
Desktop POS Printer

VLINE-80

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

1 OVERVIEW

1.1 Introductions

VLINE80 is a thermal receipt printer with auto-cutter, 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.

VLINE80 can connect with other equipment through parallel, serial, USB, Ethernet, bluetooth, Wi-Fi and cash drawer interfaces. And the printer drivers are available for the WINDOWS XP/WINDOWS 7/WINDOWS 8/Linux operating system.

1.2 The Main Features

- 1) Patent design of unique vertical double auto cutter
- 2) Low noise
- 3) High print speed
- 4) Easy paper loading
- 5) Support page mode printing
- 6) Compatible with various width paper
- 7) Cash drawer interface
- 8) Communication interfaces optional

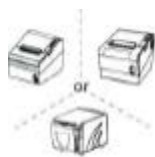
2. GETTING STARTED

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 your local dealer.

■ Standard Accessories:



Printer



Power Adapter



Power Cord



CD

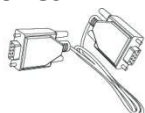


Quick Start Guide

■ Optional Accessories:



USB Cable

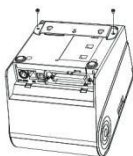
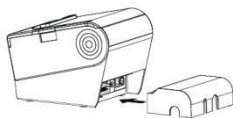
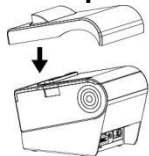


Serial Cable



Parallel Cable

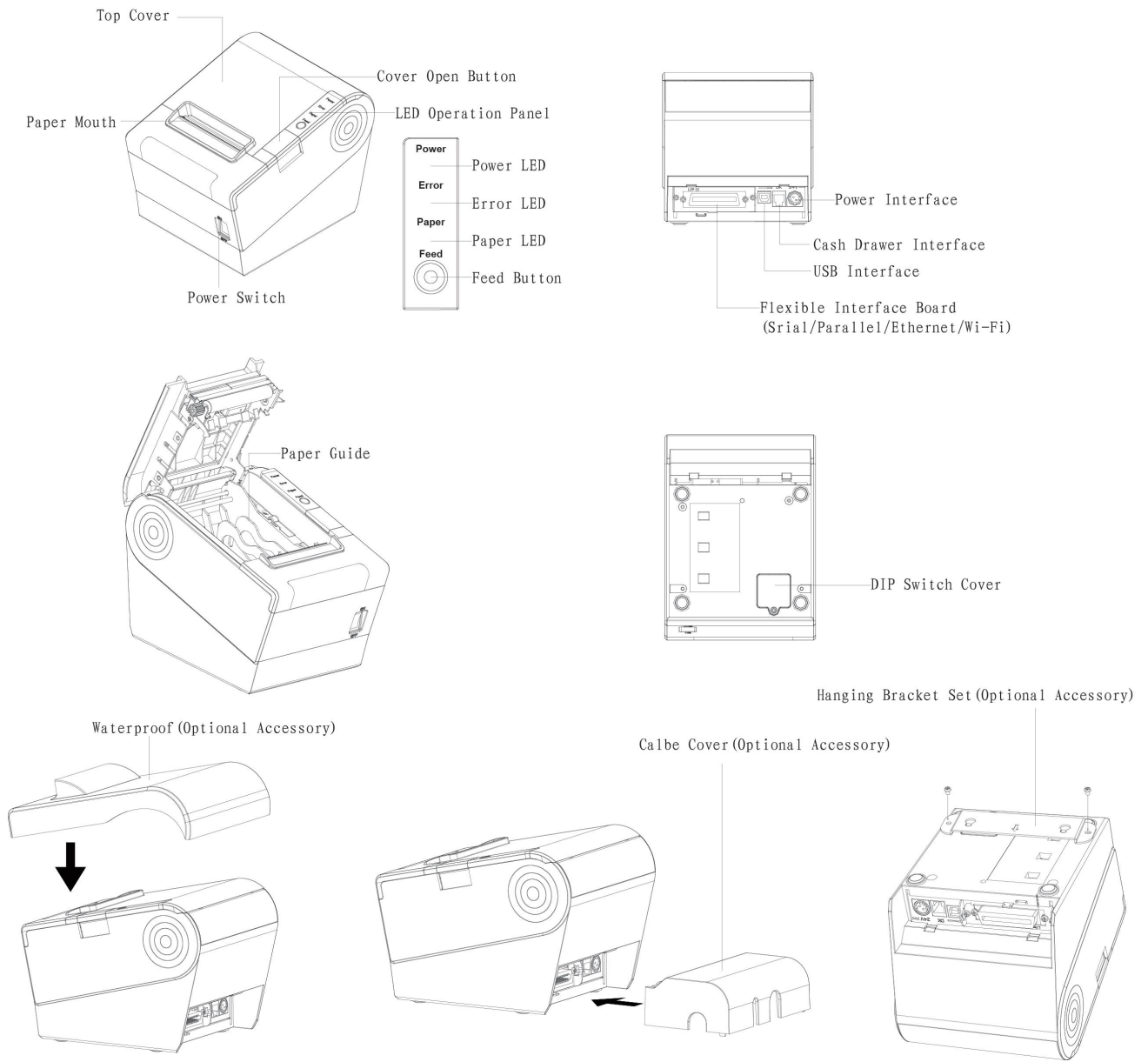
■ Optional Accessories:



Note:

1. The power cord and power adapter vary by local or region.
2. Some customers may require not packing some parts of the standard accessories for special, if users are confused, please contact with your dealer for more detail.

2.2.2 VLINE80-2



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 indicate the power status.

4) Paper LED

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

5) Error LED

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

6) Paper guide

In paper storehouse,paper guide can change the position to adapt to different paper width.

- ① VLINE80-2 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. And the paper guide is un-taken during printing in case of print offset.

3 Specification

3.1 Printer Specification

Table 2-1 General Specification

(1/2)

Model		VLINE80-2
Printing	Print Method	Direct thermal line printing
	Resolution	203dpi (8dots/mm)
	Printing Width	48mm/72mm
	Print Speed	200 ~ 250mm/s
	Interface	Serial, Parallel, Ethernet, USB, Cash drawer, Bluetooth, Wi-Fi
	Print Density	Adjustable from level 1 to level 4
Page Mode		support
Memory	RAM	16Mb
	Flash	32Mb
Resident Fonts	Chinese	GBK 16×16, 24×24dots
	Alphanumeric	ASCII 9×17, 12×24dots
	User-defined	Support
	Code Page	47
Graphics		Support bitmap printing with different density and user defined 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
Detection	Sensors	Cover open, paper near end sensors paper near end, black mark and cover open sensors(optional)

Table2-1 General Specification (Continued)

(2/2)

Model		VLINE80-2
LED Indicator	Power LED	Green LED
	Paper LED	Red LED
	Error LED	Red LED
	Status LED	
Power Supply	Charging	External power adapter
	Input	AC100V-240V 50-60HZ
	Output	24V $\overline{\text{---}}$ 2A
Paper	Paper Type	Thermal Receipt Paper
	Paper Width	58mm/80mm
	Paper Thickness	0.050~0.090mm
	Roll Paper Diameter	Max. OD ϕ 83mm
	Paper Load	Upward cover open and easy paper loading
	Paper Cut	Manual tear or Auto-cutter
Physical Specification	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	Emulation	ESC/POS
	Driver	Windows XP/Vista/7/8/10/POSReady/Linux CUPS/OPOS/JavePOS
	SDK	WinCE, Win Mobile, Android, iOS

3.2 Media Specification

3.2.1 Continuous Thermal Paper Specification

Paper Type	:Specified Thermal Paper
Paper Width	: 58^{+0}_{-1} mm / 80^{+0}_{-1} mm
Paper Outer Diameter	:Max. 83 mm.
Roll Paper Core	:13mm(Internal Diameter) :18mm(Outer Diameter)
Paper Thickness	:0.065 ~ 0.090mm

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

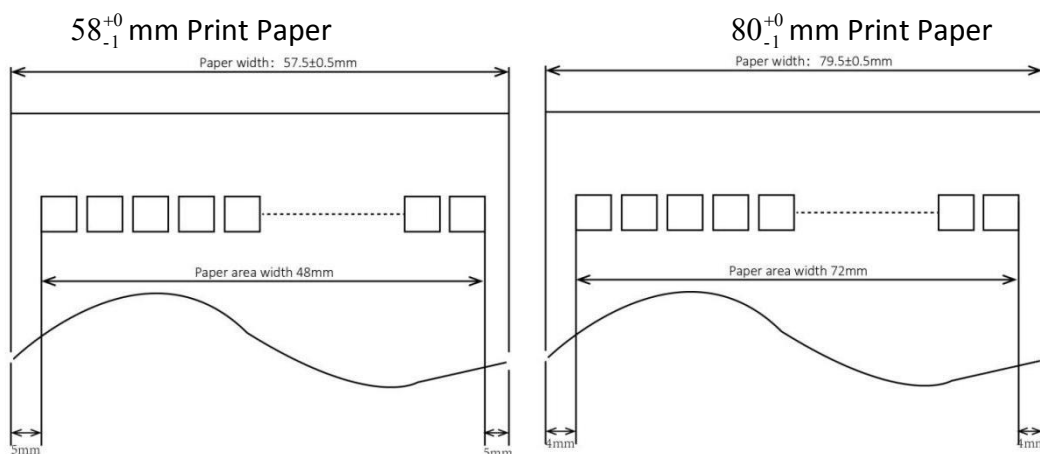


Notes :

- Pls. use the recommended thermal paper or same quality paper, otherwise it will influence the print quality and decrease the thermal printer head life;
- Don't stick the paper on the roll paper mandril;
- If the thermal paper is polluted by chemical or oil, the thermal paper heat sensibility decreases, which will influence the print 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

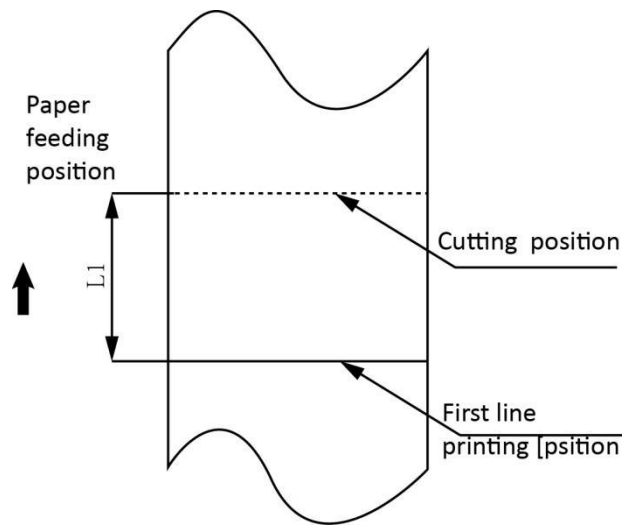


Figure 3.3.2

Type	Paper Cutting Position(L1)
VLINE80-2	11.8mm

4 Installation and Usage

4.1 Unpacking

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

4.2 Installation Site and Direction of Printer

- 1) VLINE80-2 has two ways to install: wall-hanging(optional:wall-hanging carrier) and horizontal installation. It's recommend that install the printer at horizontal line.
- 2) 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.
- 3) Keep printer far away from source of water ;
- 4) Avoid the printer on place where it is vibration and shock
- 5) Ensure printer ground connect is safe ;
- 6) 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 Power Adapter Connection

- 1) Make sure the printer's power switch is turned off;
- 2) Put the cable plug of power adapter facing up at flat side, insert the rear of the printer power connector;
- 3) Turn the power adapter input power;
- 4) Pay attention about disconnecting or connect the AC adapter at right method, or likely to cause damage.

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

When pull 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 squeeze at any of place of power adapter. Because, it is more difficult to pull it out and easy to damage the cable.



Notes :

- ▶ Please only use the power adapter are recommended by supplied or equivalent products;
- ▶ When disconnecting the AC adapter plug, handheld plug connector housing, to avoid the pulling on the cable in force;
- ▶ Avoid drag the power adapter cable, otherwise it will damage the cables, causing fire and shock;
- ▶ Avoid put power adapter around a heating device, otherwise the cable may melt, causing fire and shock;
- ▶ 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 Media Loading

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 Paper Confirmation

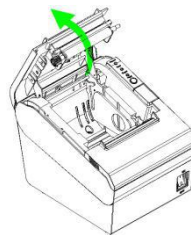
Method:

- 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.



4.6.2 Procedure of Loading

- 1) Turn off printer.
- 2) Pressing the open button, open the top cover of VLINE80-2. (Like figure 4.5.1)



VLINE80-2

Figure 4.6.1

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

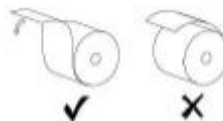




Figure 4.6.2

4) Close the top cover. (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 issue paper or other obstacle.

4.7 Specification of LED Indication and Beeper

4.7.1 Specification of LED Indication

Name	Status	Specification
POWER LED (Green)	ON	The printer work well
	OFF	The printer powers off.
ERROR LED (Red)	Flash	The printer in an error state
	OFF	The printer in an normal state
PAPER LED (Red)	ON	The printer in paper end state
	OFF	The printer in an normal state
STATUS LED	Flash	The printer in an error state
	ON	The printer in an normal state

4.7.2 Beeper

Description	POWER LED	ERROR LED	PAPER LED	Beeper
Cover Open	ON	ON	ON	"Beep ,Beep,Beep--"
Full of paper	ON	OFF	OFF	Silent
No Paper	ON	ON	ON	"Beep Beep Beep".
Paper Near End	ON	OFF	ON	Silent
Cutter Jam	ON	Flash	OFF	"Beep—, Beep—"



Notes:

The printer use 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 in the normal range.

4.8 Setting DIP switch

4.8.1 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

4.8.2 Interfaces of parallel,USB,Bluetooth 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)	

4.8.3 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	

4.9 Print Self Testing

- 1) Make sure the printer has been installed roll paper 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.

4.10 Print Test

4.10.1 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 switch is on;
2. Pressing the [Feed] button until the green LED indicator flash once. The printer is ready to receive data as soon as it completes the self-test.

4.10.2 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 "Self-test page".

4.11 Bluetooth

PDA with Bluetooth interface, laptop and other information terminals can drive the mobile thermal printer VLINE80-2. Instructions as follows:

- 1) Power on the printer.
- 2) Primary device search for outer Bluetooth devices.
- 3) If there are some outer Bluetooth devices, choose "VLINE80-2".
- 4) Connected to VLINE80-2.
- 5) Finish pairing.

Notes:

In pairing, the printer must be turned on.

when pairing, do not set many printers on, otherwise it can't figure out which one succeeds in pairing.

Printer can only connect one primary device each time. After successful pairing, printer can't be connected with other primary device. If it need to connect other device, it should disconnect the connection with the former primary device.

5 Interfaces Signal

Printer VLINE80-2 supports cash drawer interface and many other various communicate interfaces, such as serial interface, parallel interface, USB interface, Ethernet interface bluetooth interface, Wi-Fi 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, parallel interface, RS232 interface are optional.

5.1 USB

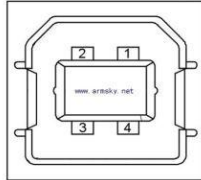


Figure 5.1

PIN NO.	Signal Name
1	VBUS
2	D-
3	D+
4	GND

5.2 Cash Drawer

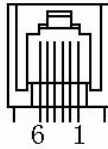


Figure 5.2

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

5.3 Power Port Definition

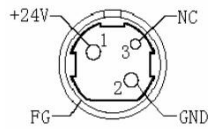


Figure 5.3

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



Note :

- *Strictly prohibit unplug the cable while the printer is power on.*
- *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 Other Optional Interface

5.4.1 Serial Interface

Printer VLINE80-2 serial interface is compatible with RS-232 standard, with 9 pin socket.

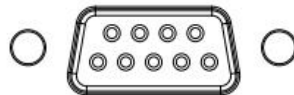


Figure 5.4.1 a

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

Printer VLINE80-2 serial interface are compatible with RS 232 standard, with 25pin socket. User can gain the setting of interface via printing configuration sample; the default setting of serial interface is as follow, 9600bps(baud rates), 8 bit(data bit), 1 bit(stop bit), no parity, support RTS/CTS handshaking protocol.



Figure 5.4.2 b

PIN No.	Signal Definition
PIN1	Frame Ground
PIN2	TXD
PIN 3	RXD
PIN 4	RTS
PIN 5	Unconnected
PIN 6	DSR
PIN 7	GND
PIN 8~19	Unconnected
PIN 20	DTR
PIN 21~25	Unconnected

5.4.2 Parallel Interface

Parallel interface supports protocol with 36 pin CENTRONICS socket.

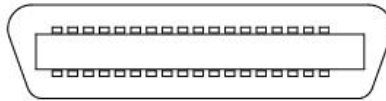


Figure 5.4.2

Pin No.	Signal Source	Signal Definition
1	H	Data latch pulse, latch the data to the printer at the rising edge of the negative
2	H	Data 0(The lowest bit)
3	H	Data 1
4	H	Data2
5	H	Data3
6	H	Data4
7	H	Data5
8	H	Data 6
9	H	Data7 (The highest bit)
10	P	Printer response signal, indicates that the printer has received the last byte of data; A negative pulse of about 1us.
11	P	Busy Signal; The printer is busy; High level indicates that the printer can't receive
12	P	PE Signal; paper end signal; High level indicates that the printer is paper end.
13	-	Unconnected
14	-	Unconnected
15	-	Unconnected
16		Logic Ground
17		Frame Ground, separated from logic ground
18	-	Unconnected
19~30		Logic Ground
31	-	Unconnected
32	P	Printer error signal, low level indicates that error occurs in the printer, the error signal will output along with paper end signal.
33		Logic Ground
34~35	-	Unconnected
36	-	Unconnected

Note: H indicates that signal comes from Host computer, P indicates that signal comes from Printer.

5.4.3 Ethernet Interface

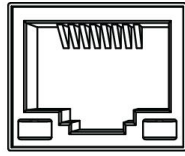


Figure 5.4.3

PIN NO.	Signal Name
1	TX+
2	TX-
3	RX+
4	-
5	-
6	RX+
7	-
8	-

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 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 end	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	Resolution
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 printer head over heat	Reduce the density of printing
	Driving 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

6.5 Remove Jammed Paper



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

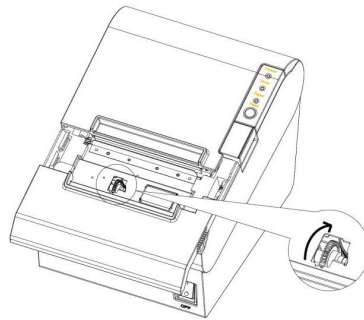
If the top cover can be opened, operate it according to the next steps.

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

If the auto cutter jam occurs on printer VLINE80-2 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).

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- 3) Close the front cover.
 - 4) Open the top cover and remove jammed paper.



VLINE80-2