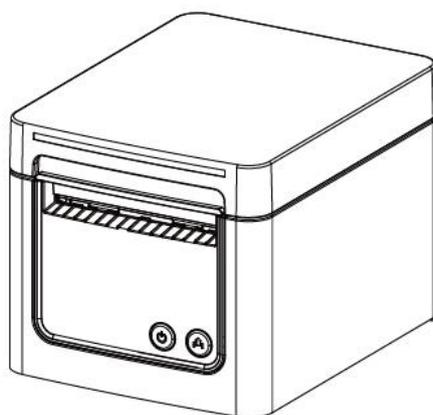




# Desktop POS Printer TP809 User Manual



Rev.1.2

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## Statement

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Version 1.2

### Warnings



This must be complied with in order to avoid any damage to the human body and to the equipment.



This is showing the important information and tips for the printer operating.

**Note: Due to the continuous improvement of the product, the specifications, fittings, parts, designs and procedures described in the manual are subject to the actual machine without prior notice.**

# Important Safety Instructions

## 1. Safety Warning



Warnings: The print head will become very hot during printing; avoid contact with the print head after printing has finished.



Warnings: Do not touch the printer head and connector in case static damage the printer head.

## 2. Instructions

Carefully read the installation and operating instructions provided with the printer before starting up your printer.

- 1) Place the printer on a flat and stable surface.
- 2) Leave enough space around printer for operation and maintenance.
- 3) Do not place the printer on or near a heat source.
- 4) Do not use the printer near water. Never spill liquid into the printer.
- 5) Do not expose the printer to high temperatures, direct sunlight or dust.
- 6) Protect the printer from shock, impact and vibration.
- 7) Be certain the power source is within the voltage rating and frequency listed for the printer.
- 8) Switch off the printer power supply when won't use it for a long time.
- 9) Do not place the power cord where it can be stepped on. If the power cord becomes damaged or frayed, replace it immediately.
- 10) To ensure the print quality and reliability, you are suggested to use the recommended paper or the same quality paper.
- 11) Please switch off the power supply when connect/disconnect all the ports or it will cause damage to the printer control circuit.
- 12) Never carry out maintenance or repair work yourself. Always contact a qualified service technician.
- 13) Keep this User Manual in a place which is easily accessible at all times.

## 3. Other Precautions

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#### 4.WEEE (Waste Electrical and Electric Equipment)



This mark shown on the product or its literature indicates that the corresponding item should not be discarded at the end of its working life with other household waste. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate marked items from other types of waste and recycle them responsibly to promote the sustained reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office for details of where and how they can conduct environmentally safe recycling of such items. Commercial users should contact their suppliers and check the terms and conditions of purchase contracts. This product should not be combined with other commercial waste for disposal.



**Caution: This is a Class A product. In a domestic environment this product may cause radio interference in which the user may be required to take adequate measures.**

# 1 OVERVIEW

## 1.1 Introductions

TP809 is a thermal receipt printer, featured by high print quality, high print speed, high stability, etc. It can be used in commercial POS system, food industry and occasions which need real-time field print receipts.

TP809 can connect with other equipment through serial, USB, cash drawer and Ethernet interfaces. And the printer drivers are available for the WINDOWS XP/WINDOWS 7/WINDOWS 8/WINDOWS 10/Linux operating system.

## 1.2 The Main Features

- 1) Low noise
- 2) High print speed
- 3) Easy paper loading
- 4) Support page mode printing
- 5) Compatible with various width paper
- 6) Cash drawer interface

## 2 GETTING STARTED

### 2.1 Packing List

After receiving your printer, please check for possible shipping damage:

- 1) Inspect the outside of both the box and the printer for possible damage.
- 2) Check whether you have received the following accessories together with the printer, if there is any items missing, please contact with your local dealer.



Printer



USB Cable



Power Cord



Serial Cable



Power Adapter



Paper Roll



CD



Quick Start Guide

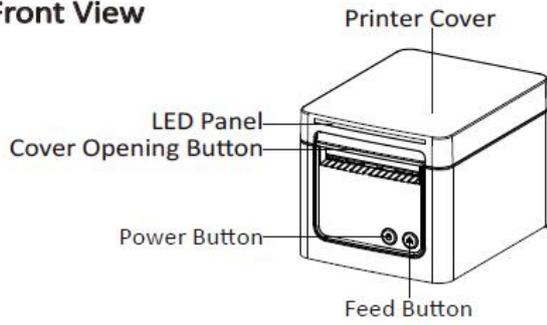


**Notes:**

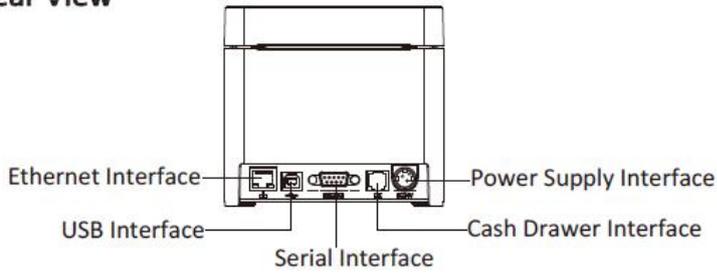
- 1) The power cord varies by region.
- 2) The items in the package depend on the actual order.

## 2.2 Appearance and Components

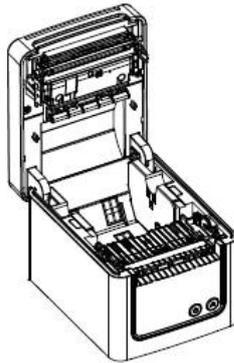
### ■ Front View



### ■ Rear View



### ■ Inside View



### 3 SPECIFICATION

#### 3.1 Printer Specification

**Table3-1 General Specification**

(1/2)

Item		Parameter
Printing Parameter	Printing Method	Direct thermal line printing
	Resolution	203dpi, 8dots/mm
	Printing Width	72mm
	Print Speed	260mm/s
	Interface	USB, Serial, Ethernet, Cash drawer
	Print density	Adjustable from level 1 to level 4
Page Mode		Support
Memory	RAM	16MB
	Flash	16MB
Fonts	Chinese	GBK 24×24
	Alphanumeric	ASC II 9×17,12×24.
	User-defined	Support
	Code page	Optional character sets: PC437(std.Europe), Katakana, PC850(Multilingual), PC860(Portuguese), PC863(Canadian), PC865(Nordic), PC857(Turkish), PC737(Greek), ISO08859-7(Greek), WPC1252, PC866(Cyrillic #2), PC852(Latin 2), PC858(Euro), KU42(Thai), TIS11(Thai), TIS18(Thai), PC720(Arabic), WPC775(Baltic Rim), PC855(Cyrillic), PC862(Hebrew), PC864(Arabic), ISO8859-2(Latin2), ISO8859-15(Latin9), WPC1250(Latin 2), WPC1251(Cyrillic), WPC1253(Greek), WPC1254(Turkish), WPC1255(Hebrew), WPC1256(Arabic), WPC1257(Baltic Rim), WPC1258(Vietnamese), MIK(Cyrillic), PC755(Latin 2), Iran, Iran II, Latvian, ISO-8859-1(WestEur), ISO-8859-3(Latin 3), ISO-8859-4(Baltic), ISO-8859-5(Cyrillic), ISO-8859-6(Arabic), ISO-8859-8(Hebrew), ISO-8859-9(Turkish), PC856, PC3848(ABICOMP), MONGOLIAN, VISCII
Barcode	1D	UPC-A, UPC-E, EAN8, EAN13, CODE39, CODE93, ITF, CODEBAR, CODE128
	2D	PDF417, QR code
Graphics		Support varied density bitmap as and download bitmap printing , and the total size of bitmap is 256K.
Detection	Sensors	Paper end detection, paper near end and cover open detection
LED Indicator		Multi-color LED

**Table3-1 General Specification(Continued)**

(2/2)

Item		Parameter
Power Supply	Input	AC100V-240V
	Output	24V $\pm$ 2.5A
Paper	Paper type	Specified Thermal Paper
	Paper width	58 <sup>+0</sup> <sub>-1</sub> mm/80 <sup>+0</sup> <sub>-1</sub> mm/83 <sup>+0</sup> <sub>-1</sub> mm
	Paper thickness	0.056 ~ 0.13mm
	Roll paper diameter	Max. OD $\phi$ 83mm
	Paper load	Easy-loading structure of upward open cover
	Paper cut	Partial cut or full cut
Physical Spec.	Operating condition	0°C ~ 50°C , 20% ~ 85%RH
	Storage condition	-20°C ~ 70°C , 5% ~ 95%RH
	Dimensions	165.4(L)*130(W)*119.3(H)mm
	Weight	1.35kg
Command		ESC/POS
Software	Driver	Windows2000/XP/Vista/Win7/Win8/Win10/POSReady/Linux CUPS/OPOS/JavaPOS
	SDK	WinCE, Win Mobile, Android, iOS

### 3.2 Printing Media Specification

#### 3.2.1 Continuous Thermal Paper Specification

Paper Type : Specified Thermal Paper  
 Paper Width :  $58^{+0}_{-1}$  mm/ $80^{+0}_{-1}$  mm/ $83^{+0}_{-1}$  mm  
 Paper Outer Diameter : Max. 83 mm  
 Paper Thickness : 0.056 ~ 0.13m

Paper Type	Manufacturer
FD210,PD150R,PD160R	OJI Paper CO.,LTD.

#### 3.2.2 Notices

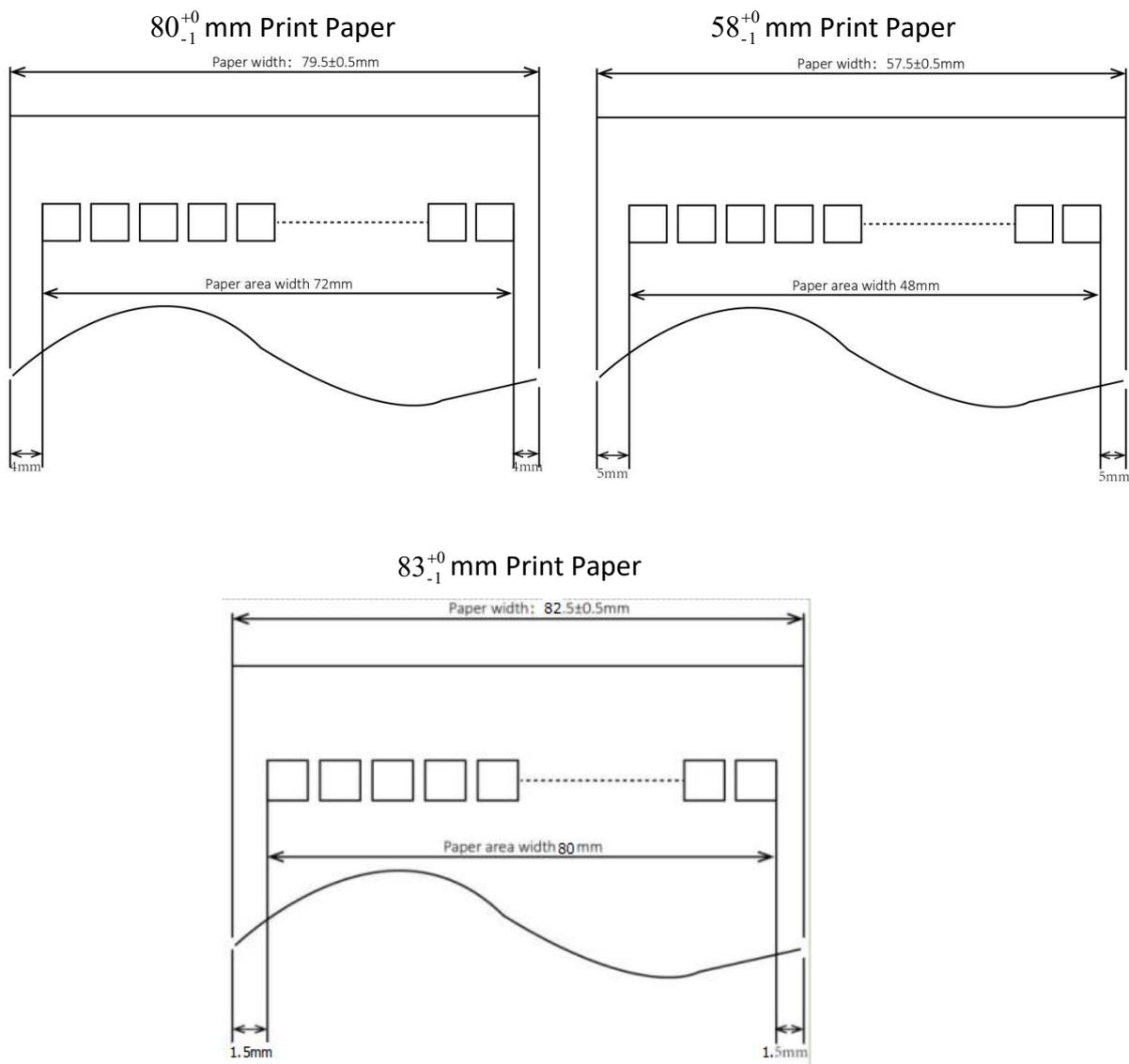


**Notes:**

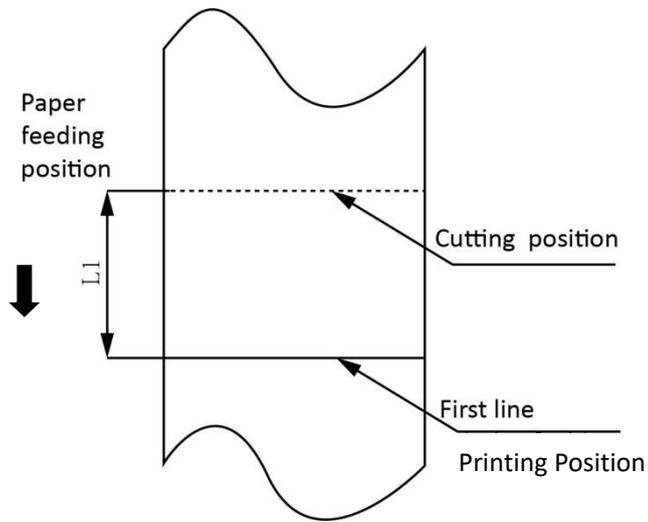
- Please use the recommended thermal paper or same quality paper, otherwise it will influence the printing quality and decrease the thermal printer head life;
- Don't stick the paper on the core of paper roll;
- If the thermal paper is polluted by chemical or oil, the thermal paper heat sensibility decreases, which will influence the printing quality;
- Don't use finger nail or hard articles to touch the surface of thermal paper, otherwise it will cause color fading;
- When the environment temperature is higher than 70°C, the thermal paper color will fade, so pay attention to the influence of temperature, humidity and sunlight.

### 3.3 Printing and Cutting Position

#### 3.3.1 Printing position



### 3.3.2 Cutting Position



Type	Paper Cutting Position(L1)
TP809	11.5±1mm

## 4 INSTALLATION AND USAGE

### 4.1 Media Loading

#### 4.1.1 Paper Confirmation

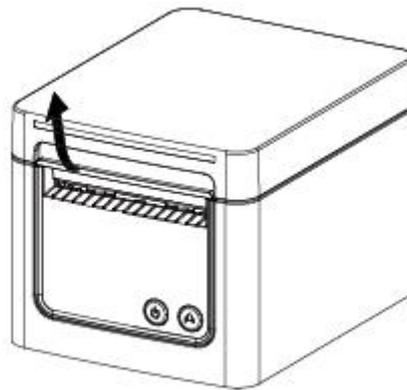
- 1) When using 83mm(width) roll paper, take down the paper guide of both sides.
- 2) When using 80mm(width) roll paper, insert the paper guide to both sides.
- 3) When using 58mm(width) roll paper, insert the paper guide to both sides. (by the middle position)



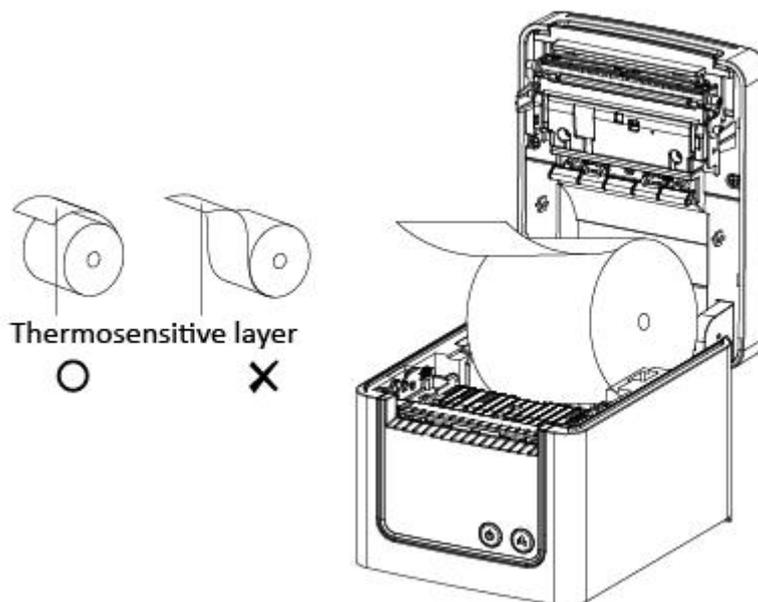
**Note: Roll paper should be placed in the middle.**

#### 4.1.2 Paper Installation

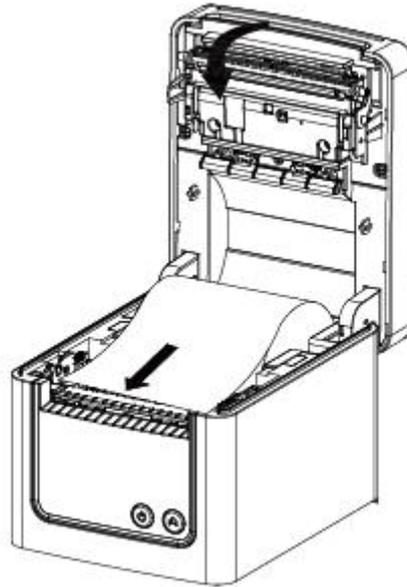
- 1) Press the cover opening button to open the printer cover.
- 2) Remove the used roll paper core, if any.



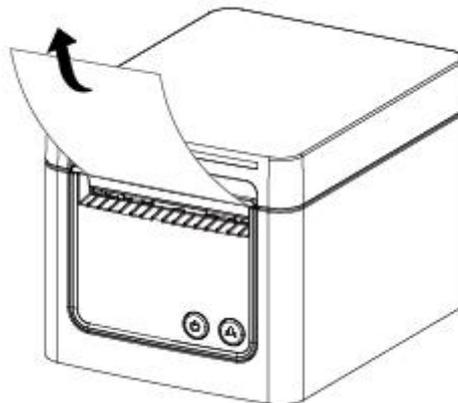
- 3) Load the paper roll in the correct direction as shown below.



4) Pull out some roll paper, and close the printer cover.



5) Tear the extra paper in the direction as shown below.



**Notes:**

- 1) Adjust the paper guide according to the paper size.
- 2) Make sure the paper inside is at tight status, or it will cause paper jam or other fault.

## 4.2 LED Indication and Beeper

Function specification of indicated light and beeper.

Status LED		Description
Red	ON	The printer is in paper end status
	Flashing	Wrong status(cutter jam, over temperature, and so on)
Purple		Paper near end / printer is working normally
Blue		Printer is busy
Green		Printer is ready and in idle condition

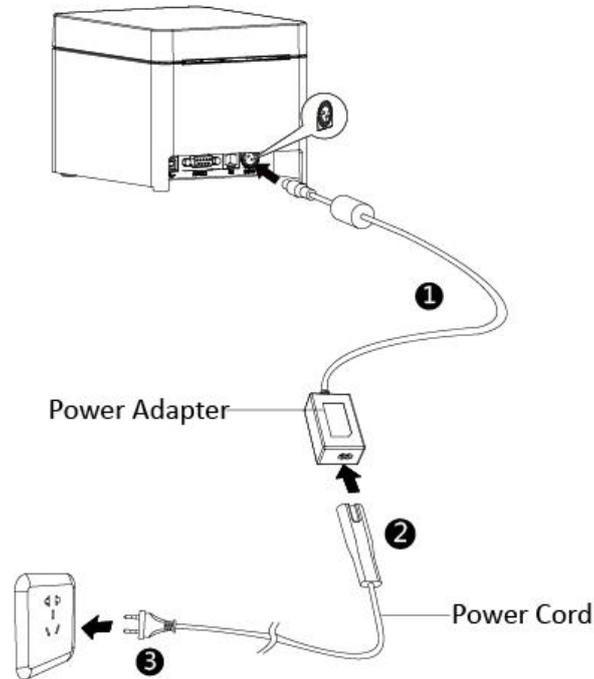
Description	POWER LED	Beeper
Open the cover of printer	Red (flashing)	"Beep, Beep—, Beep"
Paper sufficient	Green	Silent
No paper	Red (ON)	"Beep Beep Beep".
Cutter jam	Red (flashing)	"Beep—, Beep—"



**Notes:** The printer use a thermistor to detect the temperature of the print head. If the temperature of print head is higher than 65°C, printer will send a warning. If the temperature of print head is higher than 80°C, printer will stop working until the temperature is lower then 60°C.

### 4.3 Power Connection

- 1) Connect power adapter to printer.
- 2) Connect power adapter to the power cord.
- 3) Plug the other side of power cord into the socket outlet.



#### Notes:

- 1) The power cord varies by region.
- 2) Disconnect or connect the power adapter by correct method, or damage may be caused.

When pulling out the adapter, please pinch the shell of power adapter and pull the switch up, when the switch is fully opened then pull out the power adapter.

Don't put forth your strength to pull the plug by squeezing any place of power adapter. Because it is more difficult to pull it out and easy to damage the cable.



**Notes:**

- 1) Please only use the power adapter recommended by supplier or equivalent products.
- 2) When disconnecting the power adapter plug, handhold plug connector housing and avoid pulling on the cable in force.
- 3) Avoid dragging the power adapter cable, otherwise it will damage the cables, causing fire and shock.
- 4) Avoid putting power adapter around a heating device, otherwise the cable may melt, causing fire and shock.
- 5) If you do not use the printer in a long time, disconnect the power supply of printer power adapter.

## 4.4 Interface Cable Connection

- 1) Make sure the printer's power switch is turned off;
- 2) Put the interface cable into the matched interface and fixed with screws (or spring) on the plug;
- 3) Connect the other end of the interface cable to the host.

## 4.5 Cash Drawer Connection

- 1) Make sure the printer's power switch is turned off;
- 2) Connect the cash drawer cable into the cash drawer interface on the rear side of the printer.



### Warning:

Cash drawer interface can only be connected to a voltage of 24V cash drawer device (can't connect to the phone line, etc.)

## 4.6 Print Test

### 4.6.1 Print Self-Test

The self-test checks the printer's current settings, status and whether the printer has any problem.

- 1) Make sure the power is connected and paper is loaded properly.
- 2) Make sure the printer is power off and top cover is closed properly.
- 3) Press the paper feed button and power button simultaneously to turn the printer on. The printer is ready to receive data as soon as it completes the self-test.

### 4.6.2 Printing of Windows Driver Program

- 1) Install the Windows Driver program. (Please refer to the Windows Driver Manual)
- 2) Please set the "Interface" as the type you use.
- 3) Use the Windows Driver Program to print out the "Print Test Page".

## 5 INTERFACES

TP809 supports cash drawer interface and many other various communicate interfaces, such as Serial interface, USB interface, Ethernet interface.

### 5.1 USB

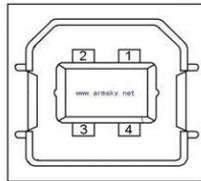


Figure 5-1

PIN NO.	SIGNAL NAME
1	VBUS
2	D-
3	D+
4	GND

### 5.2 Serial Interface

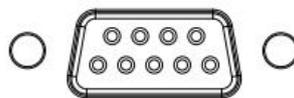
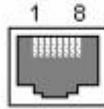


Figure 5-2

PIN NO.	SIGNAL NAME
1	-
2	TXD
3	RXD
4	-
5	GND
6	RTS
7	CTS
8	RTS
9	-

### 5.3 Ethernet Interface



PIN NO.	SIGNAL NAME
1	TX+
2	TX-
3	RX+
4	-
5	-
6	RX-
7	-
8	-



**Note:** The printer is equipped with an Ethernet interface, and use the network connection router, switch and other network communication equipment which meet RJ45 interface standard. When connecting directly with PC, it is suggested that the cross network line in accordance with RJ45 interface standard should be adopted.

### 5.4 Cash Drawer Interface

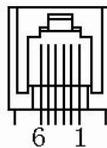


Figure 5-4

PIN NO.	SIGNAL NAME
1	FG
2	Drawer 1
3	DRSW
4	VDR
5	Drawer 2
6	GND

#### Electrical characteristics

- Driving voltage: DC 24 V
- Driving current: Maximum 0.8 A ( In 510 ms)

Drawer check signal: “L” = 0 ~ 0.5 V      “H” = 3 ~ 5 V

## 5.5 Power Supply Interface

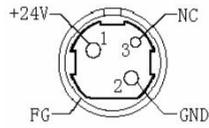


Figure 5-5

PIN NO.	SIGNAL NAME
1	+24V
2	GND
3	N.C
SHELL	F.G

Printer end: Unetop DC-002 or similar products;

User end: Unetop DC-002 or similar products.

## 6 TROUBLESHOOTING

Your printer is very reliable, but occasionally problems may occur. This chapter provides information on some common problems you may encounter and how to solve them. If you encounter problems that you can not resolve, contact your dealer for assistance.

### 6.1 Printer Not Working

Problem Description	Probable Reason	Solution
LED light is off, printer is not working	Printer has no power	Connect printer to power supply
	Printer is turned off	Turn on the printer
	Circuit board is broken	Contact with the dealer

### 6.2 LED Indicator and Beeper

Problem Description	Probable Reason	Solution
Paper LED is always on	Paper near end	The roll paper is near end, the printer can work normally
Error LED is always on and beeper alarms	Printer cover is open	Close the printer cover
Paper LED and Error LED are always on and beeper alarms	Paper end	Reload the roll paper
Error LED blinks and beeper alarms	Thermal print head overheated	Turn the printer off and resume when it cools
	Over-voltage	Print with specified voltage
	Low-voltage	Print with specified voltage

### 6.3 Troubles Occur During Printing

Problem Description	Probable Reason	Solution
Coloured stripe in the paper	Paper near end	Reload the roll paper
Blurred printing or spot	Incorrect roll paper installation	Check if the roll paper is loaded
	Unqualified roll paper	Use recommended thermal paper roll
	Dirty thermal head or print roller	Clean the thermal head or print roller
	Low print density	Increase the print density level
Paper is not feeding normally	Paper jam	Open the printer cover, check the paper path and remove jammed paper
Vertical print words are missing	Dirty thermal head or print roller	Clean the thermal head or print roller
	Thermal head damaged	Contact your dealer for assistance

## 6.4 Problems Emerge During The Paper Cutting

Problem Description	Probable Reason	Solution
Cutter jam, the movable cutter cannot get back to its place	Cutter abrasion, insufficient cutting	Replace the cutter
	Worm gear and worm wheel abrasion	Replace the worm gear and worm wheel
	Motor is burnt	Replace the motor
	Paper scraps	Clean the paper scraps on the transmission system
Insufficient cutting	Cutter edge abrasion, paper is too thick	Replace the cutter
Paper jam	Thermal printer head is over-heated	Reduce the density of printing
	Driving is too fast	Reduce the printer speed to the limit of thermal printer head
	Wrong paper feeding position	Put the paper parallel with the paper mount and insert into the space between platen roller and the thermal printer head.



**Note:** Regarding the density of setting, please refer to Utility Tool for POS Instruction.

## 6.5 Removing Jammed Paper



**Warning:** Do not touch the thermal print head because it becomes very hot after printing.

If the printer cover can be opened, operate it according to the next steps.

- 1) Open the printer cover.
- 2) Remove jammed paper, reload the paper roll, and close the printer cover.

## 7 PRINTER CLEANING AND MAINTENANCE

Print quality might be degraded by dust, foreign substance, adhesive substance, or other pollution materials stuck in the printer head or inside the printer.

When dirty, clean the print head as following steps:

※ **CAUTION**

- 1) Make sure to turn off the printer prior to cleaning.
- 2) As the print head gets hot during printing, turn the printer off and wait approximately 2~3 minutes before starting to clean.
- 3) When cleaning the print head, take care not to touch the heated portion of the print head.  
Print Head is susceptible to damage from static electricity, etc.
- 4) Take care not to allow the print head become scratched and/or damaged in any way.

### 7.1 Cleaning Head

- 1) Open the printer cover and then use cotton stick with medical alcohol to clean the head in the direction from the center of the head to the edges.
- 2) After cleaning the head, do not use the printer until the alcohol used for cleaning evaporates completely (1~2 min.) and the printer has completely dried.

### 7.2 Cleaning Sensors, Roller and/or Paper Path

- 1) Open the printer cover and then remove the paper.
- 2) Remove any dust or foreign substance using dry cloth or cotton swab.
- 3) Soak the cloth or cotton swab in alcohol for medical use and use it to remove adhesive foreign substances or other pollution materials.
- 4) After cleaning the parts, do not use the printer until the alcohol evaporates completely (1~2 min.) and the printer has completely dried.

※ *Clean the parts whenever print quality or paper detection degraded.*