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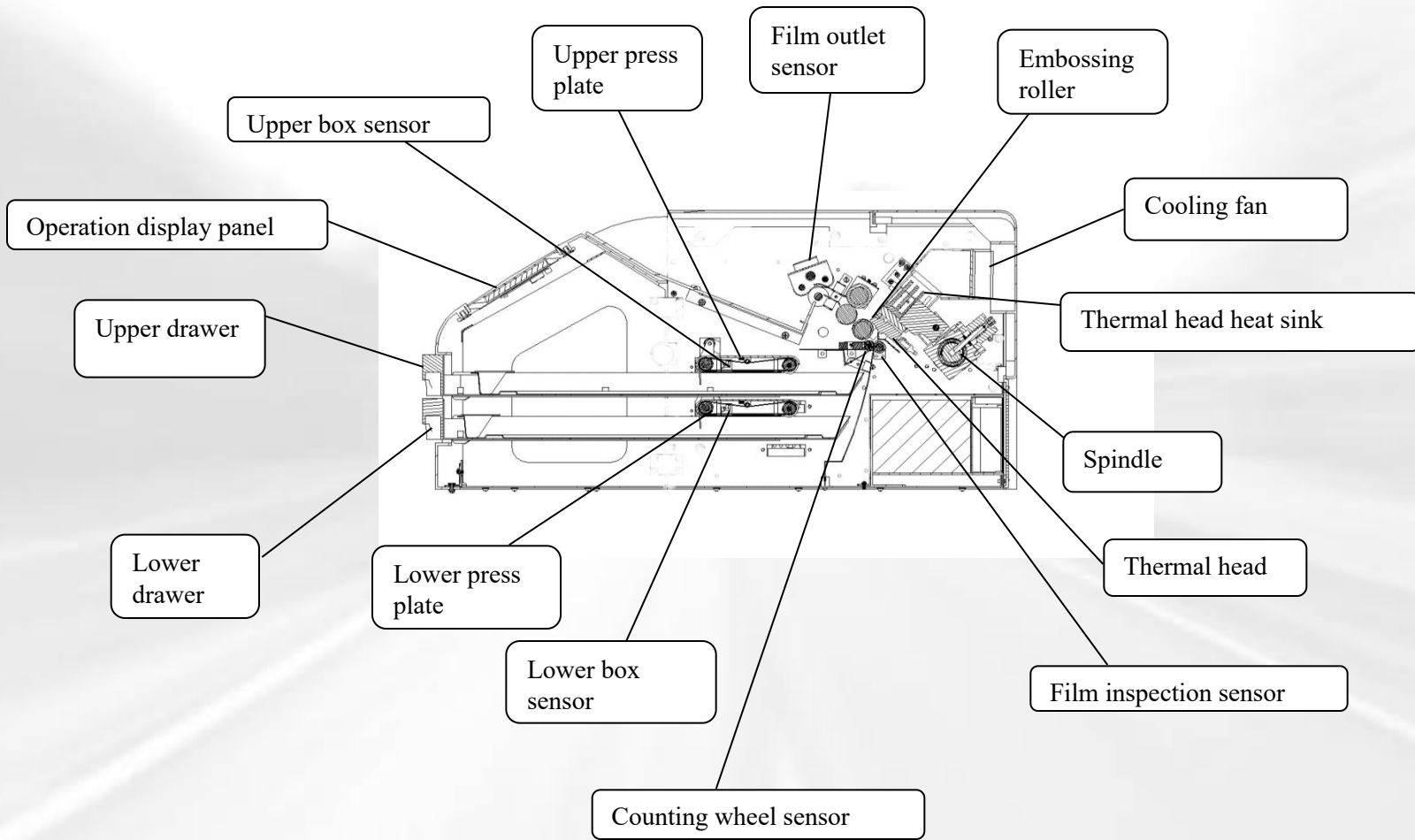
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# Operation raining of new printer

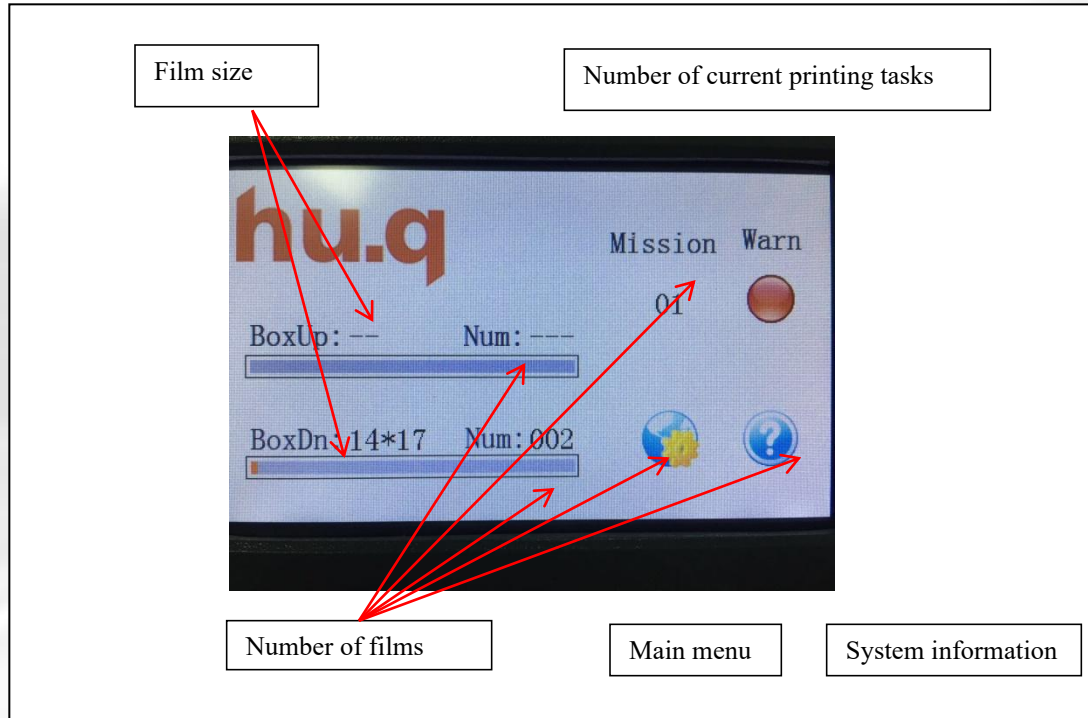
I: Installation and debugging of the printer

# Simple structure diagram

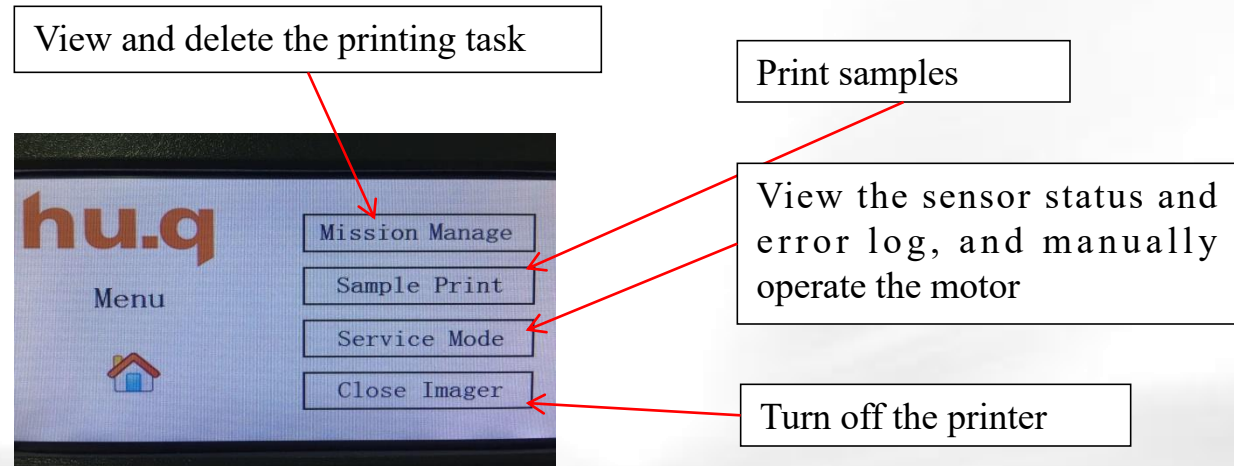


# Operating description

## Main interface

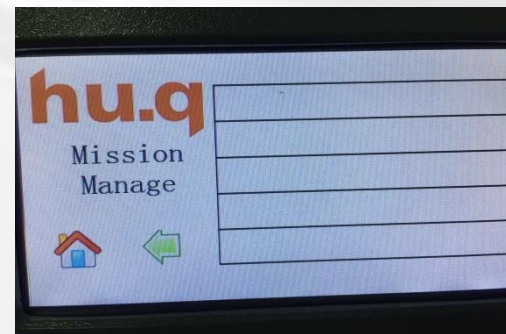


## Main menu



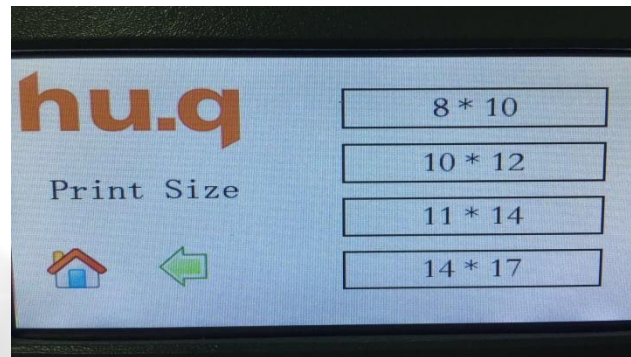
## Printing task management

All details of the number of tasks received are viewed here. **Note:** Because the screen is not sufficient, the AE that is too long will appear incompletely; view the real AE by clicking the third imageStore on the left after opening the imagerdb file under the D: \HQ-imager folder; delete again 5s after deleting a task; the first task that is being printed cannot be deleted.

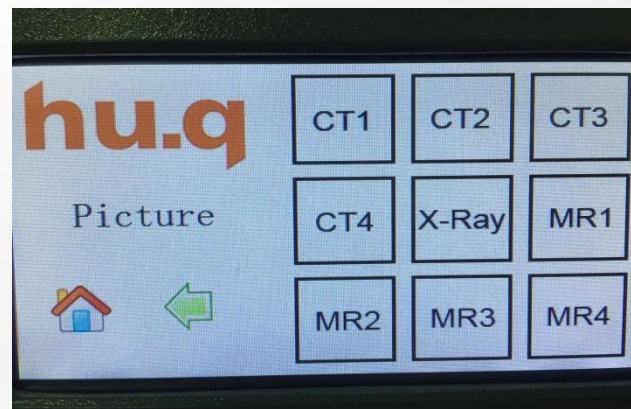


# Sample printing

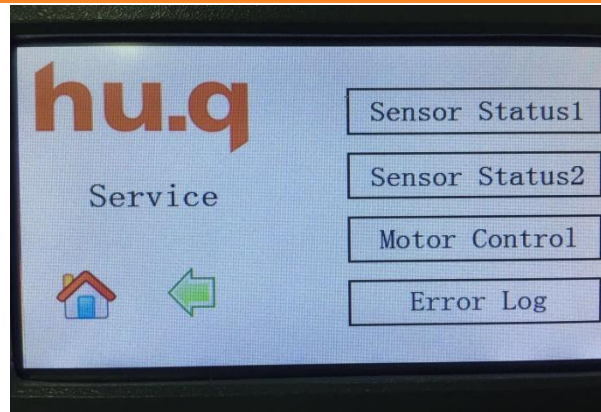
Sample size selection: Select the size of the sample to be printed



Sample image selection: Select the sample image to be printed (Note: If there is no film in the corresponding box, you cannot enter the image selection interface)



# Service mode

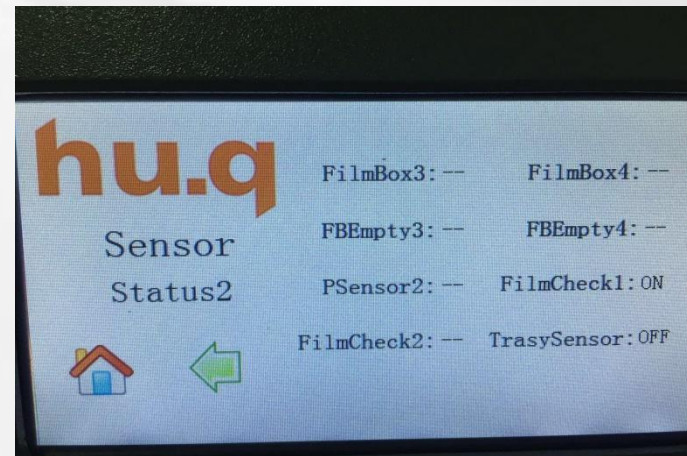
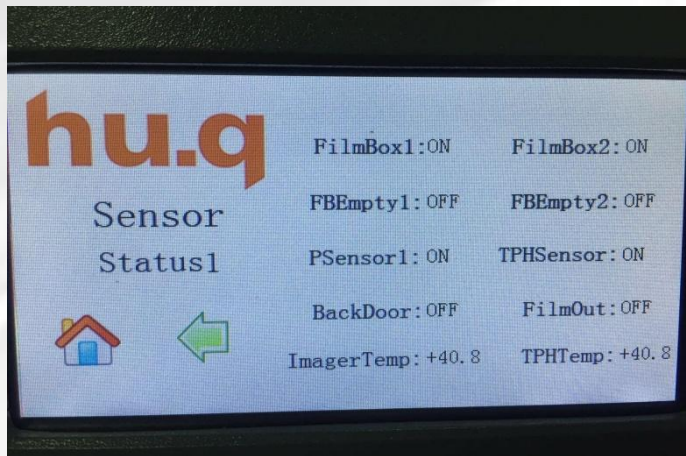


View the sensor status

Manually operate each motor

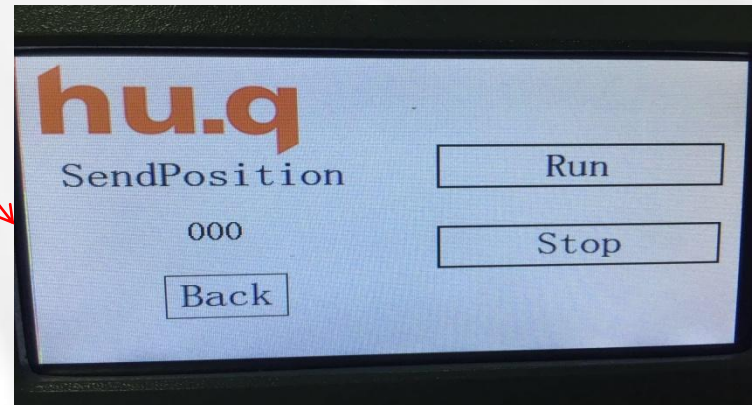
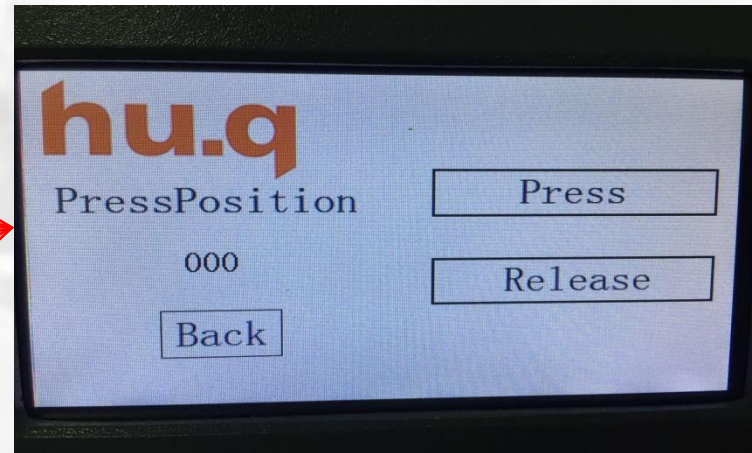
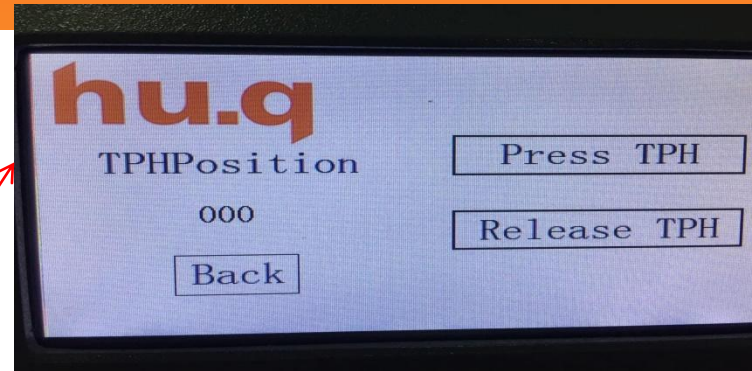
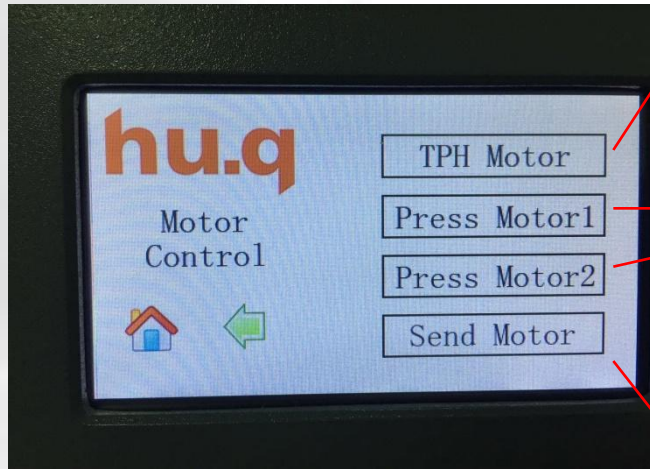
View the error log

# Sensor status

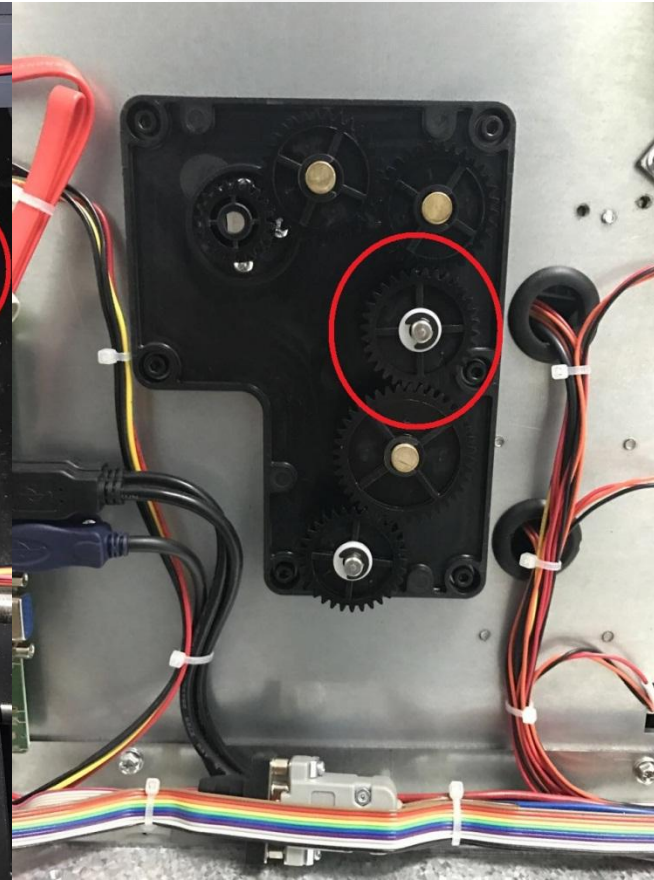
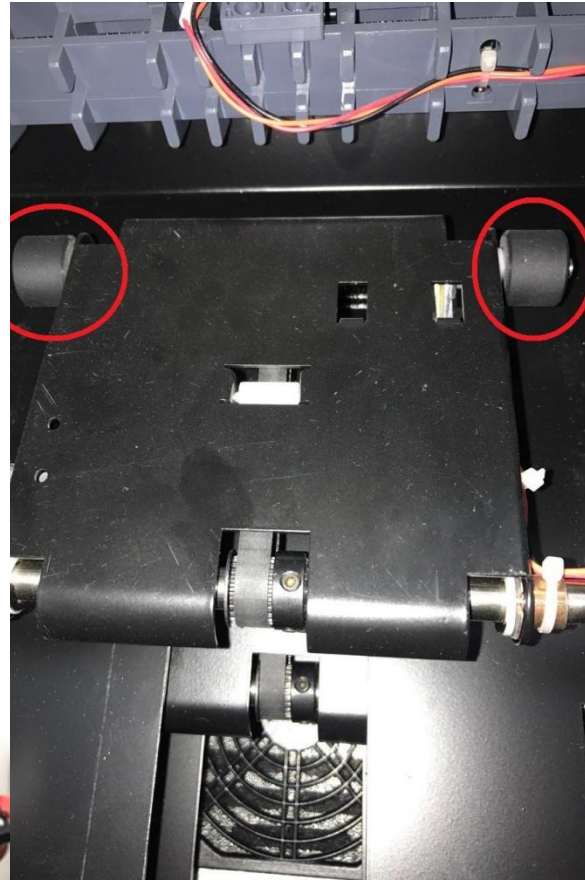
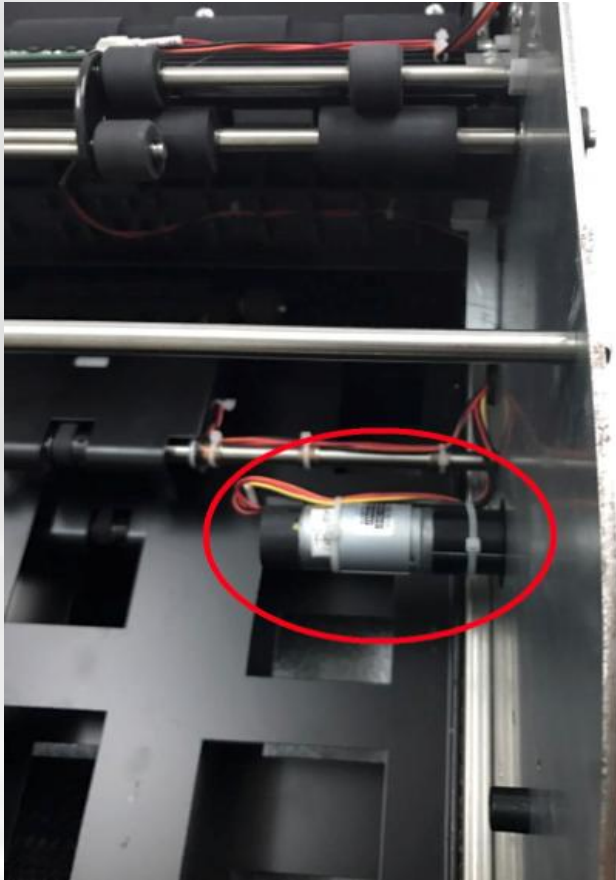


# Motor control

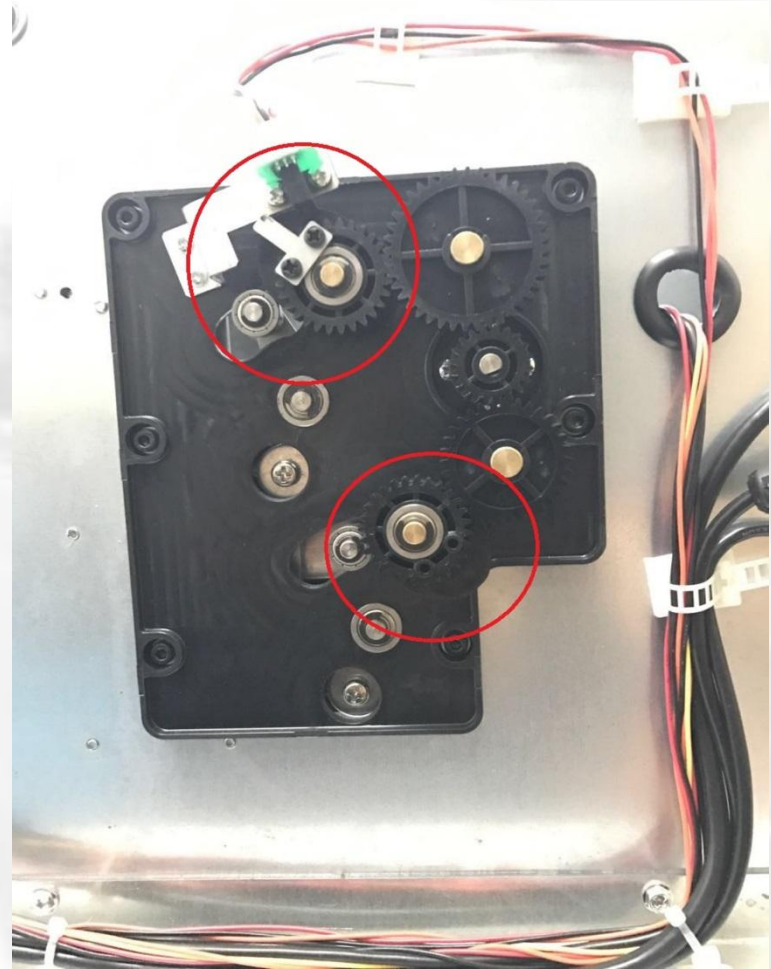
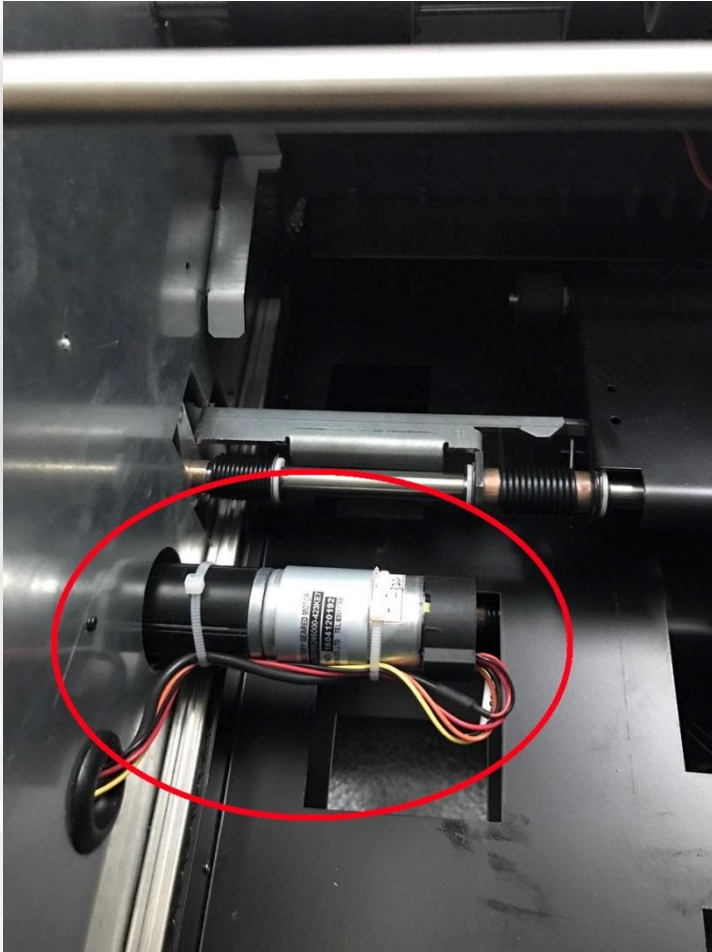
Test the status of each motor



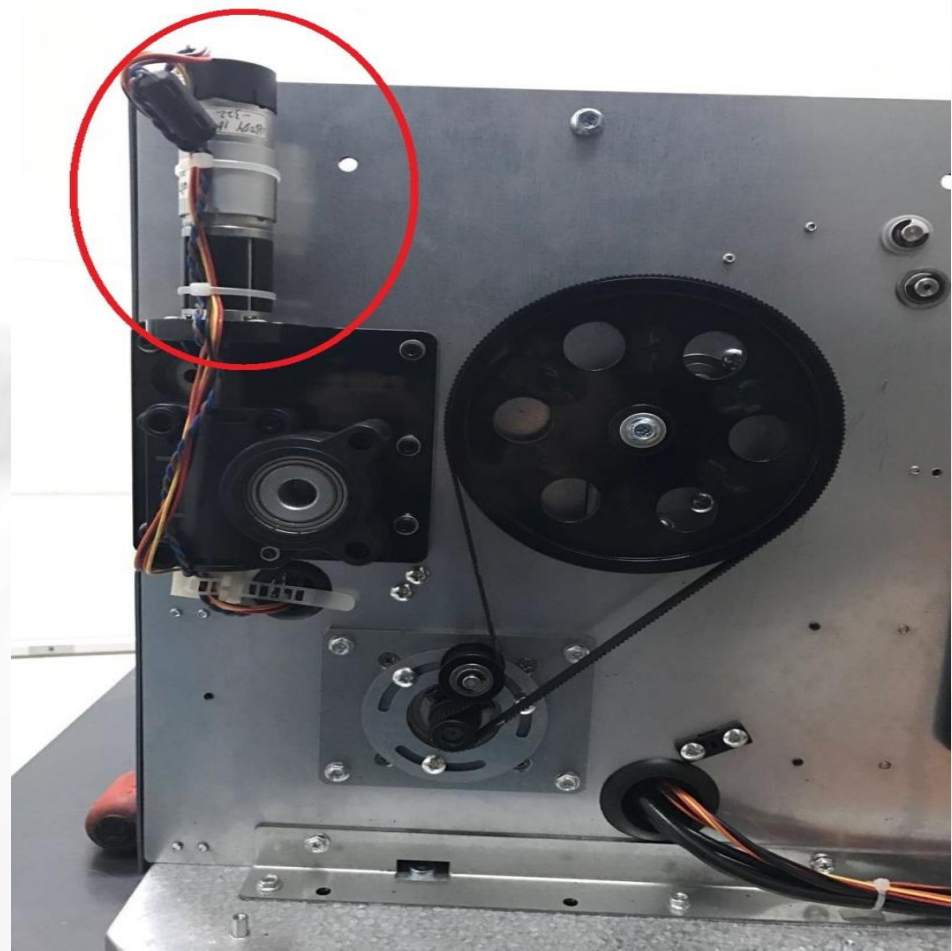
# Scraper motor



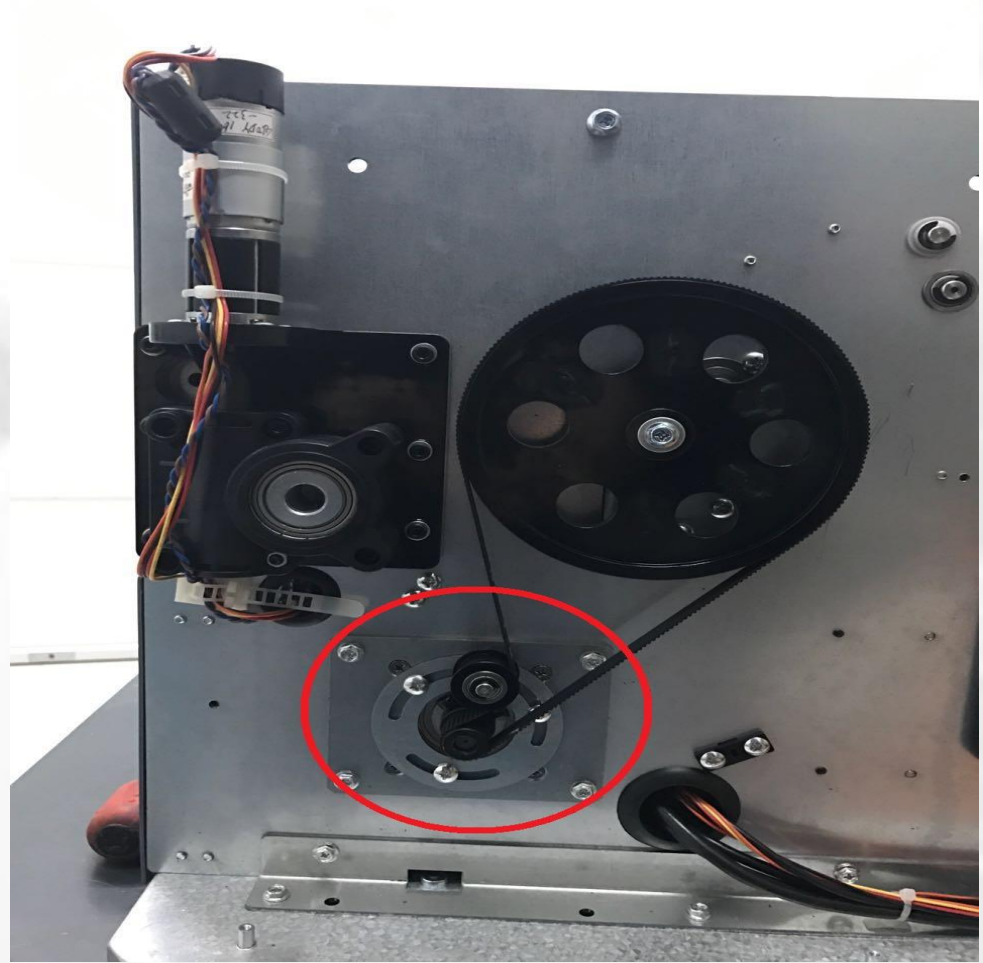
# Press motor



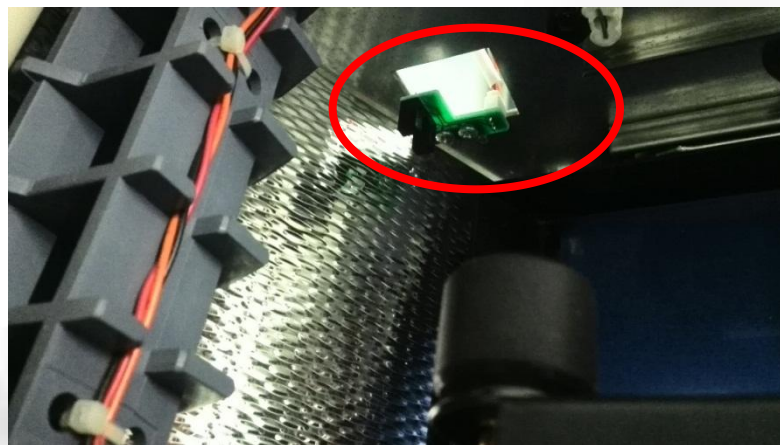
The printing head motor is responsible for pressing the thermal head downward during the printing



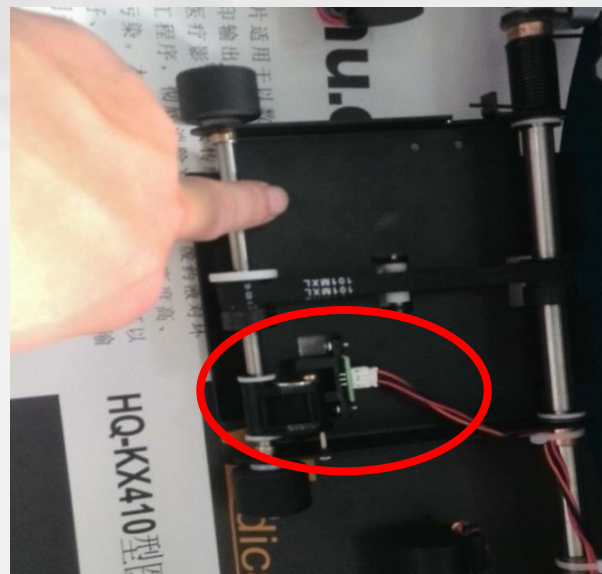
# Stepping motor



Drawer sensor: located in the lower right rear and used to detect whether the drawer is in place.



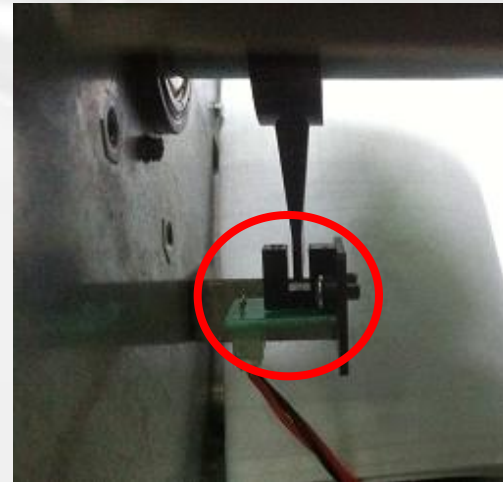
Box sensor: located on the back of the press plate and used to detect whether the box has films.



Press motor sensor: located on the plate on the left of the machine and used to detect whether the press plate is pressed



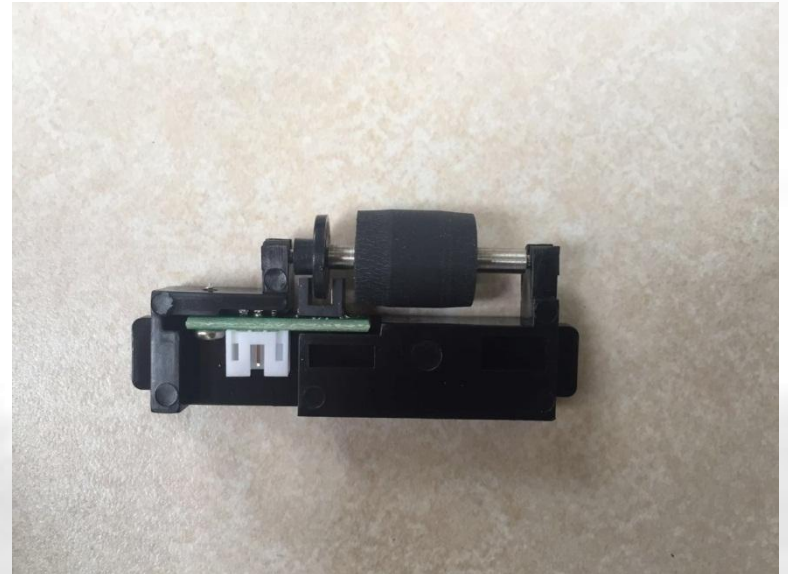
Printing head sensor: located in the left rear of the machine and on the lower side of the printing head, and used to detect whether the printing head is pressed



Back cover sensor: located in the right rear of the machine, and used to detect whether the back cover plate of the machine after is covered



- Counting wheel sensor
- Located below the white glare
- Responsible for the feeding number

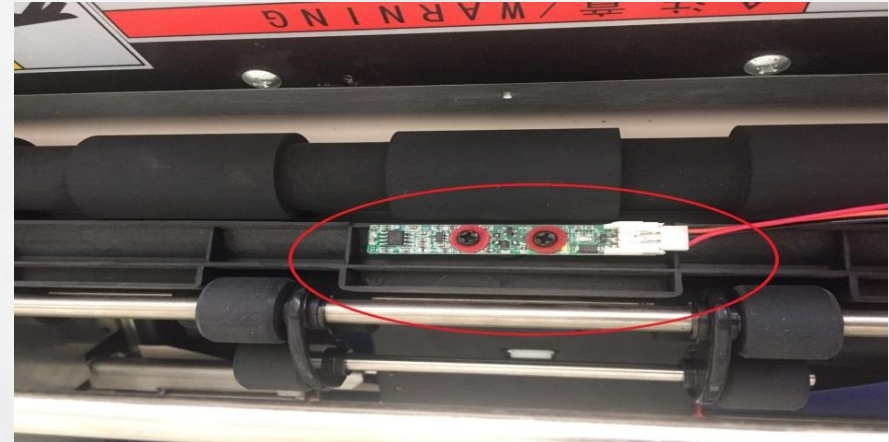




- Film inspection sensor

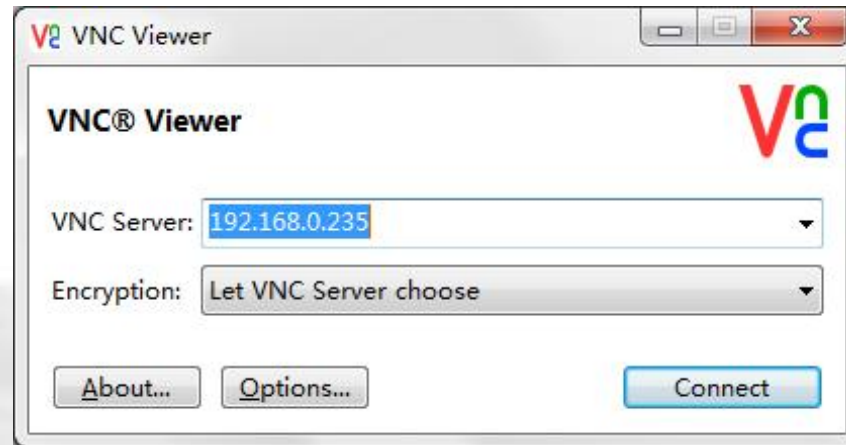


- Film outlet sensor



# PC software operating instructions

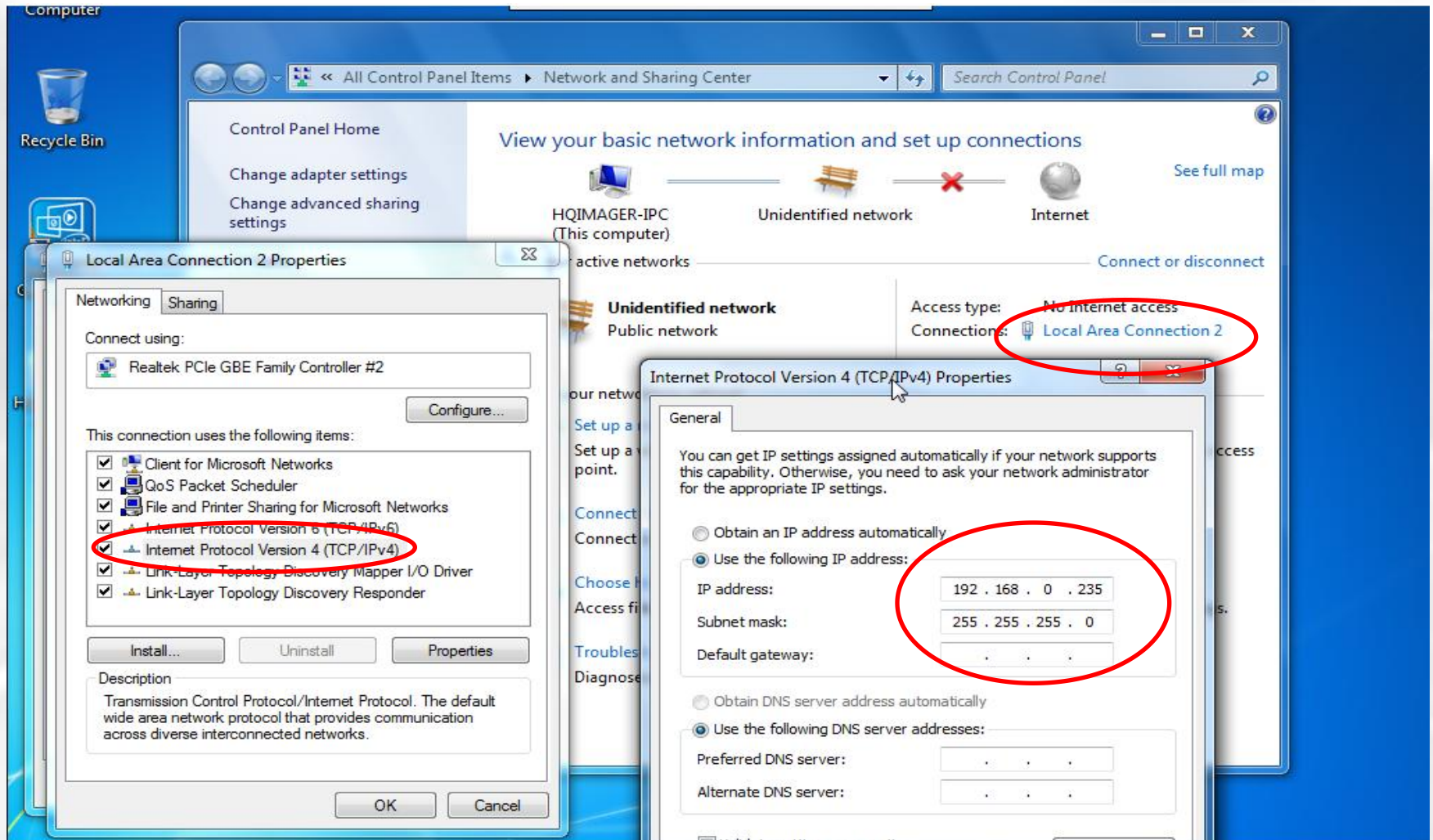
Enter the VNC software, and connect the interface; set the IP



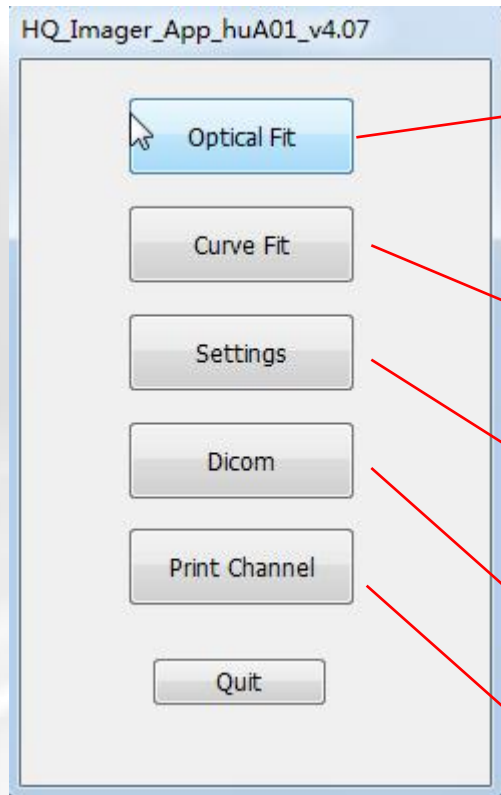
Enter the printer IP at the VNC Server, click Connect to connect the printer (it is required to connect via the VNC software after the modification of the printer IP address). The on-line port of the dual-NIC version is defaulted as IP192.168.0.235 at the factory, and the off- line port is defaulted as IP192.168.0.234 at the factory. It is recommended that for the hospital connection is changed to 235, reserve 234 for engineer debugging and observation.

The new printer parameters are debugged and modified by the VNC remote control. If the conditions are met, the VNC software can be installed on the doctor's workstation, so some small maintenance can be operated by the department staff under the guidance from the phone.

After changing the IP of a notebook or a workstation, remotely control the printer via the VNC software



## Main interface



Optical correction: generally, this item is set at the factory, is gray, and cannot be modified

Curve settings: Adjust the image density of the printed film

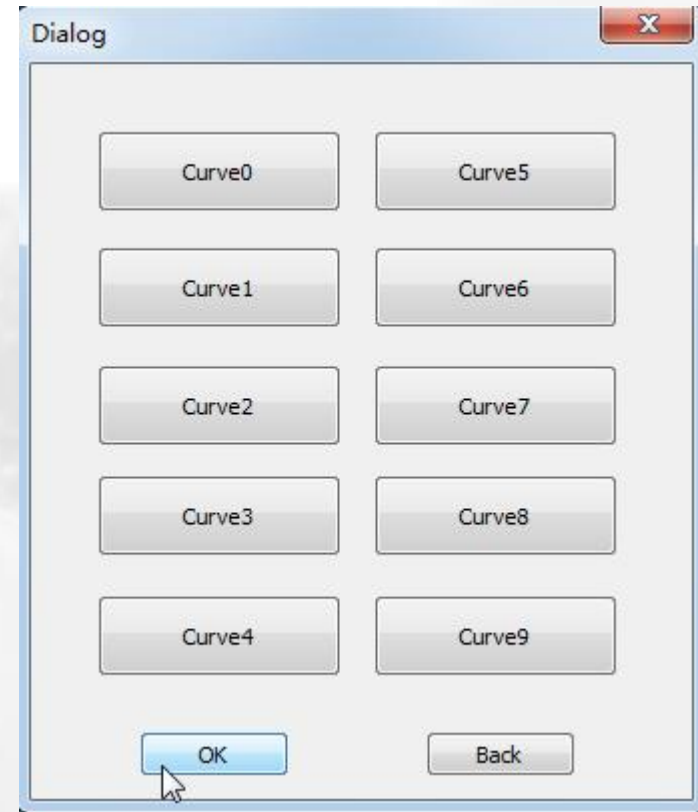
Camera settings: Set the parameters of the printer

DICOM settings: Set AETitle and Port of the printer

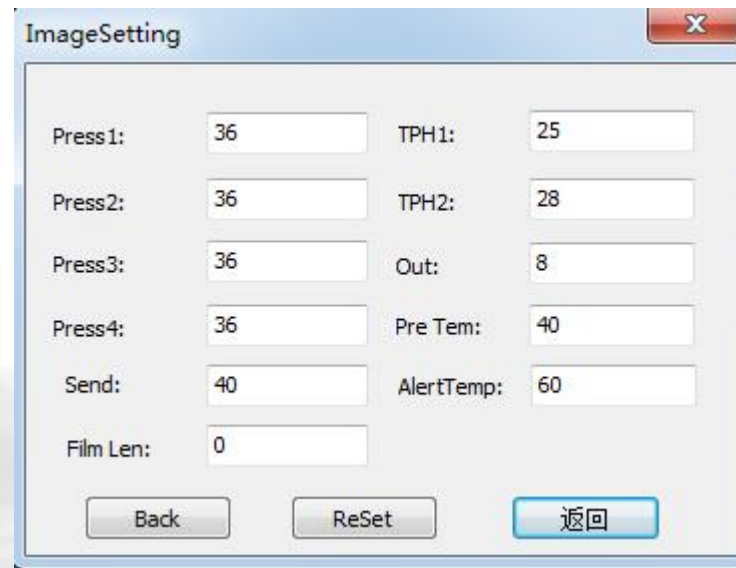
Print channel: Bind the curve and set some parameters for the printer

## Curve settings interface:

When the AE is not bound, the machine corrects this curve with a curve. The curve can be used only when the AE of the connection equipment is bound. On site, you can choose to bind the appropriate curve based on the needs of different equipment; if all of them are not satisfied, we can choose the closest curve for modification. Curve adjustment principle: shallow in the left and deep in the right, black in the upper and white in the lower.



# Camera settings



The screenshot shows a software window titled "ImageSetting" with a close button (X) in the top right corner. The window contains several input fields for camera settings, arranged in two columns. At the bottom, there are three buttons: "Back", "ReSet", and "返回" (Return).

Parameter	Value
Press1:	36
Press2:	36
Press3:	36
Press4:	36
Send:	40
Film Len:	0
TPH1:	25
TPH2:	28
Out:	8
Pre Tem:	40
AlertTemp:	60

Press position: The adjustment range is (0 ~ 50), the typical value of the scrapper machine is 36, and the typical value of the sucker machine is 16; the press positions 1 ~ 4 of the press motor correspond to boxes 1 ~ 4 from top to bottom. Adjustment basis of values: the film can be delivered when the tray is full of films and when the tray only has one film.

Start position (sending position): The adjustment range is (0 ~ 80). The typical range of the machine with a retreat action is 35 - 45, and the typical range of the machine without a retreat action is 25 ~ 35; adjust the upper white edge location of the print picture with the value adjustment basis as follows: depend on the distance from the image of the printed picture to the top of the film, i.e. the upper white edge we called; if the upper white edge of a machine with a retreat action is too wide, increase the value; if the upper white edge of a machine without a retreat action is too wide, decrease the value.

Print length (print width): adjust the length of the entire image, depending on the lower white edge; the typical value is 0, and the adjustment range is -7 ~ +7 (the range is -3 ~ +3 for the software version 2.09 and before); the greater the value, the smaller the lower white edge.

**Note: If NewCom in app.Config is TRUE, the sending position (start position) and the print length shall be changed in the print channel.**

Pre-pressing position: The adjustment range is (0 ~ 100). It is the position where the printing head is pressed down for the first time, so that the film can be sent to the printing position properly; if the value is too large, this may cause that the film cannot be sent to the printing position.

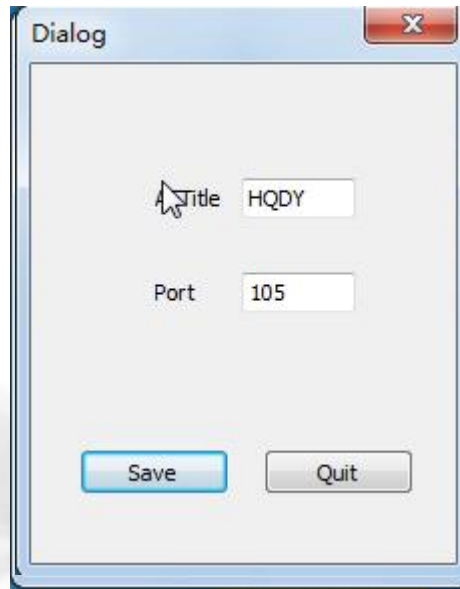
Printing position: It is the position where the printing head is pressed down for the second time; if it is too low, the image may not be printed; if it is too high, the film may be too coiled and deformed.

Film outlet position: The typical value is (7 ~ 10); the film outlet time after the completion of printing, i.e. the working time of the main motor.

Preheat temperature: The adjustment range is (0 ~ 50 °C); the preheat temperature of the printing head is 40 °C (which can be set; the temperature shall be maintained even the machine does not print, which is generally not modified)

Alert temperature: The adjustment range is (0 ~ 80 °C); the alert temperature of the printing head is 60 °C (which can be set; it is the maximum temperature allowed by the printing head; if it is exceed this value, the printing head stops heating, which is generally not modified)

## DICOM settings

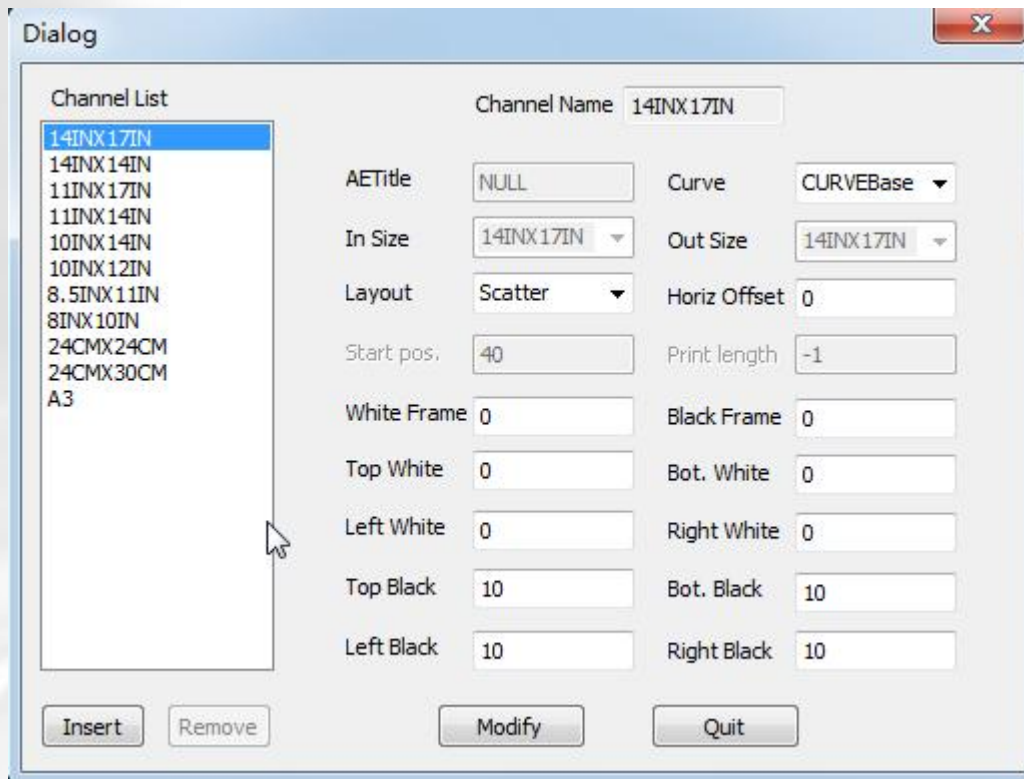


Set the printer's AETitle and Port; when the workstations and external equipment want to send a printing task to the printer, you must set the IP address, AE, and Port

# Print channel settings

Print channel function:

Bind the curve, adjust the print layout, change the print start position and the print length, and adjust the frame.



User curve: select the called curve; if you need to bind AE, add the print channel;

Print layout: concentrated/decentralized arrangement during puzzling;

Left and right translation: move film leftward and rightward;

Start position: the position where printing is started (upper white edge); if there is a retreat action, the value is about 40; the greater the value, the smaller the upper white edge. If there is no retreat action, the value is about 29; the greater the value, the greater the upper white edge.

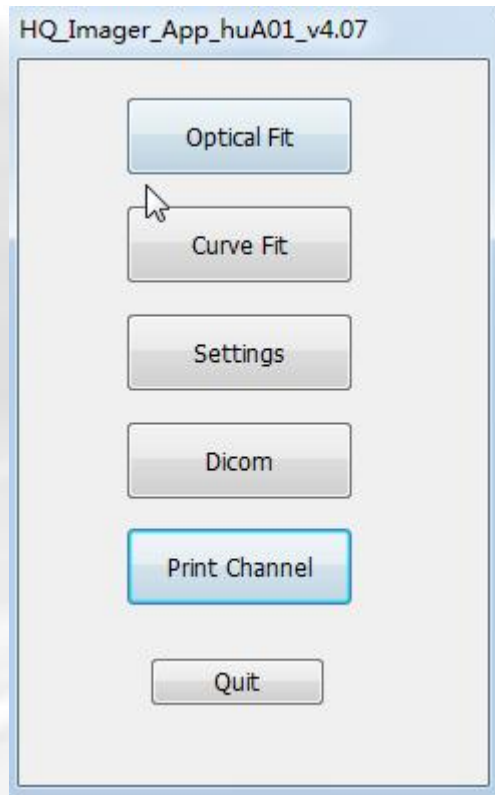
Print length: the overall image length depends on the lower white edge; the adjustment range is -7 ~ +7 (the range is -3 ~ +3 for the software version 2.09 and before); the greater the value, the smaller the lower white edge.

**Note:** The start position and the print length can be adjusted in the print channel only when NewCom value in app.config is TRUE.

All frames: Adjust the width of the corresponding frame

## Introduction to new and old PC and software version settings

PC version 4.00 and before are old versions. There is not print channel in the interface.



Note the following:

Two parameters are added in the app.config file of a new version:

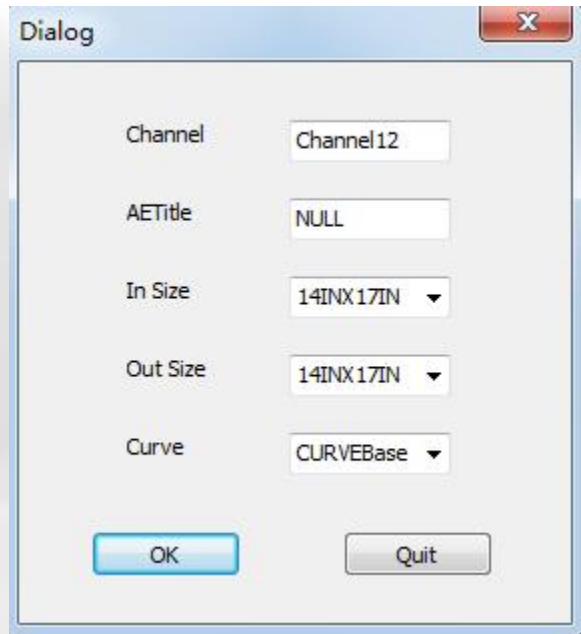
```
<add key="Imager" value="1"/>
```

```
<add key="NewCom" value="TRUE"/>
```

```
<add key="NoBackPrint" value="FALSE"/>
```

1. Imager is a specific parameter for the Siemens workstation. If there are  $n$  Siemens workstations, the Imager value should be set to  $n + 1$ ;
2. NewCom is used to distinguish between old and new versions. If the software version (not PC version) is 2.09 and before, this value must be changed to FALSE; otherwise, it will report a communication error when the machine is turned on. If the value is TRUE, the film start position and the print length are set in the print channel (if it is to be tested, send the task after modification; if send task first and then change, then there is no effect when the previous task is changed). If the value is FALSE, the film start position and the print length are set in the camera settings ;
2. NoBackPrint is optional after the software version 2.14. If it is TRUE, then there is no retract action; if it is FALSE, there is a retract action.

## Curve binding settings:



For the APP software of the PC version 4.00 and later, the curve is bound in the print channel: enter the corresponding AE, select the curve to be bound; if n-size film will be printed with an AE, you need to add n print channels. The channel name is recommended for equipment name + size, such as CT123\_1417

If you need to de-bind the curve, delete the corresponding print channel.

- Press position in the sucker model
- Different from the traditional models
- Defaulted as 18 at the factory

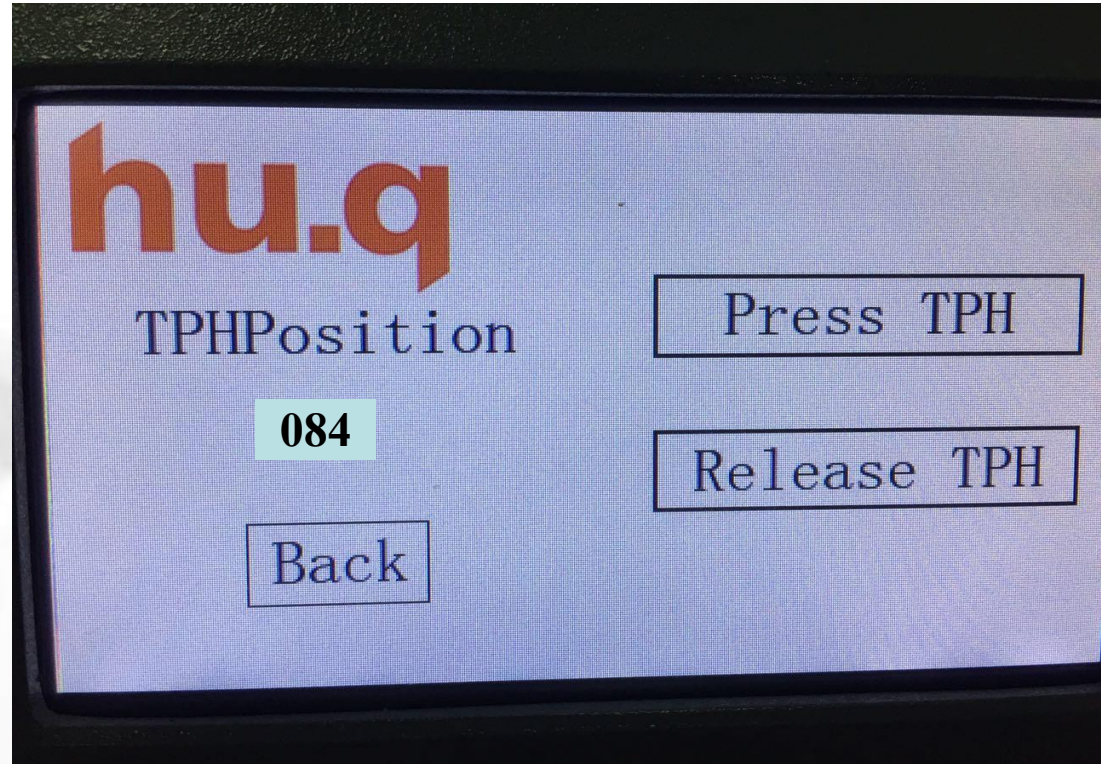
ImageSetting 吸盘机型

Press1:	18	TPH1:	25
Press2:	18	TPH2:	28
Press3:	36	Out:	8
Press4:	36	Pre Tem:	40
Send:	40	AlertTemp:	60
Film Len:	0		

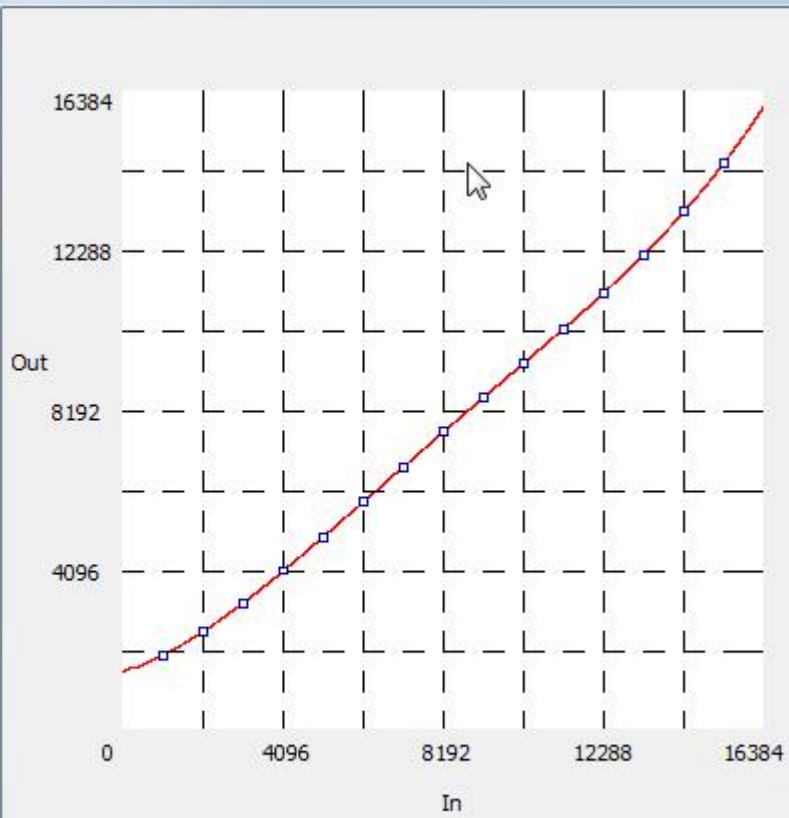
Back ReSet 返回

- Take the figure as an example

- Software 2.14 and before version of the scraper model
  - 84-35=49
  - The pre-pressing position is set to 20
  - The printing position is set to 29
- Software 2.15 as a new version of the scraper model
  - 84-50=34
  - The pre-pressing position is set to 20
  - The printing position is set to 14
- Sucker machine
  - 84-30=54
  - The pre-pressing position is set to 20
  - The printing position is set to 34
  - (320 and 508 are not distinguished for the above)

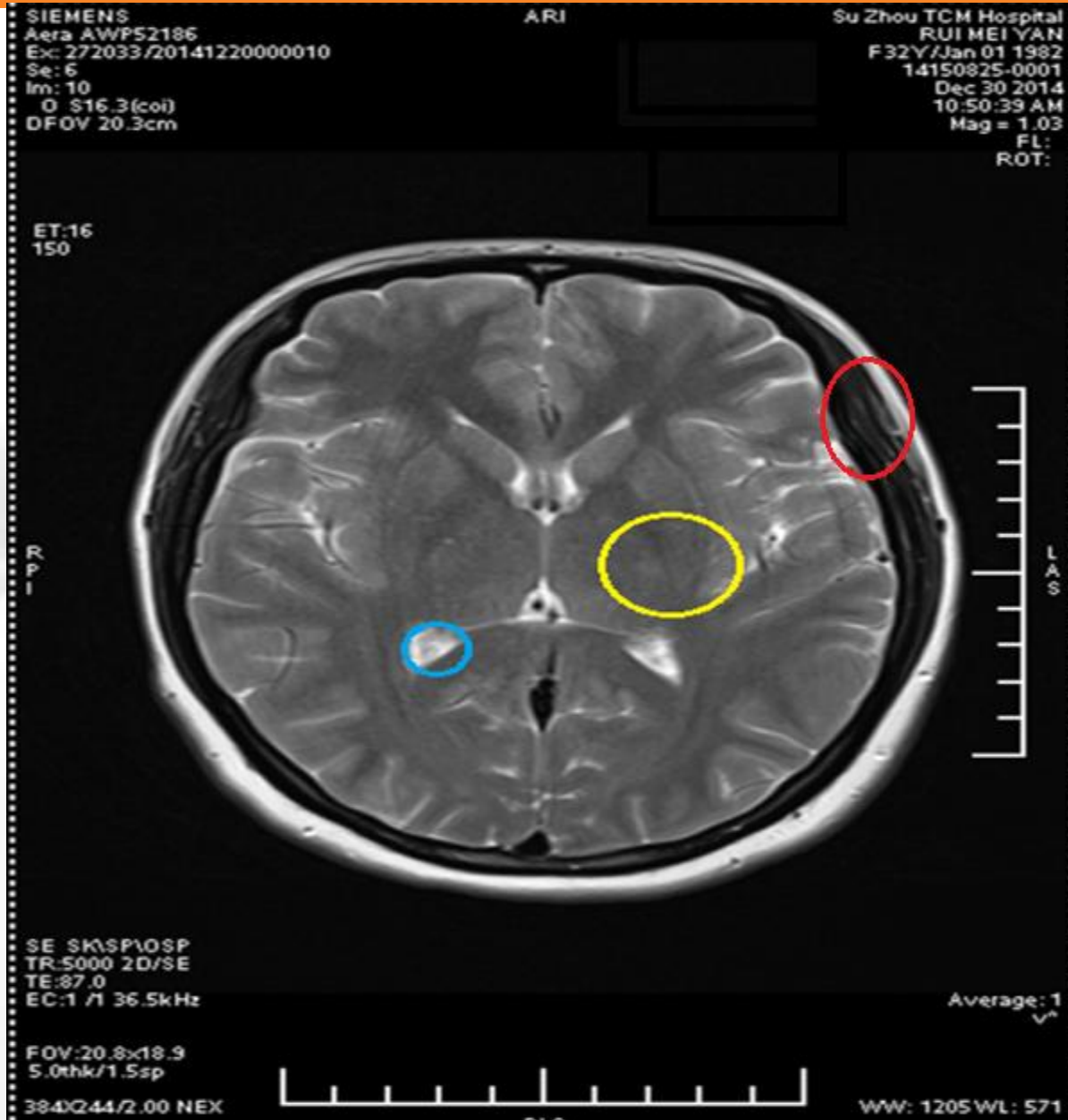


### 曲线校正



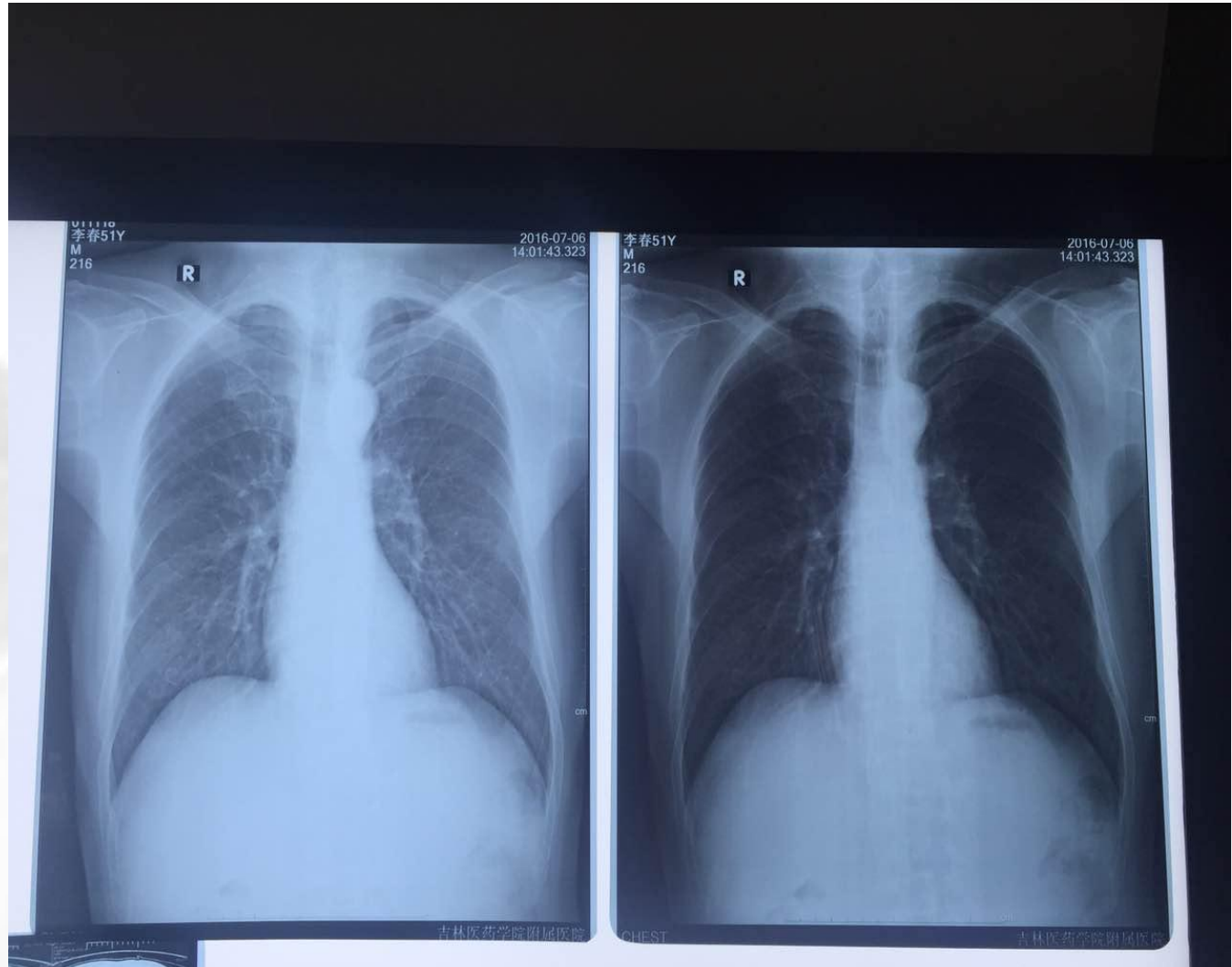
- C1:  C2:
- C3:  C4:
- C5:  C6:
- C7:  C8:
- C9:  C10:
- C11:  C12:
- C13:  C14:
- C15:  C16:
- C17:  平移:
- 对比度:  灰度:

As shown in the figure, we only need to know the curve positions of the high density, the medium density and the low density so that we can quickly enter the state by adjusting the diagram on site.



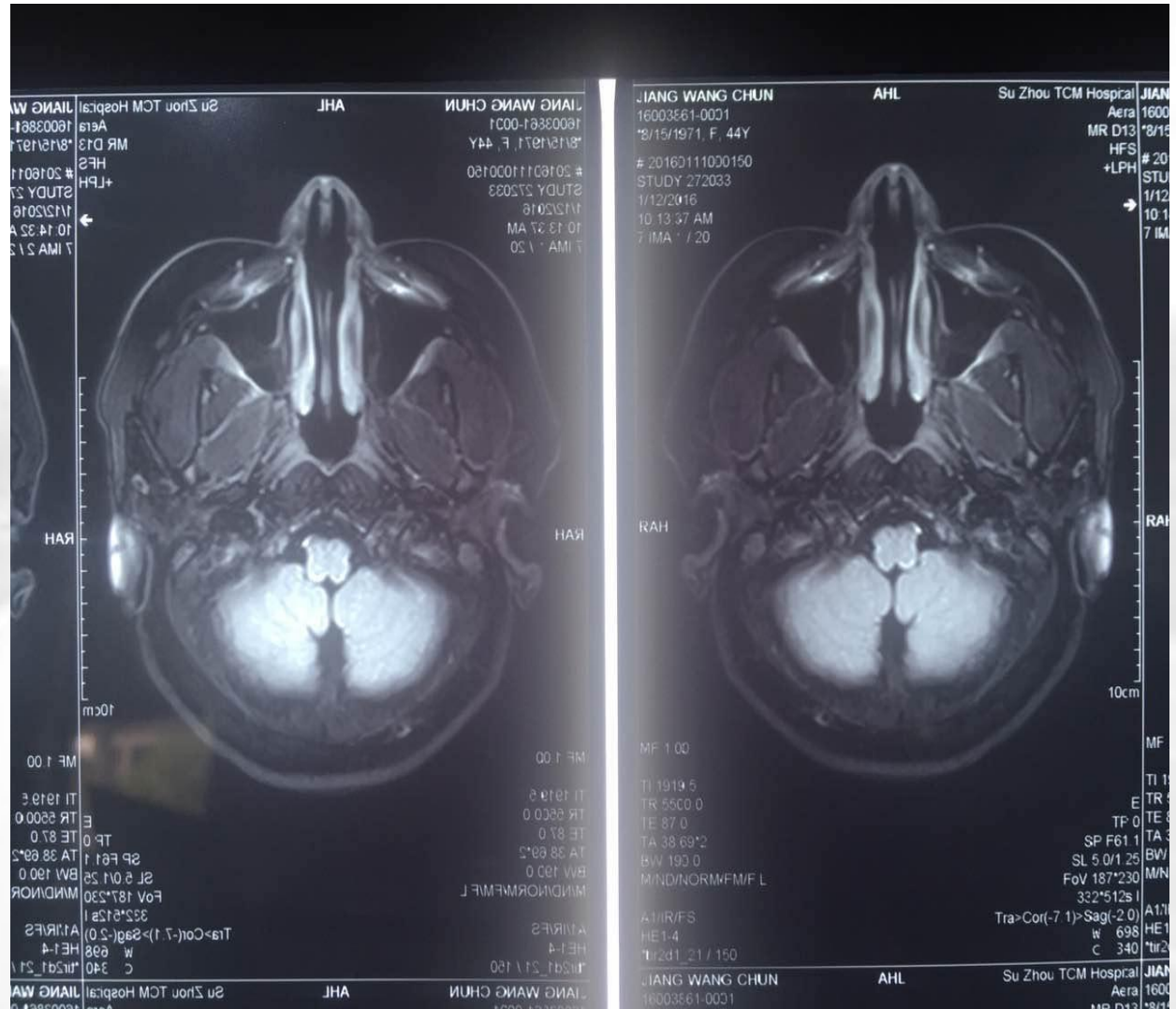
## Grayscale

It is generally used to reduce the blackness by adjusting the gray value when some chest X-ray lung-markings in the ordinary radiotherapy DR within the parameter adjustable range of -100 - 100.



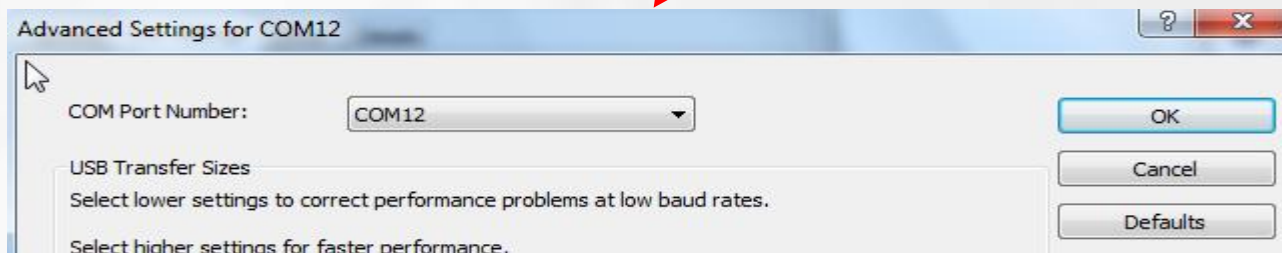
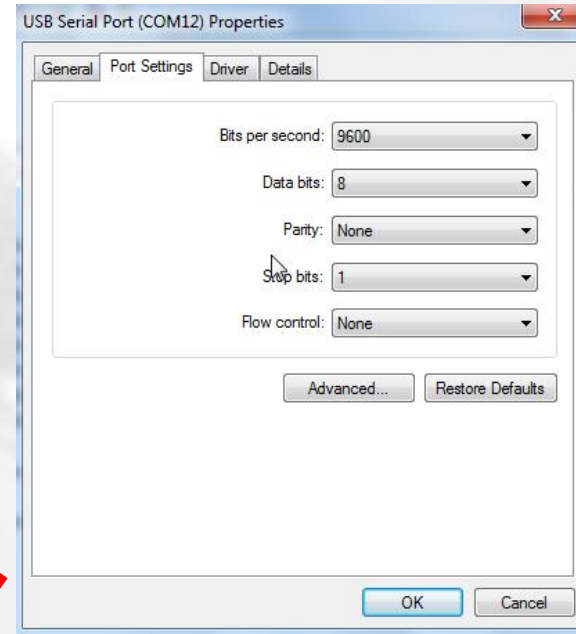
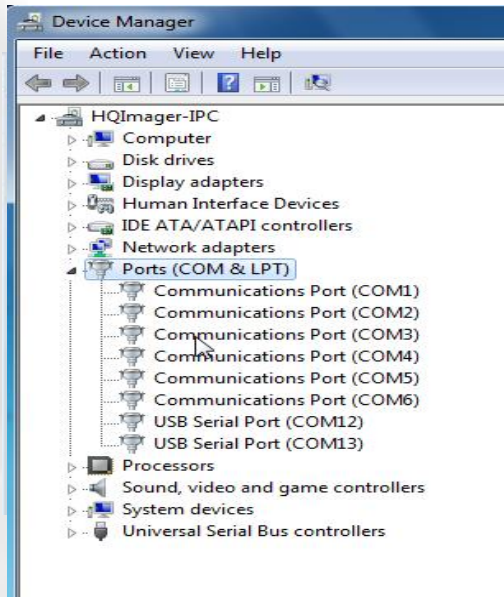
# Contrast

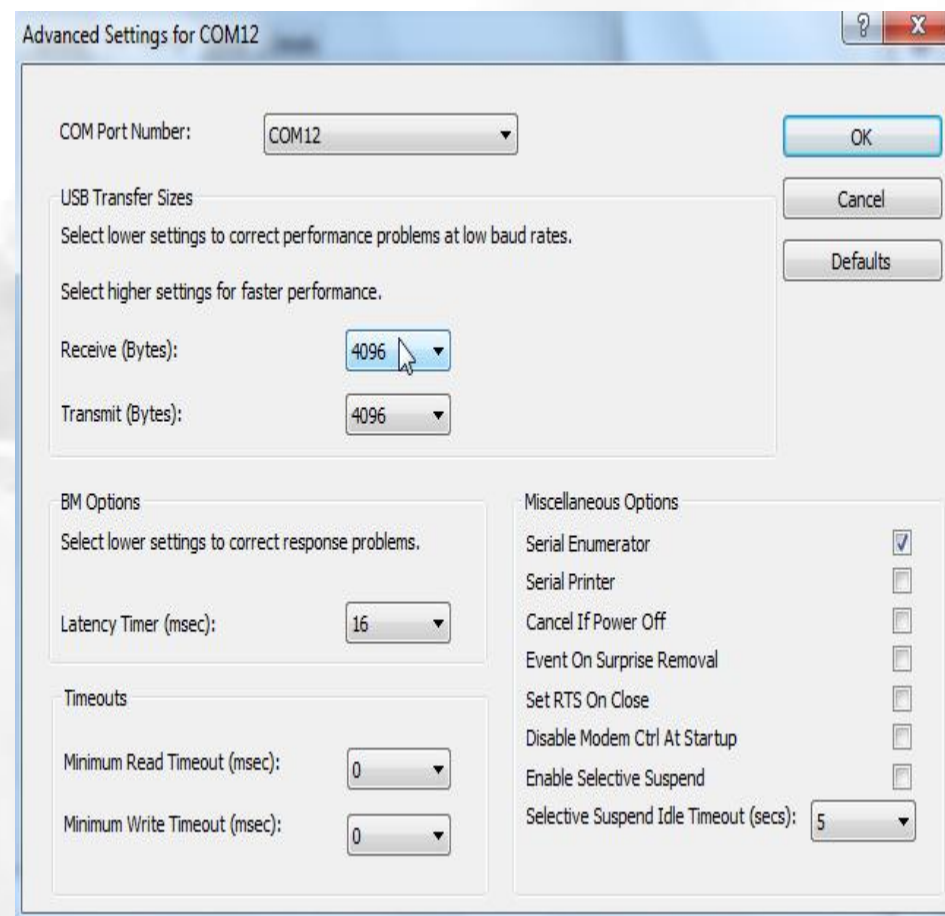
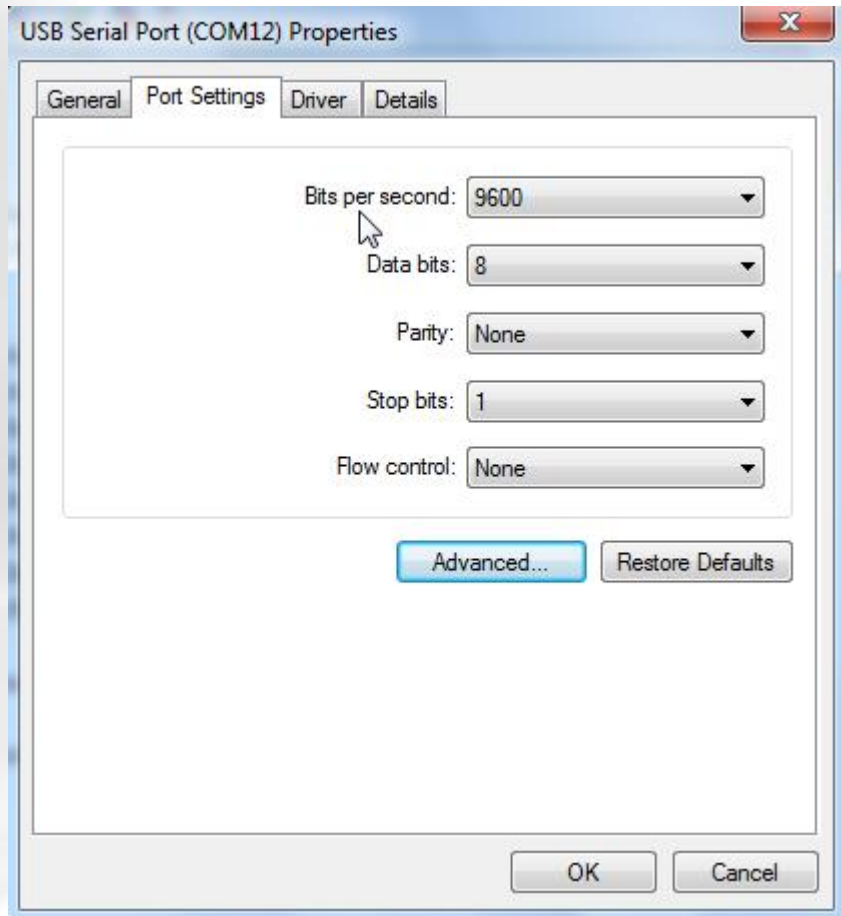
It is used to adjust the whole picture with more vivid black and white pulling, and is generally used in CT MR with the parameter adjustable range of -100 - 100.



The corresponding setting is required when the rfid card reader is replaced.

Right-click on the appropriate port, click on Properties, enter the Port Settings tab, click on Advanced and change the port in COM port number. Factory default: the upper box is com12, and the lower film box is com13





# Description of APP settings

File location: D:\HQ\_Imager\app.config

•TRUE: On FALSE: Off

•<add key= “StoreCounter” value= “500” />The printer automatically clears once after receiving 500 images

•<add key= “Imager” value= “1” />For Siemens equipment error, add a separate channel, e.g. if there are 2 Siemens and 1 GE workstations, then here change 1 to 3, save settings and to restart the software

•<add key= “ExPortName” value= “COM2” />Provide the self-service machine with a COM port position

•<add key="RFTopPortName" value="COM12"/>Box drawer 1

•<add key="RFBottomPortName" value="COM13"/>Box drawer 2

• <add key= “DICOMLog” value= “FALSE” />Printer network log switch

•<add key= “Debug” value= “TRUE” />Printer log

•<add key= “NewCom” value= “FALSE” /> New software used in the old panel (the software version2.09

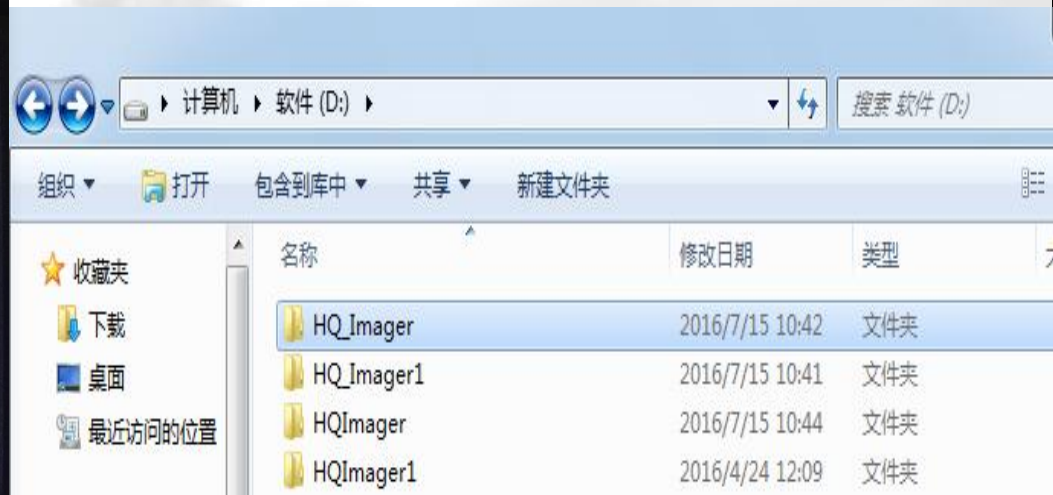
• and before are old versions)

•<add key= “NoBackPrint” value= “FALSE” />Print film retract action (for a new panel, start switching

• since the new software2.15)

# PC software updating

## I. Software overall updating



- **Updating steps**
- 1. After vnc is connected to the printer, exit the software
- 2. Delete all the files in the path of D:\HQ\_Imager\Dicom\Dest\data under the original D root directory. Rename HQ\_Imager followed by a 1 as HQ\_Imager1
- 3. Put the new HQ\_Imager in the D root directory
- 4. Run the desktop HQ\_Imager\_App and click on the DICOM settings to check AETitle and Port
- The entire upgrade process ends. DICOM settings: set AETitle and Port of the printer
- **Upgrading precautions**
- PC version 1.15 and before can only be upgraded to 2.03
- PC version 3.00 can be upgraded to the latest 4.05

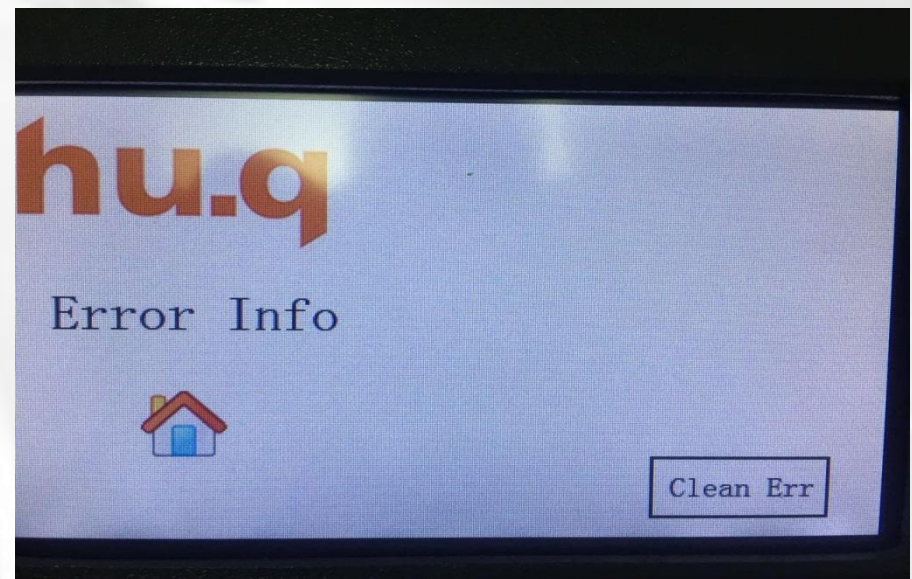
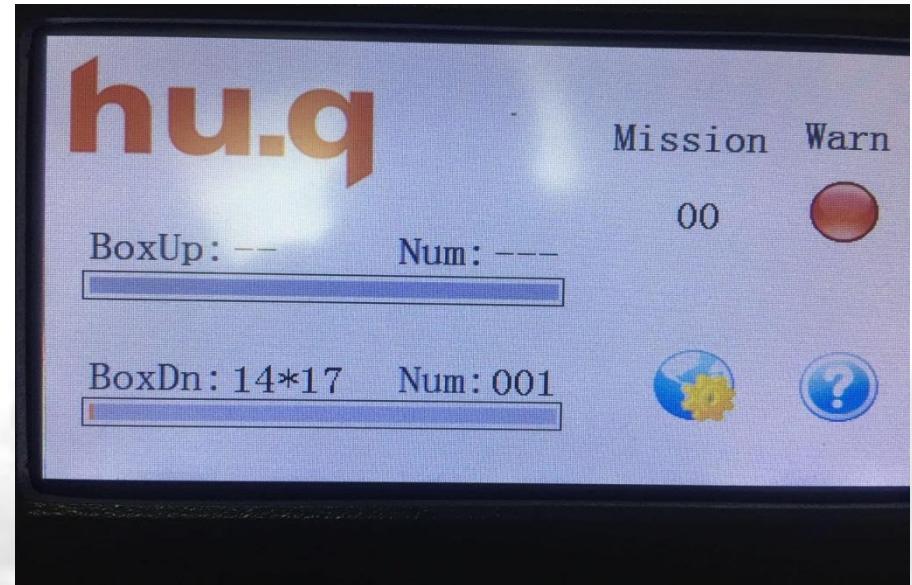
## Common error

- Drawer 1 opened Check the drawer sensor 1
- Drawer 2 opened Check the drawer sensor 2
- Printing head plug-in error Check whether the 64 cables are inserted firmly
- FPGA printing error Print timeout
- Film blocked The film is not released or rubbed up
- Printing head temperature is too high Over-temperature alert

- Back cover error: Back cover opened
- Communication error: The host software is not turned on
- Press motor error: The press motor cable is not inserted firmly or the main control panel cable is disconnected
- Sending motor error: The sending motor cable is not inserted firmly
- Printing head motor error: The printing head motor cable is not inserted firmly or the main control panel cable is disconnected
- Display screen error: The display screen cable is not inserted firmly or the main control panel cable is not inserted firmly.
- FPGA status error: Computer crashes or the USB cable between the motherboard and the computer is not under good contact or not connected
- Host error: When the machine is turned on, the computer host is not turned on or the APP is not running
- Print sensor error; Check the sensor cable of the printing head motor
- Press motor sensor error: Press motor sensor
- Film size error: Film does not match
- No film: It displays the number of chips but actually there is no film
- Film not authorized The used film is not authorized

# Alert sound elimination

- When the printer fails, it will send an alert sound; doctors in some departments may feel boring noisy, they can set to prohibit the printer sending the alert sound according to the specific operations as follows: click on red dot to enter, and click on any blank in the error interface, so that the sound can be eliminated.

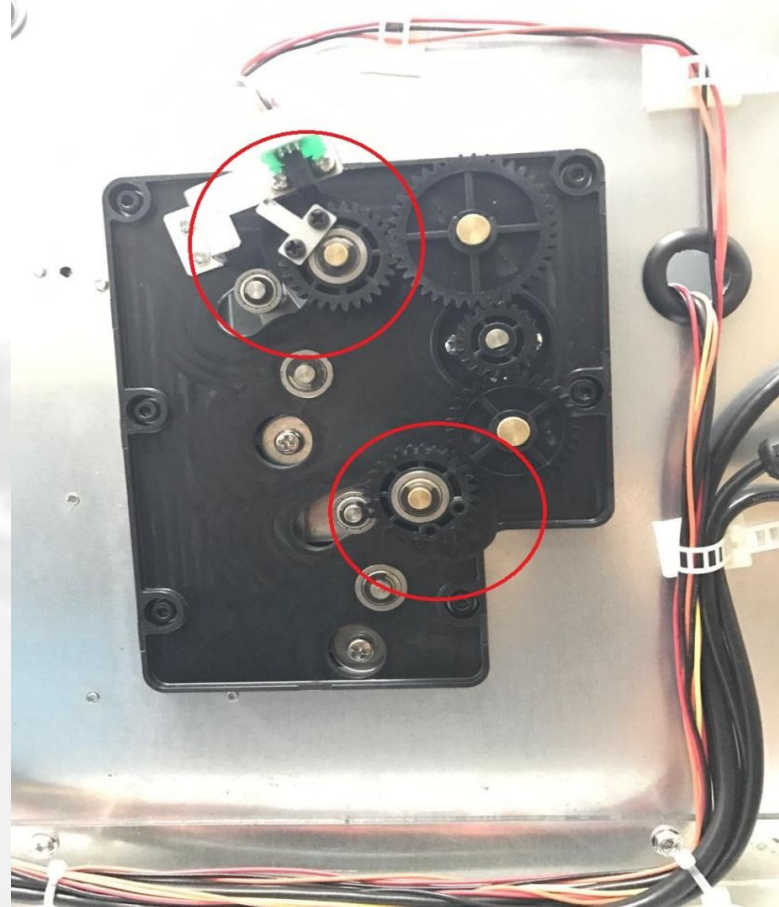


# Pick-up failure

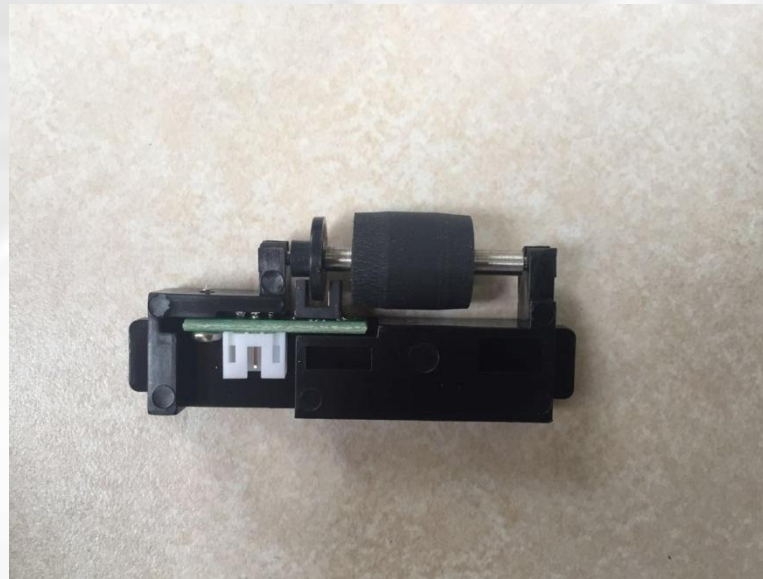
- Phenomenon: the film is not out of the box or not to the position of the counting wheel sensor
- Analysis: 1. When the cam is pressed down, it does not reach the highest bumps or sensor does not sense the iron sheet
- 
- 2. The counting wheel sensor is damaged
- 3. The film is stuck
- Solution: 1. Set a value in the camera settings, view the position of the cam by clicking on Motor under the Service Mode - Motor Control – Upper Press Motor or Lower Press Motor, and then make the appropriate adjustments in the camera settings (factory default 36).
- Another method is as follows: When the press motor sensor can sense the position of the iron sheet but sometimes cannot sense the position of the iron sheet, release and adjust two screws fixed on the plate of the press motor sensor.



ImageSetting	
压片位置1:	<input type="text" value="36"/>
压片位置2:	<input type="text" value="38"/>
压片位置3:	<input type="text" value="36"/>
压片位置4:	<input type="text" value="36"/>



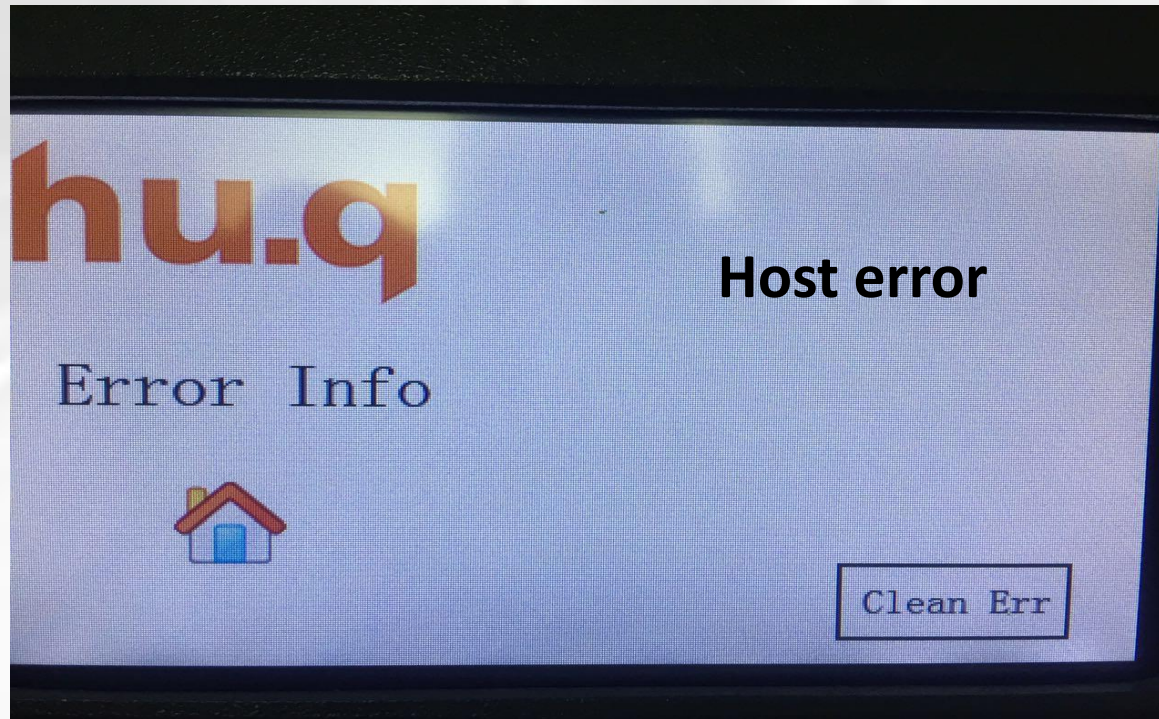
- 2. Check the small turntable of the counting wheel is blocked or re-install and then test after the dead point is removed; in addition, if the counting wheel receiver is damaged, you can only replace a new counting wheel sensor



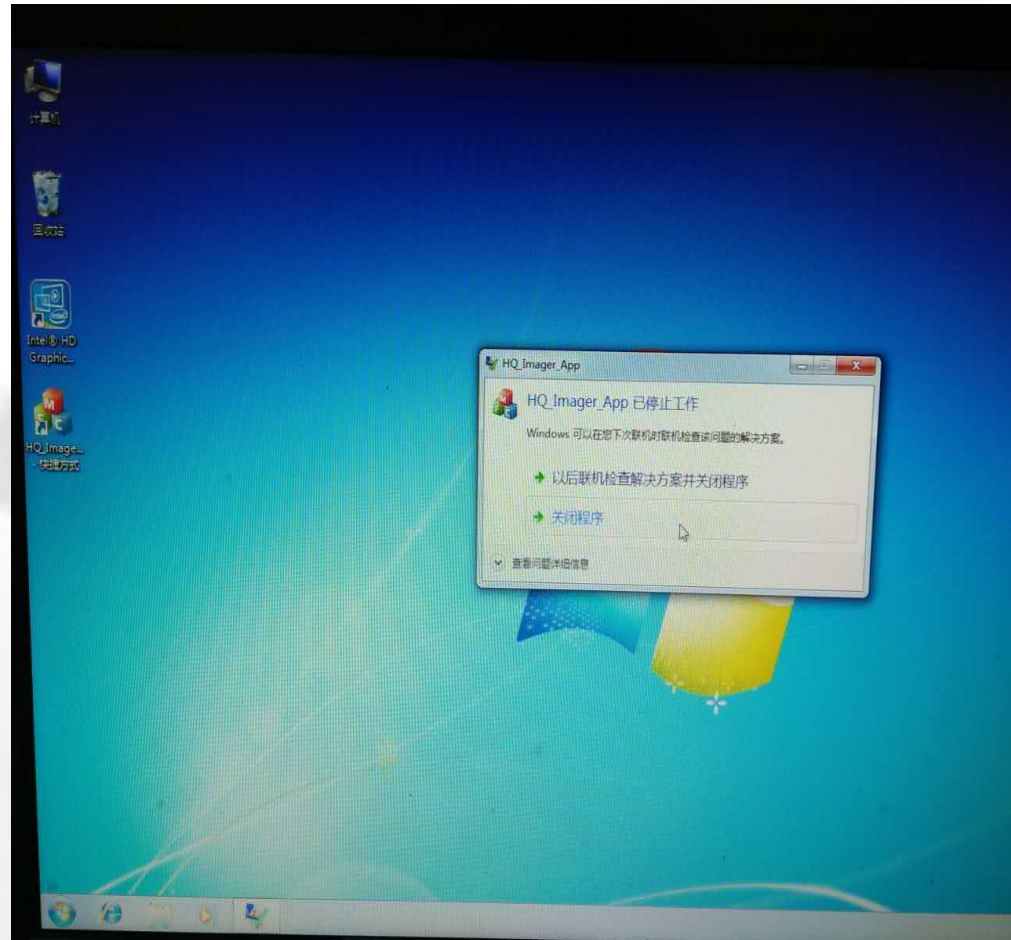
- 3. Many films are stuck due to dampness in the rainy season, so they are clamped in the print channel and even cannot be released from the box. You can simulate whether the film release process with your fingers to determine whether it is caused by sticky film. For the solution, you can only take out the current films, separate them one by one, and then put them in the box for continued use.

# Host error

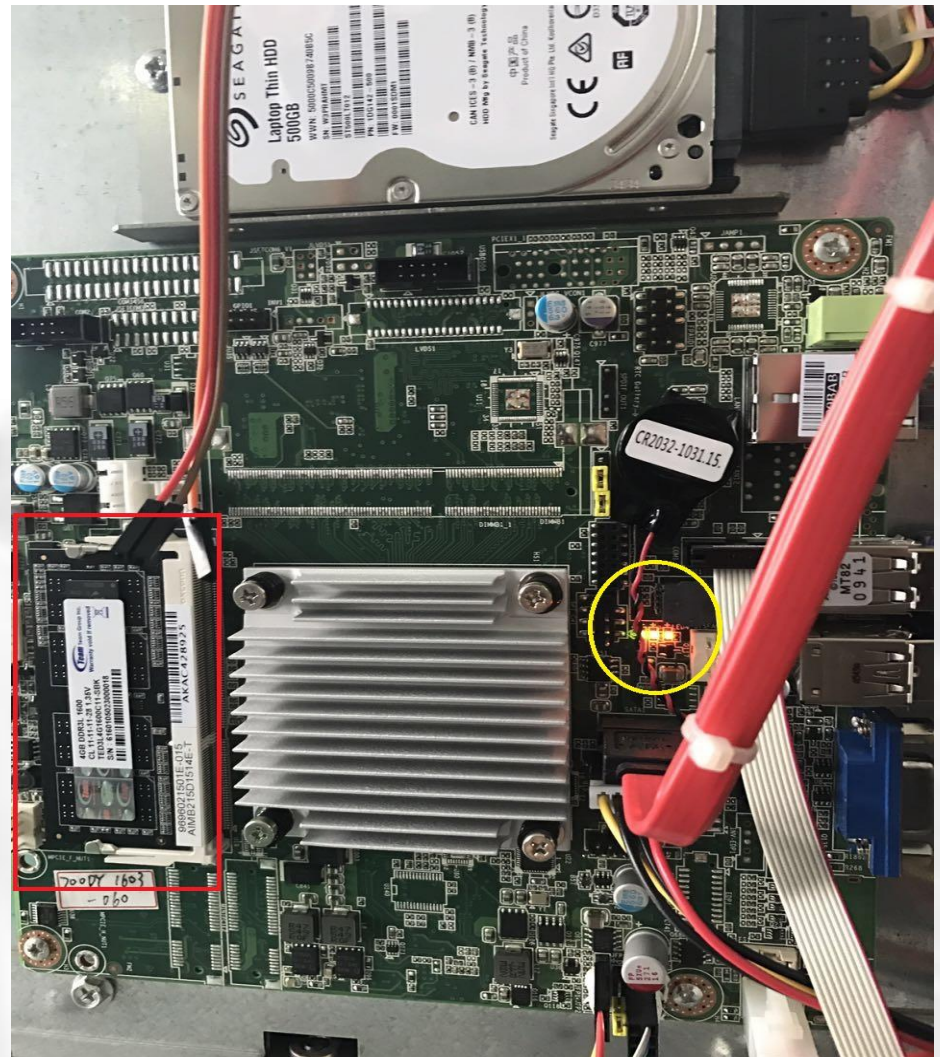
- Phenomenon: After the machine is turned on, the screen reports host error
  - Analysis: 1.PC software error
  - 2. The computer board is not turned on
  - 3. The com1 USB cable is disconnected



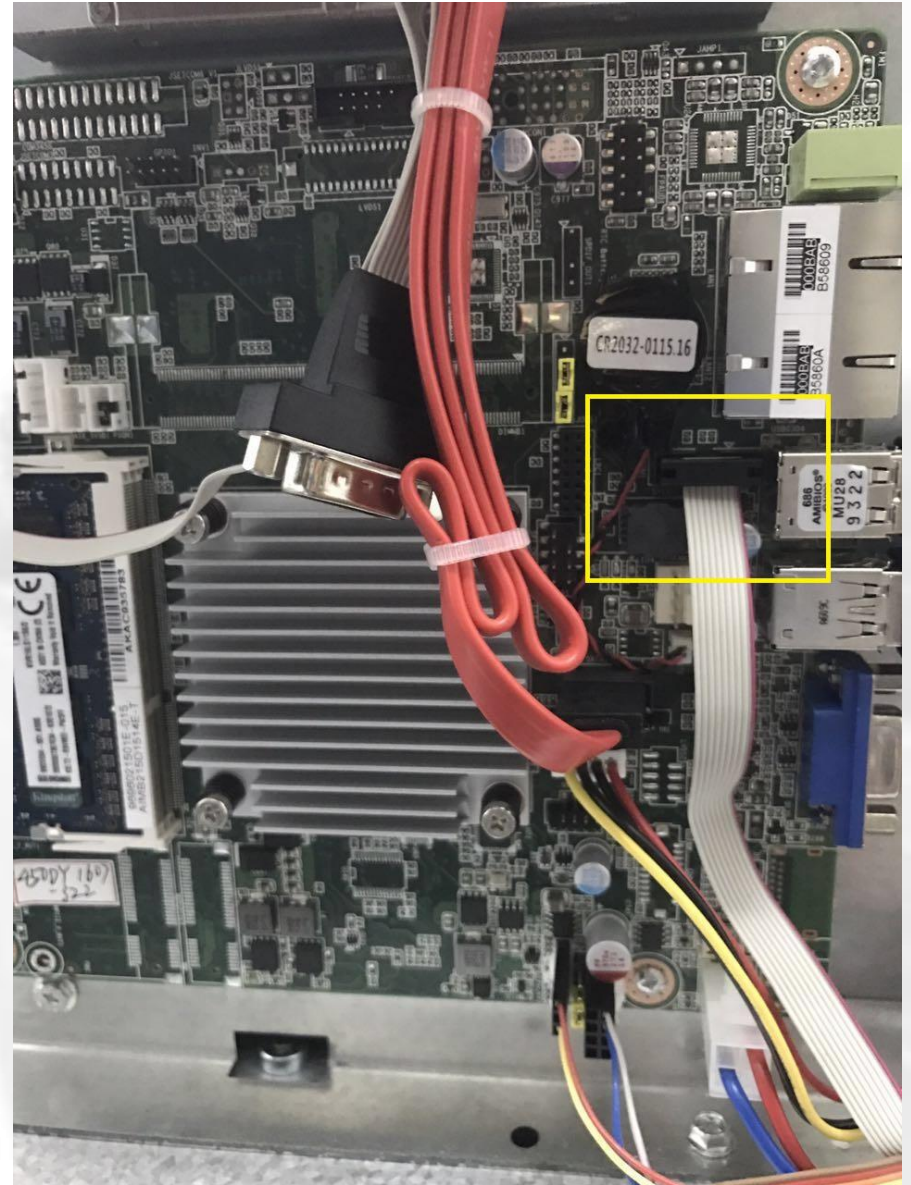
- Treatment 1. Remotely connect with the notebook vnc software to see if you can connect the printer and view the printer status, as shown below: the executable file of the software is damaged, you just need to re-install the new software.



- Treatment 2. View the status and the plug memory of the computer board, as shown below: all of three indicator lights on the computer board illuminate, this indicates that the computer board has been turned on, but vnc cannot be connected; at this time, you need to borrow a display from the hospital and connect it to the computer board, then plug the memory for booting and observe from the display: if the self-test cannot be passed, the computer crashing may not be caused by the memory; if plugging is invalid, you need to replace a memory.



- Treatment 3 is mainly reflected in the installation: the com1 USB cable is disconnected from the computer board, and you just need to re-plug it. (Note the direction of the USB cable)



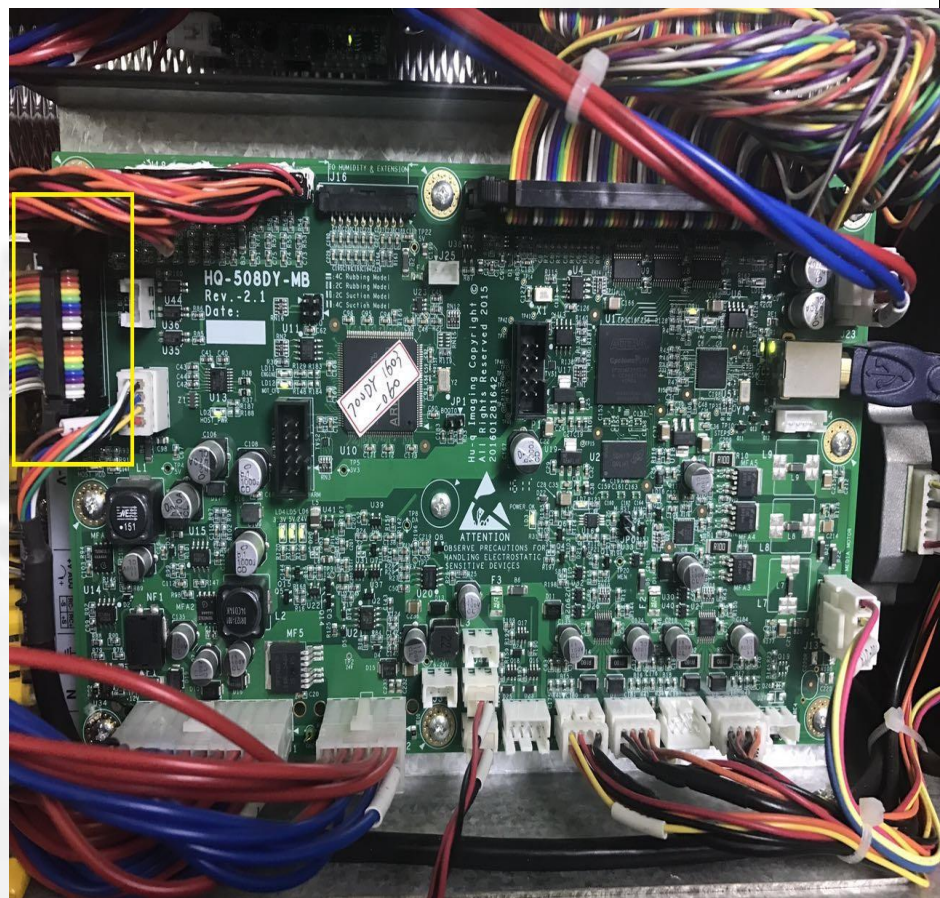
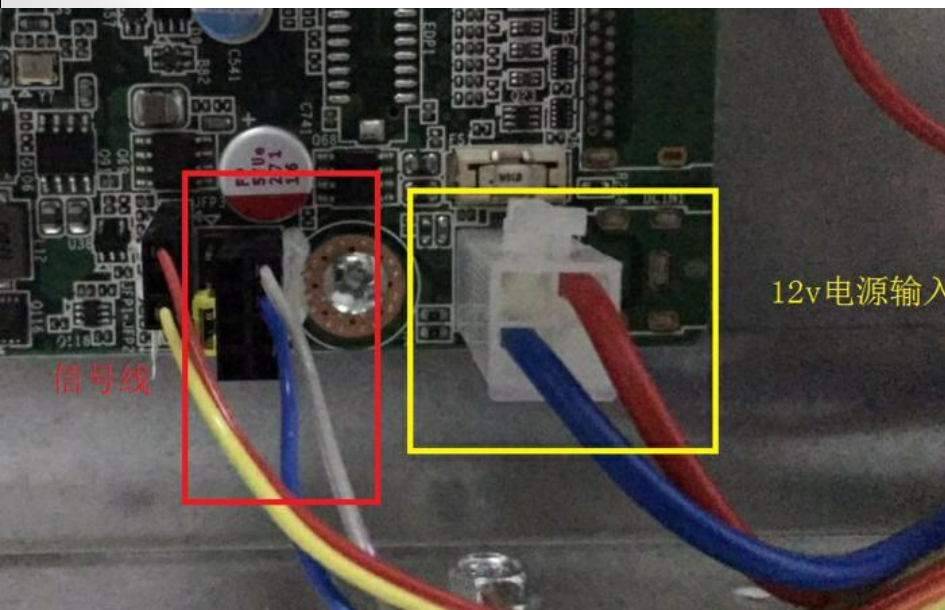
# The touch screen has no response when you click it

- You can normally perform the print sending and receiving tasks, but the screen has no response when you click it; it will be recovered to the normal status after restart; it is normal if such condition occurs occasionally; you need to replace the display screen if it occurs frequently.



# IPC on-off failure

- The IPC fails to be turned on or off when the printer is turned on or off normally.
- Analysis 1. Poor signal line contact
  - 2. 12v power line is not powered on
- Treatment 1. In the shutdown state, re-plug the signal lines at the lower right corner of the computer board and the upper left of the main control panel.
- 2. Measure whether the 12v input end of the computer board has the voltage input with a multimeter; if there is no voltage input, then check whether the 12v switch power has 12v output to identify the problem.



# FPGA printing error

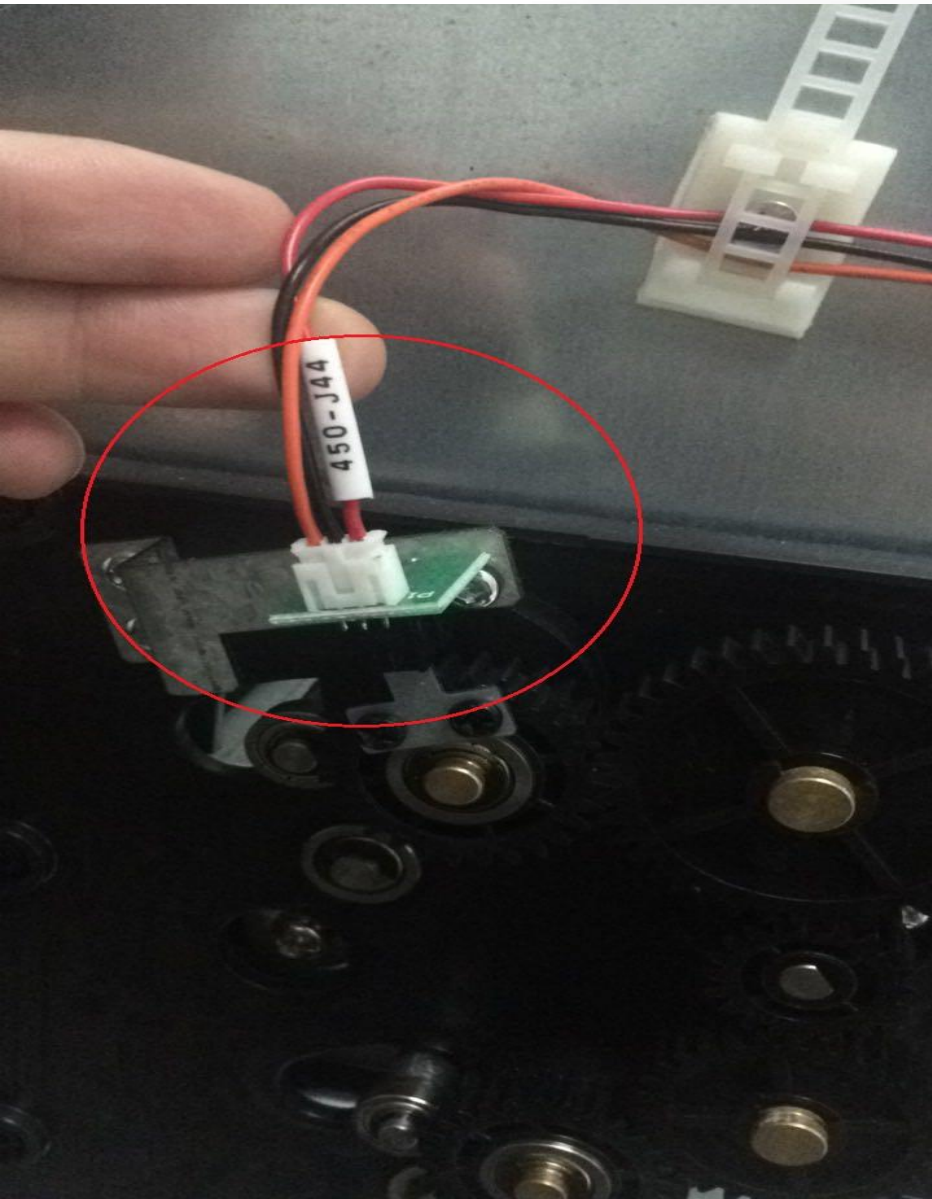
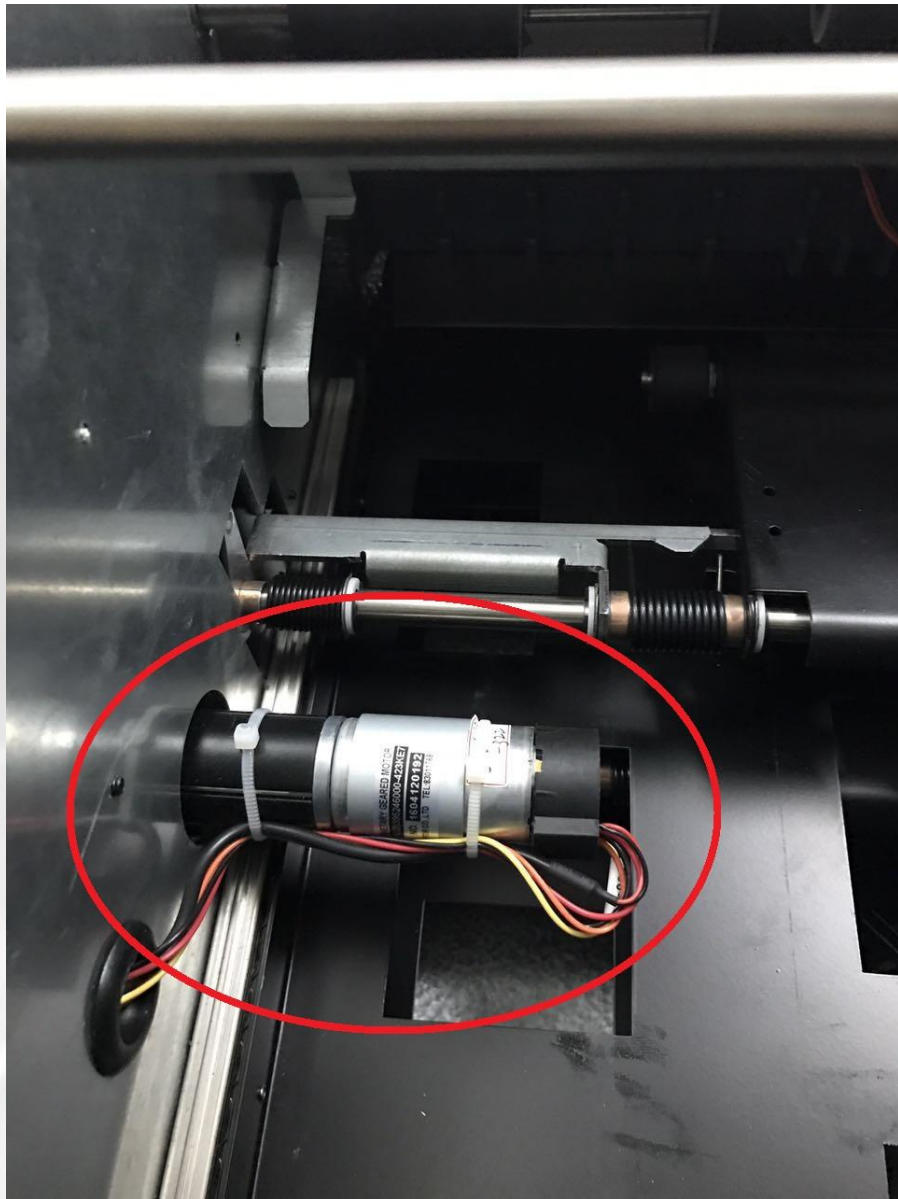
- In the normal printing process, it suddenly reports the FPGA print error and at the same time prints out a full-white film without the image, the task queue still exists, they can continue to come out if the error is removed, which only exists in three specifications of 11X14, 10X12 and 8X10.
- Analysis 1. There is a Bug in the main board program
- Solution 1. Upgrade or replace the main control panel for the camera with this error.

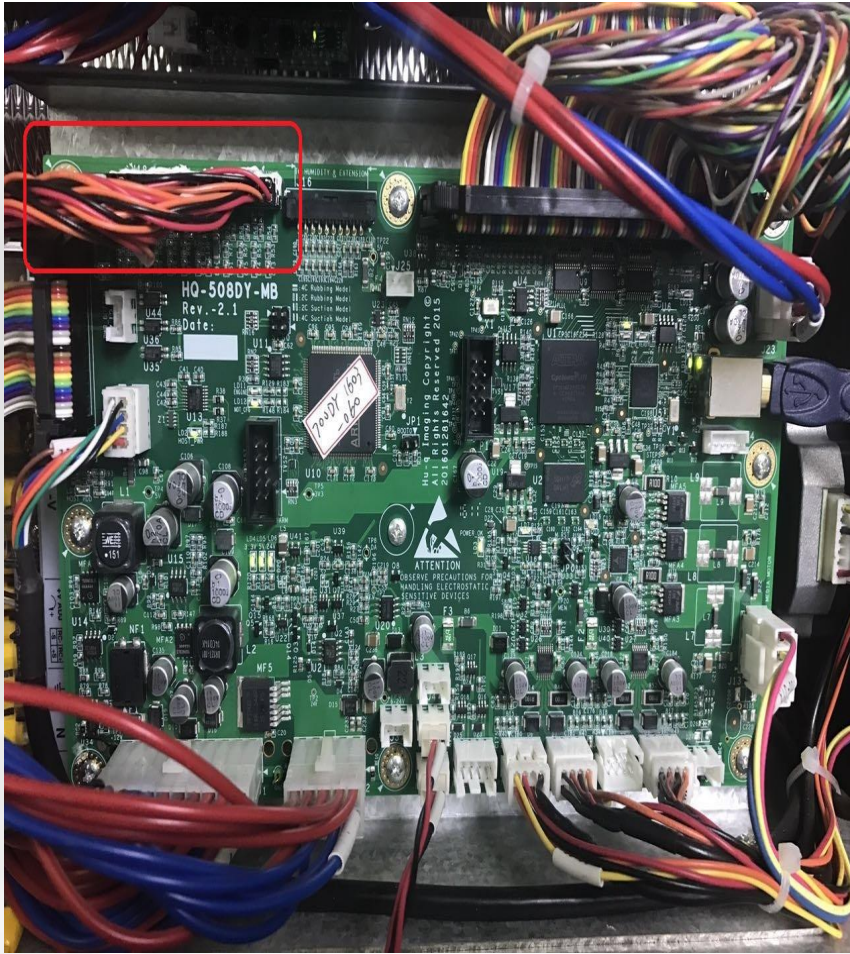
# FPGA status error

- Phenomenon: FPGA status error is often reported during printing
- Analysis:
  1. The main control panel chip is damaged
  2. The memory is damaged
  3. The USB cable between the computer and the main control panel is in poor contact
- Solution:
  1. Replace the main control panel
  2. Unplug the memory, and wipe the position of the memory in contact with the computer board with a rubber or anhydrous alcohol; if there is still an error after re-installation, then replace the memory.
  3. Replace a new USB cable

# Press motor error

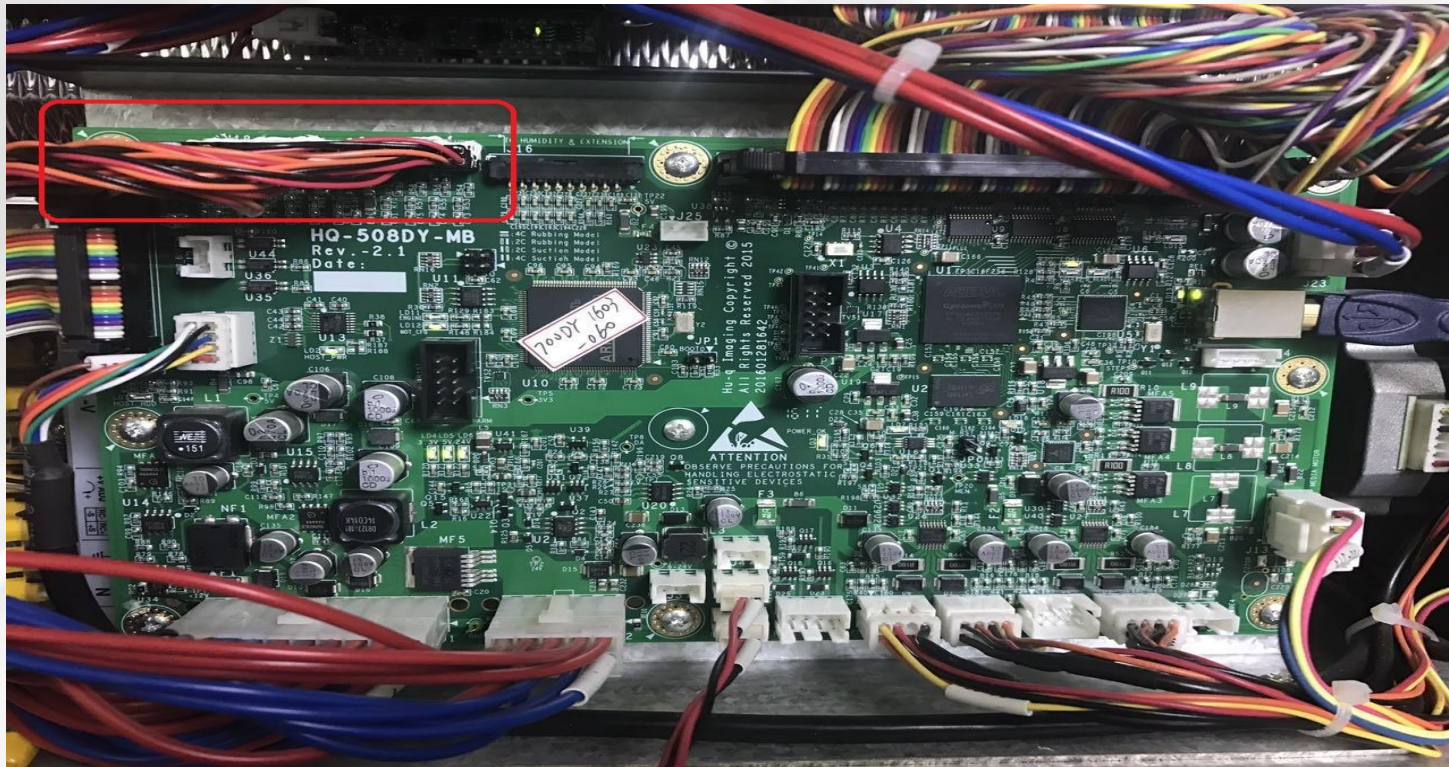
- Press motor error is reported after booting and during the printing
- Analysis 1. Cables on the press motor and the sensor or the connection line on the main control panel are in poor contact
- 
- 2. The press motor sensor is not in the correct position
- Treatment 1. In the shutdown state, plug the connection lines on the press motor, the sensor and the main control panel.
- 
- 2. Loosen and downwards adjust the two screws fixed on the plate of the press motor sensor.





## Sending motor error: The sending motor cable is not inserted firmly

- After booting, report many motor errors at the same time
- Analysis 1. Poor connection of the connection line on the main control panel
- Treatment 1. In the shutdown state, plug the connection line on the main control panel



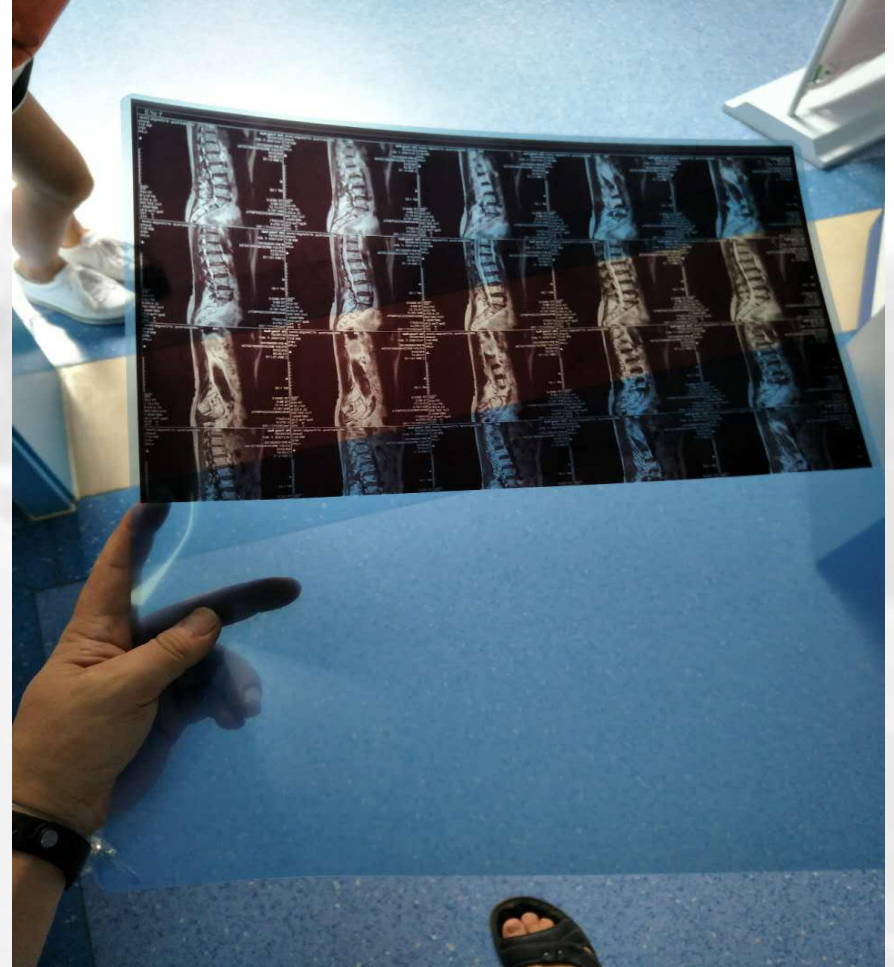
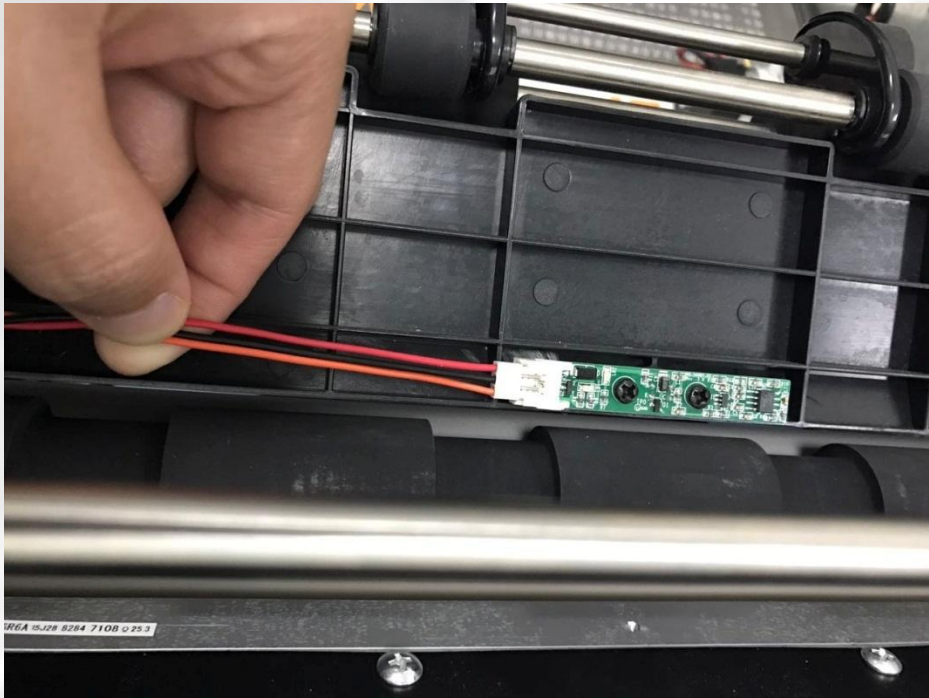
# Report the error of no film

- Phenomenon: It displays the number of chips in the box, when actually there is some films, but it reports no film during printing
- 
- Analysis: 1. The inspection sensor patch does not fall down
- 2. The inspection sensor line is in poor contact or broken
- Treatment: 1. Remove burrs in the position of the sensor patch with a blade; if it still cannot be recovered, you only can replace with a new one.
- 2. It can recover to the normal status after re-treatment of the sensor line.

# Error of film blocked

- Phenomenon: During a print task, the film shows an error of film blocked in the first half section, and the other section shows no image
- Analysis: 1. The film outlet sensor is damaged
- 2. The sensor line is broken or is badly connected
- Treatment: 1. The printer service mode has the sensor status query; it displays closed when the film does not reach the sensing range, and displays open when the film reaches the sensing range; if it still displays closed when the film reaches the sensing range, then the sensor is damaged, and you need to replace a new one.
- 2. Detect both ends of the signal line through the multimeter to rule out the problem.

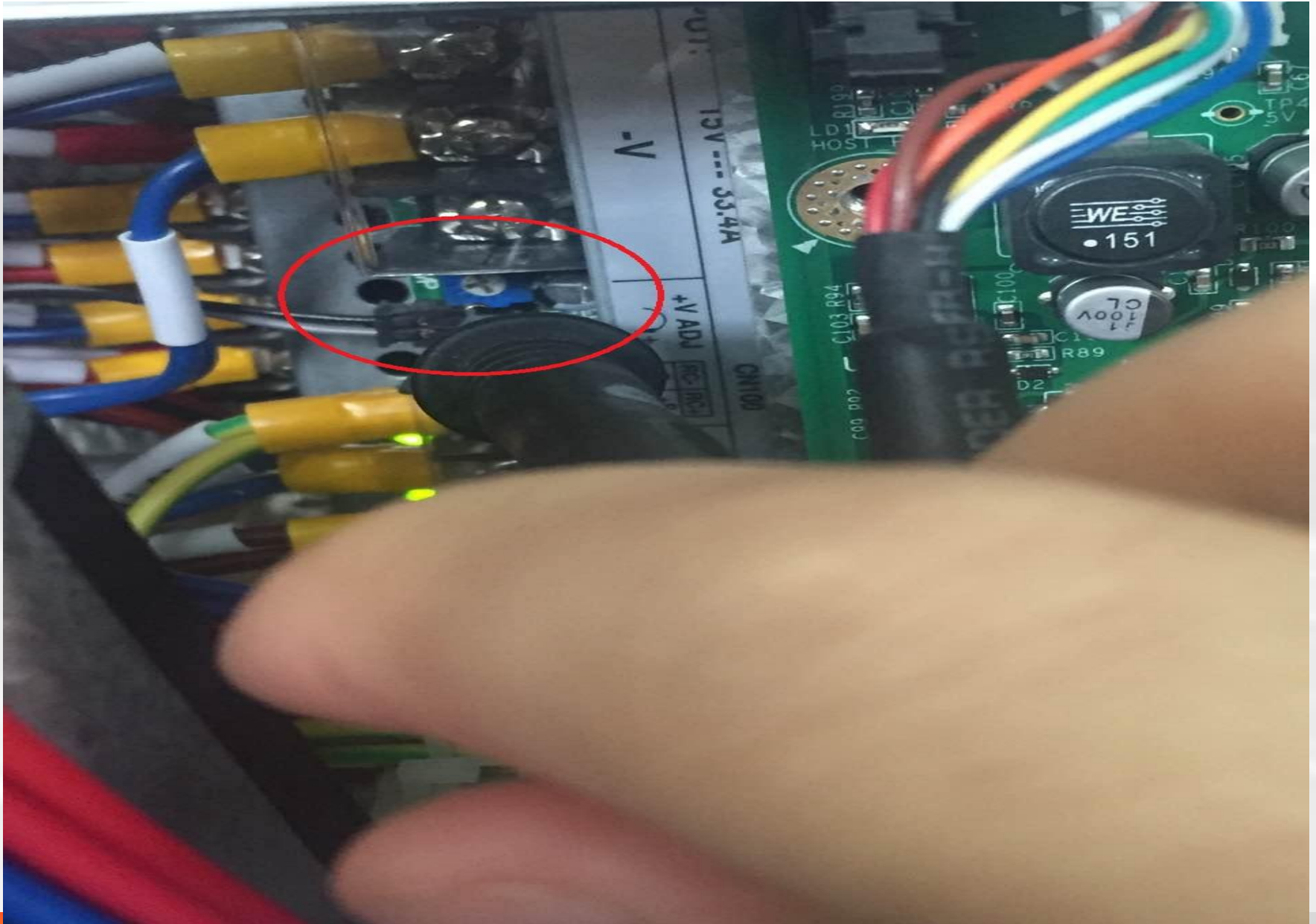
If the accessories are not carried to the field, you can make a short circuit of the yellow and black lines of the sensor temporarily, and it can be continued to be used after the short circuit.

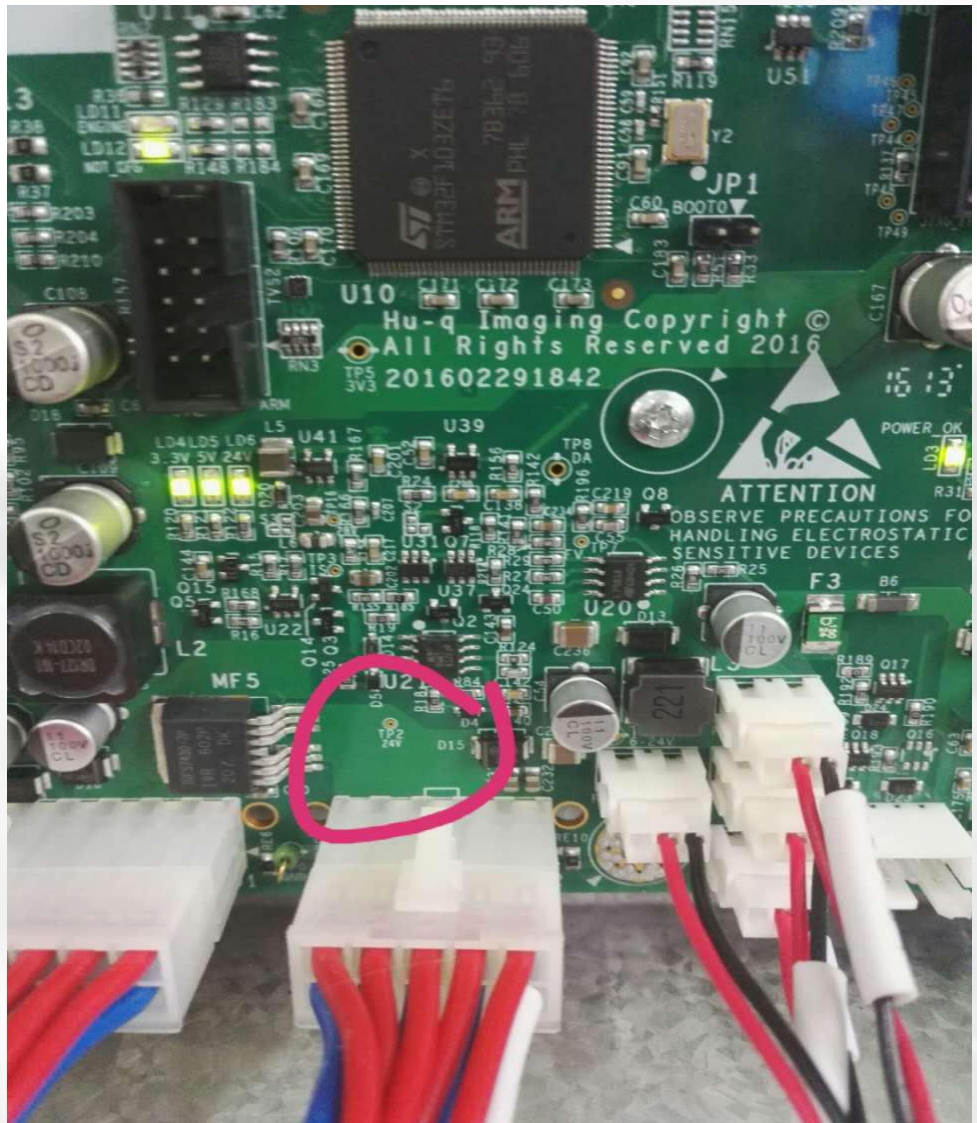
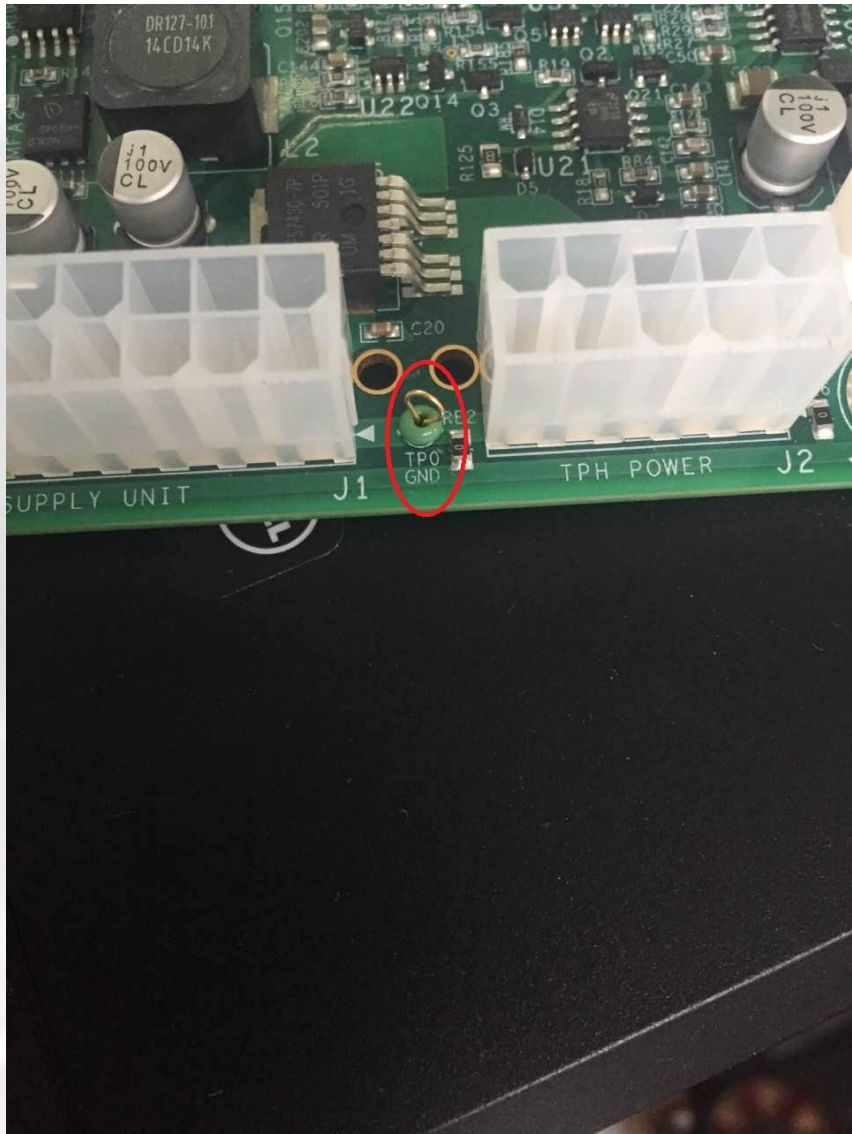


## 508 Over-temperature during printing

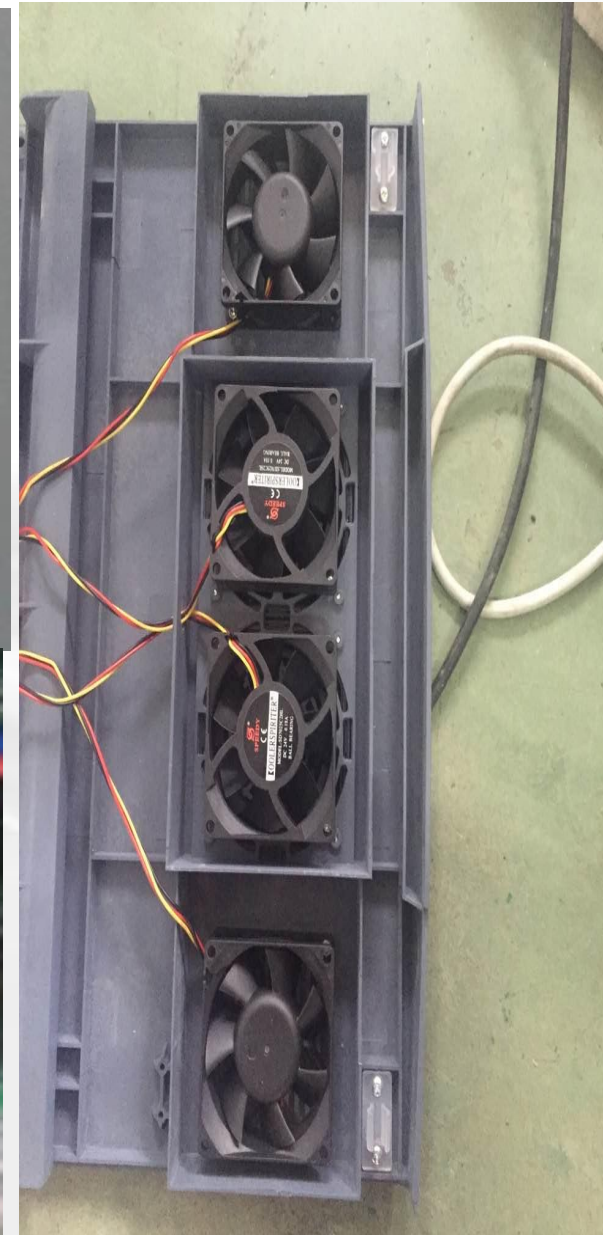
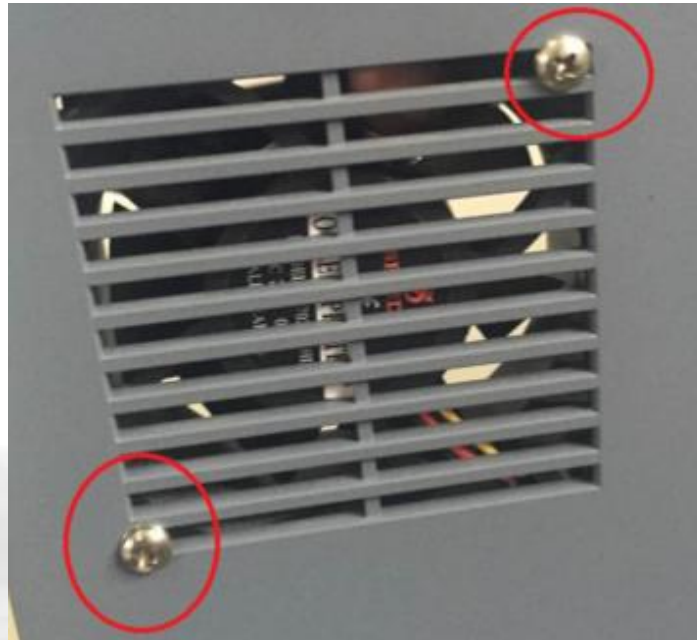
Phenomenon: The printed film is blacker due to too high temperature since the films are printed continuously

Treatment: 1. As long as the printer is powered on, put a multimeter on 24V and TPOGND of the main control panel, counterclockwise turn one fifth of a turn on the potentiometer of the switch power with a screwdriver to adjust to 18V from the original 19V.





- 2. Install additional two 70 fans in the left and the right sides of the original thermal head cooling fan in the opposite directions, so that the hot air blown inside originally can be discharged quickly



# The printed film has no image

- Phenomenon: The workstation outputs the image normally, but the printed film has no image
- Analysis: 1. Films are put reversely
- 2. Counting wheel sensor error
- 3. The main control panel is damaged or the 24V switching power fails
- Solution: 1. Check if the remaining unprinted films are still put reversely; use them after the treatment?
- 2 The counting wheel is damaged or the line is in poor contact, causing the printer malfunction. It is recovered to the normal status after the treatment
- 3. Check whether the main control panel has a 24v input through the multimeter; if there is a 24v input, the switch power is damaged; if there is no 24v input and no 24v output, the main control panel is damaged.



The printed image is in disorder and is arranged irregularly

- Phenomenon: the image layout of the printed film is upside down and cannot be distinguished from left to right
- Analysis: The chip for processing the image of the main control panel is damaged
- Treatment: View if the original image is good with a testing tool
- If the image is normal, replace a new main control panel for solution.

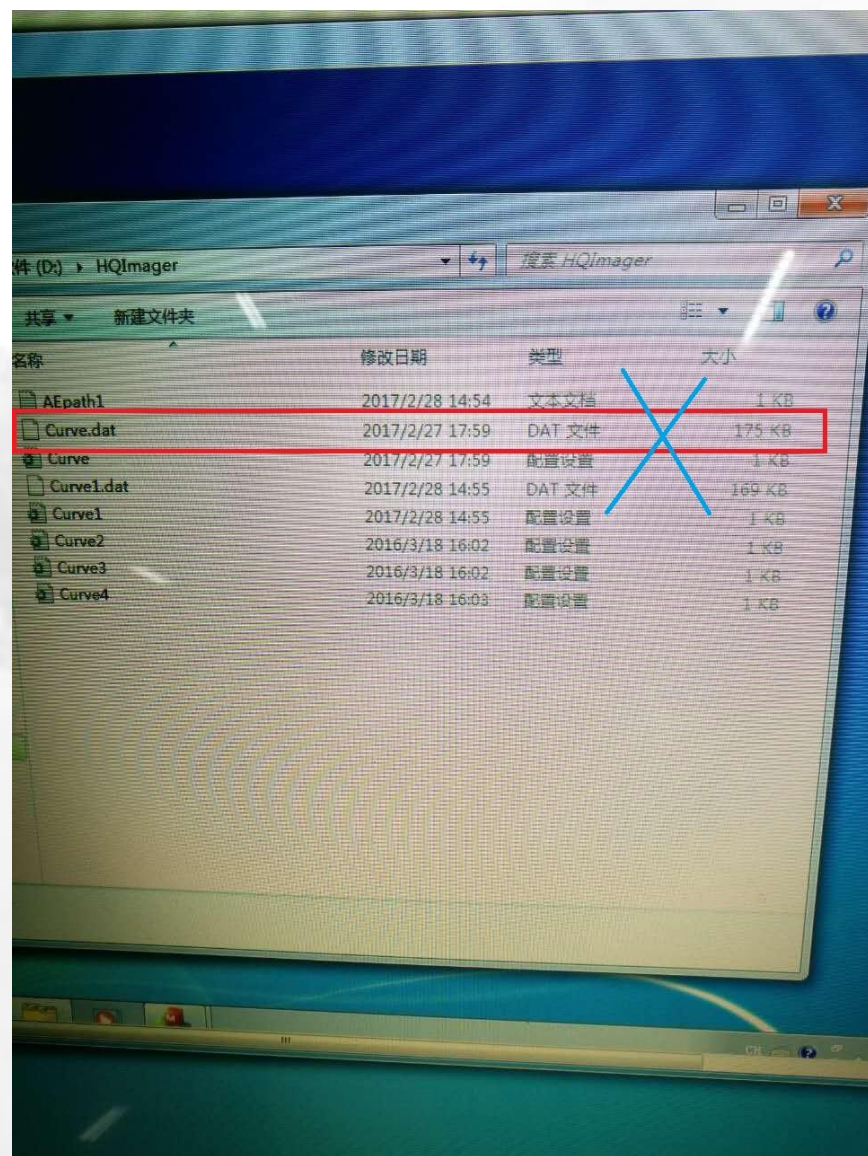
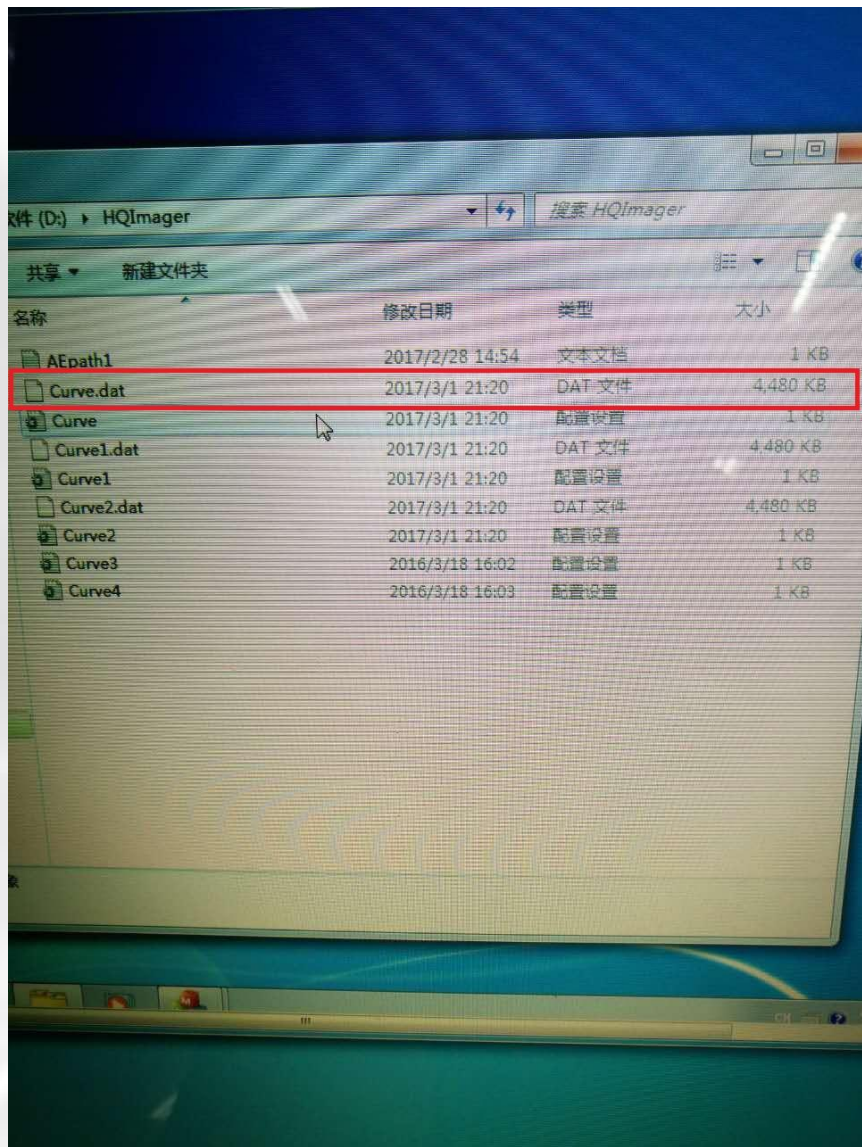


# Error: film size error

- Phenomenon: After receiving the printing task, the film size error is reported.
- Analysis 1. The received task does not match the actual film size
  - 2. The Print Task Management Interface Queue shows hot, hot, hot
- Treatment 1. Enter the Printer Task Management Interface to view and delete the task queue not in line with the film size.
  - 2. Delete the whole app software, and re-install the new app software.

# Print a blank film in normal operation

- Phenomenon description: Print a blank film without any error report
- Analysis: 1. Films are put reversely
- 2. Curve parameters in the D:\hqimager folder are wrong
- Solution: 1. Check whether the gap in the film is in the lower left corner of the box
- 2. Enter the D:\hqimager to check the curve file size, as shown below, the standard size is as follows:
  - 4480kb for 320 model and 227328kb for 508 model;
  - Enter the used curves 1, 2, 3 and 4 and save the settings one by one.



# Error code indications

- Drawer 1 opened 0x00000001
- Drawer 2 opened 0x00000002
- Drawer 3 opened 0x00000004
- Drawer 4 opened 0x00000008
- Printing head plug-in error 0x00000010
- FPGA printing error 0x00000020
- Film blocking 0x00000040
- Printing head temperature is too high  
0x00000080

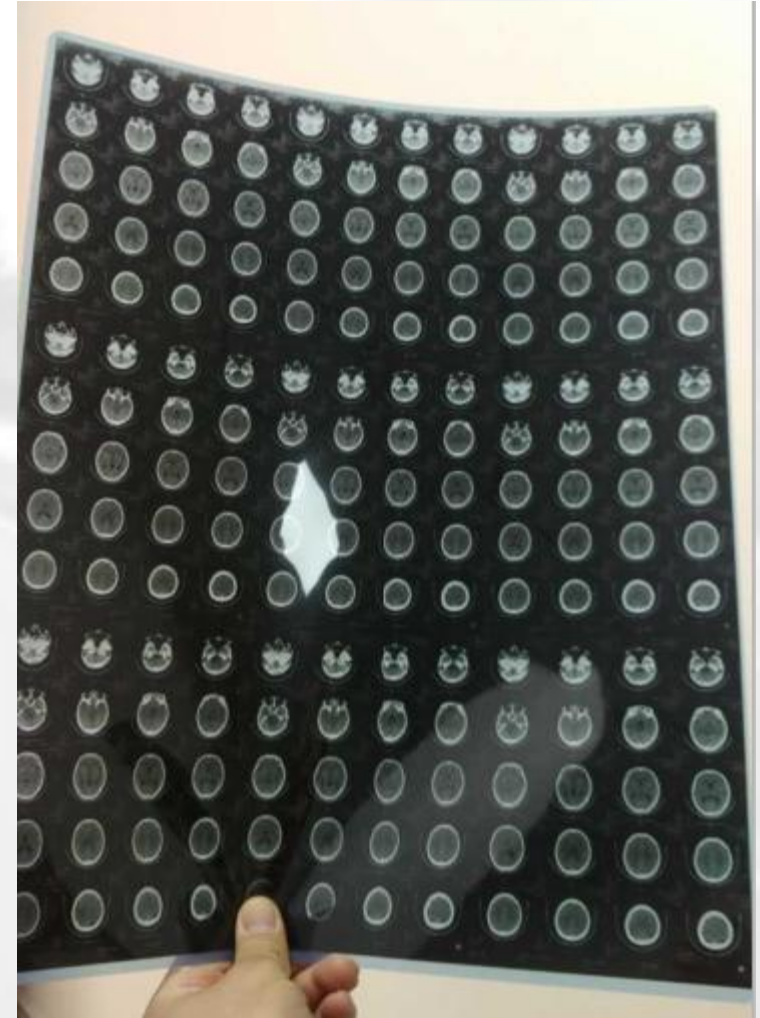
- Back cover error 0x00000100
- Communication error 0x00000200
- Press motor error 0x00000400
- Sending motor error 0x00000800
- Printing head motor error 0x00001000
- Display screen error 0x00002000
- FPGA status error 0x00004000
- PC error 0x00008000

- Printing head error 0x00010000
- Dongle error 0x00020000
- Box 1 does not have film  
0x00040000
- Box 2 does not have film  
0x00080000
- Tray error 0x00100000
- Printing head motor sensor error 0x00200000
- Press motor sensor error 0x00400000
- Film size error 0x00800000

- Box 3 does not have film  
0x01000000
- Box 4 does not have film  
0x02000000
- No film 0x04000000
- RFID chip error: 0x08000000
- Sending sensor error: 0x10000000
- Pick-up failure 0x20000000

# Solution of GE and Siemens Color Printing Problem

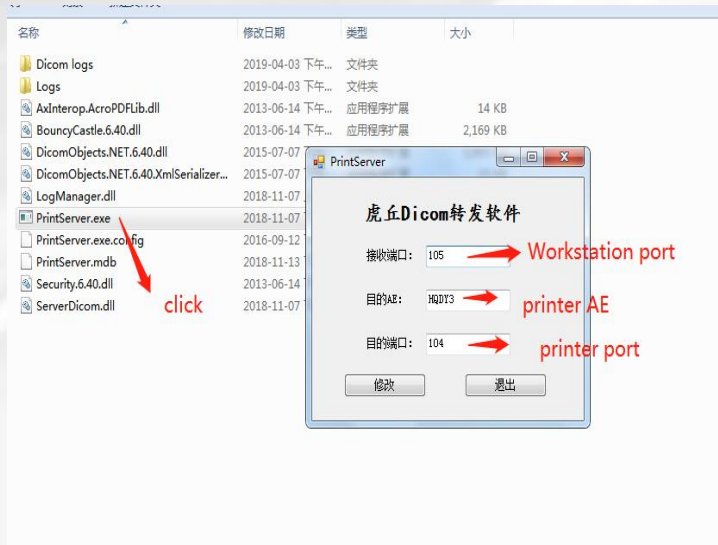
- Because we used the black and white printer, when we receive a color task, the image output by the printer will be zoomed out to automatically become 9 same small images; to deal with such a situation, we have to install the transit software in the printer.



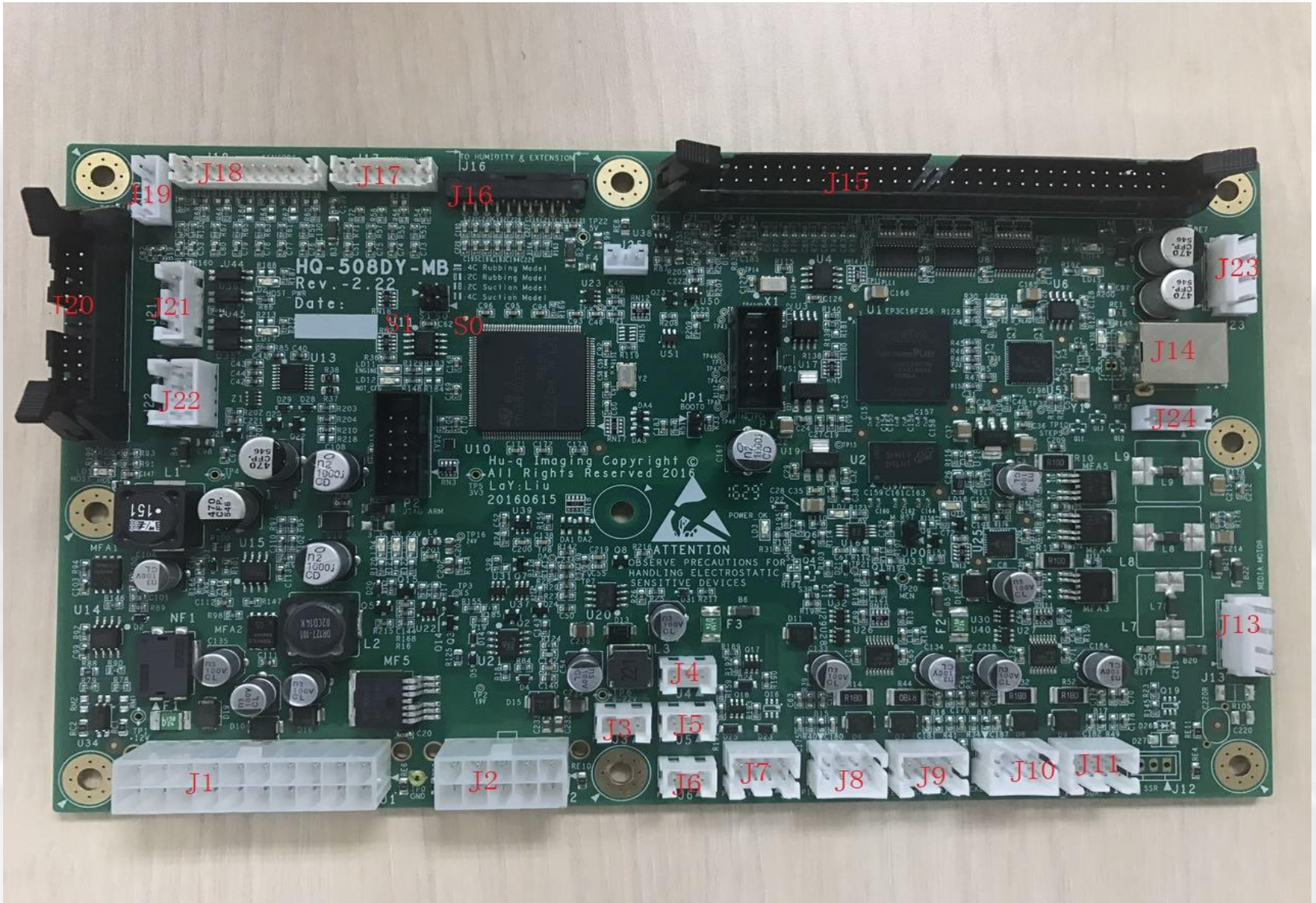
The user steps are as follows

1. Install .Net4.0 to the printer;
2. Extract the Server folder to the D root directory
3. PrintServer.exe.config file is the configuration file of printServer.exe; RecPort is the receiving port (the port for the print settings of the workstation),  
SendAE is the sending destination AE (to fill in the printer AE), and SendPort is the sending port  
(to fill in the printer port, which shall be different from RecPort).
4. Send the PrinterServer application in the Server folder to the desktop shortcut, add the shortcut to the startup item in the start menu, and run the shortcut.
5. Change the AE of the printer app to the same as SendAE, and change the port of the printer app to the same as SendPort.
6. Send images normally.

Server_20161027	2016/11/4 9:45	文件夹
dotNetFx40_Full_x86_x64.rar	2016/10/28 14:57	WinRAR 压缩文件



# Description of each plug-in of the main control panel



- Description of each interface

J1 Master power input

J2 Main power supply of the printing head

J3, J4, J5, J6 Cooling fans

J7 Only for sucker machines (2 check valves)

J8 Press motor

J9 Sending motor

J10 Only for 4-slot printers (press motor)

J11 Printing head motor

J12 Currently for sucker machines (fans) only

J13 Main motor

J14 USB interface (connected to the PC board)

J15 Connected to the printing head

J16 Only for 4-slot machines and sucker machines  
(sensors)

J17 J18 Sensor interfaces

J19 Rear cover door switch

J20 PC board panel and serial port communication port

J21 Switch button of the self-service machine (not reserved)

J22 Touch LCD screen + on/off button

J23 Power supply of the printing head (for the chip)

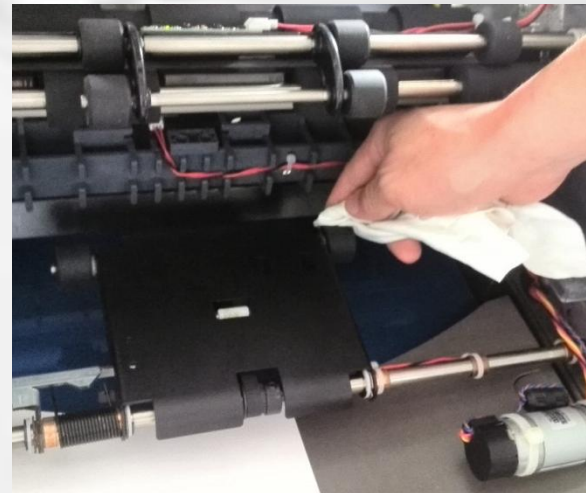
S0 S1 Connected for the self-service equipment;  
not required for stand-alone

# Printer maintenance

## General cleaning

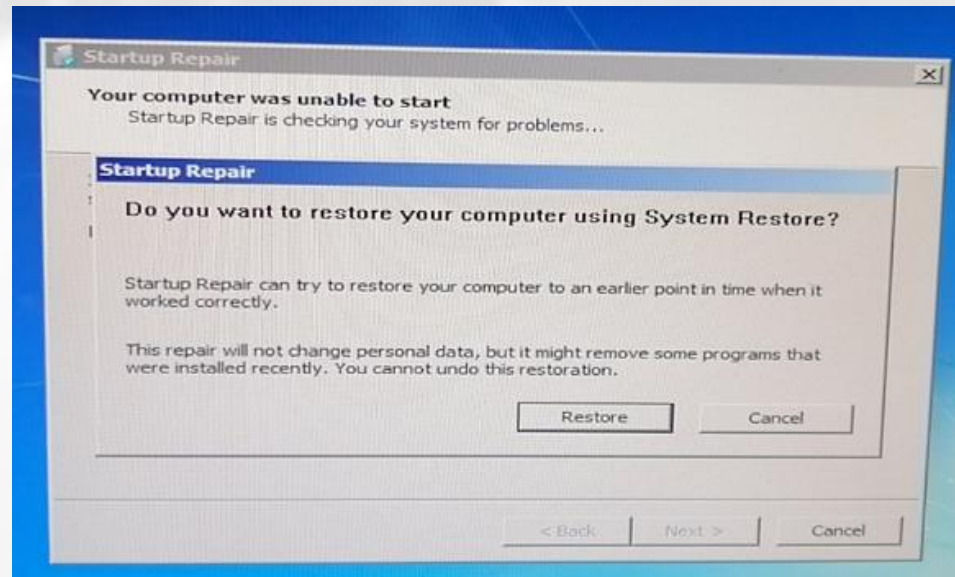
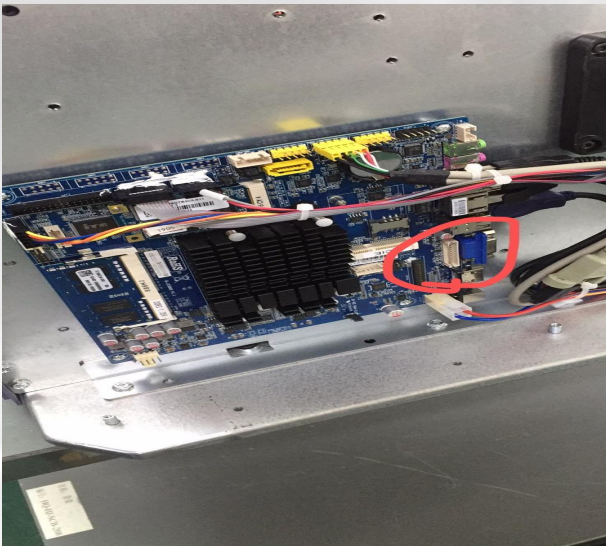
Generally, the printing head shall be cleaned after 100-200 films are printed. Use non-woven cloth dipped in water or anhydrous alcohol, press the non-woven cloth and slowly move on the printing head from left to right, wipe repeatedly until the printed test sample is free from scratches on the surface. Note that the non-woven cloth shall be folded more than 3 times to prevent the edge of the printing head heat sink from damaging the hand.

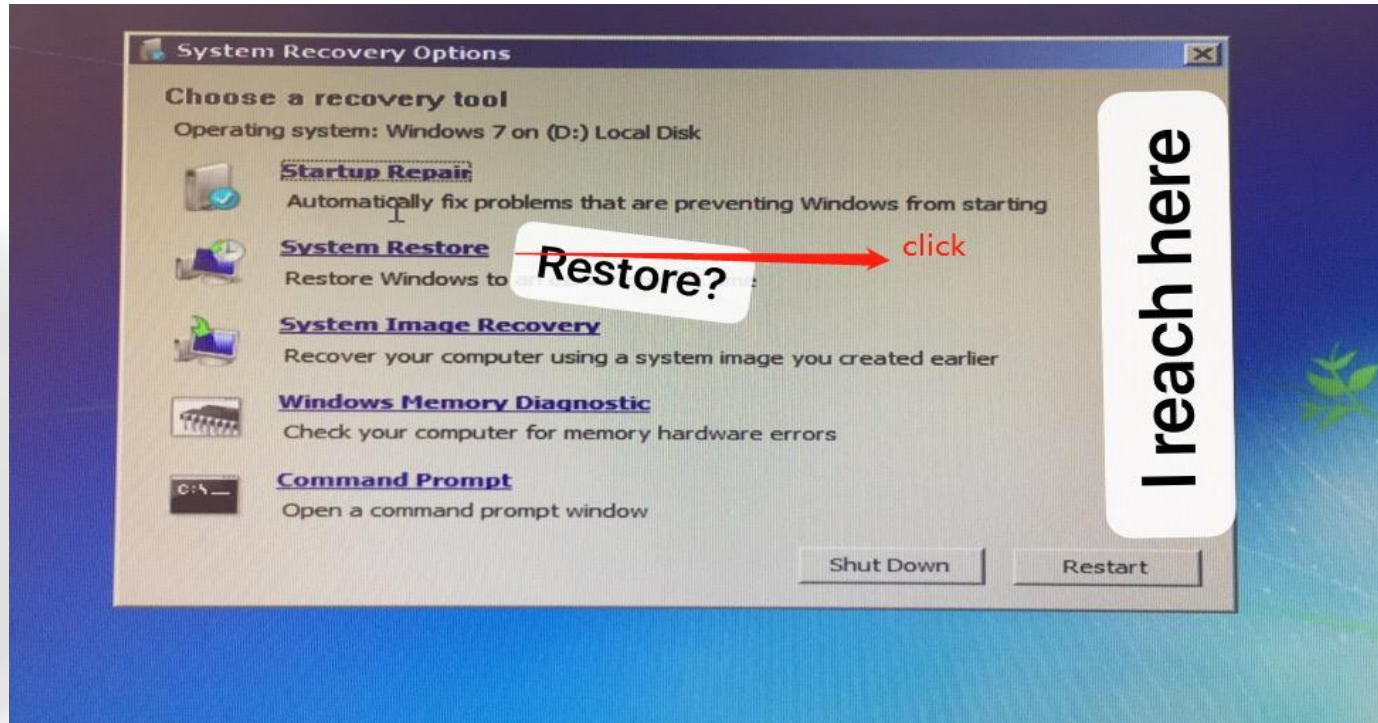
Use the non-woven cloth dipped in water or anhydrous alcohol to wipe the white print roller and the press wheel as shown below:



# IPC error

- Restart printer
- If it doesn't work, connect a monitor to the printer



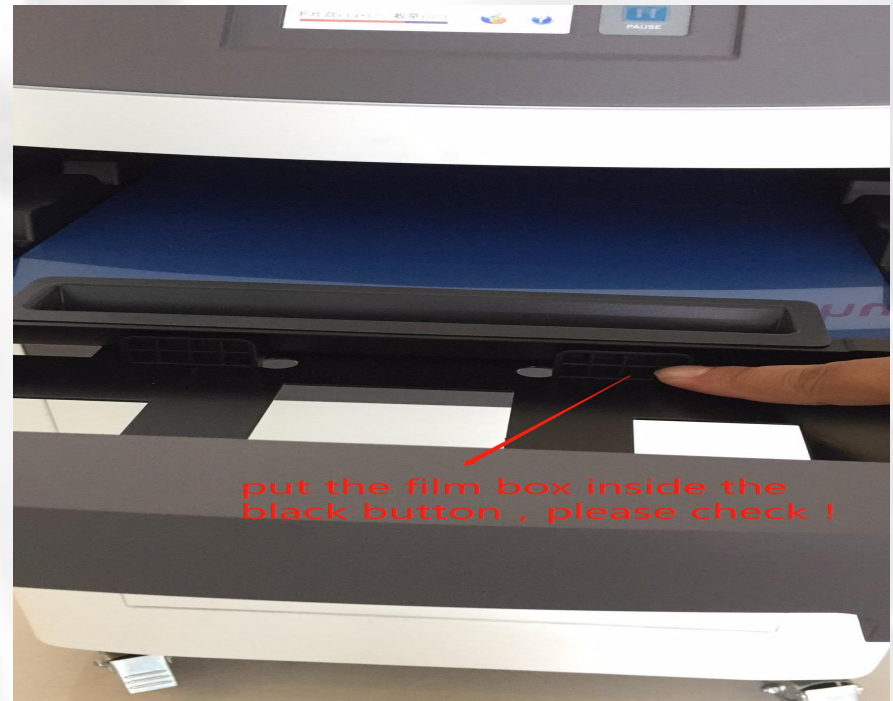


- Sometimes you need to restore the system

- If the recovery system is not working, you may need to replace your hard drive
- If you need to replace the hard drive, you need to provide the printer number, on the back of the printer, error message , display screen, and a photo of the hard drive

# The display does not show size or quantity

- Please check the film box in the right place



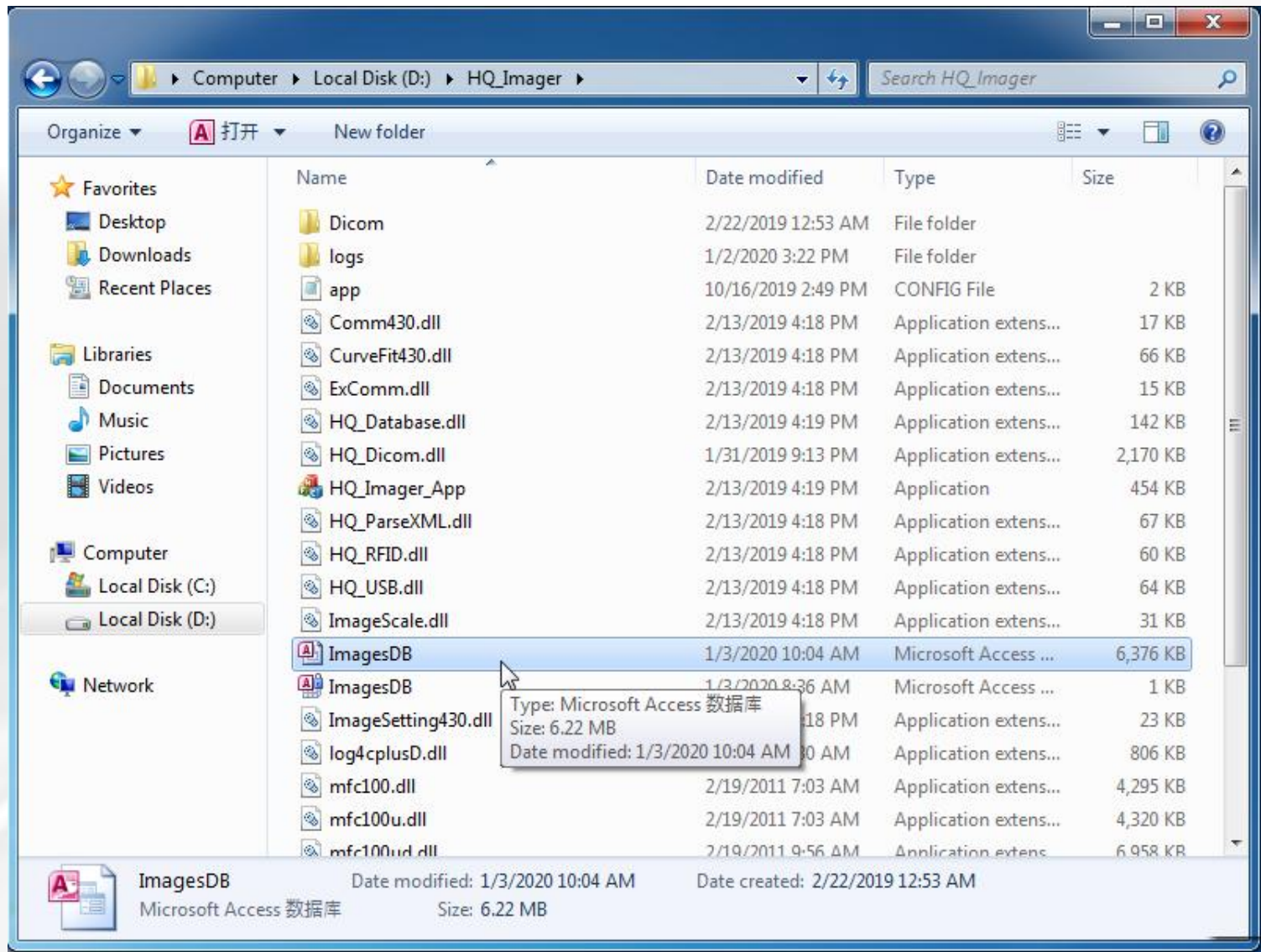
## Description of curve binding

In order to meet the requirements of better image quality when different equipment of the hospital sends pictures to the printer, our printer can meet the requirements of customers through the following Settings.

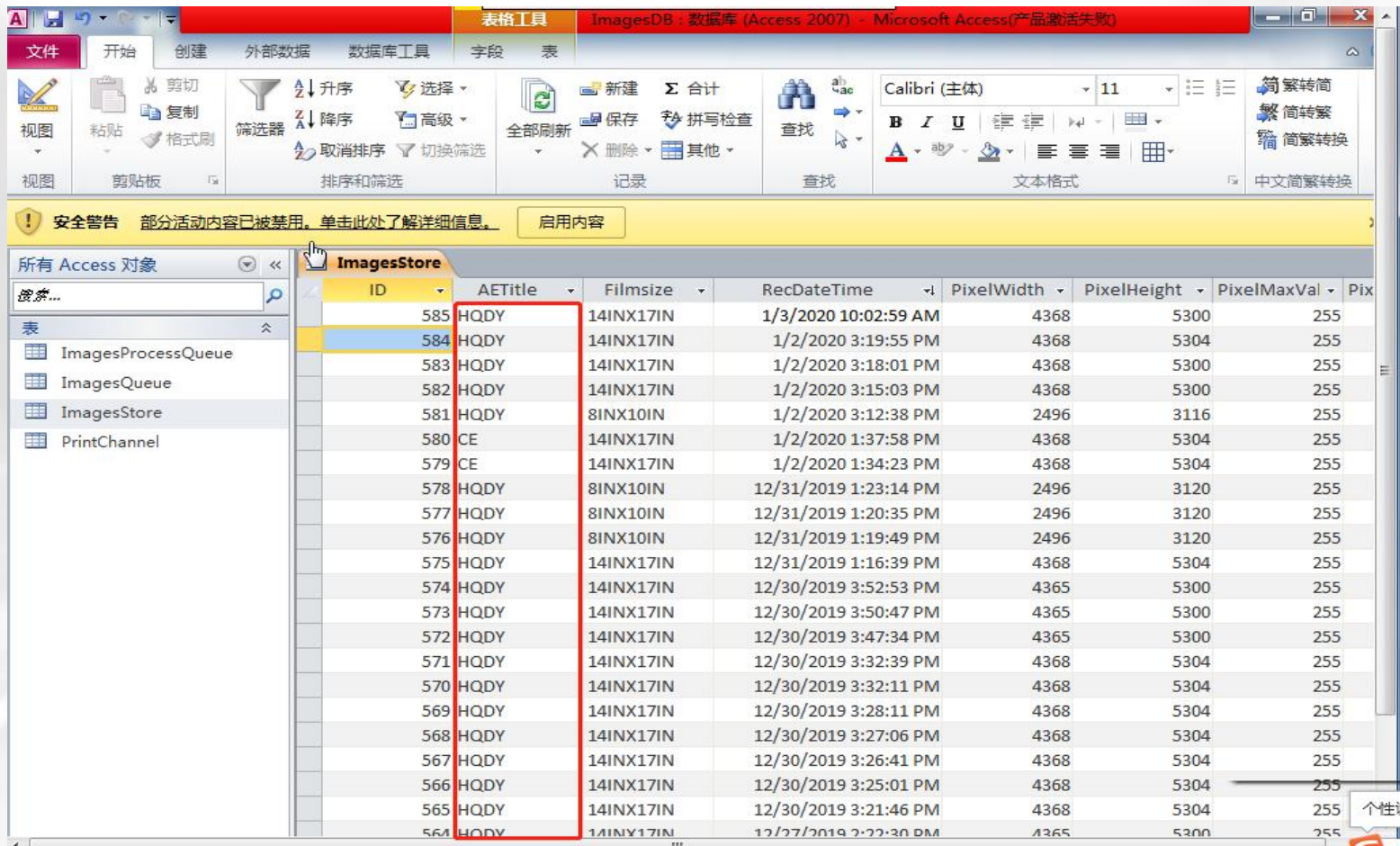
The specific steps are as follows:

Step 1: Check AE on different workstations

After the workstation connects to the printer, send the picture from the workstation software to the printer, open D disk  
/HQ\_Imager/imagesDB



- Open ImagesDB and select AE for the workstation

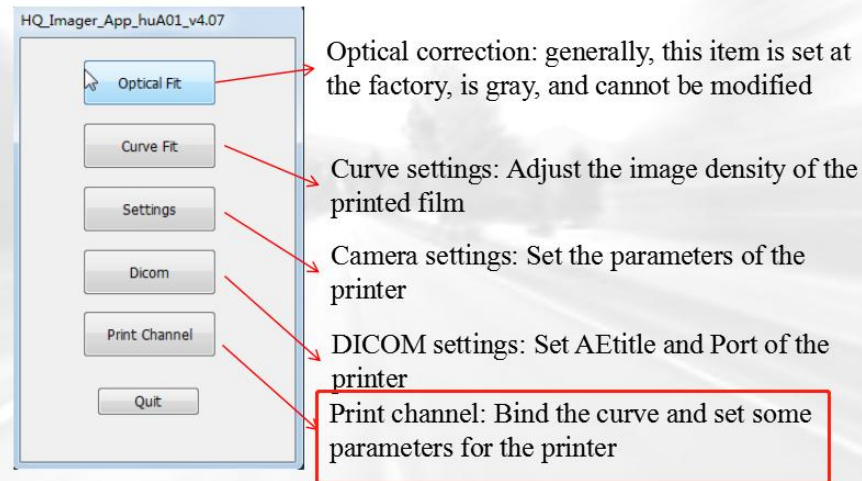


The screenshot shows the Microsoft Access interface for a database named 'ImagesDB : 数据库 (Access 2007)'. The 'Table Tools' ribbon is active, and the 'ImagesStore' table is selected in the 'Navigation Pane'. The table data is displayed in a grid view. A red box highlights the 'AETitle' column, which contains the value 'HQDY' for all rows. The 'ID' column is highlighted in yellow, and the row with ID 584 is also highlighted in blue.

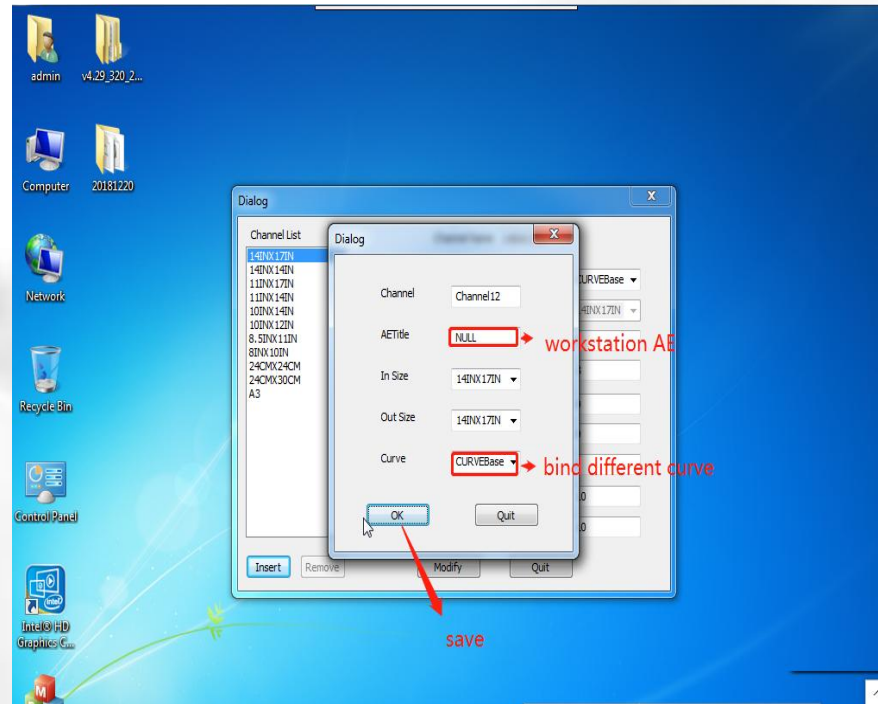
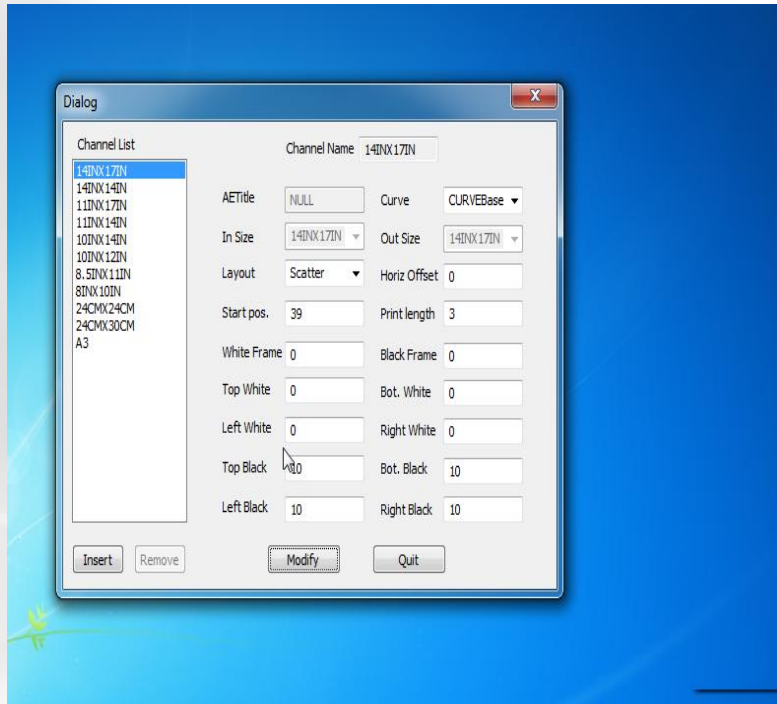
ID	AETitle	Filmsize	RecDateTime	PixelWidth	PixelHeight	PixelMaxVal	PixelMinVal
585	HQDY	14INX17IN	1/3/2020 10:02:59 AM	4368	5300	255	255
584	HQDY	14INX17IN	1/2/2020 3:19:55 PM	4368	5304	255	255
583	HQDY	14INX17IN	1/2/2020 3:18:01 PM	4368	5300	255	255
582	HQDY	14INX17IN	1/2/2020 3:15:03 PM	4368	5300	255	255
581	HQDY	8INX10IN	1/2/2020 3:12:38 PM	2496	3116	255	255
580	CE	14INX17IN	1/2/2020 1:37:58 PM	4368	5304	255	255
579	CE	14INX17IN	1/2/2020 1:34:23 PM	4368	5304	255	255
578	HQDY	8INX10IN	12/31/2019 1:23:14 PM	2496	3120	255	255
577	HQDY	8INX10IN	12/31/2019 1:20:35 PM	2496	3120	255	255
576	HQDY	8INX10IN	12/31/2019 1:19:49 PM	2496	3120	255	255
575	HQDY	14INX17IN	12/31/2019 1:16:39 PM	4368	5304	255	255
574	HQDY	14INX17IN	12/30/2019 3:52:53 PM	4365	5300	255	255
573	HQDY	14INX17IN	12/30/2019 3:50:47 PM	4365	5300	255	255
572	HQDY	14INX17IN	12/30/2019 3:47:34 PM	4365	5300	255	255
571	HQDY	14INX17IN	12/30/2019 3:32:39 PM	4368	5304	255	255
570	HQDY	14INX17IN	12/30/2019 3:32:11 PM	4368	5304	255	255
569	HQDY	14INX17IN	12/30/2019 3:28:11 PM	4368	5304	255	255
568	HQDY	14INX17IN	12/30/2019 3:27:06 PM	4368	5304	255	255
567	HQDY	14INX17IN	12/30/2019 3:26:41 PM	4368	5304	255	255
566	HQDY	14INX17IN	12/30/2019 3:25:01 PM	4368	5304	255	255
565	HQDY	14INX17IN	12/30/2019 3:21:46 PM	4368	5304	255	255
564	HQDY	14INX17IN	12/27/2019 2:22:30 PM	4365	5300	255	255

- Step 2: Add AE select print channel, click open

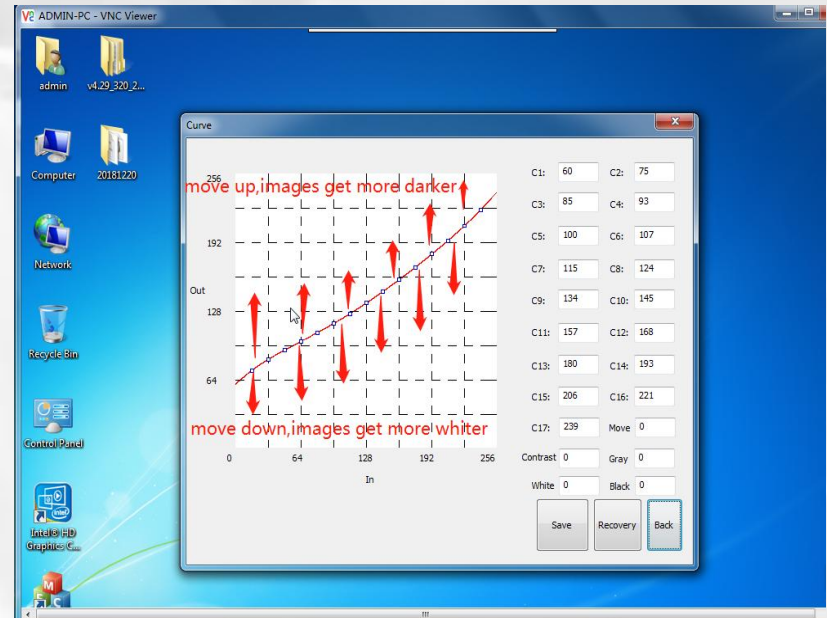
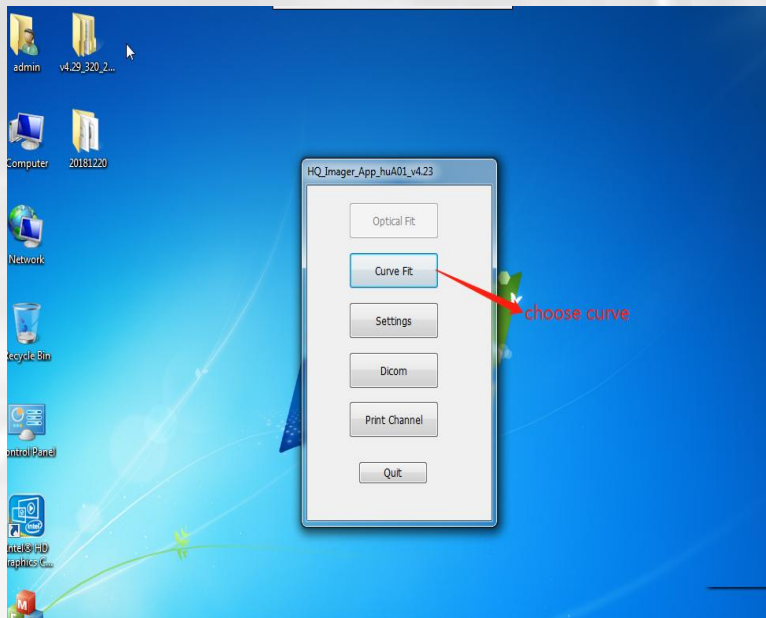
### Main interface



- Click on insert, Add the AE



- After binding, different devices can print different quality of film, and different devices can adjust different curves without affecting each other.
- About curve adjustment



- Curve adjustment (c1-c17) X-axis represents different gray levels of image input, Y-axis represents different blackness of printer output, adjustment principle: Curve move up, images get more darker, move down, images get more whiter. Each box represents the grayscale value of each point.

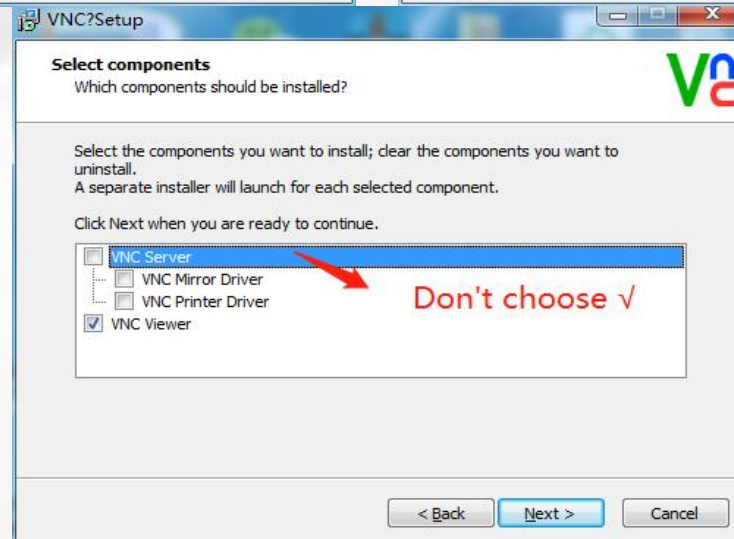
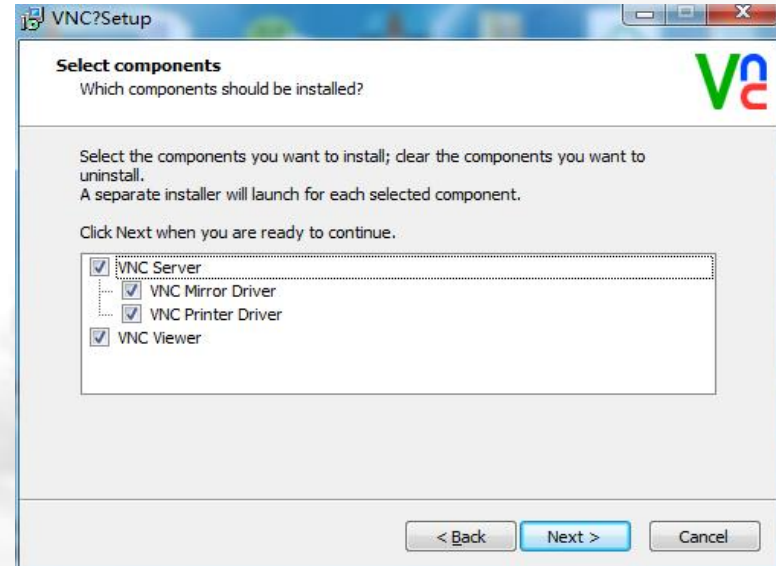
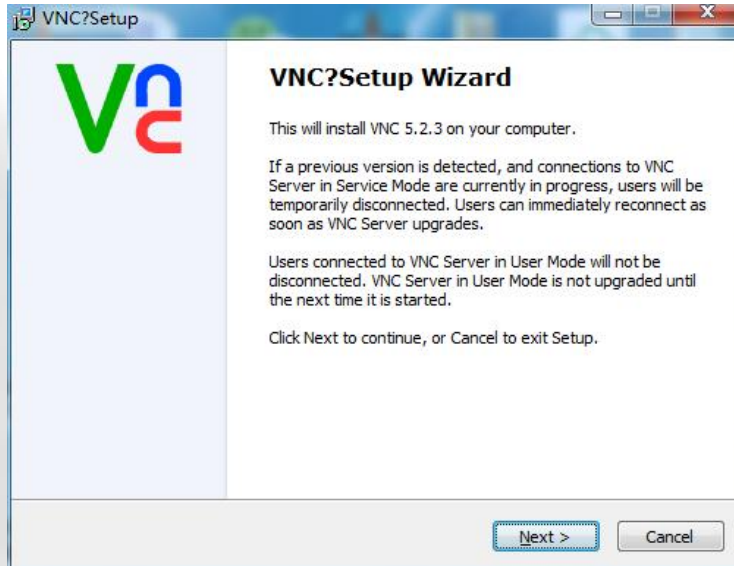


C12 C11 C10 C9 C8 C7  
C13 C14 C15 C16 C17 C1 C2  
C6 C5 C4 C3

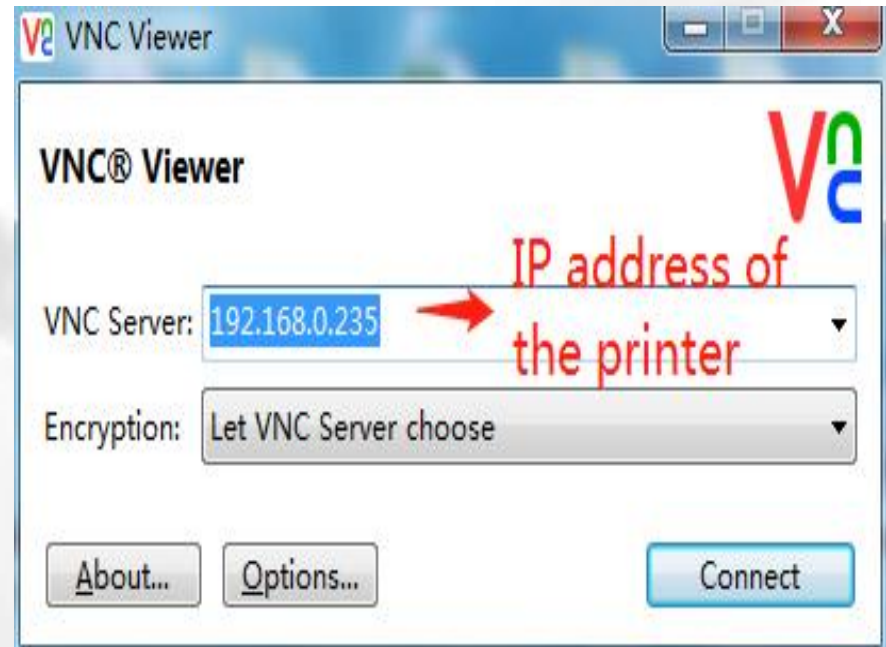
TG18-QC Pattern  
Version 8.0, 12/01  
Copyright © 2001 by AAPM

QUALITY  
C

# • Install VNC software



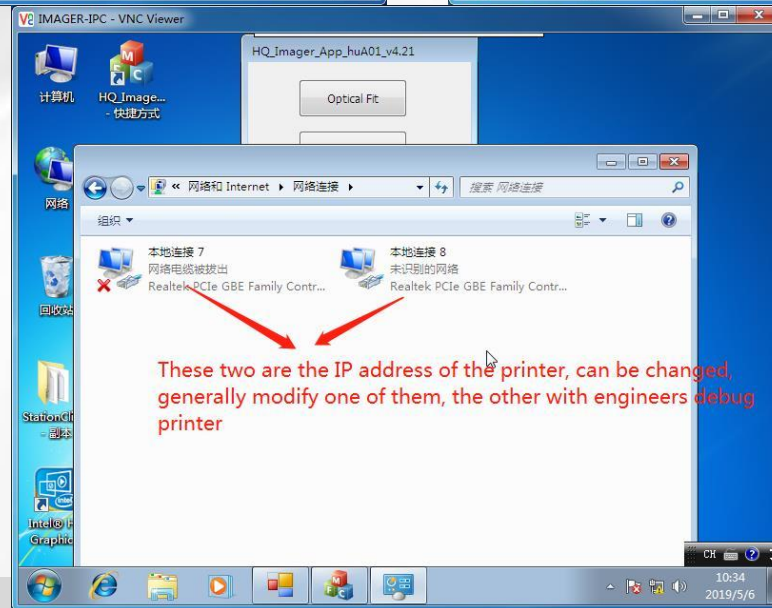
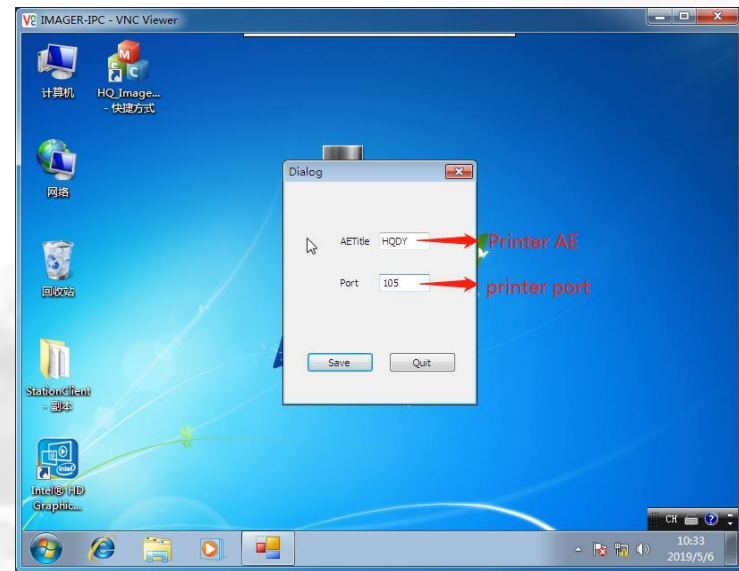
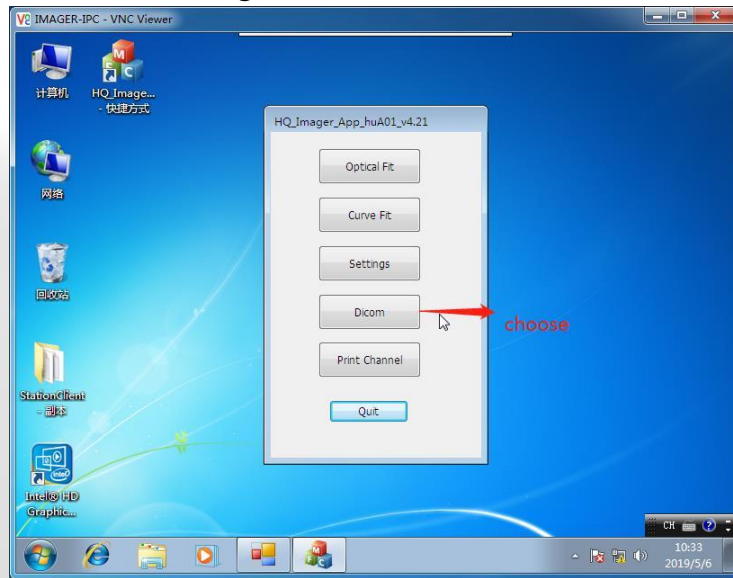
- The IP address of the printer  
192.168.0.234 or 192.168.0.235



- And then select the connection.(Of course, This computer connects to the printer with an Internet cable)
- Before connecting, your computer IP must be 192.168.0.x.
- x is between 0 to 255. ( Do not set 235 or 234, that is the IP address of the printer )
- You need to add three parameters of the printer to the workstation sw. Our printer AE:HQDY,

- IP: UP:192.168.0.235,DOWN: 192.168.0.234, port is 105
- Each workstation is different, and if you don't know how to add it, you need to ask the engineer at the workstation.
- About VNC: The function of VNC is to view and adjust the parameters of the printer. There is no function of sending films to the printer. Only the workstation ( DR/CT/MR/PACS ) can send films to the DICOM printer.

- Then you will see the following picture



- These are the printer's IP, AE, and port. You can modify them, then fill them into a workstation computer, and then the printer connects to the hospital network, and the workstation can send film to the printer.