

# Desktop POS Printer

## VT300

### User Manual



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## 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 print head and connector in case static damages the print head.

### 2. Instructions

Read the following instructions thoroughly before starting up your printer.

- 1) Place the printer on a solid and even base so that it does not fall.
- 2) Leave enough space around printer for operation and maintenance.
- 3) Keep all liquids away from the printer.
- 4) Do not expose the printer to high temperatures, direct sunlight or dust.
- 5) Protect the printer from shock, impact and vibration.
- 6) Ensure the printer is connected to a socket with the correct mains voltage.
- 7) Switch off the printer power supply when not in use.
- 8) To ensure the printing quality and reliability, suggest use the recommended paper or the same quality paper.
- 9) Please switch off the power supply when connecting/disconnecting all the ports or it will cause damage to the printer control circuit.
- 10) Never carry out maintenance or repair work yourself. Always contact a qualified service technician.
- 11) Keep this User Manual in a place which is easily accessible at all times.

## POS printer packing-case

Please check you get all in carton.

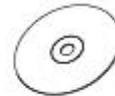
### ■ Standard Accessories



Printer



Quick Start Guide



CD



Roll Paper



AC Adapter



Power Cord



USB Cable

# 1 Overview

## 1.1 Introductions

VT300 is a thermal receipt printer with auto-cutter, featured by high printing quality, high printing speed, high stability, etc. It can be used in commercial POS system, food industry and applications which need real-time field print receipts.

VT300 can connect with other equipments through parallel, serial, USB, and Ethernet interfaces. And the printer drivers are available for the WINDOWS XP/7/8/10 operating system.

## 1.2 The main features

- 1) Automatic paper cutting
- 2) Low noise
- 3) High printing speed
- 4) Easy paper loading
- 5) User convenient maintenance
- 6) Compatible with various width paper
- 7) Cash drawer interface

## 2 Specifications

### 2.1 Printer specification

Table2-1 General Specification

(1/2)

Model		VT300
Printing Parameter	Print method	Direct thermal line printing
	Resolution	203dpi , 8dots/mm
	Printing width	72mm/48mm
	Print speed	200 ~ 250mm/s
	Interface	Serial, Parallel, Ethernet, USB, Cash drawer(optional)
	Print density	Adjustable from level 1 to level 4
Page Mode		support
Memory	RAM	16Mb
	Flash	32Mb
Fonts	Chinese	GBK 16×16, 24×24dots
	Alphanumeric	ASCII 9×17,12×24dots
	User-defined	support
	Code page	Optional international 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), PC1254(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
Graphics		Support varied density bitmap as and download bitmap printing Max size of each bitmap is 40K, the total size of bitmap is 256k
Barcode	1D	UPC-A, UPC-E, EAN8, EAN13, CODE39, ITF, CODEBAR, CODE128, CODE93
	2D	PDF417, QR code
Detect Function	Sensors	Paper out, cover open, paper near end and cutter jam sensors

Table2-1 General Specification (Continued)

(2/2)

Model		VT300
LED Indicator	Power LED	Green LED
	Paper LED	Red LED
	Error LED	Red LED
Power Supply	Charging	External power adapter
	Input	AC100V-240V 50-60HZ
	Output	24V $\overline{\text{---}}$ 2.5A
Paper	Paper type	Specified Thermal Paper
	Paper width	80 <sup>+0</sup> <sub>-1</sub> mm/ 58 <sup>+0</sup> <sub>-1</sub> mm
	Paper thickness	0.065~0.090mm
	Paper roll diameter	Max. OD $\phi$ 83mm
	Paper load	Upward cover open and Easy paper loading
	Paper cut	Manual tear or Auto-cutter
Command		ESC/POS
Physical Spec.	Operating condition	0°C~40°C, 20%~85%RH
	Storage condition	-20°C~70°C, 5%~95%RH
	Dimensions L*W*H	195*147*147mm
	Weight	1.8kg
Reliability	TPH lifetime	150km
	Cutter lifetime	2,000,000 cuts
	MTBF	360, 000 hours
Software Function	Driver program	Windows (Win7/Win8/Win10/Vista/XP)

## 2.2 Printing media specification

### 2.2.1 Continuous thermal paper specification

- Paper type: specified thermal paper
- Paper width:  $80^{+0}_{-1}$  mm/ $58^{+0}_{-1}$  mm
- Paper outer diameter: Max. 83 mm.
- Paper roll core: internal diameter: 12mm  
Outer diameter: 18mm.
- Paper thickness: 0.065 ~ 0.090mm.

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

### 2.2.2 Notices

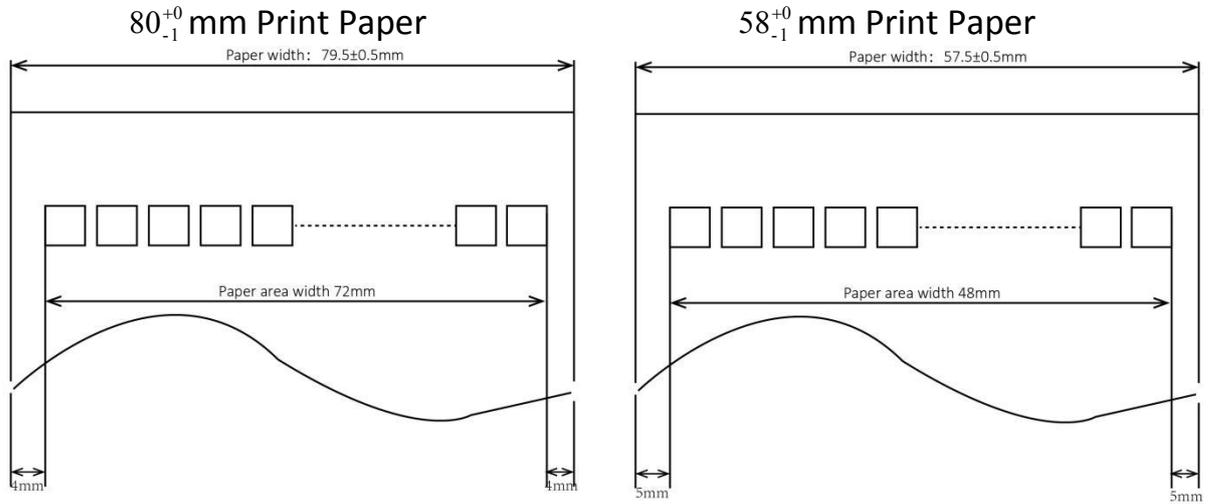


**Notes :**

- Please use the recommended thermal paper or same quality paper, otherwise it will influence the printing quality and decrease the thermal print head life
- Don't stick the paper on the paper roll mandril
- 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

## 2.3 Printing and cutting position

### 2.3.1 Printing position



### 2.3.2 Cutting position

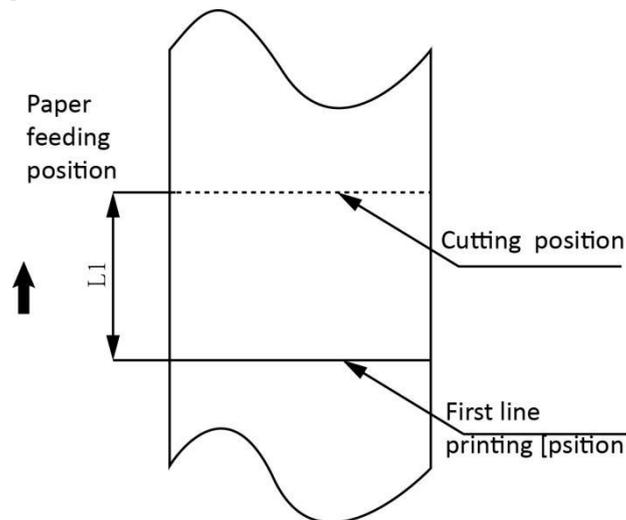
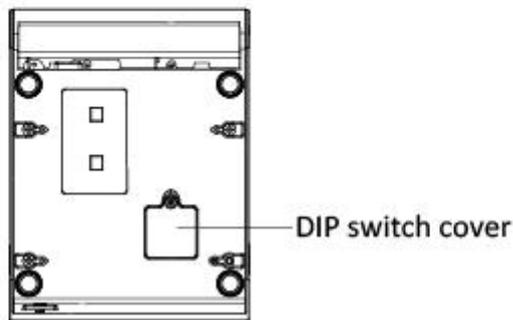
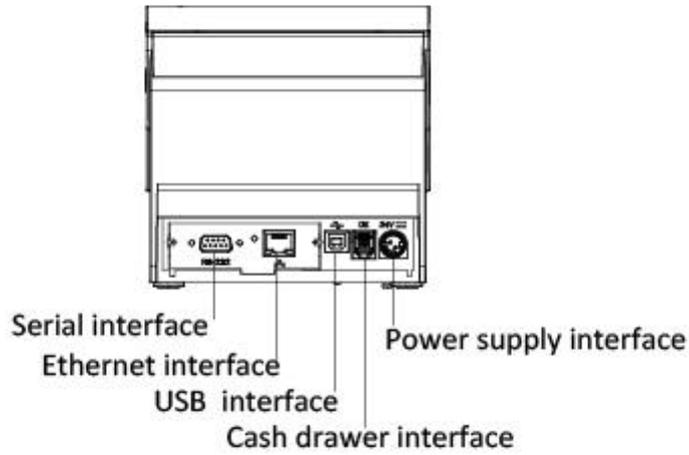
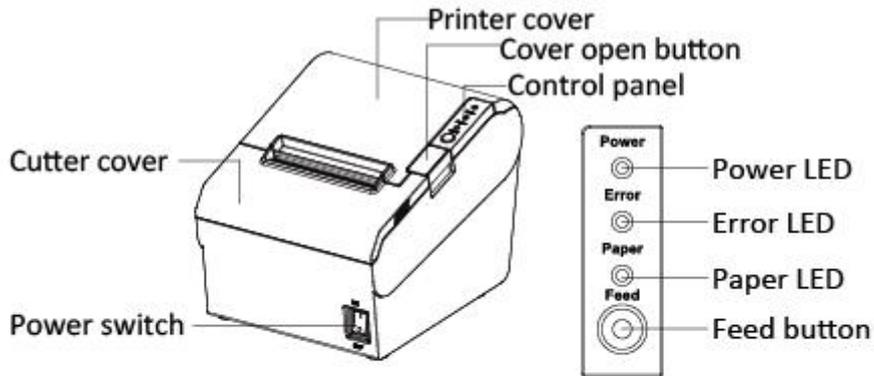


Figure 2.3.2

Type	Paper Cutting Position(L1)
VT300	11.8mm

### 3 Printer Components

#### 3.1 Appearance and component



**Note:** The views above are for your reference. Ports may vary

## Specification of some part elements

### 1) Power switch

Press “0” to turn off power and press “1” to turn on power supply.

### 2) Feed Button

Feed paper: When it's not in the alarm status, push the button to feed paper. Push the button continuously to feed the long distance.

### 3) Power LED

It indicates the power status.

### 4) Paper LED

It detects the status of paper, such as paper near end and paper out. See more details in “3.2 Specification of Indicated light and beeper”.

### 5) Error LED

If there is an abnormal phenomenon and error LED flashing, it means the printer is in the wrong status. Please turn off the power immediately.

### 6) Paper guide

Paper guide can change the position to adapt to different paper width.

VT300 storehouse has 4 paper guide slot.

Paper guide slot 1/4 adapt to  $80_{-1}^{+0}$  mm/ $58_{-1}^{+0}$  mm print paper respectively.



### Warnings:

Paper guide is essential to adjusting the paper width. Please keep it properly.

### 3.2 Specification of Indicated light and beeper

Function specification of Indicated light and beeper

Name	Status	Specification
POWER LED ( Green )	Bright	The printer work well
	Extinguish	The printer does not work
ERROR LED ( Red )	Flashed	The printer in an error state
	Extinguish	The printer in an normal state
PAPER LED ( Red )	Bright	The printer in paper out state
	Extinguish	The printer in an normal state

Description	Power LED	Error LED	Paper LED	Beeper
Open the cover of printer	Bright	Bright	Bright	“Beep ,Beep—,Beep”
Full of paper	Bright	Extinguish	Extinguish	Silent
No paper	Bright	Bright	Bright	“Beep Beep Beep”.
Paper near end	Bright	Extinguish	Bright	Silent
Cutter jam	Bright	Flashed	Extinguish	”Beep—, Beep—”



Notes:

*The printer uses a thermistor to detect the temperature of the print head. If the temperature of print head is more than 65°C, printer will send a warning. If the temperature of print head is more than 80°C, printer will stop working until the temperature is less than 60°C.*

## 4 Printer Packing

### 4.1 Open packing

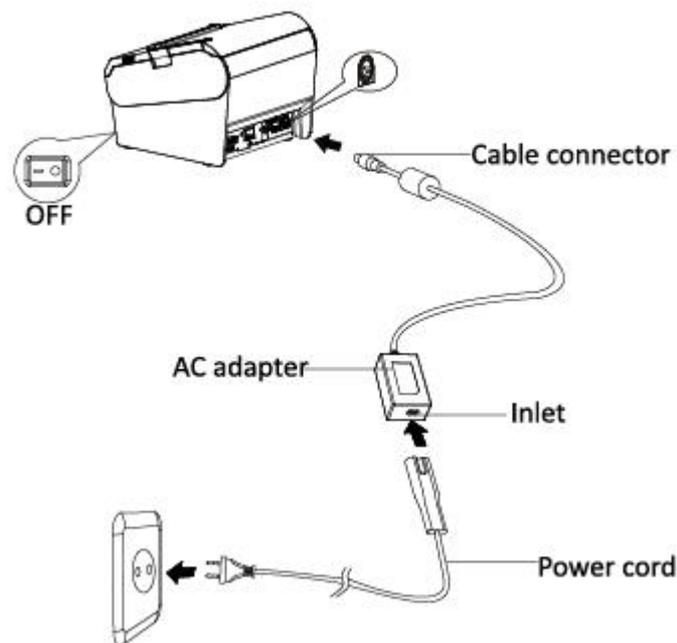
When opening the package, according to the packing list to check if items are missing or damaged, if so, please contact the dealer or manufacturer.

### 4.2 Choice installation site and direction of printer

- 1) The printer should install at a flat and steady place. It's recommend that install the printer at horizontal line. The angle of inclination should not exceed  $\pm 10^\circ$ (paper feed direction) if tilt install printer, it does not allow to tilt by other direction
- 2) Keep printer far away from source of water
- 3) Avoid the printer on place where it is vibration and shock
- 4) Ensure printer ground connect is safe
- 5) When the printer is at operation and maintenance, it is recommended to retain the enough space to ensure the printer can work in reliability and ease of operation

### 4.3 Connect the printer power adapter

1. Turn off the printer power.
2. Plug in the cable connector of the AC adapter to the power connector at the rear of the printer.
3. Connect the Power cord to the inlet of AC adapter, and insert the Power cord plug into a suitable wall outlet.



The plug of AC adapter is designed in a switch type, when accessing AC adapter and uttered the voice "click", it means the connected socket switch is locked the adapter connect well, otherwise please connect again.

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

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



**Notes :**

- a) Please only use the AC adapter recommended by supplier or equivalent products
- b) When disconnecting the AC adapter plug, handheld plug connector housing, to avoid the pulling on the cable in force
- c) Avoid dragging the AC adapter cable, otherwise it will damage the cable, causing fire and shock
- d) Avoid putting AC adapter around a heating device, otherwise the cable may melt, causing fire and shock
- e) If you do not use the printer for a long time, disconnect the power supply of printer AC adapter

#### 4.4 Connecting the Interface Cable

- 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 Connecting the Cash Drawer

- 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 Paper roll installation

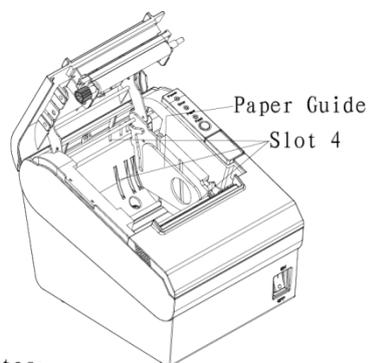
After connecting the AC adapter and interface cable, you can install media for printing. Confirm the type of paper used by the printer before printing. The default paper type is specified thermal paper.

Choose the paper guide according to the printing paper.

### 4.6.1 Confirmation of printing paper

Method:

- 1) Put the finger into the hole in the paper guide, then lift the paper guide.
- 2) According to the paper width, insert the paper guide in the proper position.



Notes:

- Paper guide in slot 1 :  $80 \pm 0.5\text{mm}$
- Paper guide in slot 4 :  $57.5 \pm 0.5\text{mm}$

### 4.6.2 VT300 installation/change Paper

- 1) Turn off printer power supply.
- 2) Pressing the open button, open the top cover of VT300 ( Like figure 4.6.1 )

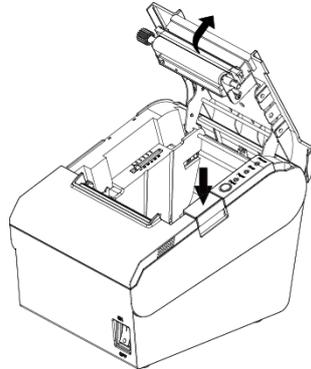


Figure 4.6.1

- 3) Put the paper into printer. Pay attention to the direction of the paper. ( Like figure 4.6.2 )

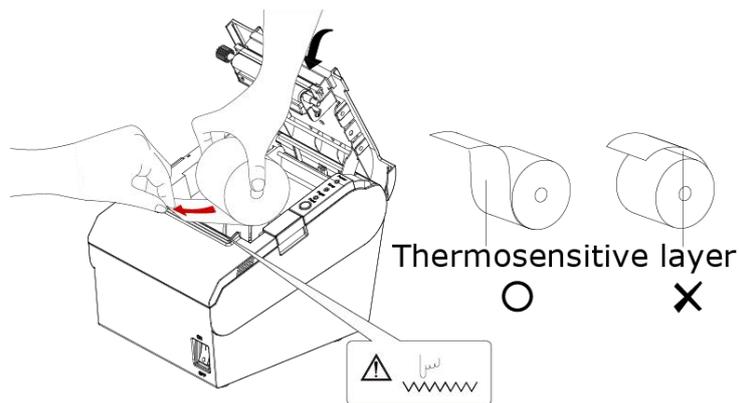


Figure 4.6.2

- 4) Close the top cover of VT300. ( Like figure 4.6.3 )

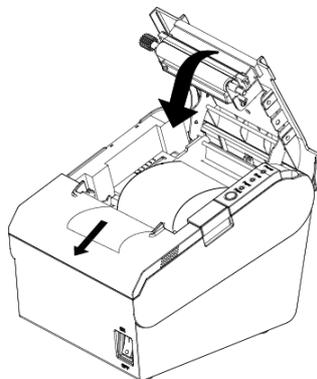


Figure 4.6.3

5) Tear the redundant paper. ( Like figure 4.6.4 )

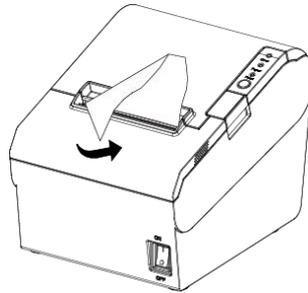


Figure 4.6.4



Notes :

- ▶ According to the paper size to adjust the paper guide;
- ▶ Make sure the paper inside is at tight status, or it will tissue paper or other obstacle.

## 4.7 Setting DIP switch

### 4.7.1 Serial Interface (RS-232C)

#### DIP switch 1

Switches	Functions	ON	OFF	Default
1-1	Automatic line feed	Enable	Disable	OFF
1-2	Handshake	XON/XOFF	DTR/DSR	OFF
1-3	Bit length	7 bits	8 bits	OFF
1-4	Parity check	Yes	No	OFF
1-5	Parity selection	EVEN	ODD	OFF
1-6	Baud rate selection ( bps )	Reference form 1		OFF
1-7				ON
1-8				OFF

#### DIP switch 2

Switches	Functions	ON	OFF	Default
2-1	Chinese/English mode	English	Chinese	ON
2-2	Internal beeper control	Disable	Enable	OFF
2-3	Auto cutter	Disable	Enable	OFF
2-4	Busy conditions	Receive buffer full	Printer off-line Receive buffer full	OFF
2-5	Printer density	Reference form 2		OFF
2-6				OFF
2-7				OFF
2-8	Printing dots quantity	512	576	OFF

### 4.7.2 Interfaces of USB and Ethernet

#### DIP switch 1

Switches	Function	ON	OFF	Default
1-1	Automatic line feed	Enable	Disable	OFF
1-2 ~ 1-8	Reserve	-	-	OFF

#### DIP switch 2

Switches	Functions	ON	OFF	Default
2-1	Chinese/English mode	English	Chinese	ON
2-2	Internal beeper control	Disable	Enable	OFF
2-3	Auto cutter	Disable	Enable	OFF
2-4	Busy conditions	Receive buffer full	Printer off-line Receive buffer full	OFF
2-5	Printer density	Reference form 2		OFF
2-6				OFF
2-7				OFF
2-8	Printing dots quantity	512	576	OFF

Form 1—Baud Rate Selection

Baud rate	1-6	1-7	1-8	Default
2400	ON	OFF	OFF	9600
4800	ON	OFF	ON	
9600	OFF	ON	OFF	
19200	OFF	OFF	OFF	
38400	OFF	ON	ON	
57600	OFF	OFF	ON	
115200	ON	ON	ON	

Form 2—Print density Selection

2-5	2-6	2-7	Printer density	Default
ON	ON	Reserve	1 ( diluted )	2
OFF	OFF	Reserve	2	
ON	OFF	Reserve	3	
OFF	ON	Reserve	4 ( dense )	

4.7.3 Auto cutter enable/disable selection

DIP Switch setting 2		
Switch2-3	ON	Auto cutter disable
	OFF	Auto cutter enable
Application program	Ignore auto cutter error for continuous printing	

4.8 Print self-testing

- 1) Make sure the printer has been installed paper roll and turn off the top cover
- 2) Make sure the printer has linked power
- 3) Make sure the printer power off
- 4) Press and hold FEED button, then turn on power switch, the printer will print out Self-test page

## 5 Interfaces Signal

Printer VT300 supports cash drawer interface and many other various communicate interfaces, such as Serial interface, USB interface, and Ethernet interface. The printer has the communication board with the default USB interface and cash drawer interface, and the other communication boards with the Ethernet interface, and RS232 interface are optional.

### 5.1 USB interface

Pin definition

PIN No.	Signal name	Classic wire color
1	VBUS	Red
2	D-	White
3	D+	Green
4	GND	Black

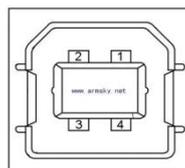
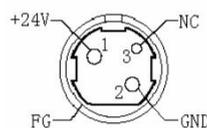


Figure 5.1.1

### 5.2 Power Supply interface definition

1) Pin definition



PIN No.	Signal Name
1	+24V
2	GND
3	N.C
SHELL	F.G

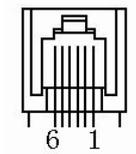
2) Interface type

Printer end-Unetop DC-002 or similar products, user end-Unetop DC-002 or similar products

### 5.3 Cash Drawer interface signal

#### 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



- Interface signal definition

Pin No.	Signal	Function
1	FG	Frame Ground
2	DRAWER 1	Drawer kick-out drive signal
3	DRSW	Drawer open/close signal
4	VDR	Drawer driving source
5	DRAWER 2	Drawer kick-out drive signal
6	GND	GND



**Note :**

- Strictly prohibit to hot plug the plug
- When arranging the line of communication, you have to avoid paralleling with the strong current
- You have to use the shielded communication line

### 5.4 Serial interface and Ethernet interface

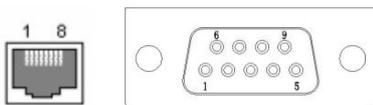
Printer VT300 serial interface is compatible with RS-232 standard, with 9 pin (D hole type) socket.

#### Serial interface definition

PIN No.	Signal definition
PIN 1	-
PIN 2	TXD
PIN 3	RXD
PIN 4	-
PIN 5	GND
PIN 6	DTR
PIN 7	CTS
PIN 8	RTS
PIN 9	-

#### Ethernet interface definition

PIN No.	Signal definition
1	TX+
2	TX-
3	RX+
4	n/c
5	n/c
6	RX-
7	n/c
8	n/c



## 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 cannot resolve, contact your dealer for assistance

### 6.1 Printer not working

Problem description	Probable reason	Solution
LED not light, printer not working	Printer No power	Connecting the power supply
	Printer not on	Turn on the printer
	Circuit board broken	Contact with the dealer

### 6.2 LED indicator on the control panel and beeper alarm

Problem description	Probable reason	Solution
Paper LED always on	Paper near end	The roll paper is near end, the printer can work normally
Error LED always on and beeper alarms	Printer Cover open	Close the printer cover
Paper Error LED always on and beeper alarms	Paper out	Reload the roll paper
Error LED blinks and beeper alarms	Thermal print head overheated	Turn the printer off and resume when it cools
	overvoltage	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	Reinstall the roll paper
Blurred printing or spot	Incorrect roll paper installation	Check if the roll paper is installed
	Unqualified roll paper	Use recommended thermal roll paper
	Dirty thermal head or print roller	Clean the thermal head or print roller
	Low print density	Increase the print density level
Paper Jam	Paper strike	Open the printer cover, check the paper path and remove jammed paper
Vertical print words 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 processes

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

### 6.5 Removing Jammed Paper



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

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

- 1) Turn off the printer and press open cover button.
- 2) Remove jammed paper, reinstall the roll, and close the cover.

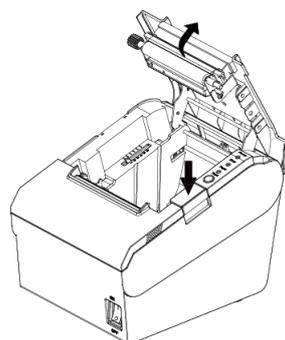


Figure 6.5.1

If the auto cutter jam occurs on printer VT300 and you cannot open the printer cover, open the cutter cover as shown on the left below.

- 1) Turn the printer off and open the front cover.
- 2) Turn the knob until cutter return to the normal position (tip tag).
- 3) Close the front cover.
- 4) Open the top cover and remove jammed paper.

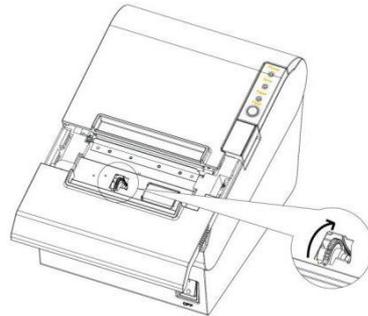


Figure 6.5.2