



# **Zonerich AB-58C Maintenance Manual**

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# I . Product Appearance and Configuration:

## Product appearance

Front



Back



Top



Bottom



## Printer parts and conventional fault diagnosis

1. **Print Head:** The print head is one of the most important parts of the printer, mainly including the thermal element and electric motor. The thermal element prints out the text and graphics and the motor is used to move the paper.

Print head has a certain life span, which is related to the working environment and the quality of paper. The bad environment such as dusty environment and the poor quality of paper will reduce the service life of the print head. After a period of time of use, the print head requires the cleaning and maintenance.

After the thermal print head is used for some time, the thermal element will turn dirty, which will cause unclear printing effect. Just use the cotton cloth dipped with alcohol to clean the thermal element.

The problem that the paper moves properly but the printer does not print completely or partially may be caused by the poor contact between the print head and the mainboard. Pull out the connecting cable and re-plug it, the fault may be solved.

2. **Mainboard:** The mainboard is also one of the most important parts of the printer and it is used to control all the actions of the printer, mainly composed of the CPU control circuit, power circuit, motor control circuit, box circuit and interface circuit.

When the printer is not typing, printing messy codes or the paper abnormalities appear, it is possibly because the components on the mainboard are broken. You can replace the failed mainboard with a good one to judge whether it is the problem caused by the mainboard.

3. **Case holder:** The plastic parts and hardware used to install the mainboard and print head so as to assemble all components into a complete printer.

The Case holder are not prone to be damaged, unless by violent transport, falls, collisions. Once damaged, please replace with a new one.

4. **Power supply:** Change the AC into DC so as to provide a stable DC power supply for the printer.

Please check whether the power supply meets the requirements of the printer before getting the printer powered on and try to use the original power supply. If the power adapter's light is not on after the power supply is provided, it means the power supply is damaged and replace it.

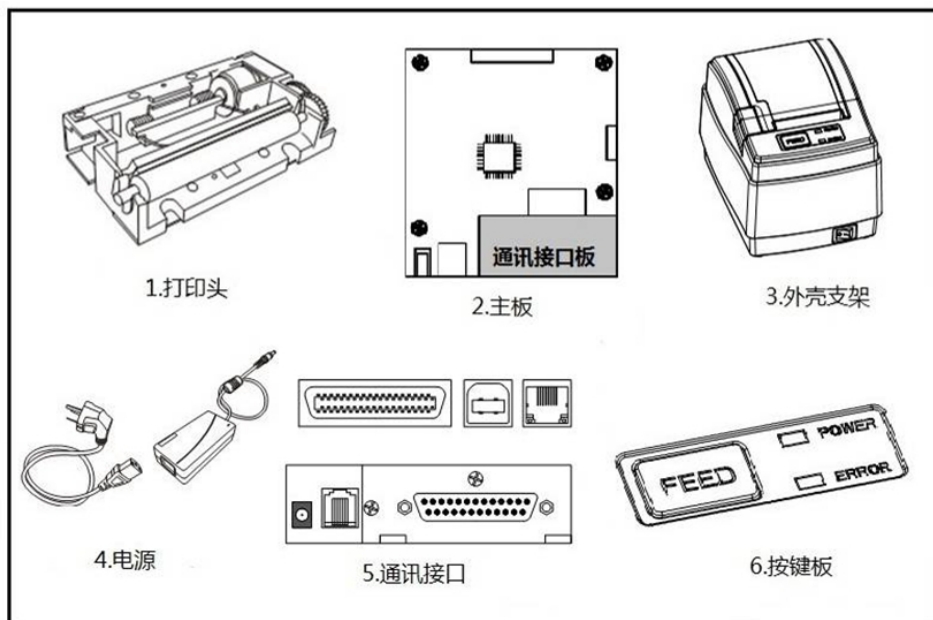
5. **Communication interface:** It is used to achieve the data exchange between the printer and the PC, the communication interface board is removable and multiple interfaces such as serial interface, parallel interface, USB interface and Ethernet interface can all be supported.

When the printer does not print or print out messy codes, you can replace with a better communication interface board to judge whether it is the failure caused by the communication interface board.

6. **Key board:** There are keys, power indicator light and status light on the key board. And it is used to press the button to move paper, make self-test, enter DUMP mode (hex mode) and indicate various error conditions.

When the printer can print as normal, but the paper moving button does not work well, it means the key board gets wrong. If the printer works well, the power light on the key board is off, it means the key board gets wrong.

## Product parts



## II . Common Problems and Troubleshooting

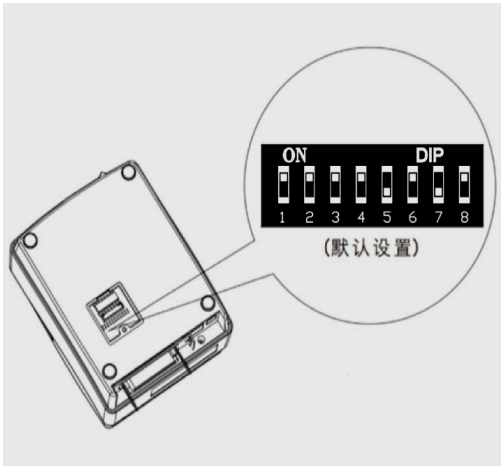
Common Problems	Solutions
1. Messy codes with serial interface	Check whether the host PC and the printer have the same baud rate
2.Unclear printing effect	Entirely unclear: poor quality of thermal paper; change the printing density from the thin mode to the tick mode. Partly unclear: the print head is dirty. Use the cotton cloth dipped with alcohol to clean the thermal element.
3. The cash box can not be opened.	Check whether the cash box meets with the cash interface specifications.
4. The Paper can not be detected.	Check whether the top cover is well placed. Use the soft brush to clean the paper sensor.
5. The paper does not move	The paper moving button is broken. The print head is broken. The mainboard is broken. Replace the broken part.
6. The indicator light is not on.	Check whether the appropriate power supply is connected. Check whether the power switch is turned on.
7. The red light flashes when there is paper printing.	The temperature of the print head is over high, and it is in the high temperature protection status. After a while, it can print as normal.
8. Whether the online printing is supported.	It is supported.
9. How to share the printer	Enter the Network Neighborhood and find the printer on the computer sharing the printer. Double-click the printer and install the driver to the local computer.
10. Skew printing	The paper is placed skew. Place the paper in the right way
11. Slow printing with serial interface.	The baud rate of the serial port is small. Select appropriate bigger baud rate.
12. The water gets into the printer.	Turn the power off. Use a hair dryer to dry the mainboard and all the parts with the temperature about 50 °C

### III. DIP Switch Function

The DIP locates at the bottom of the printer. Open the DIP cover and the DIP is shown as in the figure. The user needs to adjust DIP to ON / OFF according to the actual needs.

DIP switch

self-test page's DIP default setting



DIP function table:		
DIP1	DIP2	BAUD rate select
ON	ON	9600bps
ON	OFF	19200bps
OFF	ON	38400bps
OFF	OFF	115200bps
DIP3	Beeper enable/disable	
ON	ENABLE	
OFF	DISABLE	
DIP4	Print Density	
ON	LIGHT	
OFF	DARK	
DIP5	DIP6	Parity(COM) OR Print mode
ON	ON	None(or Driver mode)
ON	OFF	None(or Normal mode2)
OFF	ON	Odd (or None)
OFF	OFF	Even(or Normal mode1)
DIP7	Select Printer Mode	
ON	36 Characters Mode	
OFF	32 Epson Mode	
DIP8	Char mode select	
ON	Double byte char mode	
OFF	Single byte char mode	

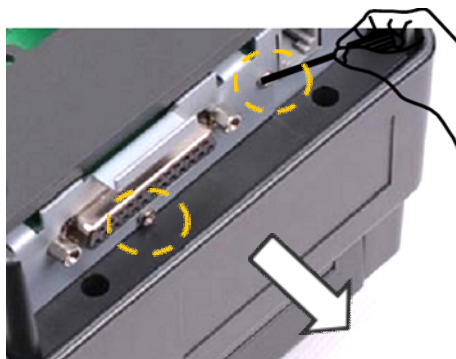
DIP1	DIP2	Baud rate (bps)	DIP5	DIP6	Verification mode (Valid in serial state)	Parallel interface mode (Valid in parallel state)
ON	ON	9600 (Default)	ON	ON	-	-
ON	OFF	19200	ON	OFF	-	-
OFF	ON	38400	OFF	ON	Odd Parity Check (Default)	-
OFF	OFF	115200	OFF	OFF	Even parity check	Print server mode

DIP3	Buzzer	DIP4	Printing density	DIP7	Printing mode	DIP8	Byte mode
ON	Turned on (default)	ON	Thin (default)	ON	36 characters	ON	Double byte (default)
OFF	Turned off	OFF	Thick	OFF	Epson mode (default)	OFF	Single byte

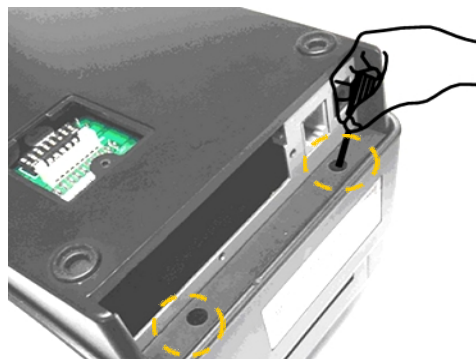


## IV. Replace mainboard

Step 1: Remove the two screws for the communication interface and remove the communication interface board according to the direction of the arrow (serial interface, parallel interface need to be removed)



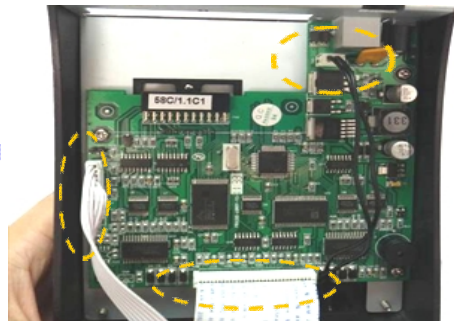
Step 2: Remove the two screws at the base.



Step 3: Remove the base according to the direction of the arrow.

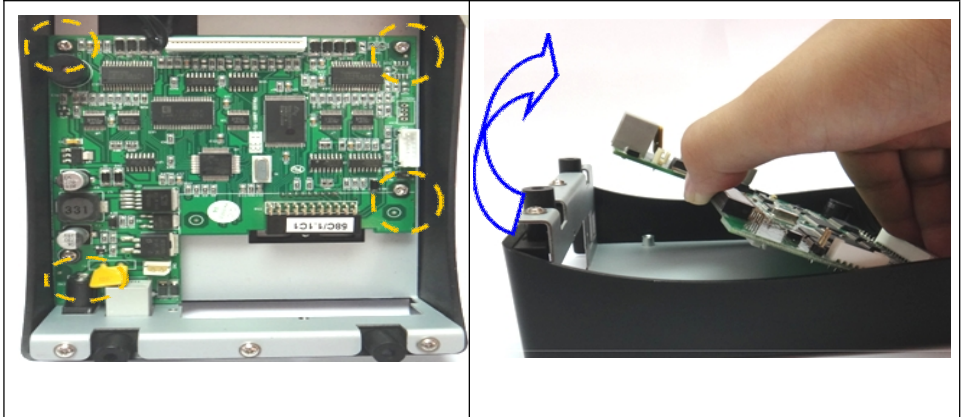


Step 4: Remove the three connecting lines on the main board.



Step 5: Remove the four screws on the mainboard.

Step 6: remove the mainboard according to the direction of the arrow. If it is not easy to remove, remove the power switch first.

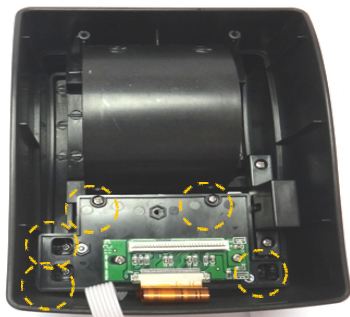


Step 7: Install the new main board in accordance with reverse order of the above sequence. Place the mainboard - tighten screws of the mainboard – plug the connecting cable – install the base - tighten the two screws for the base - Install the communication interface board - tighten the screws

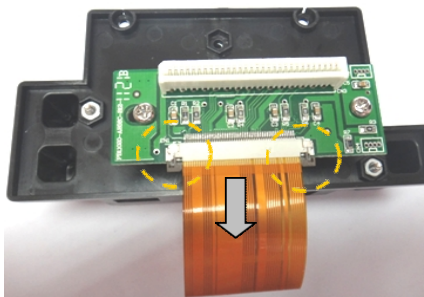
## V . Replace the print head

The steps one to five are the same with the steps to replace the mainboard.

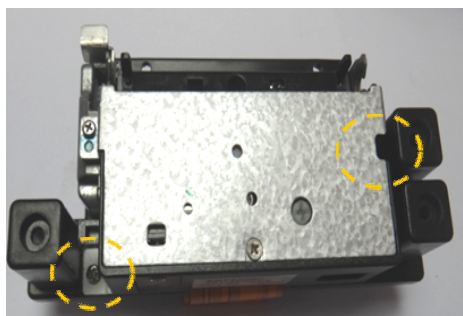
Step 5: Remove the 5 screws for the print head holder



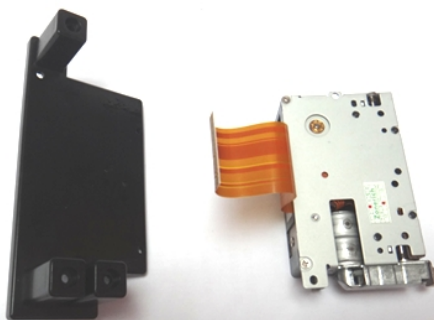
Step 6: pull out the two buckles for flat cable. Remove the print head's cable according to the direction of the arrow.



Step 7: Remove the two screws for the print head.



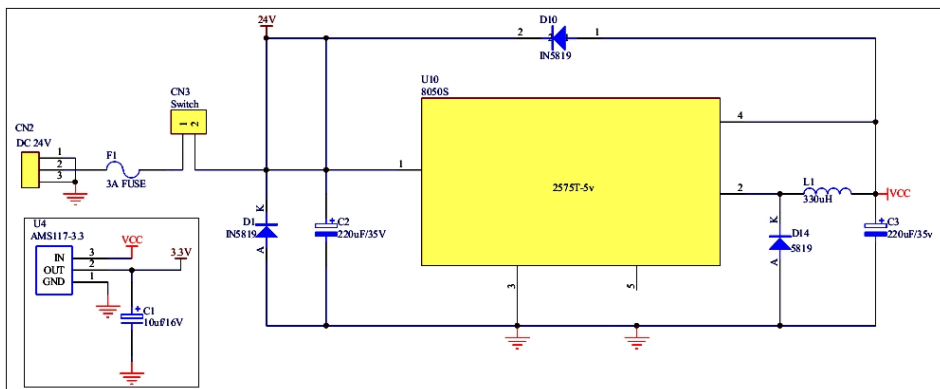
Step 8: Separate the print head and the bracket



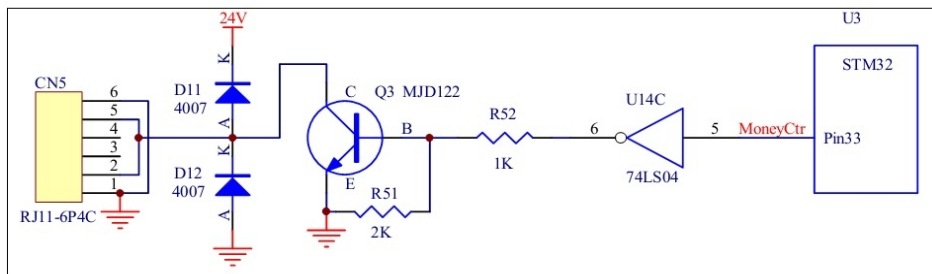
Step 9: Install the new print head in accordance with reverse order of the above sequence. Assemble the print head and the bracket - tighten the screws - insert the connecting cable between the print head and key board - Assemble the print head and printer top cover, tighten the screws - plug the main board's connecting cable – install the base - Tighten the two screws for the base – install the communication interface board - tighten the screws

## VI. Part of schematic circuit diagram

### 6.1 Part of circuit diagram for power supply

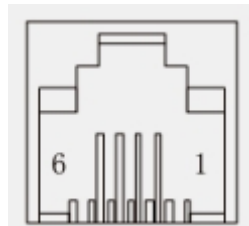


### 6.2 Part of circuit diagram for cashbox

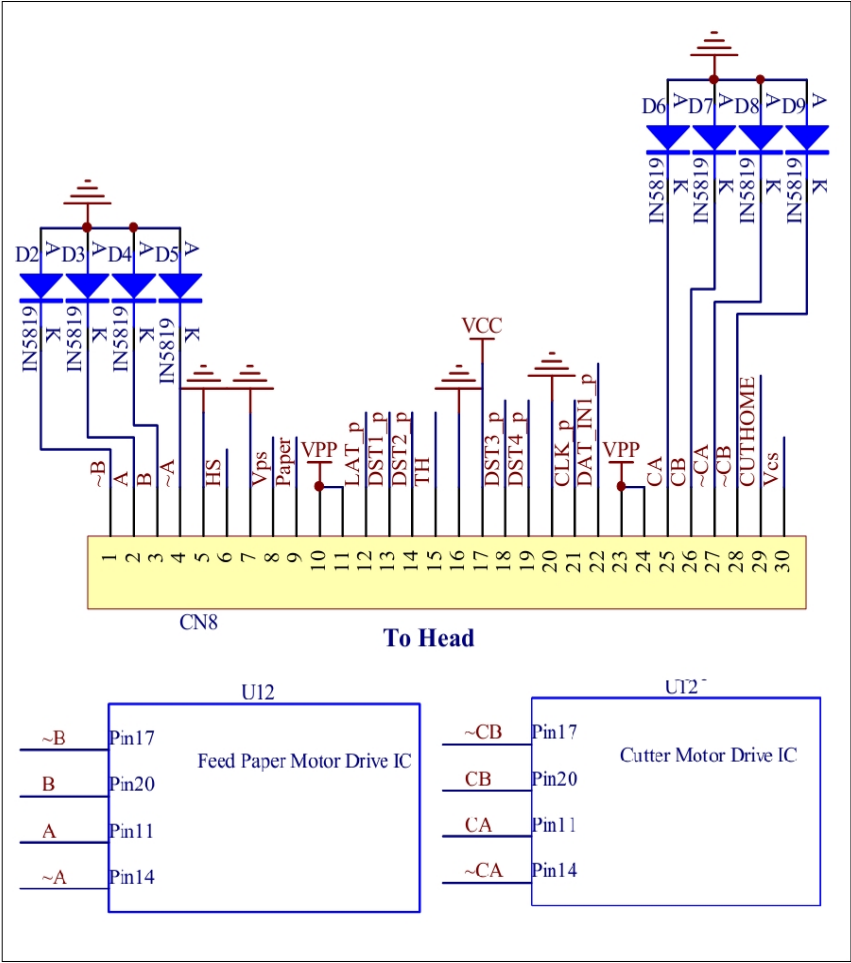


Printer cash box interface uses RJ11 6P4C socket and the interface is defined as follows:

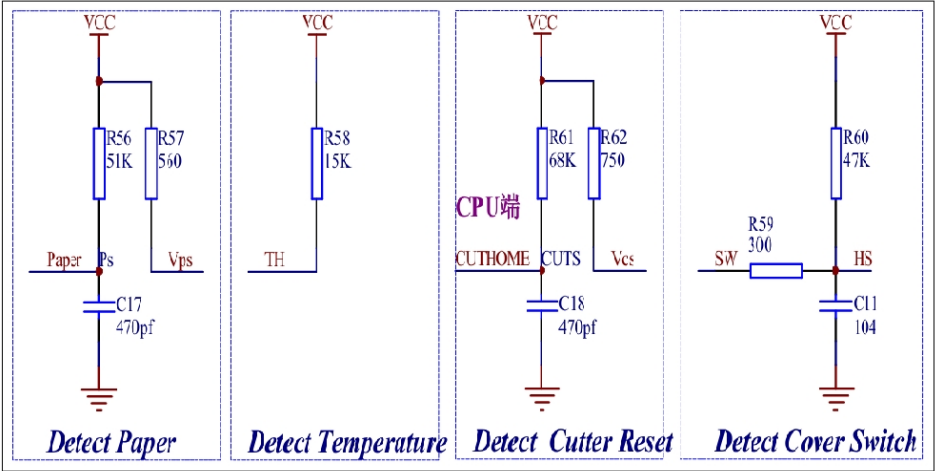
Pin	Name of signal	Direction
1	Signal ground	-
2	-	-
3	Cashbox open /close	Output
4	+24V	-
5	-	-
6	Signal ground	-



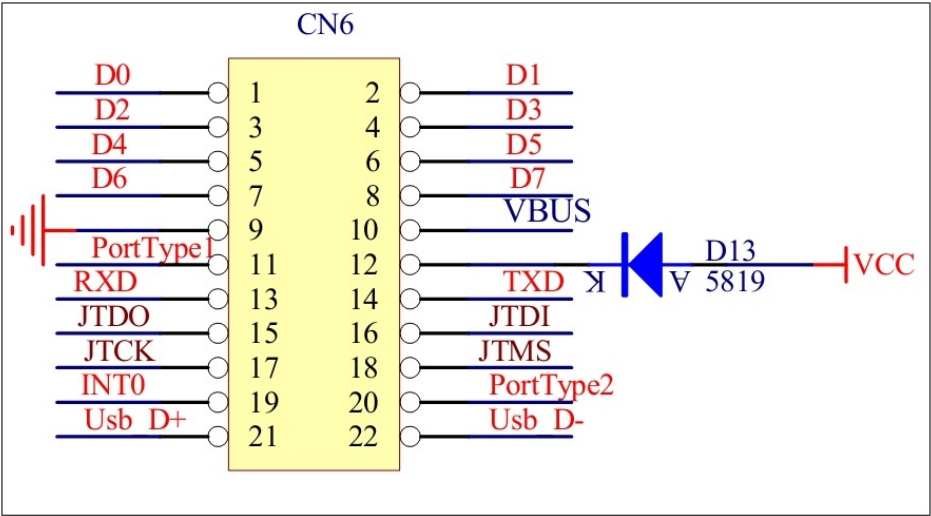
6.3 Part of circuit diagram Circuit diagram



6.4 Part of circuit diagram Sensors



6.5 Part of circuit diagram Interfaces



## 6.6 Part of circuit diagram Font

