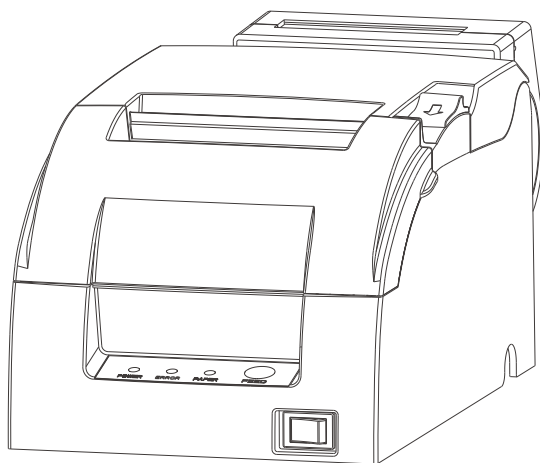


RONGTA **User Manual**

76MM IMPACT DOT MATRIX PRINTER RP76II/RP76III



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I. Product Introduction

Thank you for purchasing the RP76X series impact dot matrix printer produced by our company. This thermal receipt printer provides you with safe, reliable and efficient printing quality at a reasonable economic price. At the same time, RP76X series is widely used in supermarkets, hospitals, restaurants, banks, gas stations, road and bridge toll collection and other fields due to its super functions and easy operation.

1.1 Safety Warnings

- ⚠ Warning:** Do not touch the paper cutting knife or paper-tearing knife of the printer.
- ⚠ Warning:** The print head is a heating component. Do not touch the print head and its surrounding components when the printer is still warm in temperature.
- ⚠ Warning:** Do not touch the surface of the print head and connectors, to avoid electrostatic damage to the print head.
- ⚠ Warning:** This product is only suitable for the use in non-tropical climates.

1.2 Main Features

- High printing quality
- Low noise
- Support cashbox drive
- The attractive appearance
- Reasonable structure, simple use and maintenance
- Built-in data buffer that receives print data when printing
- Support USB port, serial port (RS_232), parallel port, WIFI, Ethernet port and cashbox interface (subject to actual model interface)
- The characters can be enlarged, bolded, underlined. And it can adjust the line spacing and the left-right spacing for printing.
- Supports bitmap downloading and graphic printing with different densities
- Realize high-speed printing equivalent to calling built-in and cartridge font in the mode of driver printing (dot map)
- Support black mark detection and positioning printing
- Low power consumption and low operation cost)
- It is compatible with ESC/POS print instruction set

II. Safety Instructions

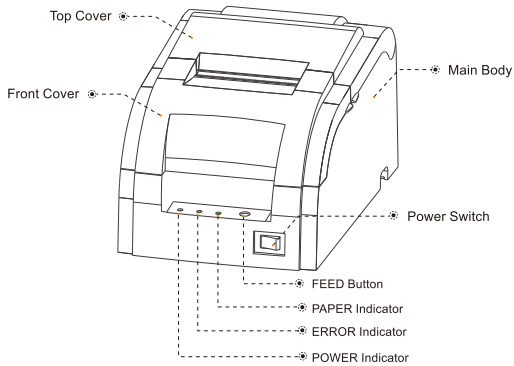
Before operating and using the printer, please carefully read the following items and strictly observe the use rules.

- ① Please install the printer on a stable surface to avoid printer suffered from any vibration and shocks.
- ② Stop using keeping the product in any case of unusual circumstances such as the presence of high temperature, high humidity and serious pollution.
- ③ Connect the printer's power adapter to an appropriate grounding socket. Avoid using the same socket with large motors or other equipment that may cause voltage fluctuation of power supply.
- ④ Do not get the product wet. Do not insert foreign objects(e.g. metal) into the product, and once it occurs, immediately turn off the power supply.
- ⑤ Never use the printer without paper, otherwise it will seriously damage the Print head and needle board
- ⑥ Unplug the product from the power outlet if the printer is idle for a long time.
- ⑦ Do not disassemble or modify the product personally.
- ⑧ Use only the power adapter specified in this instruction.
- ⑨ In order to ensure the printing quality and prolong the service life of the product, it is recommended to use the recommended or equivalent needle print head.
- ⑩ Do not plug/unplug the product with the product powered on.
- ⑪ When plugging and unplugging the printer power cord, please hold the arrow position of the printer power connector with your hand, not the cord of the printer power cord.
- ⑫ Please keep this manual for the future use and reference.

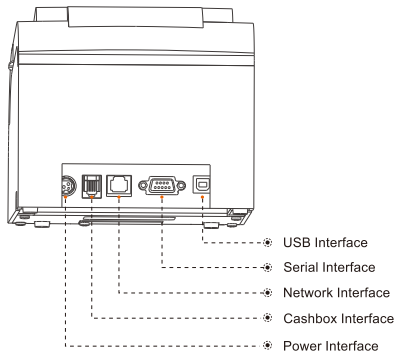
III. Appearance and Components

RP76II impact dot matrix printer

Front View



Rear View

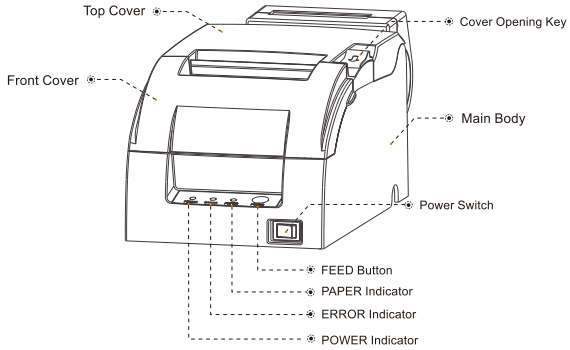


Application Field

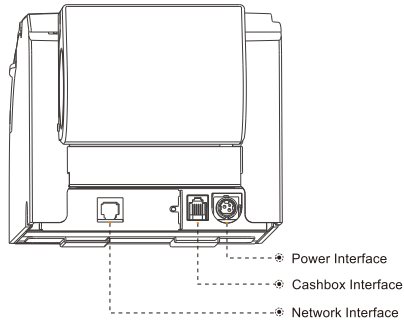
- Cashier system of places of entertainment
- Cashier system of retail monopoly
- Catering cashier system
- Wireless Bluetooth printing cashier system
- Postal logistics receipt printing system
- Hotel receipt printing system

RP76III impact dot matrix printer

Front View



Rear View



Application Field

- Cashier system of places of entertainment
- Cashier system of retail monopoly
- Catering cashier system
- Wireless Bluetooth printing cashier system
- Postal logistics receipt printing system
- Hotel receipt printing system

IV. Technical Parameters

4.1 Printing Parameters

Model	RP76IINRP76III
Printing method	9-pin Impact
Printing speed	4.5lines/sec or Bidirectional printing of Chinese characters: 2.1 lines/s
Printing paper width	69.5±0.5mm
Effective resolution	180 dpi
Outside diameter of paper rollo	85 mm
Printer paper	1-3 paper
Effective printing width	42CPL(9 X 9)/35CPL(11 X 9) 40CPL(9 X 9)/33CPL(11 X 9)
Dot density	210 dots, can print 420 positions
Character size	ASCII Font A: 11x9 ASCII Font B: 9x9 Chinese character 16x16
Line space	3.75mm(Use the command to adjust the line space)
Cartridge ribbon	ERC-39 Purple, black, black/red

Print character

ASCII character set	11X9 dot, 1.9 (width)X2.8 (height)mm 9X9 dot, 1.6 (width)X2.8 (height)mm
National Standard Class I and II Chinese Character Font	16x16 dot, 2.8 (width)X2.8(height)mm
Type of bar code	QR code:UPC-A/UPC-C/EAN-13/EAN-8/CODE39/ITF/CODEBAR CODE93/CODE128
Extended character table	PC437, Katakana, PC850, PC860, PC863, PC865, WPC1252, PC866, PC852, PC858 etc., 50 international languages in total

Power supply

Power adapter	AC 100 ~ 240V
Input power supply	DC 24V 2.5A
Cashbox output	DC 24V 1A

Service life

Service life	Print head life: 300 X 10 ⁶ impacts per needle
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Environmental requirements

Working environment	Operating temperature: 0~ 45°C, operating humidity: 20~90%
Storage environment	Storage temperature:-10 ~ 60°C, storage humidity: 10~90%

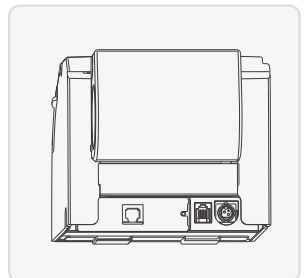
Environmental conditions

Drive	WIN2003/WINXP/WIN7/WIN8/WIN10
Print command	ESC/POS/OPOS command compatible
Character printing	It supports double width and double height printing of AN K characters, custom characters and Chinese characters; adjusts dot patterns of character spacing for printing;

Black mark detection	The black mark is printed on the front right side of the receipt, with the length (along the paper feeding direction) of 5 mm, and the minimum width of 8 mm; the reflectivity of the black mark is less than 10%, and the reflectivity of other parts on the print side with black mark is greater than 75% (optional)
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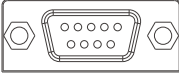
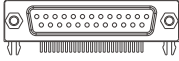



Cutter

Automatic cutter	76II (optional support) \76III Automatic cutter
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The pictures are for reference only, please subject to practicality

4.2 Printer Interfaces

Diagram	Type	Illustration
	USB	Universal USB Interface (Standard Type B)
	Serial interface	Db9 female connector interface, communication baud rate is 4800bps,9600bps, 19200bps,38400bps, optional (adjusting via DIP switch), data structure is parity-free, 8-bit data bit, 1-bit stop bit; RTS/CTS and XON/XOFF handshake protocols are supported
	Parallel interface (25PIN)	25PIN Parallel (male connector) bidirectional parallel interface, 8-bit parallel interface, support BUSY/nAck handshake protocol 8
	Network interface	Standard RJ45-8P interface, 10M/100M transmission speed with self-adaptation, 100M network LED indication, data communication LED indication.
	Cashbox control	The 6-wire RJ-11 socket, outputting DC 24V/1A power signal to drive the cashbox.
	Power interface	Power plug DC 24V.

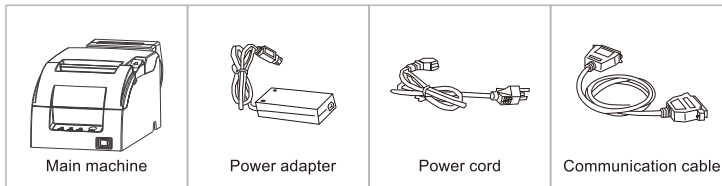
☺ **Note:** The interface is optional or customized, and the specific interface is subject to the actual object.

V. Installation and Operation of Printer

5.1 Printer Unpacking

Check the parts:

Before use, make sure the accessories are included in the package(the following picture is an example). If any thing is missing, contact the supplier or manufacturer. The specific accessories may not be included depending on the printer model.



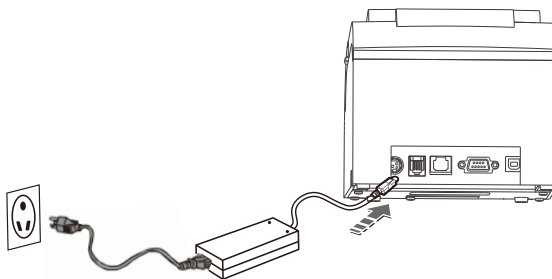
☺ The pictures are for reference only, please subject to practicality.

5.2 Connecting the Printer

- (1) Make sure that both the printer and the PC host are turned off, plug the matching data communication cable into the printer's data interface, and plug the other end into the serial port/parallel port /USB/ network port of PC host.
- (2) If equipped with an electrically openable cashbox, insert the RJ-11 connector on the cashbox into the cashbox interface of the printer (the specifications of the cashbox must conform to the printer cashbox drive specifications).
- (3) Connect to the special power adapter of the printer.

Use the special power adapter for the printer.

The connection diagram is as follows:



Attention:

- (1) First plug the power plug DC24V of the printer, then switch on the AC220V power supply, and then turn on the power switch. Do not reverse the sequence, otherwise the machine will be damaged.
- (2) Using an improper power adapter will make the printing quality worse and even damage the printer.
- (3) Do not connect the telephone line to the cashbox interface, otherwise the printer and telephone may be damaged.
- (4) When plugging in the printer power cord, please hold the arrow position of the printer power connector with your hand (do not plug in the cord of the printer power cord with your hand). Forcibly plucking the flexible cord of the printer power connector or pulling the printer power cord may cause damage to the printer or the power adapter.

5.3 Loading Paper

The 76mm impact printer uses 76mm high-quality 1-copy plain continuous paper or 2- to 3-copy self-copying paper. RP76II adopts automatic paper loading structure, RP76III adopts easy paper loading structure design, which is very convenient for loading paper.

5.3.1 Detailed operation instructions

When the paper sensor detects that there is no paper, the ERROR indicator and PAPER indicator are always on, and the buzzer beeps 3 times continuously at an interval of 1 second, waiting for paper loading. During paper loading, when the paper sensor detects the paper again, the ERROR indicator and PAPER indicator are off, the paper feed motor is turned on, and the printer automatically feeds paper. After feeding paper, the ERROR indicator flashes. At this time, press the FEED button to confirm the paper feeding, the ERROR and PAPER indicators are off, the buzzer is turned off, and the printer enters the ready state.

Attention:

When loading paper (do not use a paper roll with paper stuck to the roll core, otherwise the printer cannot detect the end of the paper correctly, which will cause damage to the printer), the paper end should be cut evenly and inserted into the paper feed port; hold both sides of the paper and straightly insert it into the paper channel until the paper feed motor rotates; and then the printer will feed the paper automatically. If the paper end gets stuck in the paper feed port when loading paper, a paper jam occurs. After the automatic feed motor stops, pull out the paper backwards. Cut off the wrinkled part of the paper end and reload the paper.

The insertion requirements and direction of paper roll are shown in the figure below



If you need to remove the paper roll before it is used up, please follow the steps below. Do not pull out the paper from the paper feed port.

5.3.2 Loading method is as follows

- (1) Open the printer cover.
- (2) Pull up the paper at the paper feed port and cut off the pulled paper.
- (3) Remove the paper roll from the printer.
- (4) Press FEED button to remove the remaining paper
(do not pull the remaining paper against the feeding direction.)

5.4 Ribbon loading

Be sure to use the original ribbon, and do not use ribbons of other brands or inferior ribbons; otherwise, the service life of print head will be shortened. When replacing the ribbon, make sure the printer is not receiving data, otherwise the data will be lost.

The ribbon loading method is as follows :

- (1) Open the top cover of printer.
- (2) Turn the ribbon cartridge knob in the direction of the arrow on the ribbon to tighten the loose part of the ribbon.
- (3) Insert the ribbon into the print head and push the ribbon cartridge until it clamps.
- (4) Turn the ribbon cartridge knob **5 to 6 turns** in the direction of the arrow on the ribbon to tighten the loose part of the ribbon.

VI. The Switch, Key and Indicator Light of Printer

6.1 Power Switch

The power switch controls the flow of power to the printer. The power switch is located on the left side of the printer. When the "-" switch is pressed, the printer is turned on; When the "O" of the switch is pressed, the printer is turned off.

⚠ Attention: Make sure the power supply is connected before turning on the printer.

6.2 Keys and Indicators

The keys and indicator panel as shown in the following figure:

The function description of keys and indicators:



FEED key

Press the FEED button once to advance paper or hold down the FEED button to feed paper continuously. After loading a paper roll, press the FEED button to confirm that the paper feeding is completed, and the printer is in ready state

Hold down the FEED button and turn on the product at the same time to print the self-test.

POWER indicator (green)

When connected to the power supply, it always lights up;

ERROR indicator (red)

The ERROR indicator will flashing when occur paper shortage, paper jam, printer head overheating, print head error or other abnormalities. Flashing status means waiting to confirm the paper feeding.

PAPER indicator (red)

Paper detection light, the printer is out of paper when the light is on. Once paper is supplied, the light turn off.

6.3 Set the Printer Mode

There is a small plastic cover at the bottom of the printer. Remove it, and you can see the DIP switch on the circuit board. The printer settings can be changed by setting the DIP switches.

⚠ Attention:

Confirm that the printer is turned off and the printer has been unplugged before setting the DIP switch.

The setting functions of each DIP switch are as follows:

On off	Features	ON	OFF
1	Whether to enable black mark mode	Black mark mode	Non-black mark mode
2	Pin ejection time (use multi-copy printing paper. The longer the time, the better the bottom printing effect. This setting has no effect on single-copy paper)	2	3
3		ON	ON
3		OFF	ON
		ON	OFF
		OFF	OFF
4	Select the number of characters per line (CPL)	42CPL/35CP	40CPL/33CP
5	Select unidirectional/bidirectional printing	Bidirectional printing	Unidirectional printing
6	Whether to enable Chinese character mode	Non-Chinese character mode	Chinese character mode
7-8	Transmission speed (valid for printer with US port) (refer to the table below)		
Transmission speed (bps) -Bit/s		SW-7	SW-8
38400		ON	ON
4800		OFF	ON
9600		ON	OFF
19200		OFF	OFF

6.4 Self-test of Printer

Self-test can detect whether the printer is working normally. If the Self-test list sample can be printed correctly, it indicates that everything is normal except the connection interface with the host computer, otherwise overhaul is required. In the self-test, it will print the software version number, print density, interface type, English characters and some Chinese characters in sequence.

The operation method of self-test is: after the printer is connected, press and hold the feed key first and then turn on the power supply of the printer. First, the printer will reset and detect, and release the feeding button less than 5 seconds after the reset is completed. At this moment, the printer will carry out self-test and print the self-inspection list sample.

The printer prints the following content after self-test:

Selftest

Completed

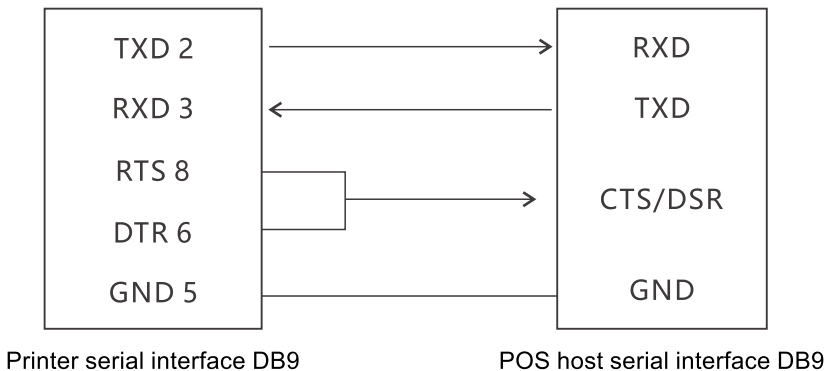
VII. Serial Interfaces of Printers

The serial interface of RP76X series impact dot matrix printer adopts RS-232 standard. The communication baud rate is 4800bps, 9600bps, 19200bps or 38400bps optional (adjusting via DIP switch). It is parity-free, 8-bit data bit, 1-bit stop bit; RTS/CTS and XON/XOFF handshake protocols are supported.

The functions of each pin of the printer serial interface are defined as follows:

Pin number	Model	Signal source	Description
2	TXD	Printer	The printer sends data to the host.
3	RXD	Host	The printer receives data from the host.
8	RTS	Printer	This signal reflects the current status of printer. A high electrical level indicates that the printer is "busy" and cannot receive data, while a low electrical level indicates that the printer is "ready" and can receive data.
5	GND	-----	Signal ground
6	DTR	Printer	Same as RTS signal (pin 8).

Schematic diagram of connection between printer serial interface and POS host serial interface:



VIII. Parallel Interfaces of Printers

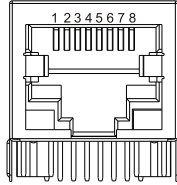
The parallel interface socket of the RP76X series impact dot matrix printer is a 25PIN parallel socket with 8-bit parallel transmission, it supports BUSY/nAck handshake protocol (subject to the actual object).

The functions of each pin of printer parallel interface socket are defined as follows:

Number of 25 PIN	Signal name	Signal source	Description
1	/STB	Host	Data strobe trigger pulse, read data at falling edge
2	DATA2	Host	These signals respectively represent the first to eighth bit information of parallel data. The signal is "high" electrical level when the logic is "1" and "low" electrical level when the logic is "0".
3	DATA3	Host	
4	DATA4	Host	
5	DATA5	Host	
6	DATA6	Host	
7	DATA7	Host	
8	DATA8	Host	
9	DATA9	Host	
10	nAck	Printer	Printer response signal. It indicates that the printer has received the data of previous byte
11	BUSY	Printer	"High" electrical level indicates that the printer is "busy" and cannot receive data.
12	Paper-out	-----	It indicates whether there is a paper shortage Paper-out PE.
13	Select	Printer	Pull up electrical level to "high" by resistor
18-25	GND	-----	Ground, logic "low" electrical level
15	NError(nFault)	Printer	Pull up electrical level to "high" by resistor

IX. Ethernet Interfaces of Printers

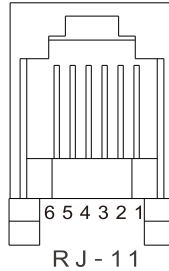
The Ethernet interface socket of RP76X series impact dot matrix printer is standard RJ45-8P, it supports 10M/100M network, and the transmission speed is adaptive.



Pin number	Description	Illustration
1	TX+	Send differential line+
2	TX-	Send differential line-
3	RX+	Receive differential line+
4	NC	No function
5	NC	No function
6	RX-	Receive differential line-
7	NC	No function
8	NC	No function

X. Cashbox Interfaces of Printers

The cashbox interface of the printer adopts RJ-11 standard, 6-wire socket, and outputs DC 24V/1A power signal to drive the cashbox. Insert the RJ-11 crystal connector of the cashbox into the cashbox interface to open the cashbox through the printer.



The functions of each pin of the cashbox interface of the printer are defined as follows:

Pin number	Signal	Description
1	GND	Power supply ground
2	Dk1	Negative pole of cashbox 1#
3	DK-1N	Start detection
4	PWR	Positive pole of power supply/cashbox
5	Dk2	Negative pole of cashbox 2#
6	GND	Power supply ground

☺ **Note:**Select the above interface definition and buy cashbox.

XI. Instruction on black mark (alternative) positioning control

11.1 Related parameters inherent to printing mechanism and printing control

- (1) The distance from print head of printing mechanism to paper-tearing line of machine head is 18 mm
- (2) The distance from print head of printing mechanism to black mark detection switch is 25 mm

11.2 Precautions for black mark paper printing

- The black mark must be printed on the front right side of the receipt**
- (2) The size of black mark shall be: 8 (width) X 5 (height) mm
- (3) The blackness of the black mark should be sufficiently saturated and the reflectivity < 10%; the whiteness of other parts on the print side with the black mark should be sufficiently white and the reflectivity > 75%.

11.3 Black mark positioning

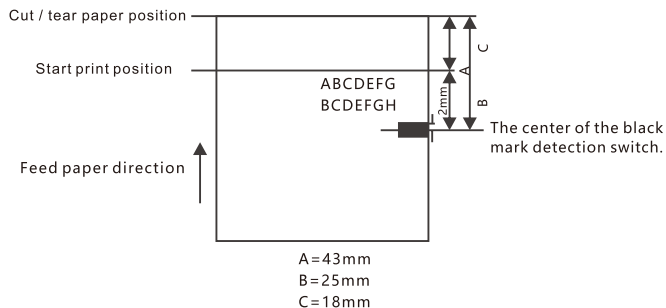
This printer supports positioning printing of pre-printed black-marked paper

- (1) Black mark positioning control selection:
Set the SW-1 position of the Dip switch to ON and set the GS (F) instruction correctly, then the black mark positioning printing is selected.

- (2) Black mark detection position:

The black mark is located on the front right side of the receipt.

The relationship between the position of the black mark detection switch, the start position of printing and the paper-tearing line position of machine head is shown in the figure below. The position where the printer detects the black mark is about 2 mm after the leading edge of black mark passing through the center of the black mark detection switch.



XII. Cleaning the Printer

12.1 Cleaning the Printer Head

Clean the print head when one of the following conditions occurs to the printer:

- (1) Printing is not clear;
- (2) A vertical column of the printed page is not clear;
- (3) The paper feeding noise is high.

The print head cleaning steps are as follows:

- (1) Disconnect the power cord, open the upper cover and remove the paper if exists.
- (2) If printing has just been completed, wait for the print head to cool completely;
- (3) Use a soft cotton cloth to remove dust and stains on the surface of the print head and needle plate, close the top cover, and try printing again.

XIII. Troubleshooting

When the printer fails, it can be handled according to the method in this section. If the problem cannot be solved, please contact the distributor or manufacturer.

13.1 The indicator on the control panel is not on

Check whether the power cord is properly plugged into the printer, power adapter, and power outlet or not. Check if the printer's power switch is on.

13.2 The indicator is normal, while the printer does not work

Run the self-test to check whether the printer can work properly. If you cannot perform self-test, please contact your distributor or the technical service personnel.

If the self-test can be performed normally, check the following:

- (1) Check the interfaces at both ends of the connection line between the printer and the computer. At the same time, confirm whether the connection meets the specifications of printer and computer.
- (2) The data transfer settings between the printer and the computer may be different. You can use self-test to print out the printer's interface settings. If the printer cannot print, please contact your distributor or the technical service personnel.

13.3 The printer has sound but does not work

The ribbon cartridge installation may be incorrect. Please install the ribbon cartridge correctly. The ribbon may be worn, please replace the ribbon cartridge

13.4 Blurry printing

The ribbon may be worn, please replace the ribbon cartridge

13.5 A line missing in printing

The print head may be damaged. Stop printing and contact your dealer or service technician.

XIV. Driver Installation

There are two ways to drive the RP76X series impact dot matrix printer, one is to install the driver directly under Windows 9X/7/8/10/ME/2000/XP/Linux/MAC, the other is to use the port for direct driving.

14.1 Installation for Windows

Add the printer to Windows and assign the driver files in the driver disk to Windows. You can start printing only by calling the print command in the program. In this way, the printer driver of Windows actually converts characters into graphic dot matrix for printing.

14.2 The Port direct drive

In this way, there is no need to use a driver, only the characters need to be directly output to the port, and the built-in and cartridge font inside the printer is used to realize the conversion and printing of the characters. Using the port direct drive way, the printing mode is also changed from page printing mode to line printing mode, making printing control more convenient. If the port direct drive mode is used, the instruction set needs shall be used to control the printing of the printer, and the ESC/POS command set has been integrated inside the 80mm thermal receipt printer.



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