

TDP-247 Series

■ Direct Thermal
Desktop Barcode Printers



Series Lists:

TDP-244 / TDP-245

TDP-245 Plus / TDP-247 / TDP-345 Series

User Manual

Copyright information

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1. Introduction

Thank you very much for purchasing TSC bar code printer.

Thank you for purchasing the TSC TDP-245/245 Plus/247/345 Series Direct Thermal Bar Code Printer. Although the printer takes only a small amount of space, it delivers reliable, superior performance.

This printer provides direct thermal printing at user selectable speed of: 2.0, 3.0, 4.0, 5.0, 6.0 or 7.0 inches per second. It accepts roll feed, die-cut, and fan-fold labels for direct thermal printing. All common bar codes formats are available. Fonts and bar codes can be printed in 4 directions, 8 different alphanumeric bitmap fonts and a build-in true type font capability.

This document provides an easy reference for operating this printer. TSC printers include the Windows labeling software for creating your label template. For system integration, the TSPL/TSPL2 printer programming manual or SDKs can be found on TSC website at: <https://www.tscprinters.com>.

2. Operation 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.

2.2 Equipment Checklist

- Printer
- BarTender UltraLite CD disk
- Quick start guide
- USB port cable
- External universal switching power supply
- Power Cord
- Label Spindle
- Fixing tab x2
- 1.5" core adapter x2

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

Dealer option

- **Peel off module assembly**
- **Regular cutter** (Guillotine cutter)
 - Full cut: Media thickness: 0.06~ 0.19mm (Media type: receipt and label liner w/o glue)
 - Partial cut: Media thickness: 0.06~0.12mm (Media type: receipt and label liner w/o glue)

Note: Except for the linerless cutter, all regular/heavy duty/care label cutters DO NOT cut on media with glue.
- **Main board integrated with internal Ethernet**
- **Internal Ethernet print server module**
- **Guillotine cutter**
 - Full cut: Media thickness: 0.06~ 0.19mm (Media type: receipt and label liner w/o glue)
 - Partial cut: Media thickness: 0.06~0.12mm (Media type: receipt and label liner w/o glue)

Note: Except for the linerless cutter, all regular/heavy duty/care label cutters DO NOT cut on media with glue.
- **Main board integrated with internal Ethernet**
- **Internal Ethernet print server module**

User option

- **KP-200**
- **KU-007 plus**
- **External Ethernet print server**
- **External wireless (802.11b/g) print server**
- **External roll mount, media OD. 214 mm (8.4") with 3" core label spindle**
- **Contact CCD contact scanner**
- **Long range linear image bar code scanner**

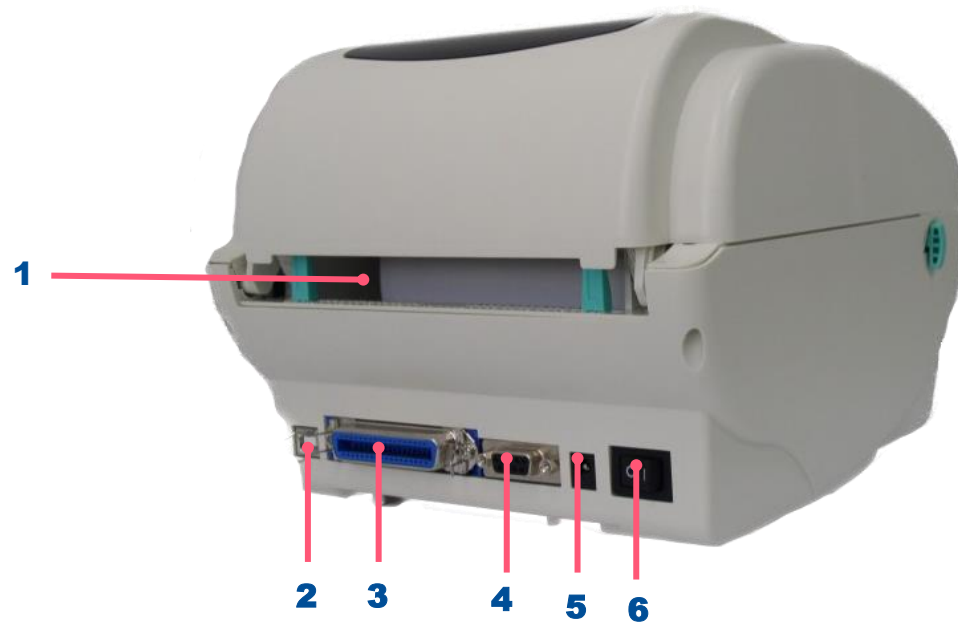
2.3 Printer Overview

2.3.1 Front View



- 1.** Label Opening
- 2.** Top Cover
- 3.** Clear Window
- 4.** LED Indicator
- 5.** Feed Button
- 6.** Top Cover Open Lever
- 7.** Backing Paper Opening
- 8.** Front cover

2.3.2 Rear View



- 1.** Rear Paper Guide
- 2.** USB Interface
- 3.** Centronics Interface
- 4.** RS-232C DB-9 Interface
- 5.** Power Jack
- 6.** Power Switch

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

3. Setup

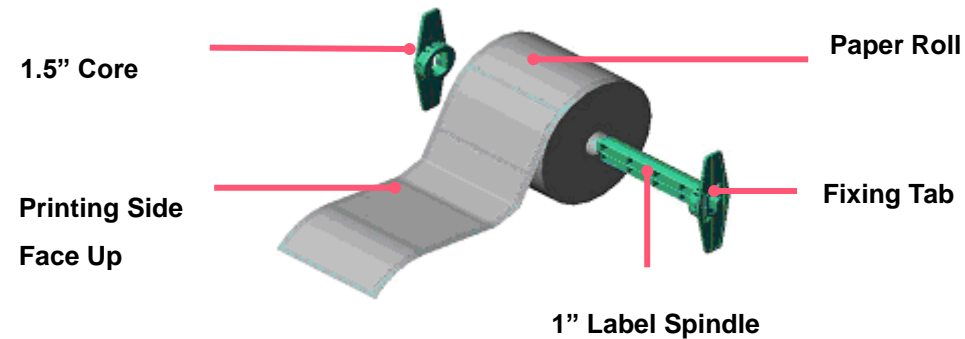
3.1 Setting up the Printer

1. Place the printer on flat surface.
2. Make sure the printer is power off.
3. Connect the printer to the computer with the provided USB cable.
4. Plug in the power cord.

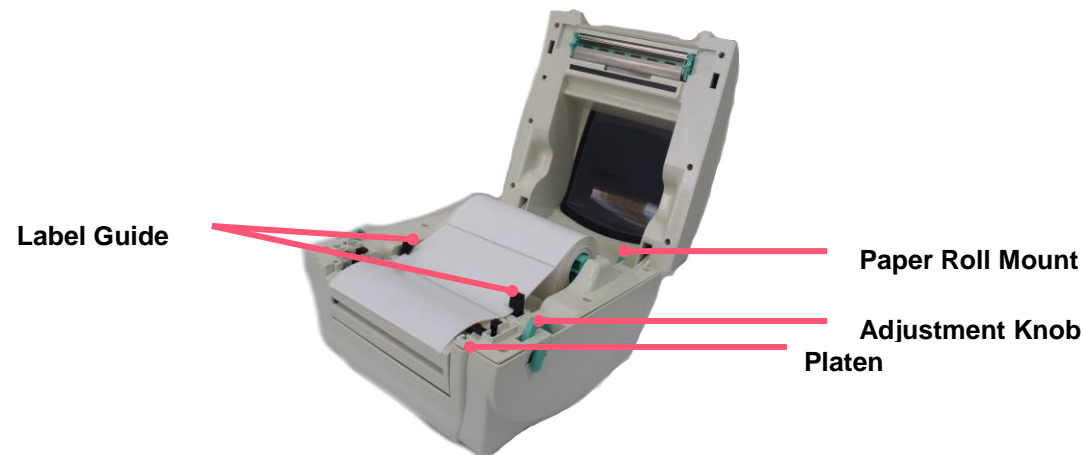
◆ **Note: Please switch OFF the printer before plugging in the power cord to printer power jack.**

3.2 Loading the Label Stock

1. Insert a 1" label spindle into a paper roll (* If your paper core is 1 inch, remove the 1.5" core adapter from the fixed tab. If label width is 4 inch wide, two fixing tabs are not required.)



2. Open the printer's top cover by releasing the green **top cover open levers** located on both sides.
3. Place a roll of paper into internal paper roll mount.
4. Feed the paper, printing side face up, through the **label guides** and place the label over the platen.
5. Adjust the black center-biased label guides in or out by turning adjustment knob so they are slightly touch the edges of the label backing.

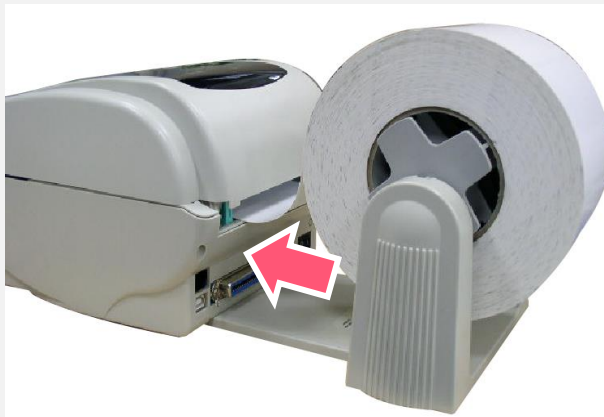


6. Close the printer top slowly and securely.

3.3 External Label Roll Mount Installation (Option)

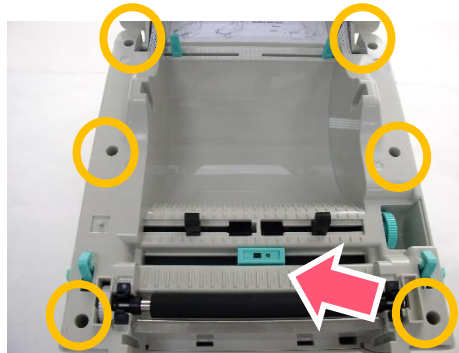


- 1.** Attach an external label roll mount on the bottom of the printer.
- 2.** Install a roll of label on the external label roll mount.



- 3.** Feed the label to the external label feed opening through the rear label guide.
- 4.** Open the printer top cover and thread the label.
- 5.** Adjust the label guides by turning adjustment knob.
- 6.** Close the printer top cover.

3.4 Peel-Off Installation Assembly (Option)



- 1.** Open the top cover.
- 2.** Unscrew the 6 screws in the lower inner cover.



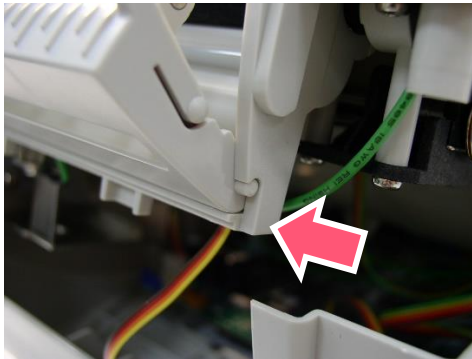
- 3.** Upside down the printer.
- 4.** Unscrew the 2 screws at the lower inner cover.



- 5.** Remove the screw at memory card cover.



6. Hold the lower cover and lift up the top cover opening levers to separate the lower inner cover from the lower cover.



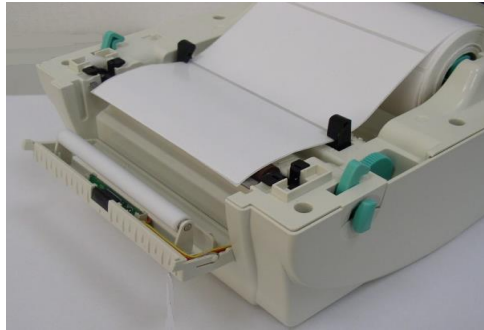
**Install one side first
and install another
side**

7. Thread the harness red connector through the cable hole at the front side of lower inner cover. Plug the red peel off module harness connector at the location JP17 (TDP-245) / JP19 (TDP-245 Plus/TDP-247/TDP-345) on the main board. Place lower inner cover to the lower cover. Install the peel-off module to the lower inner cover slot.

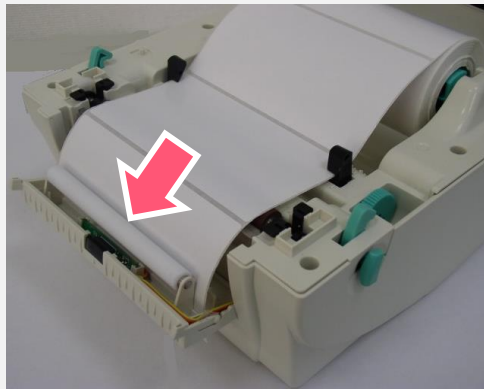


8. Gently push peel-off panel to lock to the lower inner cover.
9. Reassemble parts in reverse procedures after installing the module.

3.5 Loading Label in Peel-Off Mode (Option)



1. Open the peel-off module by pulling it out.
2. Thread the label, printing side facing up, through the label guides and place it on top of the platen.

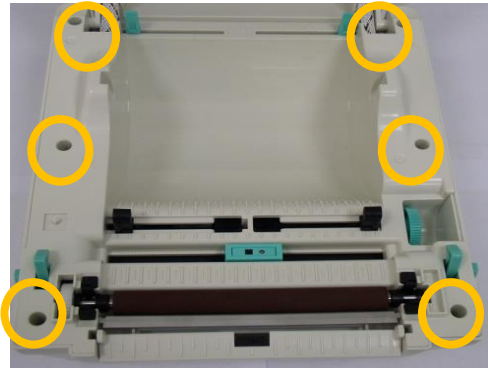


3. Thread the label through the liner opening, which is beneath the roller.
4. Adjust the black center-biased **label guides** by turning adjustment knob to fit the edge of the label backing.

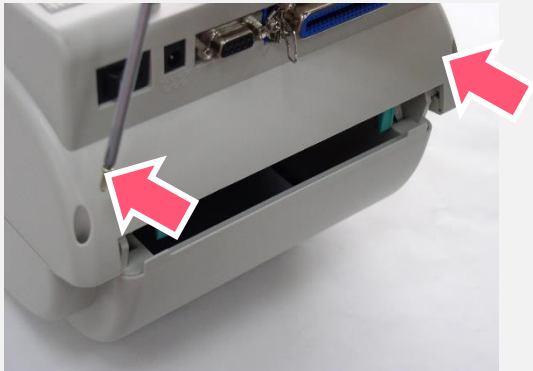


5. Push the peel-off panel back to the printer.
6. Close the top cover

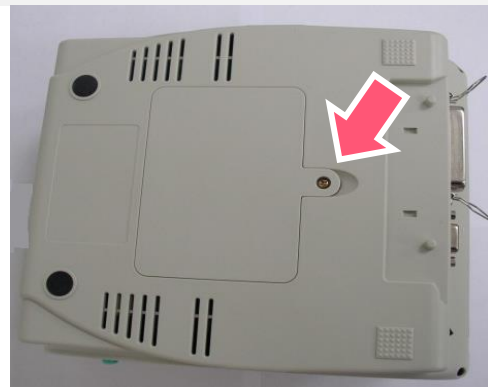
3.6 Cutter Module Installation (Option)



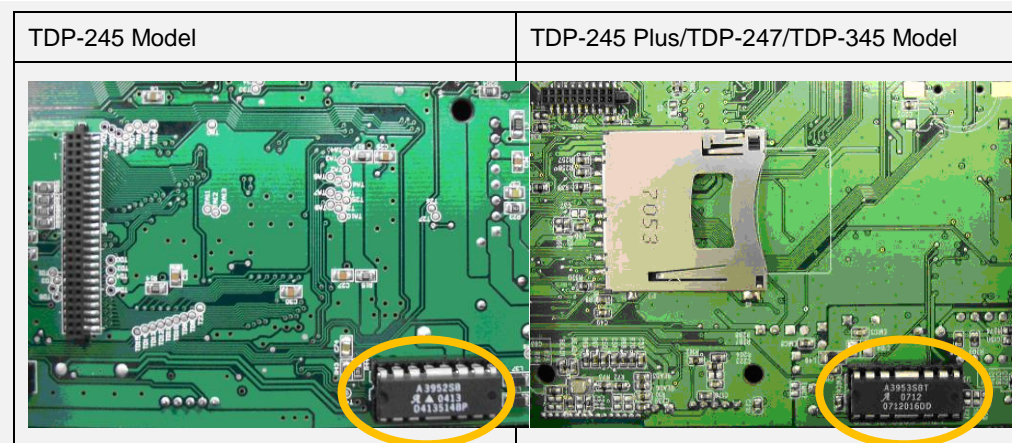
- 1.** Pull the top cover open levers to open the top cover.
- 2.** Remove the front panel from the lower cover.
- 3.** Remove 6 screws on the lower inner cover.



- 4.** Upside down the printer.
- 5.** Remove two screws at the hinge



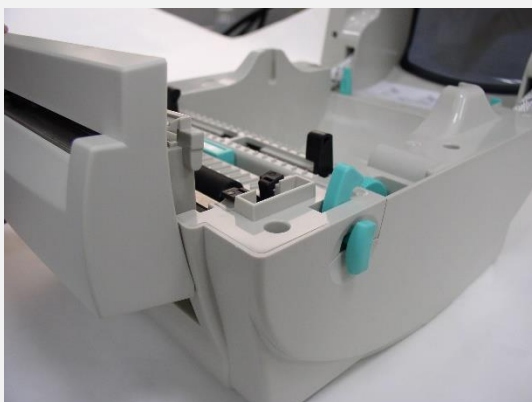
- 6.** Remove the screw that fixes the memory card cover.



- 7.** Plug in the Cutter Driver IC at U14(TDP-245) / U30(TDP-245 Plus/TDP-247/TDP-345) socket on the main board.

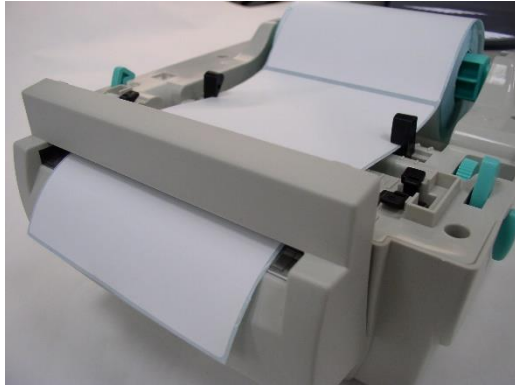


- 8.** Hold the lower cover and lift up the lower inner cover.
- 9.** Arrange the cutter module harness through the bezel.
- 10.** Connect the cutter module harness to the 4-pin socket on printer PCB.



- 11.** Reassemble lower inner cover back to lower cover.
- 12.** Install cutter module into the niche of the printer.
- 13.** Close the top cover.

3.7 Loading Label in Cutter Mode (Option)

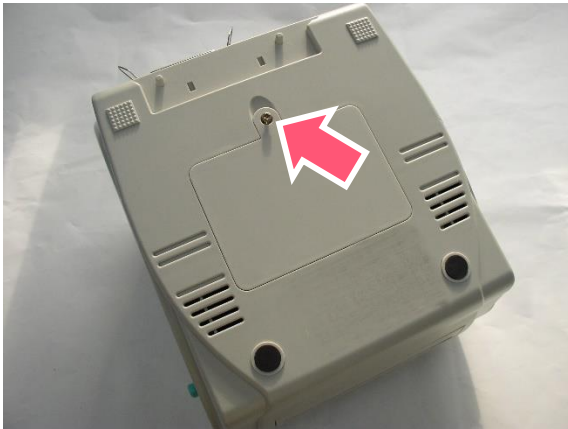


1. Open the printer top cover.
2. Insert the label spindle into label roller.
3. Place a label roll to label roll mount.
4. Thread the paper, printing side face up, through the label guide, platen and cutter module paper outlet.



5. Adjust the black center-biased label guides to fit edge of the label backing.
6. Close the top cover.

3.8 Install Memory Card



1. Upside down the printer.
2. Remove 1 screw and open the memory card cover.

**TDP-245 Model
(Option)**






**TDP-245Plus
TDP-247/TDP-345 Model
(SD card)**



3. Plug the memory card on main board.
4. Install the card cover back to the printer.

4. LED and Button Functions

4.1 LED Indicator

Color	Meaning
 (Green)	Solid: Power is on and ready to be used. Flash : System is downloading data or printer is paused.
 (Amber)	System is clearing data.
 (Red)	Solid - Printer head open, cutter error. Flash - Printing error, such as paper empty, paper jam, ribbon empty, or memory error etc.

4.2 Regular Button Function

1. Feed labels

When the printer is ready, press the button to feed one label to the beginning of next label.

2. Pause the printing job

When the printer is printing, press the button to pause a printing 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

Power-on Utilities provides the basic functions and can be activated by below procedures:

Turn off the power > **Hold** the Feed button > **Open** the power > **Release** the button depending on the the color of the LED.

Sequences of the settings:

LED Colors Functions	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

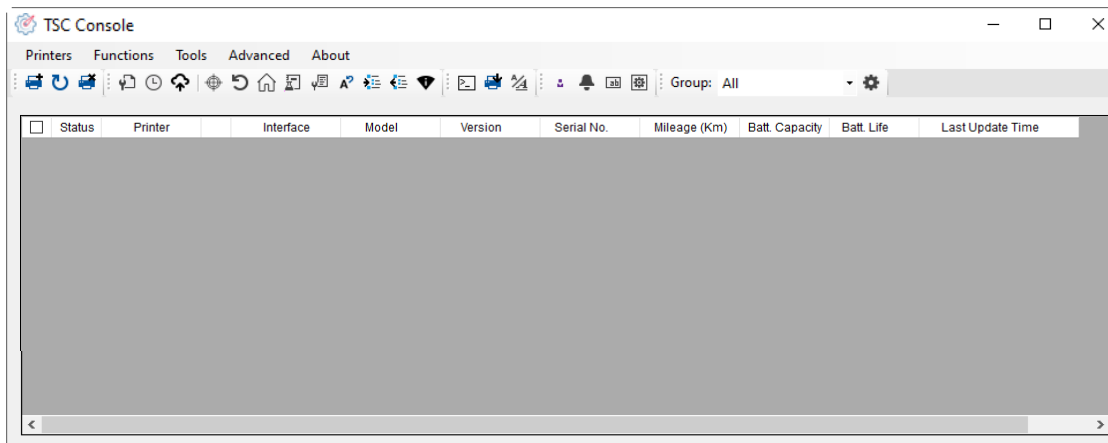
5. TSC Console

TSC Console is a management tool combining the Printer Management, Diagnostic Tool, CommTool and Printer Webpage settings, which enables you to adjust printer's settings/status; change printers' settings; download graphics, deploy fonts, graphics, label templates or upgrade the firmware to the group of printers, and send additional commands to printers at the same time.

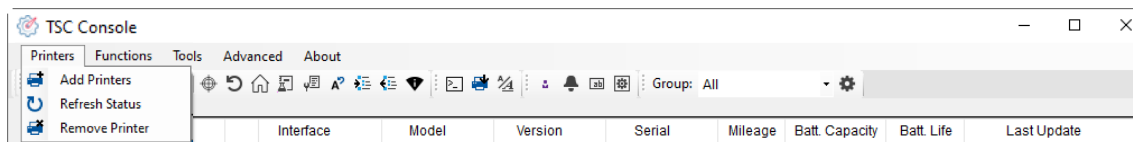
※ **Printer firmware version before A2.12 will only use 9100 Port as command port; Printer firmware after A2.12 will use 6101 Port as command port.**

5.1 Start TSC Console

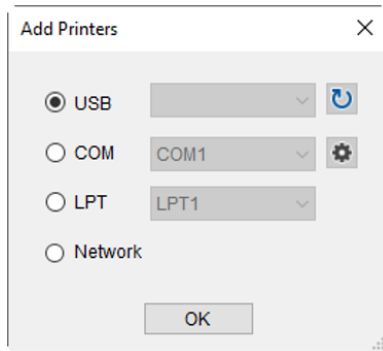
1. Double click TSC Console icon to start the software.



2. Manually add the devices by clicking **Printer > Add Printers**.

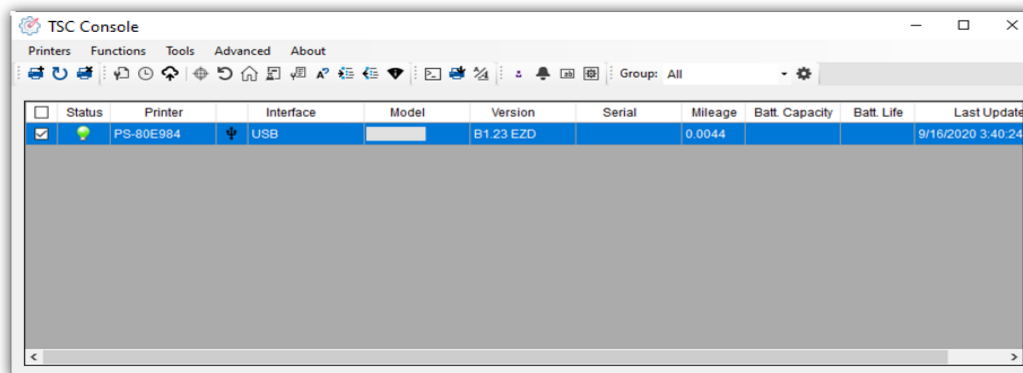


3. Select the current interface of the printer.



4. The printer will be added to **TSC Console**'s interface.

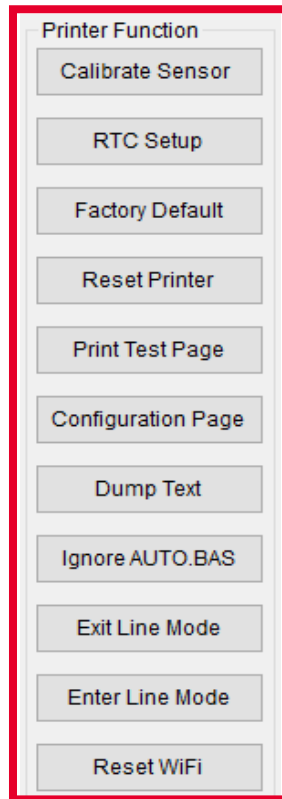
5. Select the printer and set the settings.



For more information, please refer to TSC Console User Manual.

5.2 Printer Function

Printer Function could be found in **Printer Configuration**. “**Printer Function**” will be shown on the left side of the window.



Functions	Description
Calibrate Sensor	Detect media types and the size of the label
RTC Setup	Synchronize printer with Real Time Clock on PC
Factory Default	Initialize the printer to default settings
Reset Printer	Reboot printer
Print Test Page	Print test page according to the specified label size and sensor type.
Configuration Page	Print printer configurations
Dump Text	Activate the printer to dump mode
Ignore AUTO.BAS	Restart the printer and Ignore AUTO.BAS file for once
Exit Line Mode	Exit the line mode to page mode
Enter Line Mode	Leave page mode and enter line mode
Reset WiFi	Restore the WiFi settings to defaults.

5.3 Setting Post-Print Action

When the printer is equipped with other option kits, ex: cutter, peeler, rewinder, please select the mode after finishing the calibration.

Follow below procedure to set the post action for the printing:

Refer Chp 5.1 to connect the printer with **TSC Console** > **Double click** the printer > **Printer Configuration Page** will pop up > Click **Get** to load information > Go to **Common Tab** > Find **Post-Print Action** > **Select the mode** for the application > Click **Set** to finish setting.

Printer Configuration

Printer Configuration Emulation TPH Care Smart Battery Unit: mm

Printer Function

- Calibration
- RTC Setup
- Factory Default
- Reset Printer
- Print Test Page
- Configuration Page
- Dump Text
- Ignore AUTO.BAS
- Exit Line Mode
- Enter Line Mode
- Wi-Fi Default
- Get Status

Printer Configuration

Version: [Green Bar]
Serial No.: [Green Bar] TPH Serial Number: N/A
Checksum: 1344B9B1 TPH Odometer: N/A
Ribbon Remaining: % Cutter Serial Number: N/A
Label Count: 553
Cutting Counter: 0 0 Reset
Mileage (Km): 0.0913 0.0913 Reset

Common RS-232 Bluetooth Wi-Fi Ethernet SMTP SNTP

Speed: 3 Ribbon: OFF
Density: 8 Ribbon Sensor: OFF
Paper Width: 104.00 mm Ribbon Encoder Err.: OFF
Paper Height: 74.05 mm Head-up Sensor: ON
Media Sensor: Black Mark Reprint After Error: ON
Gap: 1.99 0.00 mm Maximum Length: 152.25 mm
Post-Print Action: [Dropdown Menu] Gap Inten.: 7
Reference: OFF Bline Inten.: 7
Direction: TEAR Continuous Inten.: 4
Offset: PEEL Threshold Detection: AUTO
Shift X: CUTTER Print Quality: STANDARD
Shift Y: REWIND Standby Time: 120 secs
Code Page: 850 Sleep Time: 0 mins
Country Code: 001

Set Get

6. Troubleshooting

This section lists the common problems that according to the LED status and other problems you may encounter when operating the printer. Also, it provides solutions.

LED Status

LED Status / Color	Printer Status	Possible Cause	Recovery Procedure
OFF	No response	No power	<ul style="list-style-type: none">* Turn on the power switch.* Check if the green LED is lit on power supply. If it is not lit on, power supply is broken.* Check both power connections from the power cord to the power supply and from the power supply to the printer power jack if they are connected securely.
Solid Green	ON	The printer is ready to use	<ul style="list-style-type: none">* No action necessary.
Green with blinking	Pause	The printer is paused	<ul style="list-style-type: none">* Press the FEED button to resume for printing.
Red with blinking	Error	The out of label or the printer setting is not correct	<ol style="list-style-type: none">1. Out of label<ul style="list-style-type: none">* Load a roll of label and follow the instructions in loading the media then press the FEED button to resume for printing.2. Printer setting is not correct<ul style="list-style-type: none">* Initialize the printer

Print Problem

Problem	Possible Cause	Recovery Procedure
Not Printing	Check if interface cable is well connected to the interface connector.	Re-connect cable to interface.
	The serial port cable pin configuration is not pin to pin connected.	Please replace the cable with pin to pin connected.
	The serial port setting is not consistent between host and printer.	Please reset the serial port setting.
	The port specified in the Windows driver is not correct.	Select the correct printer port in the driver.
	The Ethernet IP, subnet mask, gateway is not configured properly.	Configure the IP, subnet mask and gateway.
No print on the label	Label loaded not correctly.	Follow the instructions in loading the media.
Continuous feeding labels	The printer setting may go wrong.	Please do the initialization and gap/black mark calibration.
Paper Jam	Gap/black mark sensor sensitivity is not set properly (sensor sensitivity is not enough)	Calibrate the gap/black mark sensor.
	Make sure label size is set properly.	Set label size exactly as installed paper in the labeling software or program.
	Labels may be stuck inside the printer mechanism near the sensor area.	Remove the stuck label.
Poor Print Quality	Top cover is not closed properly.	Close the top cover completely and make sure the right side and left side levers are latched properly.
	Wrong power supply is connected with printer.	Check if 24V DC output is supplied by the power supply.
	Check if supply is loaded correctly.	Reload the supply.
	Check if dust or adhesives are accumulated on the print head.	Clean the print head.

	Check if print density is set properly.	Adjust the print density and print speed.
	Check print head test pattern if head element is damaged.	Run printer self-test and check the print head test pattern if there is dot missing in the pattern.

7. Maintenance

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

■ For Cleaning

Depending on the media used, the printer may accumulate residues (media dust, adhesives, etc.) as a by-product of normal printing. To maintain the best printing quality, you should remove these residues by cleaning the printer periodically. Regularly clean the print head and supply sensors once change a new media to keep the printer at the optimized performance and extend printer life.

■ For Disinfecting

Sanitize your printer to protect yourself and others and can help prevent the spread of viruses.

■ Important

- Set the printer power switch to O (Off) prior to performing any cleaning or disinfecting tasks. Leave the power cord connected to keep the printer grounded and to reduce the risk of electrostatic damage.
- Do not wear rings or other metallic objects while cleaning any interior area of the printer.
- Use only the cleaning agents recommended in this document. Use of other agents may damage the printer and void its warranty.
- Do not spray or drip liquid cleaning solutions directly into the printer. Apply the solution on a clean lint-free cloth and then apply the dampened cloth to the printer.
- Do not use canned air in the interior of the printer as it can blow dust and debris onto sensors and other critical components.
- Only use a vacuum cleaner with a nozzle and hose that are conductive and grounded to drain off static build up.
- All reference in these procedures for use of isopropyl alcohol requires that a 99% or greater isopropyl alcohol content be used to reduce the risk of moisture corrosion to the printhead.
- Do not touch printhead by hand. If you touch it carelessly, please use 99% Isopropyl alcohol to clean it.
- Always taking personal precaution when using any cleaning agent.

Cleaning Tools

- Cotton swab
- Lint-free cloth
- Brush with soft non-metallic bristles
- Vacuum cleaner
- 75% Ethanol (for disinfecting)
- 99% Isopropyl alcohol (for printhead and platen roller cleaning)
- Genuine printhead cleaning pen
- Mild detergent (without chlorine)

Cleaning Process:

Printer Part	Method	Interval
Print Head	<ol style="list-style-type: none"> I. Always turn off the printer before cleaning the printhead. II. Allow the printhead to cool for at least one minute. III. Use a cotton swab and 99% Isopropyl Alcohol or genuine print head cleaning pen to clean the print head surface. 	Clean the print head when changing a new label roll.
Platen Roller	<ol style="list-style-type: none"> I. Turn off the printer. II. Rotate the platen roller and wipe it thoroughly with the lint-free 99% Isopropyl Alcohol. 	Clean the platen roller when changing a new label roll
Peel Bar	Use the lint-free cloth with 99% Isopropyl Alcohol to wipe it.	As needed
Sensor	Use brush with soft non-metallic bristles or a vacuum cleaner, to remove paper dust. Clean upper and lower media sensors to ensure reliable Top of Form and Paper Out sensing.	Monthly
Exterior	Clean the exterior surfaces with a clean, lint-free cloth (water-dampened cloth). If necessary, use a mild detergent or desktop cleaning solution then use the 75% Ethanol to wipe it.	As needed
Interior	Clean the interior of the printer by removing any dirt and lint with a vacuum cleaner, as described above, or use a brush with soft non-metallic bristles then use the 75% Ethanol to wipe it.	As needed

8. Agency Compliance and Approvals

CE Class B:

EN55022: 1998+A1: 2000+A2: 2003

EN55024: 1998+A1: 2001+A2: 2003 IEC 61000-4 Series

EN61000-3-2: 2006 & EN61000-3-3: 1995+A1: 2001

FCC Part 15, Class B

UL, CUL

C-Tick:

CFR 47, Part 15/CISPR 22 3rd Edition: 1997, Class B

ANSI C63.4: 2003

Canadian ICES-003

TÜV/Safety: EN60950: 2000

Wichtige Sicherheits-Hinweise

1. Bitte lesen Sie diese Hinweis sorgfältig durch.
2. Heben Sie diese Anleitung für den späteren Gebrauch auf.
3. Vor jedem Reinigen ist das Gerät vom Stromnetz zu trennen. Verwenden Sie keine Flüssig-oder Aerosolreiniger. Am besten eignet sich ein angefeuchtetes Tuch zur Reinigung.
4. Die Netzanschluß-Steckdose soll nahe dem Gerät angebracht und leicht zugänglich sein.
5. Das Gerät ist vor Feuchtigkeit zu schützen.
6. Bei der Aufstellung des Gerätes ist auf sicheren Stand zu achten. Ein Kippen oder Fallen könnte Beschädigungen hervorrufen.
7. Beachten Sie beim Anschluß ans Stromnetz die Anschlußwerte.
8. Dieses Gerät kann bis zu einer Außentemperatur von maximal 40°C betrieben werden.

(CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer instructions.)

"ORSICHT"

Explosionsgefahr bei unsachgemäßen Austausch der Batterie. Ersatz nur durch denselben oder einem vom Hersteller empfohlenen gleichen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

CAUTION

1. HAZARDOUS MOVING PARTS IN CUTTER MODULE. KEEP FINGER AND OTHER BODY PARTS AWAY.

B 급기기

(가정용 정보통신기기)

이 기기는 가정용으로 전자파 적합등록을 한 기기로서

주거지역에서는 물론 모든 지역에서 사용할 수 있습니다.

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 manufacture.
- 8.Please refer to user manual for maximum operation ambient temperature.

重要安全說明：

- 1.閱讀所有這些說明，並保留以備未來使用。
- 2.按照產品上的所有警告和說明進行操作。
- 3.在清潔前或發生故障時，拔除電源插頭與交流電源插座的連接。
不要使用液體或噴霧清潔劑。建議使用濕布清潔。
- 4.電源插座應安裝在設備附近及方便使用處。
- 5.本機器必須防止潮濕。
- 6.確保安裝設備時的穩定性，翻倒或跌落可能會導致設備損壞。
- 7.確保按照製造商提供的標籤上標明之正確的額定功率和電源類型進行設定。
- 8.請參考使用手冊以確認環境溫度的最大值。

型號差異表			
型號	解析度	打印速度	額定
TDP-245 Plus 系列	203 dpi	2, 3, 4, 5, 6, 7 ips	24Vdc, 3.75A
TDP-244 系列		2, 3, 4 ips	24Vdc, 2.5A
TDP-343 Plus 系列	300 dpi	2, 3, 4, 5 ips	24Vdc, 3.75A

9. Revise History

Date	Content	Editor
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