (FLASH / DRAM/CARD)	* The space in memory is full.	* Delete unused files in memory.

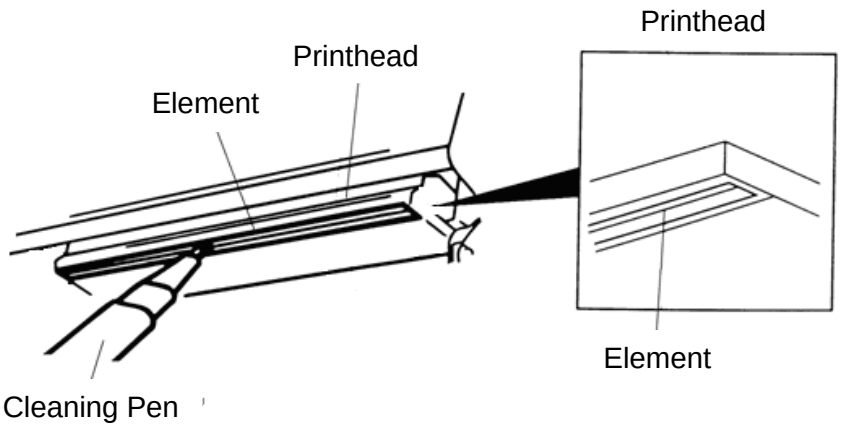
Unable to use microSD card	* microSD card is damaged. * microSD card doesn't insert correctly. * Using a non-approved SD card manufacturer.	* Use the supported capacity microSD card. * Insert the microSD card again. * For supported microSD card specs and the approved microSD card manufacturers, please refer to section 2.2.3.
Poor Print Quality	* Ribbon and media are loaded incorrectly * Dust or adhesive accumulation on the printhead. * Print density is not set properly. * Printhead element is damaged. * Ribbon and media are incompatible. * The printhead pressure is not set properly.	* Reload the supply. * Clean the printhead. * Clean the platen roller. * Adjust the print density and print speed. * Run printer self-test and check the printhead test pattern and see if there is a dot missing in the pattern. * Change to proper ribbon or proper label media. * Adjust the printhead pressure adjustment knob. * The release lever does not latch the printhead properly.
Missing printing on the left or right side of label	* Wrong label size setup.	* Set the correct label size.
Gray line on the blank label	* The printhead is dirty. * The platen roller is dirty.	* Clean the printhead. * Clean the platen roller. (Please refer to chapter 9)
Irregular printing	* The printer is in Hex Dump mode. * The RS-232 setting is incorrect.	* Turn the printer off and on to skip the dump mode. * Re-set the Rs-232 settings.
Label feeding is not stable (skewed) when printing	* The media guide does not touch the edge of the media.	* If the label is moving to the right side, please move the label guide to the left. * If the label is moving to the left side, please move the label guide to the right.
Skip labels when printing	* Label size is not specified properly. * Sensor sensitivity is not set properly. * The media sensor is covered with dust.	* Check if label size is setup correctly. * Calibrate the sensor by Auto Gap or Manual Gap options. * Clear the GAP/Black mark sensor by using a blower or brush.
Wrinkle Problem	* Printhead pressure is incorrect. * Ribbon installation is incorrect. * Media installation is incorrect. * Print density is incorrect. * Media feeding is incorrect.	* Please refer to the next chapter. * Please set a suitable density to have good print quality. * Make sure the label guide touches the edge of the media.
RTC time is incorrect when rebooting the printer	* The battery has run down.	* Check if there is a battery on the main board.
The left side printout position is incorrect	* Wrong label size setup. * The parameter Shift X in LCD menu is incorrect.	* Set the correct label size. * Press [Menu] →[Setting] → [Shift X] to fine tune the parameter of Shift X.

The printing position of a small label is incorrect	* Media sensor sensitivity is not set properly. * Label size is incorrect. * The parameter Shift Y in the LCD menu is incorrect. * The vertical offset setting in the driver is incorrect.	* Calibrate the sensor sensitivity again. * Set the correct label size and gap size. * Press [Menu] →[Setting] → [Shift Y] → to fine tune the parameter of Shift Y. * If using the software BarTender, please set the vertical offset in the driver. 

9 Maintenance

This session presents the cleaning tools and methods to maintain your printer.

1. Please use one of following materials to clean the printer.
   - Cotton swab
   - Lint-free cloth
   - Vacuum / Blower brush
   - 100% Ethanol or Isopropyl Alcohol
2. The cleaning process is described as following,

<table>
<tr><th>Printer Part</th><th>Method</th><th>Interval</th></tr>
<tr><td rowspan="2">Printhead</td><td>1. Always turn off the printer before cleaning the printhead.
2. Allow the printhead to cool for a minimum of one minute.
3. Use a cotton swab and 100% Ethanol or Isopropyl Alcohol to clean the printhead surface.</td><td>Clean the printhead when changing a new label roll.</td></tr>
<tr><td colspan="2"> 
</td></tr>
<tr><td>Platen Roller</td><td>1. Turn the power off.
2. Rotate the platen roller and wipe it thoroughly with water.</td><td>Clean the platen roller when changing a new label roll</td></tr>
<tr><td>Peel Bar</td><td>Use a lint-free cloth with 100% ethanol to wipe it.</td><td>As needed</td></tr>
<tr><td>Sensor</td><td>Compressed air or vacuum</td><td>Monthly</td></tr>
<tr><td>Exterior</td><td>Wipe it with water-dampened cloth</td><td>As needed</td></tr>
<tr><td>Interior</td><td>Brush or vacuum</td><td>As needed</td></tr>
</table>

Note:

- Do not touch printhead by hand. If you touch it accidentally, please use ethanol to clean it.
- Please use 100% Ethanol or Isopropyl Alcohol. DO NOT use medical alcohol, which may damage the printhead.
- Regularly clean the printhead and supply sensors when changing to a new media to keep printer performance good and extend printer life.

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