LP 46 LITE

THERMAL TRANSFER/DIRECT THERMAL BAR CODE PRINTER

USER MANUAL
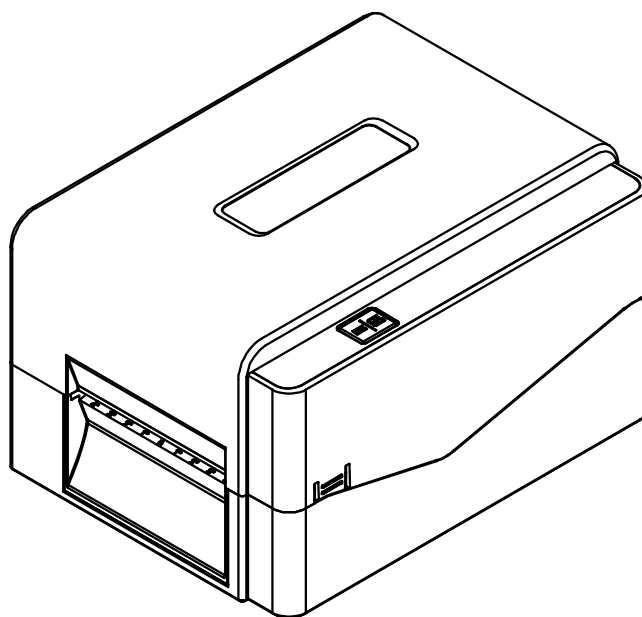
Copyright Information

Agency Compliance and Approvals

IS 13252 (Part 1): 2010 /
IEC 60950-1 : 2015

LP 46 LITE

R-41110507
www.bis.gov.in

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 fault happened.
   Do not use liquid or aerosol cleaners. Using a damp cloth is suitable for cleaning.
4. The mains socket shall be installed near the equipment and easily accessible.
5. The unit must be protected against moisture.
6. Ensure the stability when installing the device, Tipping or dropping could cause damage.
7. Make sure to follow the correct power rating and power type indicated on marking label provided by manufacturer.
8. Please refer to user manual for maximum operation 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.

⚠️ **Caution:** The print head may be hot and could cause severe burns. Allow the print head to cool
CAUTION:
Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

Contents

1. Introduction

1.1 Product Introduction

Thank you very much for purchasing the bar code printer.

The LP 46 LITE series printer features the single motor that is capable of handling a large capacity of 300 meters ribbon and large rolls of media inside its sleek design. If the 5" interior label capacity is not enough, simply add an external media roll mount and the LP 46 LITE can easily handle 8" OD rolls of labels designed for expensive industrial label printers.

The movable black mark sensor design can accept a wide range of label media. All of the most frequently used bar code formats are included. Fonts and bar codes can be printed in any one of the four directions.

The LP 46 LITE printer is built-in the high quality, high-performance MONOTYPE IMAGING® True Type font engine and one CG Triumvirate Bold Condensed smooth font. With flexible firmware design, user can also download the True Type Font from PC into printer memory for printing labels. Besides the scalable font, it also provides a choice of eight different sizes of the alphanumeric bitmap font. By integrating rich features, it is the most cost-effective and high-performance printer in its class!

To print label formats, please refer to the instructions provided with your labeling software; if you need to write the custom programs, please refer to the programming manual that can be found on our website http://www.tvs-e.in.
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- Applications
  - Manufacturing & Warehousing
    - Work in Progress
    - Item Labels
    - Instruction labels
    - Agency labels
  - Healthcare
    - Patient Identification
    - Pharmacy
    - Specimen Identification
  - Parcel Post
    - Shipping/ Receiving Labels
  - Small Office/ Home Office
  - Retail Marking
    - Price tags
    - Shelf labels
    - Jewelry tags

1.2　Product Features

1.2.1　Printer Standard Features

The printer offers the following standard features.

Product standard feature of LP 46 Lite
1.　Thermal transfer printing
2.　Direct thermal printing
3.　Plastic
4.　Gap sensor
5.　Reflective, full-range moveable black mark sensor
6.　Ribbon sensor
7.　Head open sensor
8.　USB 2.0 (Hi-Speed) interface
9.　16 MB DRAM memory
10. 8 MB Flash memory
11. One button for feed and pause
12. One LED indicator for 3 colors
13. Standard industry emulations right out of the box including Eltron® and Zebra® language support
14. Internal 8 alpha-numeric bitmap fonts
15. Fonts and bar codes can be printed in any one of the four directions (0, 90,180, 270 degrees)
16. Internal Monotype Imaging® true type font engine with one CG Triumvirate Bold Condensed scalable font
17. Downloadable fonts from PC to printer memory
18. Downloadable firmware upgrades

19. Text, bar code, graphics/image printing (Please refer to the TSPL/TSPL2 programming manual for supporting code page)

Supported bar code		Supported image
1D bar code	2D bar code	
Code128UCC, Code128 subsets A、B、C, EAN128, Interleaved 2 of 5, Interleaved 2 of 5 with check digit, Code39, Code39 with check digit, Code93, EAN13, EAN8, UPCA, UPCE, EAN and UPC 2 (5) digits add-on, Codabar, Postnet, MSI, MSI with check digit, PLESSEY, China post, ITF14, Code11, TELEPEN, TELEPENN, PLANET, Code49, Deutsche Post Identcode, Deutsche Post Leitcode, LOGMARS	GS1 DataBar, GS1Data Matrix, Maxicode, AZTEC, PDF417, QR Code, Micro PDF 417	BITMAP, BMP, PCX (Max. 256 colors graphics)

1.2.2 Printer Optional Features

The printer offers the following optional features.

Product option feature	User options	Dealer options	Factory options
Extended plate for external roll mount assembly with 3" core label spindle (8.4 OD)	yes		
Internal Bluetooth v4.0			yes

1.3 General Specifications

General Specifications	LP 46 Lite
Physical dimensions	204 mm (W) x 164 mm (H) x 280 mm (L)
Weight	2.4kg
Electrical	External universal switching power supply Input: AC 100-240V, 2A, 50-60 Hz Output: DC 24V, 2.5A, 60W, LPS
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	LP 46 Lite
Print head resolution	203 dots/inch (8 dots/mm)
Printing method	Thermal transfer and direct thermal
Dot size (width x length)	0.125 x 0.125 mm (1 mm = 8 dots)
Print speed (inches per second)	Up to 6 ips
Print speed for peel mode	N/A
Max. print width	108 mm (4.25")
Max. print length	2,794 mm (110")

1.5 Ribbon Specifications

Ribbon Specifications	
Ribbon outside diameter	1" core: Max. 67mm
	0.5" core: Max. 40mm
Ribbon length	1" inner core: 300 meters
	0.5" inner core: 110 meters
Ribbon core inside diameter	0.5 and 1 inch
Ribbon width	40 ~ 110 mm (with 110 mm paper core and notches on both sides)

Ribbon wound type	Outside wound

1.6 Media Specifications

Media Specifications	LP 46 Lite
Label roll capacity	Max. 5" OD
Media type	Continuous, die-cut, black mark, fan-fold, notch
Media wound type	Outside wound
Media width	20mm ~ Max. 112 mm
Media thickness	0.06 mm (2.36 mil) ~ 0.19 mm (7.48 mil)
Media core diameter	1" (25.4 mm) & 1.5" (38 mm) ID core
Label length	5 mm ~ Max. printing length
Label length (peeler mode)	N/A
Label length (cutter mode)	N/A
Gap height	Min. 2 mm (0.09")
Black mark height	Min. 2 mm (0.09")
Black mark width	Min. 8 mm (0.31")

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 receiving the bar code printer. 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

- One quick installation guide

- One power cord

- One external universal switching power supply

- One USB interface cable

- A pair of 1" Ribbon spindles for 300M ribbon

- One 1'' ribbon paper core

- One label spindle with two fixing tabs and two 1.5" adapters

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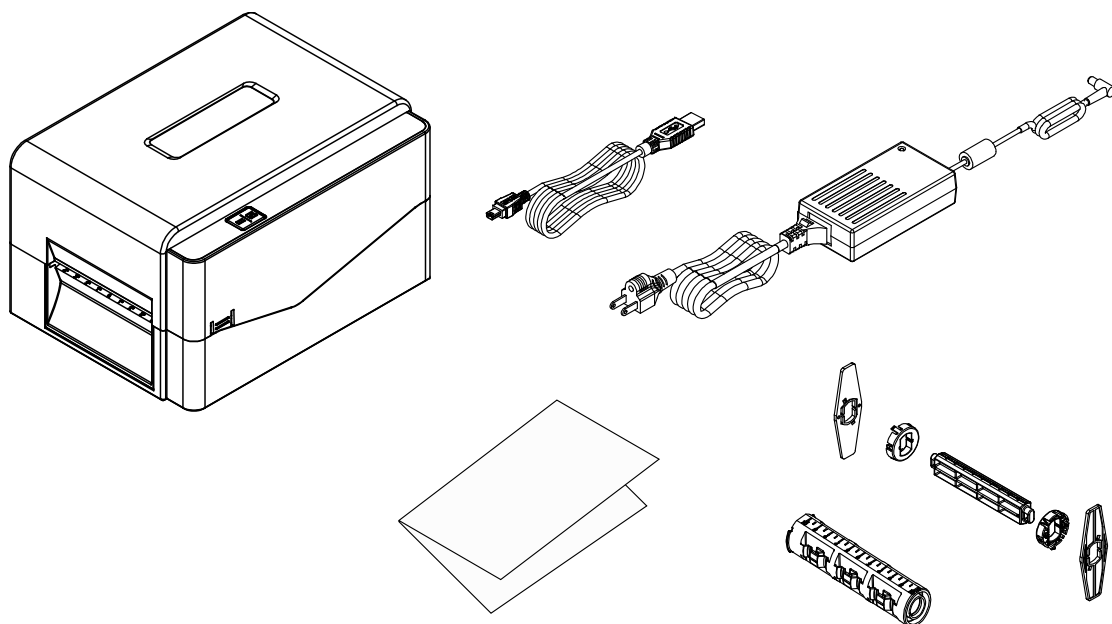
2.2 Printer Overview

2.2.1 Front View
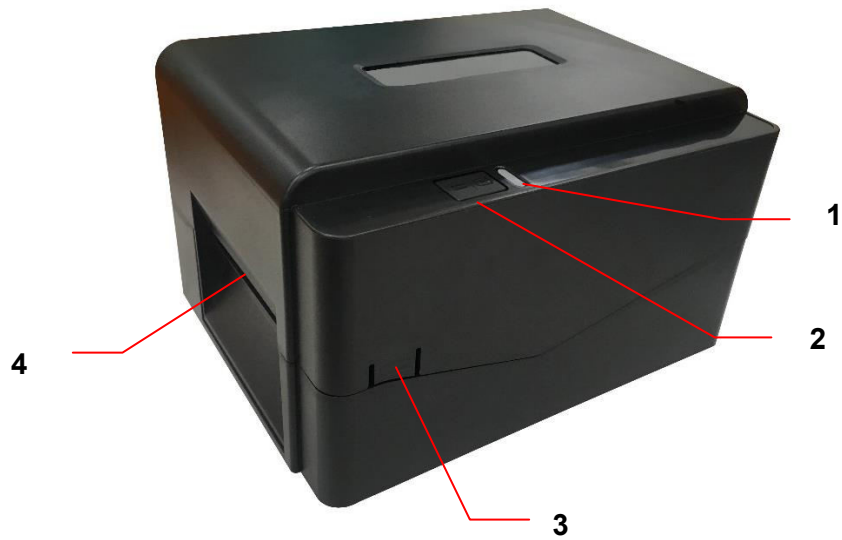
1. LED indicator
2. Feed/Pause button
3. Top cover open tab
4. Paper exit chute

2.2.2 Interior View
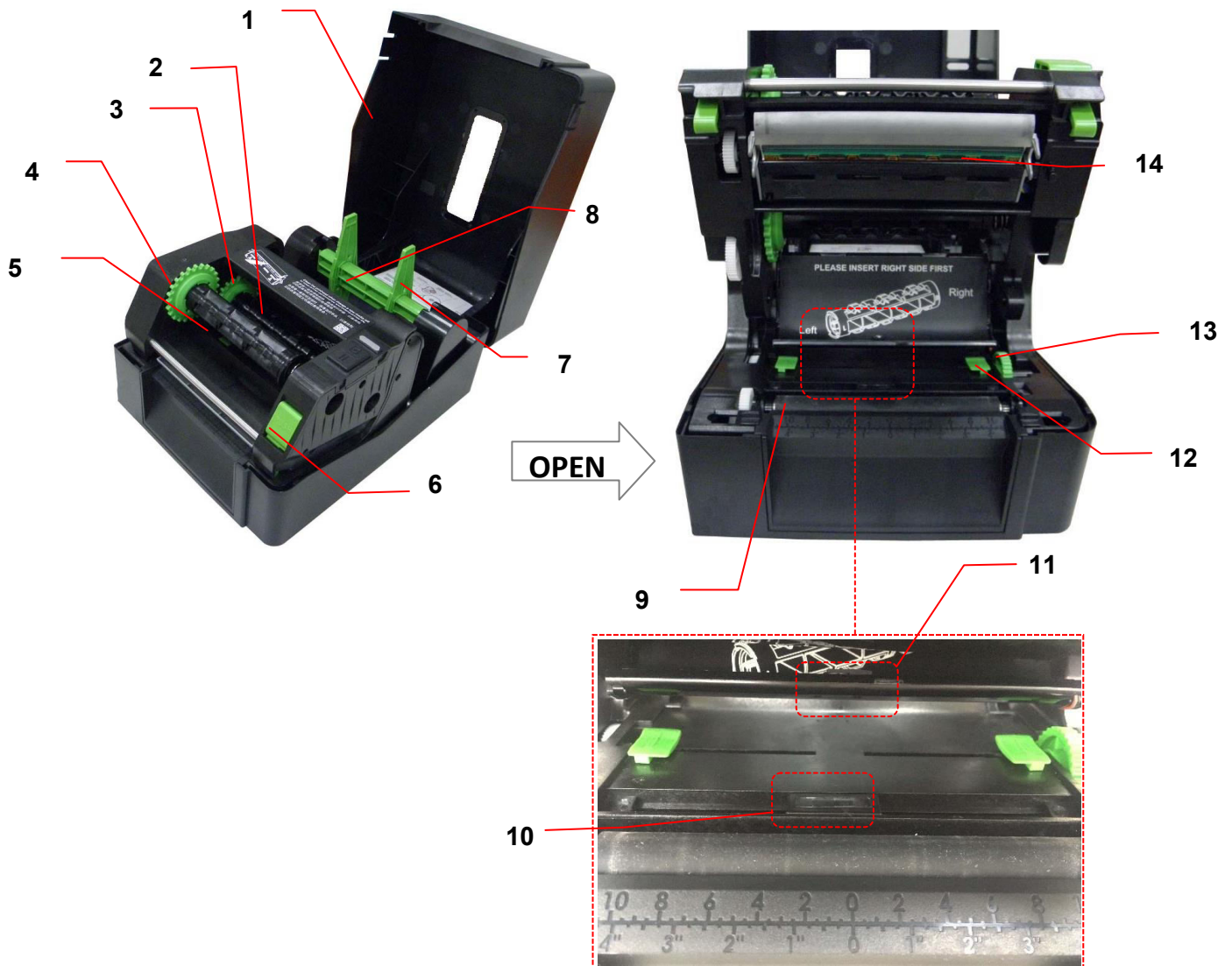
1. Printer top cover
2. Ribbon supply spindle
3. Ribbon supply hub
4. Ribbon rewind hub
5. Ribbon rewind spindle
6. Print head release button
7. Fixing tab
8. Media supply spindle
9. Platen roller
10. Black mark sensor
11. Gap sensor
12. Media guide
13. Media guide hub
14. Print head

WARNING
HAZARDOUS MOVING PARTS
KEEP FINGERS AND OTHER
BODY PARTS AWAY

2.2.3 Rear View
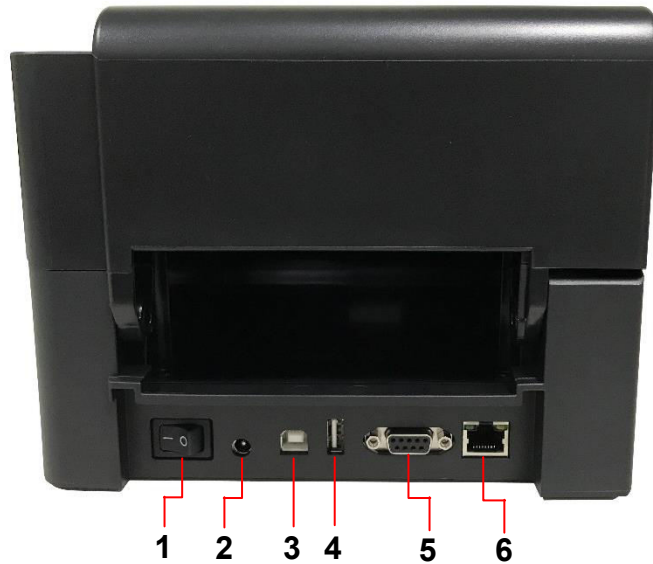
1. Power switch
2. Power jack socket
3. USB interface (USB 2.0/Hi-Speed mode)
4. USB host (PE210/PE310 Series only)
5. RS-232 interface (PE210/PE310 Series only)
6. Ethernet interface (PE210/PE310 Series only)

Note:

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

3. Setup

3.1 Setting up the Printer

Place the printer on a flat, secure surface, then follow the steps below:

1. Plug the power cord into the AC power cord socket at the rear of the printer. Then, plug the other side into a properly grounded power outlet.
2. Connect the printer to the computer with the provided USB cable.
3. Push the power switch on "-" side to open the power of printer.

Note:

* Please switch OFF printer power switch prior to plugging in the power cord to printer power jack.

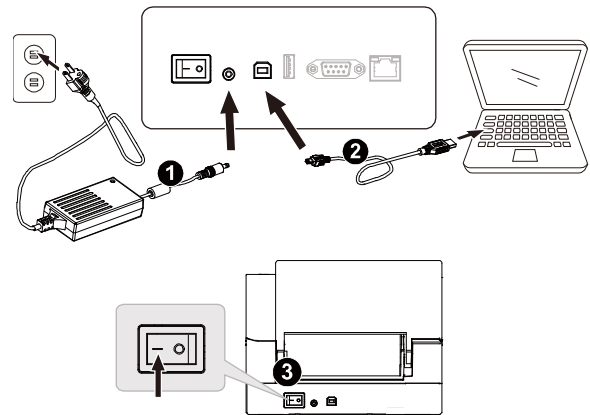* The interface picture here is for reference only. Please refer to the product specification for the interfaces availability.

3.2 Loading the Ribbon

	1. Open the printer top cover by pressing the top cover open tabs located on each side of the printer.
	2. Insert the paper core to the ribbon rewind spindle. **Note: Please follow the direction when installing the ribbon rewind spindle.**
	3. Insert the right side of ribbon rewind spindle first. Then, insert the left side to the hole at the left side of ribbon rewind hub (green). **Note:** **It can also be substituted by 0.5 or 1 inch paper roll with notches on both sides. Please insert it at the ribbon rewind hub directly.**
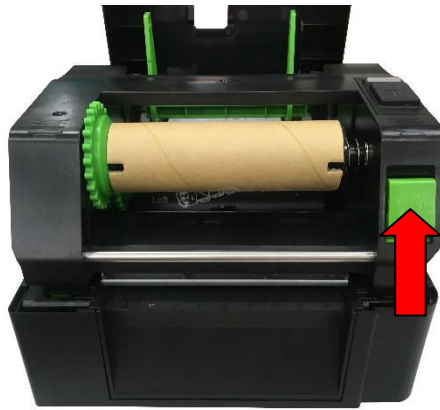
OPEN	4. Push the print head release button to open the print head mechanism.
	5. Insert the ribbon to the ribbon spindle. **Note: The ribbon spindle can be substituted by insert the ribbon with notches on both sides to the ribbon mechanism directly.**
	6. Insert the right side of ribbon supply spindle (marked "R") to the ribbon supply hub first. Then, insert the left side of ribbon supply spindle to the hole at the left side of ribbon supply hub (green).
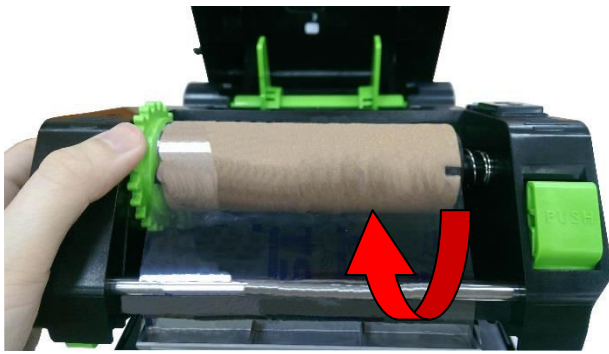
	7. Pull the leader of the ribbon through the print head and stick the leader of the ribbon onto the ribbon rewind paper core. 8. Turn the ribbon rewind hub until the ribbon plastic leader is thoroughly wound and the black section of the ribbon covers the print head.
	9. Close the print head mechanism with both hands and make sure the latches are engaged securely.
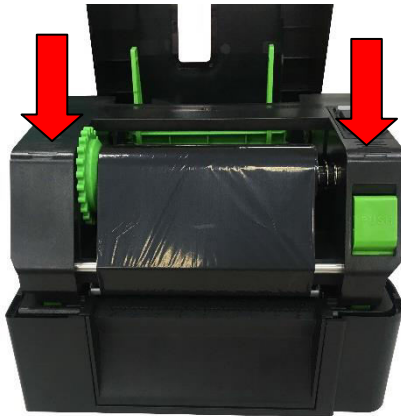
● **Ribbon loading path**
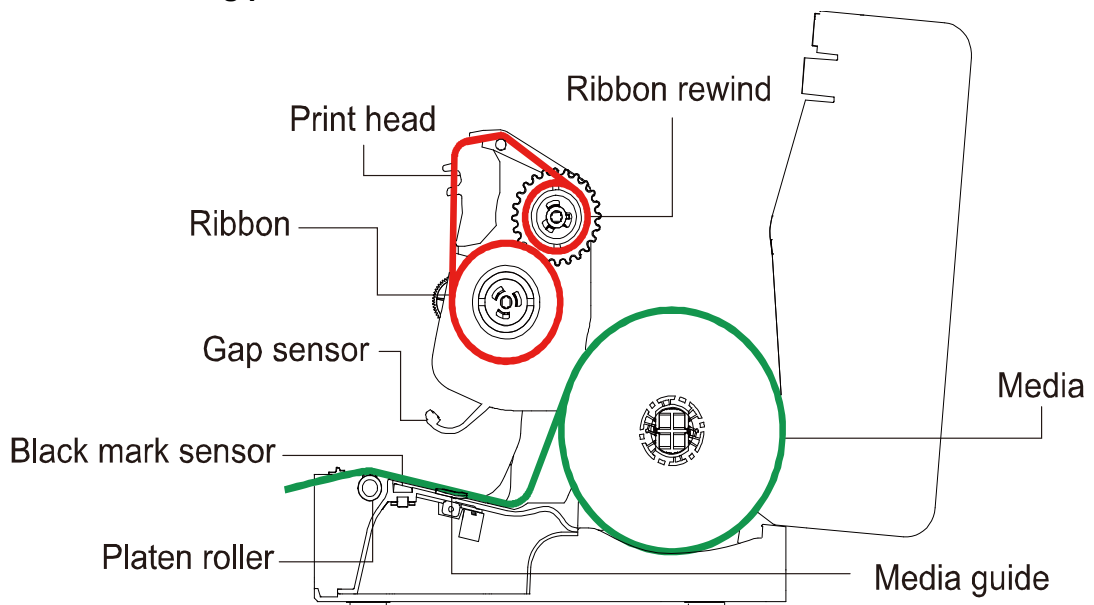
3.3 Loading the Media

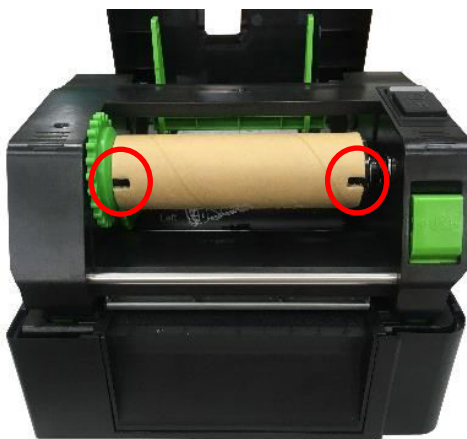## 3.3.1 Loading the Roll Labels
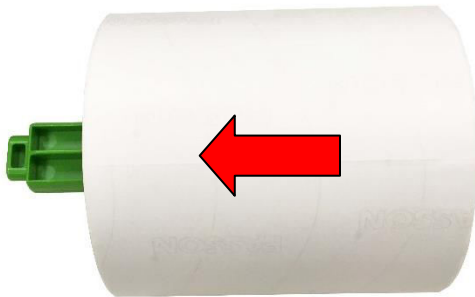
|	
	1. Open the printer top cover by pressing the top cover open tabs located on each side of the printer.
	2. Insert the paper roll into the media supply spindle and use two fixing tabs to fix the paper roll onto the center of the spindle. (If your paper width is 4", you can remove the fixing tabs on both side of the media supply spindle.)

	3. Place the paper roll onto the paper roll mount. Media spindle attached with two fixing tabs and two 1.5" adapters
	4. Push the print head release button to open the print head mechanism. Gap sensor Platen roller Black mark sensor
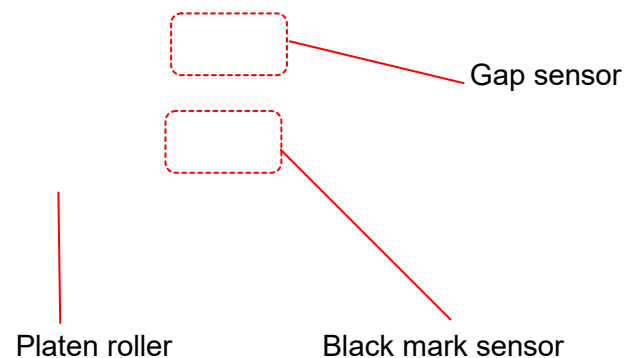
Note: The black mark sensor position is moveable and the gap sensor is fixed. Please make sure the gap or black mark is at the location where media gap/black mark will pass through for sensing.

	5. Feed the paper, printing side face up, through the media bar, media sensor and place the label leading edge onto the platen roller. Move the media guides to fit the label width.
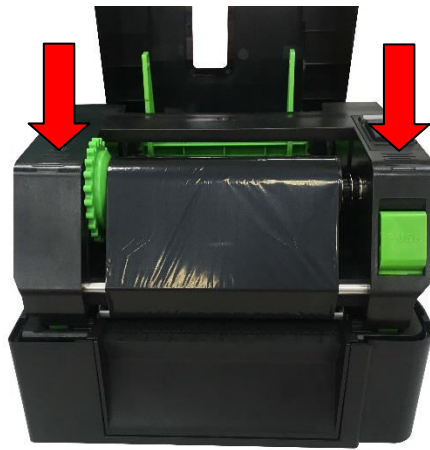
	6. Close the print head mechanism with both hands and make sure the latches are engaged securely.

7. Use "Diagnostic Tool" to set the media sensor type and calibrate the selected sensor. (Start the "Diagnostic tool" → Select the "Printer Configuration" tab → Click the "Calibrate Sensor" button) Please refer to section 5.3.
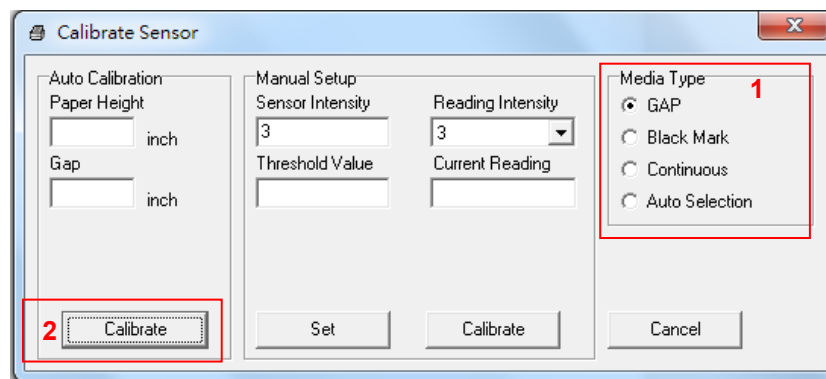
Note:

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

● **Media Loading path**
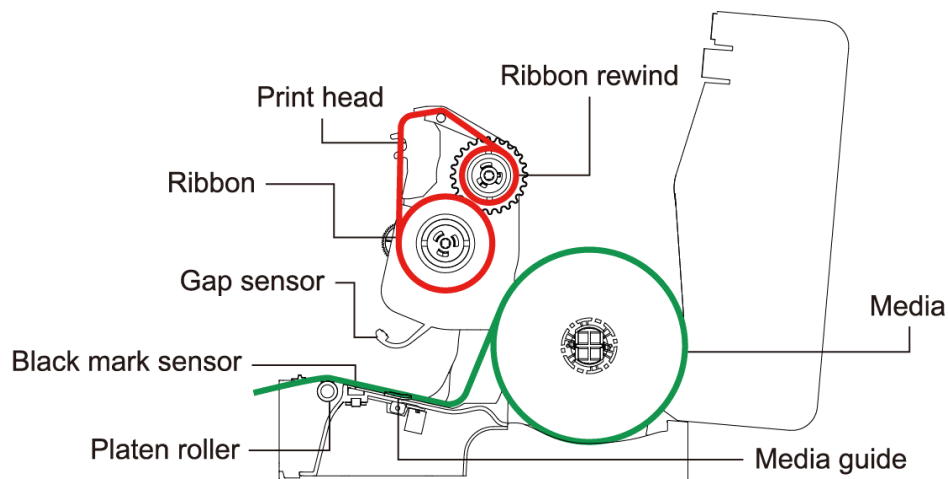
WARNING / ATTENTION
HAZARDOUS MOVING PARTS. KEEP FINGERS AND OTHER BODY PARTS AWAY.
PARTIES MOBILES DANGEREUSES. TENIR LES DOIGTS ET LES AUTRES PARTIES DU CORPS ÉLOIGNÉS.

3.3.2 External Label Roll Mount Installation (Option)
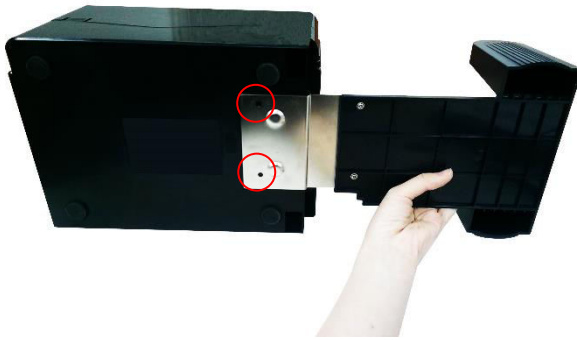
	1. Attach the extended plate on the bottom of the printer.
1" label spindle 	2. Insert a 3" (or 1") label spindle into a paper roll. Then, install it on the external paper roll mount. 3" label spindle
	3. Feed the media through the rear external label entrance chute.
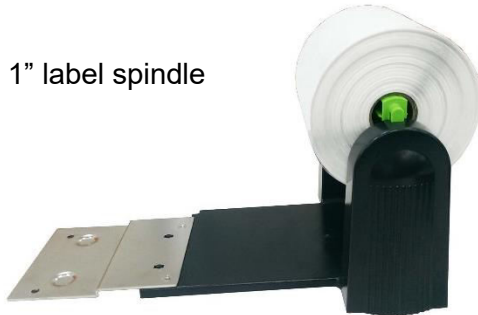
4. Refer to chapter 3.3.1 to install the label. Use "Diagnostic Tool" to set the media sensor type and calibrate the selected sensor.

Note:

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

4. LED and Button Functions

This printer has one button and one three-color LED indicator. By indicating the LED with different color and pressing the button, printer can feed labels, pause the printing job, select and calibrate the media sensor, print printer self-test report, reset printer to defaults (initialization). Please refer to the button operation below for different functions.

4.1 LED Indicator

LED Color	Description
Green/Solid	This illuminates that the power is on and the device is ready to use.
Green/Flash	This illuminates that the system is downloading data from PC to memory or the printer is paused.
Amber	This illuminates that the system is clearing data from printer.
Red/Solid	This illuminates printer head open, cutter error.
Red/Flash	This illuminates a printing error, such as head open, paper empty, paper jam, ribbon empty, or memory error etc.

4.2 Regular Button Functions

1. Feed labels

When the printer is at ready states (Green/Solid), press the button to feed one label to the beginning of next.

2. Pause the printing job

When the printer is at printing states, press the button to pause a print job. When the printer is paused the LED will be green blinking. Press the button again to continue the printing job.

4.3 Power-on Utilities

There are six power-on utilities to set up and test printer hardware. These utilities are activated by pressing FEED button then turning on the printer power simultaneously and release the button at different color of LED.

Please follow the steps below for different power-on utilities.
1. Turn off the printer power switch.
2. Hold on the button then turn on the power switch.
3. Release the button when LED indicates with different color for different functions.

Power on utilities	The LED color will be changed as following pattern:						
LED color *Functions*	Amber	Red (5 blinks)	Amber (5 blinks)	Green (5 blinks)	Green/Amber (5 blinks)	Red/Amber (5 blinks)	Solid green
1. Gap / black mark sensor calibration		*Release*					
2. Gap / black mark sensor calibration, Self-test and enter dump mode			*Release*				
3. Printer initialization				*Release*			
4. Set black mark sensor as media sensor and calibrate the black mark sensor					*Release*		
5. Set gap sensor as media sensor and calibrate the gap sensor						*Release*	
6. Skip AUTO.BAS							*Release*

4.3.1 Gap/Black Mark Sensor Calibration

Gap/black mark sensor sensitivity should be calibrated at the following conditions:
1. A brand new printer
2. Change label stock
3. Printer initialization

Please follow the steps below to calibrate the ribbon and gap/black mark sensor.
1. Turn off the power switch.
2. Hold on the button then turn on the power switch.
3. Release the button when LED becomes **red** and blinking. (Any red will do during the 5 blinks).

- It will calibrate the ribbon sensor and gap/black mark sensor sensitivity.

- The LED color will be changed as following order :

  Amber → **red (5 blinks)** → amber (5 blinks) → green (5 blinks) → green/amber (5 blinks) → red/amber (5 blinks) → solid green

Note:
Please select gap or black mark sensor by sending GAP or BLINE command to printer prior to calibrate the sensor.
For more information about GAP and BLINE command, please refer to programming manual.

4.3.2 Gap/Black Mark Calibration, Self-test and Dump Mode

While calibrate the gap/black mark sensor, printer will measure the label length, print the internal configuration (self-test) on label and then enter the dump mode. To calibrate gap or black mark sensor, depends on the sensor setting in the last print job.

Please follow the steps below to calibrate the sensor.
1. Turn off the power switch.
2. Hold on the button then turn on the power switch.
3. Release the button when LED becomes **amber** and blinking. (Any amber will do during the 5 blinks)

- The LED color will be changed as following order.
  Amber → red (5 blinks) → **amber (5 blinks)** → green (5 blinks) → green/amber (5 blinks) → red/amber (5 blinks) → solid green

4. It calibrates the sensor and measures the label length and prints internal settings then enter the dump mode.
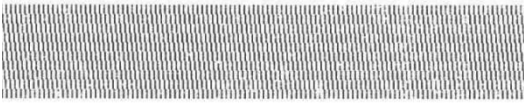
Note:
Please select gap or black mark sensor by Diagnostic Tool or by GAP or BLINE command prior to calibrate the sensor.
For more information about GAP and BLINE command, please refer to programming manual.

Self-test

Printer will print the printer configuration after gap/black mark sensor calibration. Self-test printout can be used to check if there is any dot damage on the heater element, printer configurations and available memory space.

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)
----------------------------------
``` | Model name<br>F/W version<br>Firmware checksum<br>Printer S/N<br>Configuration file<br>System date<br>System time<br>Printed mileage (meter)<br>Cutting counter |
| ```
----------------------------------
        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
----------------------------------
``` | Print speed (inch/sec)<br>Print darkness<br>Label size (inch)<br>Gap distance (inch)<br>Gap/black mark sensor intension<br>Code page<br>Country code |

```
--------------------------------
          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
--------------------------------
```

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

Note:
ZPL is emulating for Zebra® language.

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

RS232 serial port configuration

```
--------------------------------
   DRAM FILE (0 FILES)
--------------------------------
  PHYSICAL   XXXX KBYTES
  AVAILABLE  XXXX KBYTES
--------------------------------

--------------------------------
   FLASH FILE (0 FILES)
--------------------------------
  PHYSICAL   XXXX KBYTES
  AVAILABLE  XXXX KBYTES
--------------------------------
```

Numbers of download files
Total & available memory space

Print head check pattern

■ **Dump mode**

Printer will enter dump mode after printing printer configuration. In the dump mode, all characters will be printed in 2 columns as following. The left side characters are received from your system and right side data are the corresponding hexadecimal value of the characters. It allows users or engineers to verify and debug the program.

```
ASCII Data  ──→            SPEED 2.0    53 50 45 45 44 20 32 2E 30 0D        ←──  Hex decimal data related to left
                           DENSITY 8    0A 44 45 4E 53 49 54 59 20 38             column of ASCII data
                             SET PEEL   0D 0A 53 45 54 20 50 45 45 4C
                            OFF  DIRE   20 4F 46 46 0D 0A 44 49 52 45
                           CTION 0  G   43 54 49 4F 4E 20 30 0D 0A 47
                           AP 3.00 mm   41 50 20 33 2E 30 30 20 6D 6D
                           ,0.00 mm     2C 30 2E 30 30 20 6D 6D 0D 0A
                           REFERENCE    52 45 46 45 52 45 4E 43 45 20
                           0,0  SET C   30 2C 30 0D 0A 53 45 54 20 43
                           UTTER OFF    55 54 54 45 52 20 4F 46 46 0D
                            SIZE 100.   0A 53 49 5A 45 20 31 30 30 2E
                           02 mm,65.0   30 32 20 6D 6D 2C 36 35 2E 30
                           4 mm  CLS    34 20 6D 6D 0D 0A 43 4C 53 0D
                            BARCODE 1   0A 42 41 52 43 4F 44 45 20 31
                           44,149,"39   34 34 2C 31 34 39 2C 22 33 39
                           ",120,1,0,   22 2C 31 32 30 2C 31 2C 30 2C
                           2,6,"57114   32 2C 36 2C 22 35 37 31 31 34
                           38T"  PRIN   33 38 54 22 0D 0A 50 52 49 4E
                           T 1,1  SPE   54 20 31 2C 31 0D 0A 53 50 45
                           ED 2.0  DE   45 44 20 32 2E 30 0D 0A 44 45
                           NSITY 8  S   4E 53 49 54 59 20 38 0D 0A 53

                           ET PEEL OF   45 54 20 50 45 45 4C 20 4F 46
                           F  DIRECTI   46 0D 0A 44 49 52 45 43 54 49
                           ON 0  GAP    4F 4E 20 30 0D 0A 47 41 50 20
                           3.00 mm,0.   33 2E 30 30 20 6D 6D 2C 30 2E
                           00 mm  REF   30 30 20 6D 6D 0D 0A 52 45 46
                           ERENCE 0,0   45 52 45 4E 43 45 20 30 2C 30
                            SET CUTT    0D 0A 53 45 54 20 43 55 54 54
                           ER OFF  SI   45 52 20 4F 46 46 0D 0A 53 49
                           ZE 100.02    5A 45 20 31 30 30 2E 30 32 20
                           mm,65.04 m   6D 6D 2C 36 35 2E 30 34 20 6D
                           m  CLS  BA   6D 0D 0A 43 4C 53 0D 0A 42 41
                           RCODE 144,   52 43 4F 44 45 20 31 34 34 2C
                           149,"39",1   31 34 39 2C 22 33 39 22 2C 31
                           20,1,0,2,6   32 30 2C 31 2C 30 2C 32 2C 36
                           ,"5711438T   2C 22 35 37 31 31 34 33 38 54
                           "  PRINT 1   22 0D 0A 50 52 49 4E 54 20 31
                           ,1           2C 31 0D 0A
```

Note:

1. Dump mode requires 4" wide paper width.

2. Turn off / on the power to resume printer for normal printing.

4.3.3 Printer Initialization

Printer initialization is used to clear DRAM and restore printer settings to defaults.

Printer initialization is activated by the following procedures.

1. Turn off the power switch.

2. Hold on the button then turn on the power switch.

3. Release the button when LED turns **green** after 5 amber blinks. (Any green will do during the 5 blinks).

■ The LED color will be changed as following:

Amber → red (5 blinks) → amber (5 blinks) → **green (5 blinks)** → green/amber (5 blinks) → red/amber (5 blinks) → solid green

Printer configuration will be restored to defaults as below after initialization.

Parameter	Default setting
Speed	127 mm/sec (5 ips) (203DPI)
Density	8
Label Width	4" (101.5 mm)
Label Height	4" (101.5 mm)
Sensor Type	Gap sensor
Gap Setting	0.12" (3.0 mm)
Print Direction	0
Reference Point	0,0 (upper left corner)
Offset	0
Tear Mode	On
Peel off Mode	Off
Cutter Mode	Off
Code Page	850
Country Code	001
Clear Flash Memory	No

4.3.4 Set Black Mark Sensor as Media Sensor and Calibrate the Black Mark Sensor

Please follow the steps as below.

1. Turn off the power switch.

2. Hold on the button then turn on the power switch.

3. Release the button when LED turns **green/amber** after 5 green blinks. (Any green/amber will do during the 5 blinks).

■ The LED color will be changed as following:
   Amber → red (5 blinks) → amber (5 blinks) → green (5 blinks) → **green/amber (5 blinks)** → red/amber (5 blinks) → solid green

4.3.5 Set Gap Sensor as Media Sensor and Calibrate the Gap Sensor

Please follow the steps as below.

1. Turn off the power switch.

2. Hold on the button then turn on the power switch.

3. Release the button when LED turns **red/amber** after 5 green/amber blinks. (Any red/amber will do during the 5 blinks).

■ The LED color will be changed as following:

Amber → red (5 blinks) → amber (5 blinks) → green (5 blinks) → green/amber (5 blinks) → **red/amber (5 blinks)** → solid green

4.3.6 Skip AUTO.BAS

Programming language allows user to download an auto execution file to flash memory. Printer will run the AUTO.BAS program immediately when turning on printer power. The AUTO.BAS program can be interrupted without running the program by the power-on utility.

Please follow the procedures below to skip an AUTO.BAS program.

1. Turn off printer power.
2. Press the FEED button and then turn on power.
3. Release the FEED button when LED becomes **solid green**.

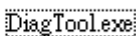- The LED color will be changed as following:
  Amber → red (5 blinks) → amber (5 blinks) → green (5 blinks) → green/amber (5 blinks) → red/amber (5 blinks) → **solid green**
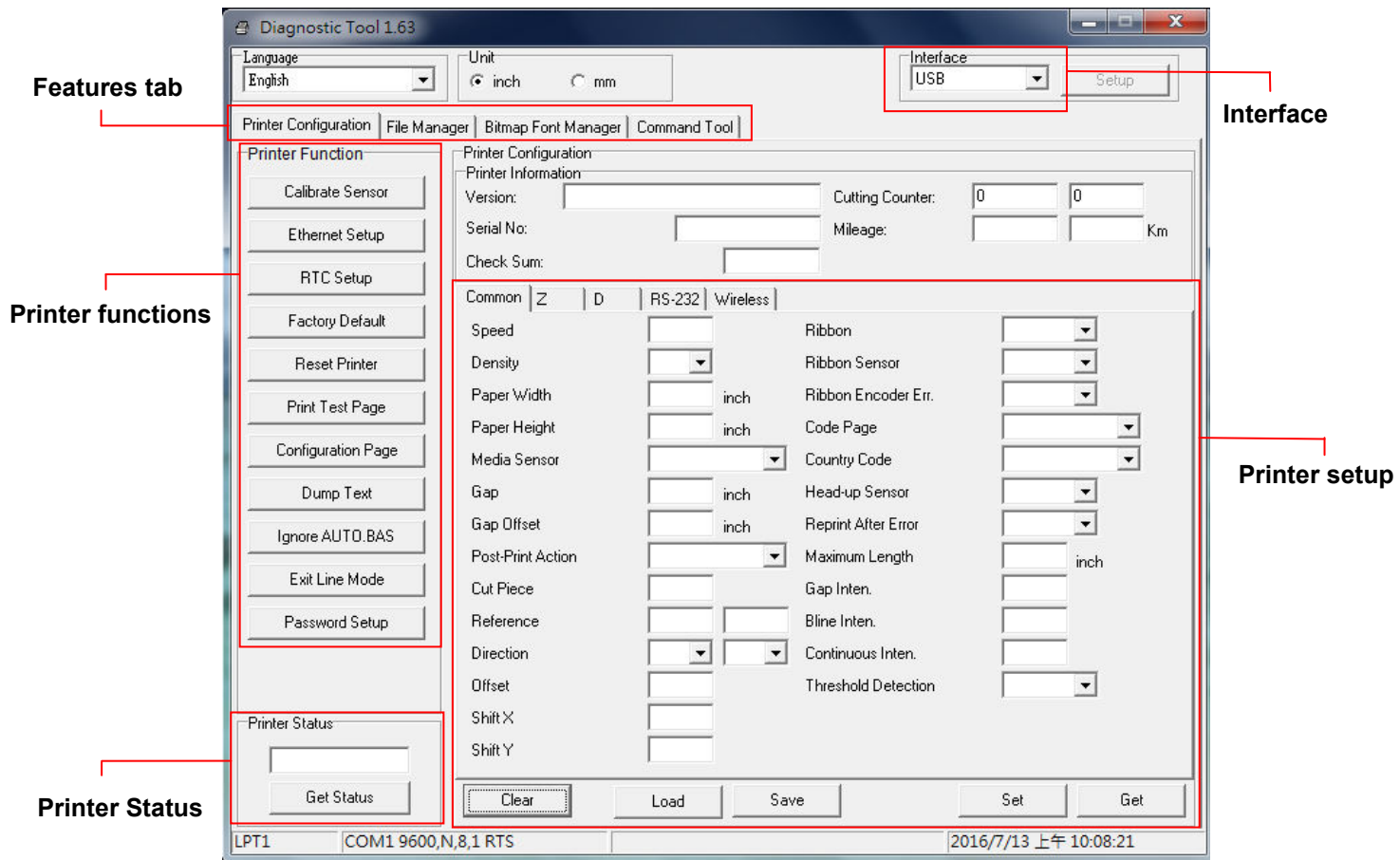
4. Printer will be interrupted to run the AUTO.BAS program.

5. Diagnostic Tool

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.
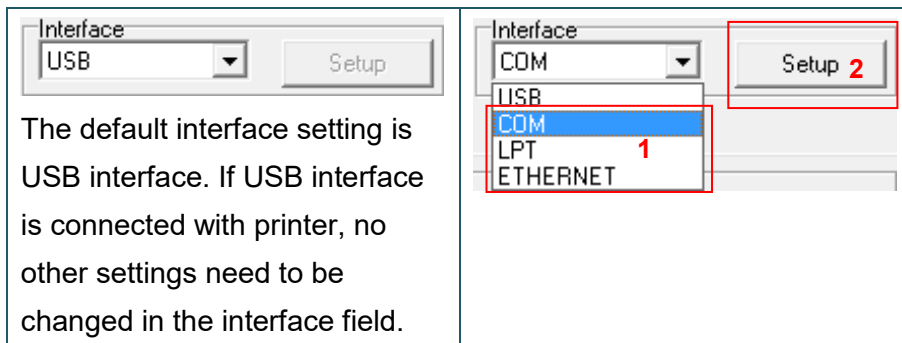
5.1 Start the Diagnostic Tool

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.

Features tab

Printer functions

Printer Status

Interface

Printer setup

5.2 Printer Function

1. Select the PC interface connected with bar code printer.

Interface USB ▾ Setup The default interface setting is USB interface. If USB interface is connected with printer, no other settings need to be changed in the interface field.	Interface COM ▾ Setup **2** USB COM LPT **1** ETHERNET

2. Click the "Printer Function" button to setup.

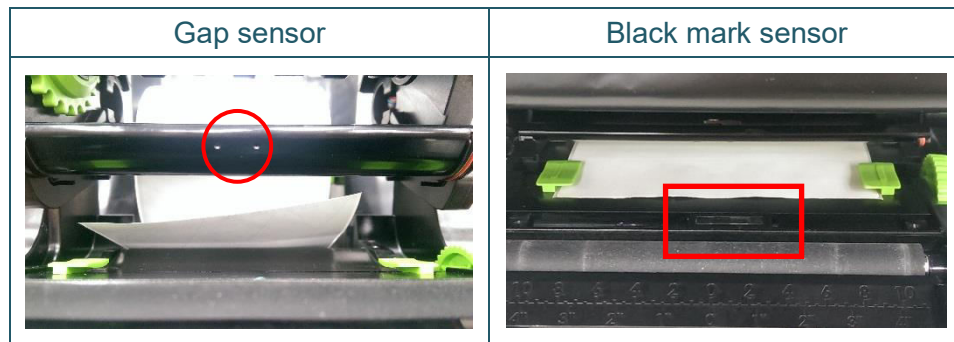3. The detail functions in the Printer Function Group are listed as below.

	Function	Description
Printer Function Calibrate Sensor Ethernet Setup RTC Setup Print Test Page Reset Printer Factory Default Dump Text Ignore AUTO.BAS Configuration Page Password Setup	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 on board Ethernet
	RTC Setup	Synchronize printer Real Time Clock with PC
	Print Test Page	Print a test page
	Reset Printer	Reboot printer
	Factory Default	Initialize the printer and restore the settings to factory default. (Please refer section 4.3.3)
	Dump Text	To activate the printer dump mode.
	Ignore AUTO.BAS	Ignore the downloaded AUTO.BAS program
	Configuration Page	Print printer configuration (Please refer section 4.3.2)
	Password Setup	Set the password to protect the settings

For more information about Diagnostic Tool, please refer to the diagnostic utility quick start guide in the CD disk \ Utilities directory.
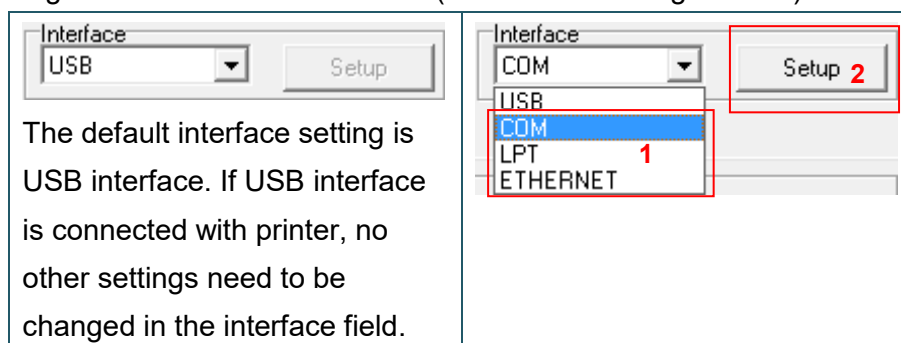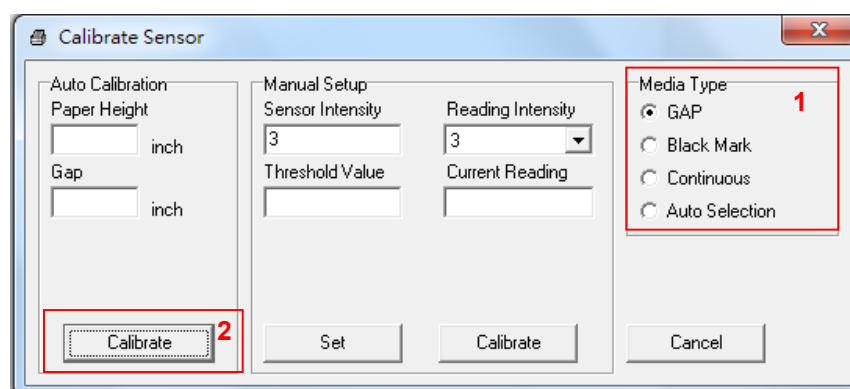
5.3.1 Auto Calibration

1. Make sure the media is already installed and print head mechanism is closed. (Please refer to section 3.3.)

Gap sensor	Black mark sensor

2. Turn on the printer power switch.
3. Open Diagnostic tool and set interface. (The default setting is USB.)

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

4. Click the "Calibrate Sensor" button.
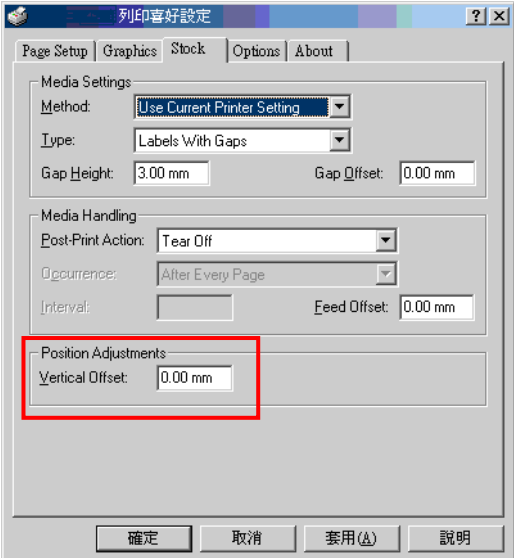5. Select the media type and click the "Calibrate" button.

6. Troubleshooting

6.1 Common Problems

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.	* Plug the power cord in printer and outlet. * Switch the printer on.
- The printer status from DiagTool shows "**Head Open**". - The LED shows "**Red (blinking)**".	* The printer carriage is open.	* Please close the print carriage.
- The printer status from DiagTool shows "**Ribbon End Err.**" Or "**Ribbon Encoder Err.**" - The LED shows "**Red (blinking)**".	* Running out of ribbon. * The ribbon is installed incorrectly.	* Supply a new ribbon roll. * Please refer to the steps on section 3.2 to re-install the ribbon.
- The printer status from DiagTool shows "**Out of Paper**". - The LED shows "**Red (blinking)**".	* 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 on section 3.3 to reinstall the label roll. * Calibrate the gap/black mark sensor.
- The printer status from DiagTool shows "**Paper Jam**". - The LED shows "**Red (blinking)**".	* 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 gap/black mark sensor. * Set label size correctly.
Not Printing	* Cable is not well connected to serial or USB interface or parallel port. * The serial port cable pin configuration is not pin to pin connected.	* Re-connect cable to interface. * Chang a new cable. * Ribbon and media are not compatible. * Verify the ribbon-inked side. * Reload the ribbon again. * Clean the print head. * The print density setting is incorrect. * Print head's harness connector is not well connected with print head. Turn off the printer and plug the connector again. * Check your program if there is a command PRINT at the end of the file and there must have CRLF at the end

		of each command line.
Memory full **(FLASH / DRAM)**	* The space of FLASH/DRAM is full.	* Delete unused files in the FLASH/DRAM.
Poor Print Quality	* Ribbon and media is loaded incorrectly * Dust or adhesive accumulation on the print head. * Print density is not set properly. * Print head element is damaged. * Ribbon and media are incompatible. * The print head pressure is not set properly.	* Reload the supply. * Clean the print head. * Clean the platen roller. * Adjust the print density and print speed. * Run printer self-test and check the print head test pattern if there is dot missing in the pattern. * Change proper ribbon or proper label media. * The print head mechanism does not latch the print head properly.
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 blower.
The printing position of small label is incorrect	* Media sensor sensitivity is not set properly. * Label size is incorrect. * The vertical offset setting in the driver is incorrect.	* Calibrate the sensor sensitivity again. * Set the correct label size and gap size. * If using the software BarTender, please set the vertical offset in the driver.
Missing printing on the left or right side of label	* Wrong label size setup.	* Set the correct label size.
Wrinkle problem	* Ribbon installation is incorrect. * Media installation is incorrect. * Print density is incorrect. * Media feeding is incorrect.	* Please set the suitable density to have good print quality. * Make sure the label guide touch the edge of the media guide.
Gray line on the blank	* The print head is dirty. * The platen roller is dirty.	* Clean the print head. * Clean the platen roller.

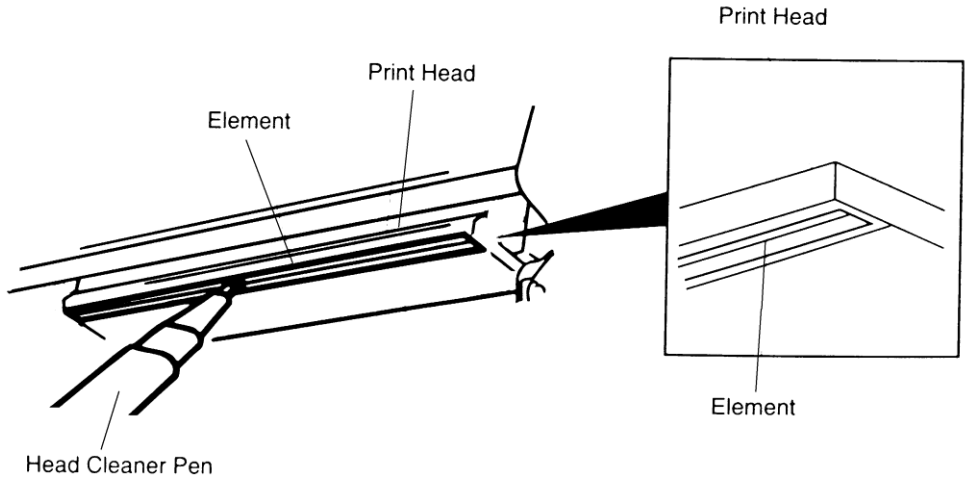| label		
Irregular printing	* The printer is in Hex Dump mode.	* Turn off and on the printer to skip the dump mode.

7. Maintenance

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

1. Please use one of following material to clean the printer.

- Cotton swab
- Lint-free cloth
- Vacuum / Blower brush
- 100% ethanol

2. The cleaning process is described as following,

Printer Part	Method	Interval
Print Head	1. Always turn off the printer before cleaning the print head. 2. Allow the print head to cool for a minimum of one minute. 3. Use a cotton swab and 100% ethanol to clean the print head surface. 	Clean the print head when changing a new label roll.
Platen Roller	1. Turn the power off. 2. Rotate the platen roller and wipe it thoroughly with 100% ethanol and a cotton swab, or lint-free cloth.	Clean the platen roller when changing a new label roll.
Tear Bar/Peel Bar	Use the lint-free cloth with 100% ethanol to wipe it.	As needed
Sensor	Compressed air or vacuum	Monthly
Exterior	Wipe it with water-dampened cloth	As needed
Interior	Brush or vacuum	As needed

Note:

- Do not touch printer head by hand. If you touch it careless, please use ethanol to clean it.
- Please use 100% Ethenol. DO NOT use medical alcohol, which may damage the printer head.
- Regularly clean the print head and supply sensors once change a new ribbon to keep printer performance and extend printer life.

TVSE Take-Back & Recycling Program

Overview

The new E-waste (Management) Rules, 2016 have been notified by the Ministry of Environment, Forest and Climate Change, Govt. of India vide notification dt.23.03.2016 and shall come into force with effect from 1st Oct, 2016. According to these Rules, the Producer shall be responsible for channelization of waste electrical and electronic equipment (popularly known as "WEEE"). This will ensure that the e-waste is disposed of in an environmentally friendly manner and will address the leakage to the informal sector.

Phase wise collection targets have been set for Producers to collect e-waste (either in number or weight) and shall be 30% of the quantity of waste generation during first two 2 years of implementation of the Rules, 40% during 3rd & 4th year, 50% during 5th & 6th year and 70% from 7th year onwards.

TVS-E Commitment

TVS-E is committed to environmentally sound management of e-waste taking all steps required to ensure that e- waste are managed in a manner which shall protect health and environment against any adverse effects which may result from hazardous substance contained in such wastes. TVS-E assures that the covered products do not contain lead, mercury, cadmium, hexavalent chromium, poly- brominated biphenyls or poly-brominated di-phenyl ethers above a specified threshold. The threshold for cadmium is 0.01% by weight in homogeneous material, for all other substances, the threshold is 0.1% by weight in homogeneous material.

Introduction

E-waste is any electrical/electronic product or an accessory which is not useable and it is at its end of life for example old defective products like Printers, Keyboards, Mouse, User terminal etc.

E-waste has been defined as "waste electrical and electronic equipment, whole or in part or rejects from their manufacturing and repair process, which are intended to be discarded".

Whereas Electrical and electronic equipment has been defined as "equipment which is dependent on electrical currents or electro-magnetic fields to fully functional". E-waste generally consists of those substances contained in an electronic product which can bring adverse effects to the atmosphere and hence managing it in a proper way is important. Apart from affecting the environment it can also affect the health of the people.

Waste Collection

TVS-E has put in place a pan India collection mechanism to assist its customers in depositing their e-waste as per the new E-waste (Management) Rules, 2016 effective from 1st October, 2016.

You can deposit the WEEE at the nearest Collection Point. Details of the location of Collection Points and Collection Centres are also available on this website.

TVS-E assures all its customers that all its e-waste collected under these Rules will be recycled/ disposed of by an authorized e-waste Recycler as per the E-waste Management Rules, 2016.

Do's and Dont's

Do's:

- Always drop your used electronic products, batteries, and packaging materials after the end of their life at the nearest collection point.

- Separate the packaging material according to responsible waste disposal options and sorting for recycling.

- Keep the product in isolated area, after it becomes non-functional/un-repairable so as to prevent its accidental breakage

Dont's:
- The product is not meant for re-sale of any unauthorized agencies/scrap dealers
- Never dump e-waste in garbage bins
- Do not dispose off your product in at municipal waste bins
- Do not throw used batteries into household waste.

FAQs

1. What is e-waste?

E-waste means electrical and electronic equipment, whole or in part discarded as waste by the consumer or bulk consumer as well as rejects from manufacturing, refurbishment and repair processes.

2. What is end-of-life of product?

End-of-life of the product means the time when the product is intended to be discarded by the user.

3. How can you dispose of your e-waste?

You can deposit your e-waste at any of our Collection Points mentioned on our website.

4. WHAT CAN I RECYCLE?

Under E-Waste Management & Handling Rules 2016, we will accept and recycle all TVS-E products like Printers, Keyboards, Mouse, User terminal, Cartridges are accepted for recycling.

5. What is EPR (Extender Producer Responsibility)?

EPR means responsibility of any producer of electrical and electronic equipment, for channelization of e-waste to ensure environmentally sound management of such waste.

6. Do consumers have to pay for getting their electronics recycled?

Consumers do not have to pay any fee for recycling of TVS-E products

7. Is there any monitory benefit/discount linked to this take-back and recycling program?

As of now there is no monitory benefit/discount linked to this program. The main benefit of this program is cleaner, safer and green environment.

8. What will happen if the product is not properly handled and is given/sold to scrap dealer like any other ordinary scrap?

In case eWaste is sold to unauthorized dealers, they don't have scientific tools to recycle the products and therefore they are not authorized by the Pollution Control Board. In open area they burn the plastic parts, break the seal of parts which carries gases and try to extract metals. Such smoke and gases pollute the environment. Also hazardous residual are thrown in landfills which is dangerous for land, water, air and living beings.

9. How can you participate in the TVS-E Recycling Program?

You can dispose of a used TVS-E product very easily and responsibly. Simply call at 044 6688 8888 and drop it at your nearest Collection point's .All these E-waste will be consolidated and forwarded to Tumkur Collection point for final disposal through Authorized E-waste Recycler

10. What are the negative effects of improper recycling and dismantling of old electrical & electronic items?

- If the material is disposed off in open, then it may cause health risks and damage to environment

- Presence of heavy metals such as cadmium, lead etc and other toxic substances may pose risk to health and environment

- Burning of rubber & Plastic in open area causes air pollution.

- Batteries contain hazardous elements which may affect the health & environment, if not disposed off properly.

11. How to safely handle the product while disposing off?

- Old defective product should be kept separately from other products.

- Product should not be dropped in garbage bins containing municipal waste.

- It should be handed over to authorized recycler for safe recycling.

- Product should not be handed over to any recycler who does not have proper recycling facilities

12. What are health hazards and effects on environment if the product is dismantled by the consumer themselves?

All the electronic products are safe to use, but if the consumer dismantles or breaks them, they might be exposed to health hazards due to the chemical substances present in the products, which further can pollute the environment.