






# X-RAY Dispenser DS3000




## Instruction manual







● About safety signs

 Danger	Indicates a state of emergency danger that will result in death or serious injury if not avoided.
 Warning	Indicates that death or serious injury may result.
 Attention	Indicates the possibility of personal injury or material damage.

● Graphical logo example






	Indicates a caution (including danger and warning). Specific cautions are described in the graphic signs, so follow the instructions.
	This symbol indicates a prohibited action. Specific prohibitions are described in the graphic sign, so please follow its instructions.
	This symbol indicates mandatory behavior and instructions. The graphic sign describes the specific content, so please follow its instructions.











- The following graphic symbols are used in both this operation manual and this machine. Please understand the meaning of the symbols in advance.







	Generates X-rays when energized.
	Beryllium is toxic.
	High voltage is generated, please be careful of electric shock.
	Grounding terminal. Be sure contact ground

## Safety Precautions

- The X-RAY spotter is an X-ray generating device that used under the direction and control of qualified personnel such as the person in charge of X-ray operations.
- Please read the following instructions carefully and observe the instructions for the correct and safe use of the machine.

 <b>Warning</b>	
	X-rays are harmful to humans X-rays from this machine are harmful to humans. Please pay sufficient attention during operation to avoid direct or accidental exposure. When using the X-ray source, place the X-ray source in X-ray shielding equipment to prevent exposure to X-rays, and an interlocking mechanism must be installed. During preheating, X-ray exposure is performed at maximum tube voltage and maximum tube current. Make sure that the amount of X-rays leaking from the X-ray protection equipment at maximum tube voltage/maximum tube current does not exceed the legal value.
	Beryllium is harmful to humans and should not be touched by the X-ray window of the X-ray source, which is made of extremely thin beryllium foil and may be damaged by touching. Beryllium dust may be acutely toxic or chronically toxic and may cause respiratory damage if inhaled accidentally. In case of breakage, please turn off the power switch immediately and take full care not to inhale the dust. In addition, wipe off the dust with a damp cloth and wash your hands with soap immediately if you touch the dust.
	In addition, beryllium must be disposed of in the prescribed manner. Please contact us when the X-ray tube inside the X-ray source has reached the end of its useful life and needs to be replaced or disposed of.
	Do not disassemble or modify any part of the unit as this may damage the internal circuitry. A faulty circuit may result in a false operation or failure to produce X-rays. High voltages (max. 80kV) are used internally. To avoid electric shock or malfunction, do not remove the operating panel or protective cover of the unit.

	<p>Please take care not to subject the machine to shocks or vibrations This machine is precision equipment, so please take due care when operating it so that it is not subject to shocks or vibrations. Shock or excessive vibration from drops etc. during use, transport or installation may result in malfunction or malfunction.</p>
	<p>Do not install in locations where fumes, moisture, steam, dust or corrosive gases may adversely affect the performance of the machine. In addition, it may cause electric shock or fire, so avoid using it in such environments.</p>
	<p>Do not use in an environment filled with organic solvents or flammable gases that may cause an explosion due to spark discharge caused by a malfunction of the device, etc.</p>
	<p>Do not use in a chlorine-generating environment Chlorine may corrode the beryllium window of the X-ray tube and damage the X-ray tube. Do not use in an environment where chlorine gas is generated. Exercise due care when irradiating samples that may produce chlorine gas such as vinyl chloride.</p>
	<p>Be sure to use the specified power supply If the specified power supply is not used, electric shock or fire may result.</p>
	<p>Be sure to ground: To prevent electric shock, be sure to ground the GND terminal.</p>
	<p>In the unlikely event that a foreign object or liquid enters the housing of the unit, immediately stop the X-ray exposure and disconnect the external power supply DC +24V. If the machine is not removed in time, continued use may result in electric shock or fire. Please contact us for advice on how to remove foreign objects etc.</p>
	<p>In the event of an abnormality, stop using the machine when it smokes, or if you feel an odour or abnormal sound, stop X-ray exposure immediately and disconnect the external power supply DC +24V. Please contact us for advice on how to deal with abnormalities.</p>
	<p>Do not apply excessive force to the power plug or other connection plugs Do not pull on the power cord or overbend it when pulling the power plug or other connection plugs. Damage to the power cord may result in electric shock or fire.</p>
	<p>Do not block the exhaust port of the cooling fan. If the exhaust port of the cooling fan installed on the unit is blocked by a wall or other object, the internal temperature may rise abnormally and a fire may result. Install the unit in an environment with good</p>

	air circulation and keep the exhaust port clear. Keep the distance between the exhaust port and the wall or other objects at least 5cm.
	Do not use in a hot and humid environment Observe the surrounding temperature and humidity regulations when using. Use in hot and humid environments may result in malfunction or failure.
	Please install the machine correctly and reliably. Improper installation may result in damage due to overturning during operation. For the installation of other equipment, use the special mounting screw holes and securely fix the machine with the specified screws.
	Do not remove the warning label attached to the main unit The warning label is a safety symbol necessary for the safe use of this product. Do not remove or deface it.
	Please observe the relevant laws and regulations when disposing of this product The irradiated window material used in this product is beryllium. There is no problem with the use of this substance in this product, so please observe the relevant laws and regulations when disposing of it.
	To avoid being exposed to X-rays in the event of a malfunction of the interlocking mechanism, etc., make it a habit to stop the X-rays when opening the door of the X-rays protective equipment.
	To prevent a failure of the interlocking circuit, set up two safety switches on the door, one connected to the interlocking 1 circuit and the other to the interlocking 2 circuit. The user can even set up additional circuits for increased safety, depending on their situation.



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## **I. Overview Summary.**

- The DS-3000 X-RAY spotter is equipped with an 80KV, 1000uA microfocus X-Ray light tube and a 17" X-Ray flat detector.
- This product is used to generate X-rays by the X-Ray light tube after the X-Ray plate receives the X-Ray signal into image information and then the industrial control computer processing to calculate the X-Ray image to get the point material results.

## **II. Precautions when unpacking**

- When the product arrives, please check the appearance of the box immediately. If you find any cosmetic damage that may have been caused in transit, please contact us immediately.
- After unpacking, please read these operating instructions carefully before installing this product.
- Please contact us immediately if there is a missing product. (Refer to "4. System Composition" in this operating instructions)
- In the event of a quality problem with the product being shipped from your company to the customer, or in the event of a quality problem with the product, the original box must be used, so please contact us in the event of damage to the box.

## **III. Features.**




- All operations of the X-Ray light tube are controlled externally via RS-232C.
- The X-Ray light tube voltage and light tube current are adjusted using RS-232C serial commands.
- Automatic preheating of the X-Ray tube under optimum conditions.
- Interlocking circuits are built in for safety reasons.
- An overload protection circuit is provided to detect overvoltage and overcurrent in the x-ray tube.
- Built-in fail-safe circuit for increased reliability.

## **IV. System composition.**

- 1 X-Ray Source
- 1 Power plug
- 1 Interlocking 1 with plug (2P)
- 1 Plug for interlocking 2 use/X-ray irradiation signal output (4P)

- 1 Grounding cable (3 m)
- 1 Xsoft Control Software Control Software
- 1 PC Control computer
- 1 Operating instructions (book)
- 1 Power cord
- 1 Flat panel detector
- 1 Motion controller
- 1 Two-colour light
- 1 Keyboard and mouse

#### V. Precautions during installation.

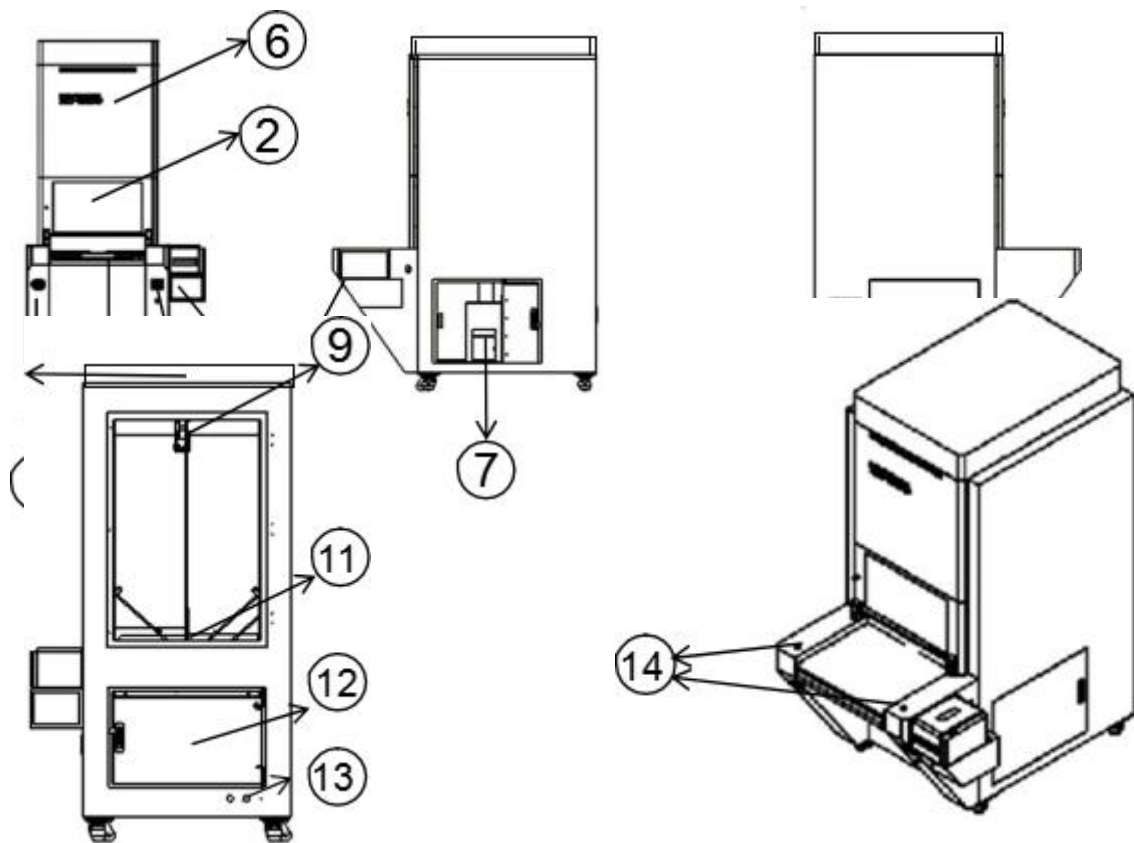
	Warning	Please do not install and commission the equipment without the guidance of our personnel.
	Warning	Commissioning is carried out in strict accordance with the 220V specification for the electricity used by the equipment.
	Attention	To prevent the risk of electric shock, always ground the GND terminal

#### VI. Specification parameters.

Model.	DS-3000
X-Ray tube type	Enclosed
Light tube voltage	80KV
Light tube current	1000mA
Focus size	35-100um
X-ray radiation angle	30 degrees
Detector type	Amorphous Silicon
Pixel pitch	140um
Pixel Matrix	3072*3072
Image size	430*430mm
Spatial resolution	3.6LP/mm
Time of publication	1s
Counting speed	8-12S/tray (CHIP 0402)

Accuracy	99.99% (for example 0201)
Max. checkable reel diameter	15 inches
Max. height of checkable material tray	100mm
Machine size	908*1335*1968mm (L*W*H)
Machine weight	1000KG
Operating systems	Windows 10
Power supply/power	AC110-220V 50-60HZ 800W
Radiation safety testing	<1 uSV/H

VII. Name and function of each part.



①	Printer: for barcode printing	⑧	Cooling fan: reduce the internal temperature of the device thermal fan
②	Display: for displaying information	⑨	2000W HD camera: shooting QR code
③	Keyboard and mouse: for operating the computer	⑩	X-ray tube: X-Ray ray emitting source
④	Emergency stop button: emergency power off	⑪	X-Ray flat panel: Receive converted X-Ray signals

⑤	Main power switch: for switching power supply	⑫	Electrical control box: wiring, hardware integration board
⑥	Two-color light: indicate machine status	⑬	Power, earth connection
⑦	IPC: running systems, processing information	⑭	Start button: for starting the running spotter


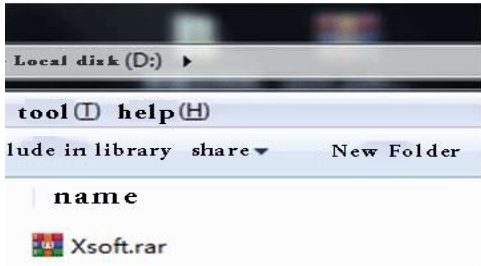
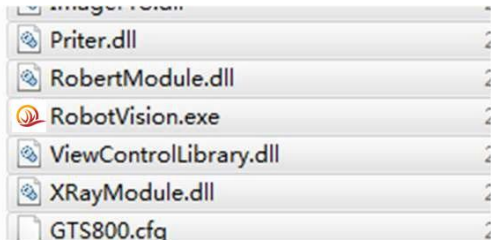
### VIII. Install and update the software.



Note: The system can not be installed on 360, Computer Manager and other antivirus software, specified antivirus software Velvet antivirus, software installation before use to carry out a series of debugging to normal use, this part needs to have installed engineers to complete debugging, operation must have our training before onboard operation.

**8.1 Software architecture:** Based on the main windows PC platform architecture.

#### 8.2 Software installation.

<p>1. Move the Xsoft software zip package to D drive and unzip it.</p>	
<p>2. Enter the Xsoft file</p>	
<p>3. Send a RobotVision.exe shortcut to the Desktop.</p>	

### 8.3 Software Updates

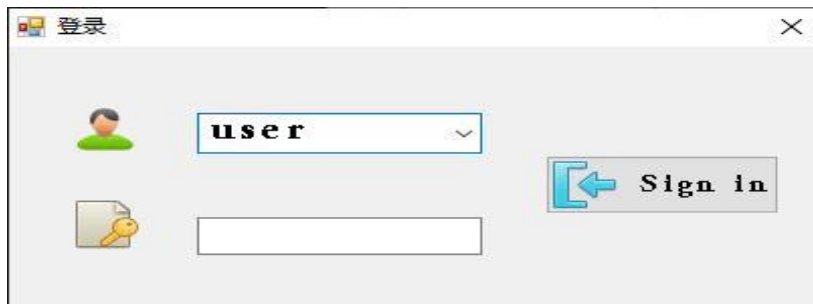
<p>1. Contact after-sales to obtain the update package file.</p>	
<p>2. Move it to Xsoft file to overwrite and replace</p>	

### 8.4 Algorithm update

<p>1. Contact the after-sales service to get the algorithm update package file.</p>	
<p>2. Move it to Xsoft/imagesource/model directory to overwrite the replacement algorithm update package file.</p>	

## IX. Introduction to the use of software.

### 9.1 Software login classification



User	The operator logs into the account and the equipment is used for daily ordering of materials.
Engineer	Docking warehouse management system, administrator account.
Manufacturers	Manufacturer account, able to enter the setup interface and perform debugging and modification work. (You can refer to 9.2 software related settings)

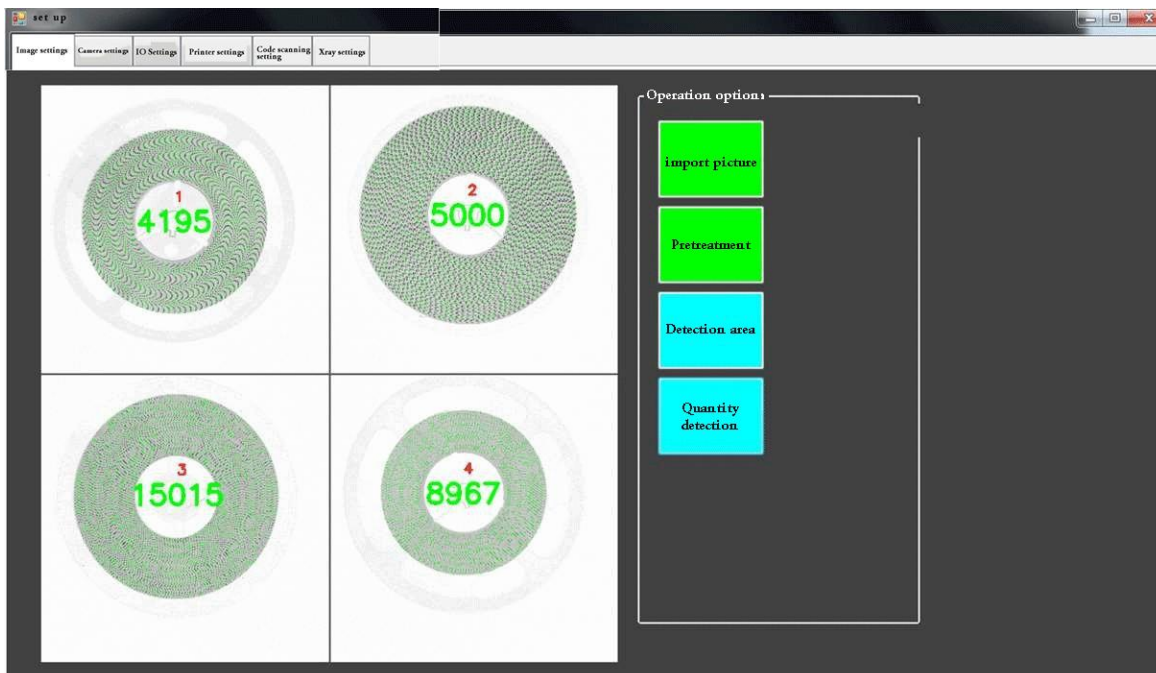
### 9.2 Software-related settings



Note: Software settings can only be logged in through the manufacturer's account, mainly for debugging and modifying software-related parameters. If necessary, you can obtain an account from the manufacturer, please do not modify any relevant parameters or content for normal use.



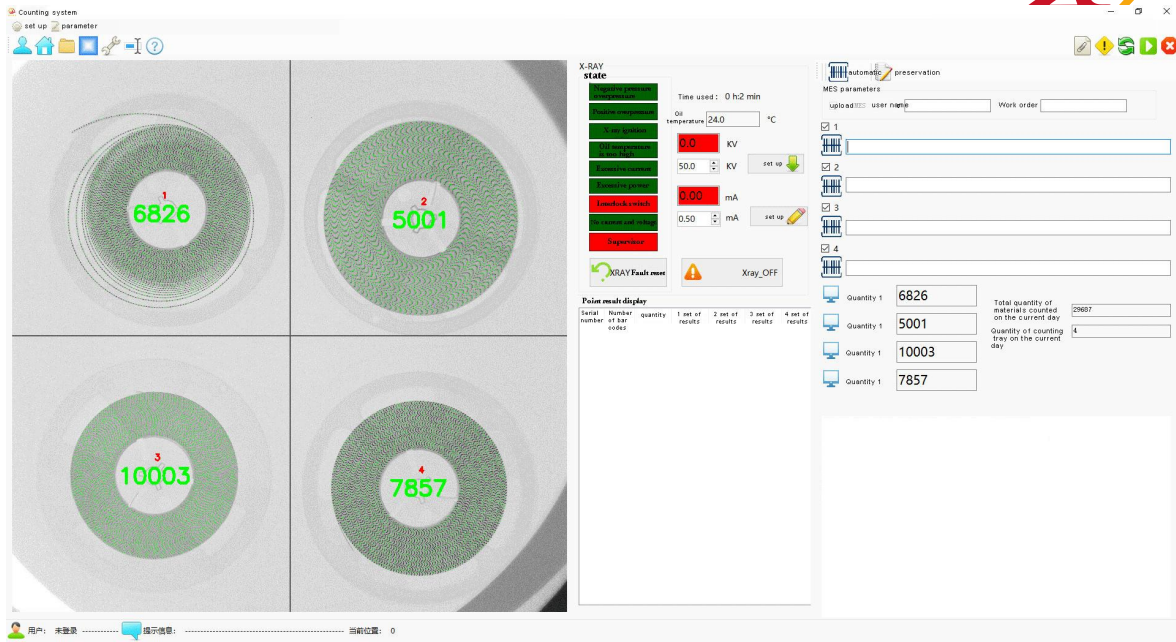
### 9.2.1 Image settings



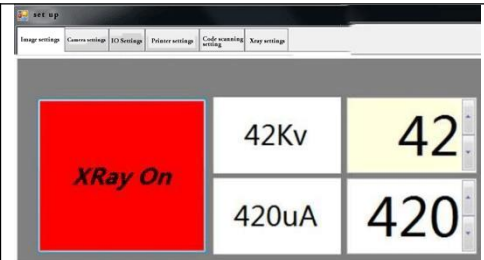
Importing images	Imports the material tray to the machine to inspect for get the images.
Pre-processing	Pre-processed detection images.
Testing area	The amount is displayed in detection area.
Quantity Detection	Detects the amount of the goods in the picture.

### 9.2.2 Camera settings

- The Tablet Camera settings are used to adjust the grayscale, brightness, and contrast of the images captured by the device's X-Ray tablet.



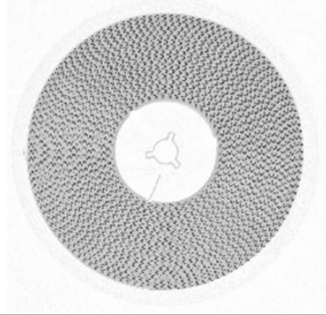
1. Adjust the image image settings need to enter the Xray settings Xray On open

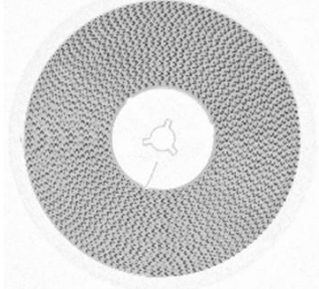



2. Click on the continuous capture and a picture of the material tray inspection will appear on the left.



3. Stop capturing the picture for static capture such as cell phone photos, the left side of the picture can be mouse zoom to view.



<p>4. By adjusting the gray scale (About 230), brightness, contrast, so that the outline around the material tray can be gradually revealed.</p>	
<p>5. Adjustment is complete, click Save</p>	

### 9.2.3 IO settings

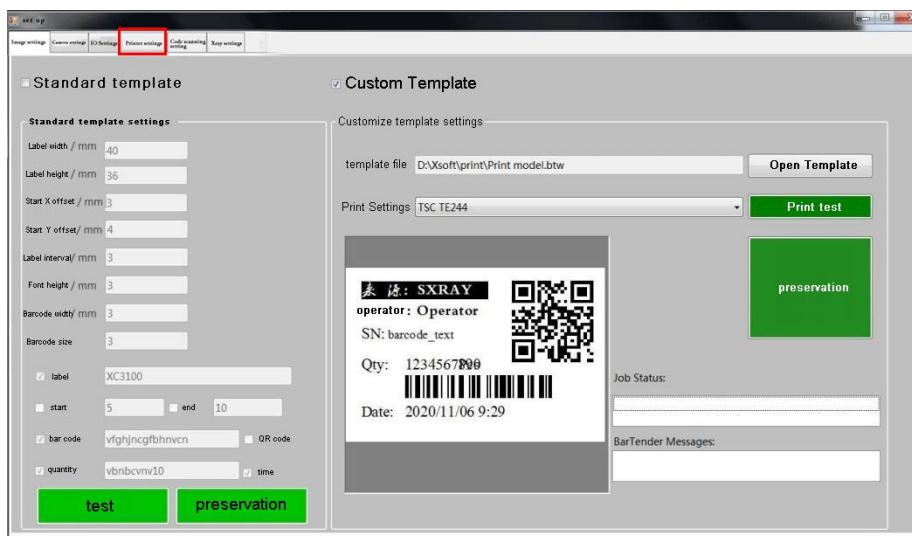




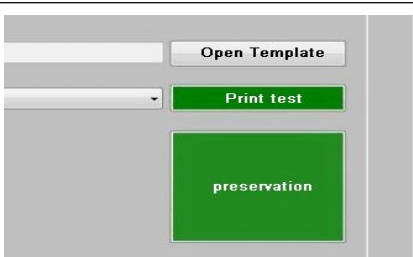
Input : Left, Right	The left and right buttons on the side of the device start button to test the connection status.
Input: Tray1, 2, 3, 4	Tray 1, 2, 3, 4 material tray area sensing position, test sensing status.
Input: Protect	Anti-pinch hand sensor, test the induction status.
Output : Xray Tip	X-Ray light tube OFF/ON status.
Axis: Motor speed	Controls the speed of motor entry and exit.
Axis: Motor acceleration/deceleration	Control motor acceleration and deceleration time
Axis: Deceleration position	Control motor deceleration position
Axis: Inbound	Tray insertion device
Axis: Out of position	Pallets out

Axis: Stop	Pallets stop going in and out
Axis: Save	Save the above settings
Check the click-in box	Press the start button on one side to enter the position
Unchecked click into position	Then press the start button on both sides to enter the position

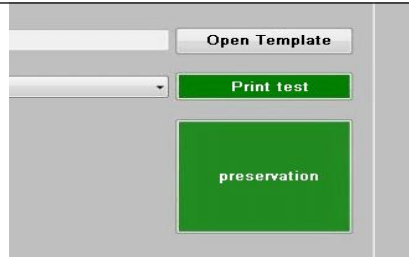
### 9.2.4 Printer settings

- Printer Settings, used to modify the printer label template file.



<p>1. Contact the manufacturer to set up the label printing template file</p>	
<p>2. Put the file into the D:\Xsoft\print\ folder, go back to the printer settings and open the template</p>	
<p>3. Click Print Test to check whether the printer prints the barcode correctly.</p>	

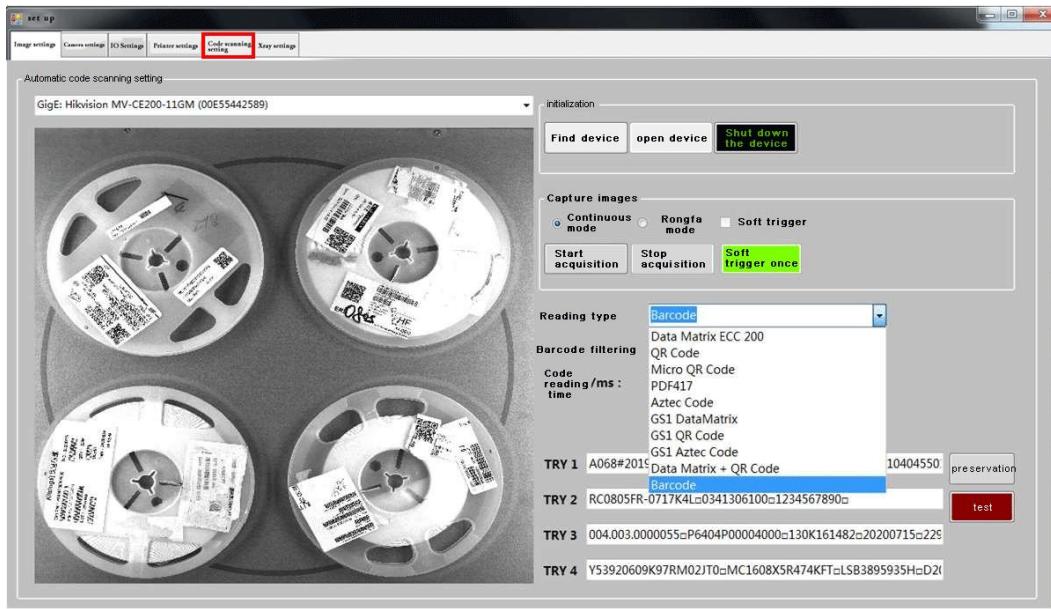
#### 4. Save settings



Note: You need to restart the software after replacing the selected template.

### 9.2.5 Sweep settings

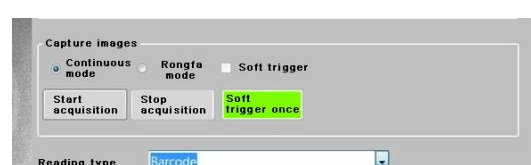
- Scan settings are mainly used to set the barcode type

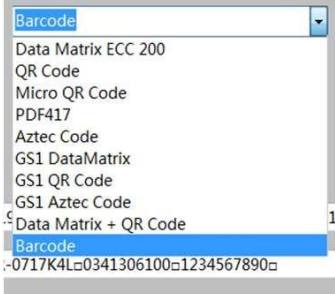
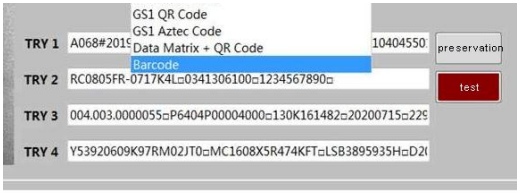


1. Find the device and turn it on.



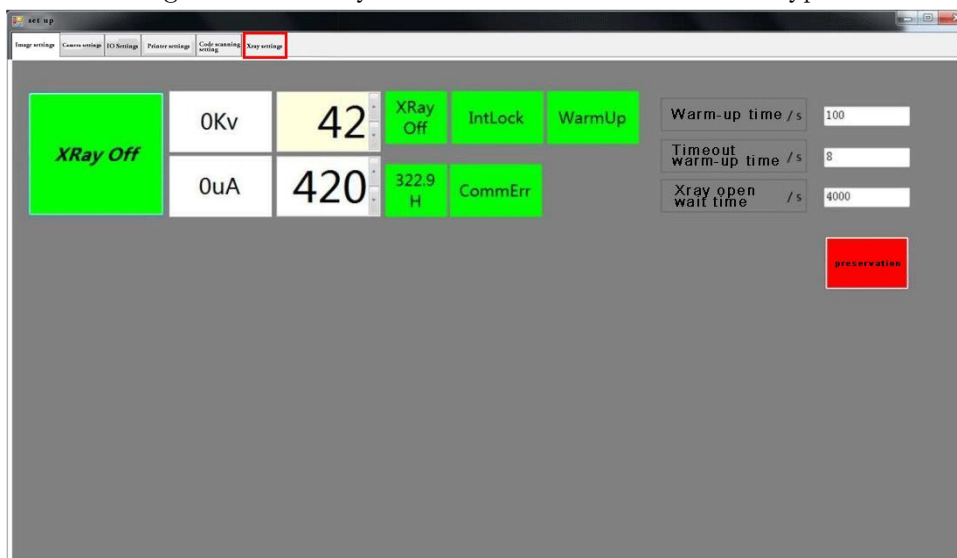
2. Start the acquisition and the camera appears on the left side to capture the image of the material tray.



<p>3. Select the corresponding barcode type.</p>	
<p>4. Click on Test, tray 1234 appears information, you can save the settings.</p>	

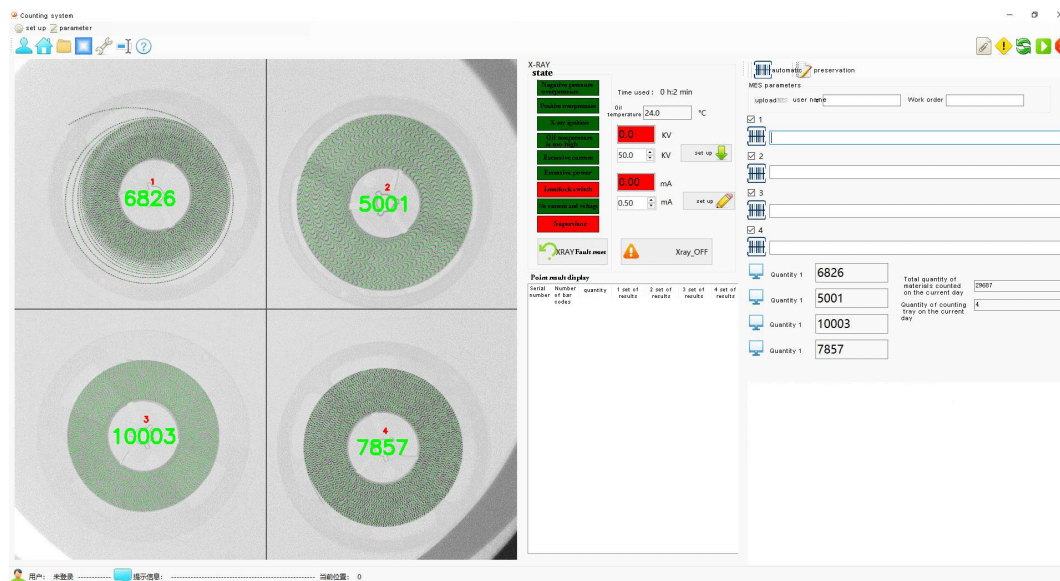
### 9.2.6 X-Ray Setup

- Scan settings are mainly used to set the barcode type

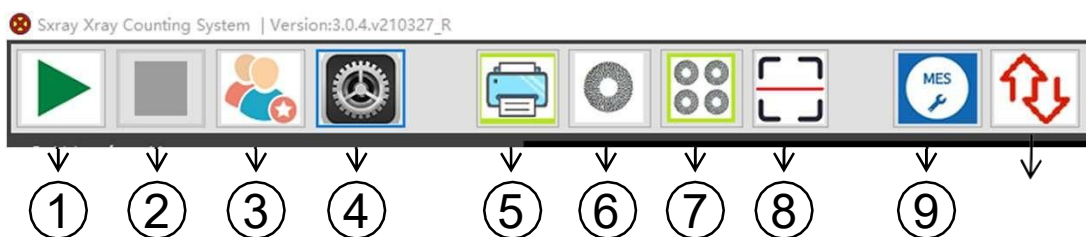


X-Ray Off	X-Ray light tube switch.
Kv	Voltage setting
uA	Current setting

### 9.3 Software operation interface

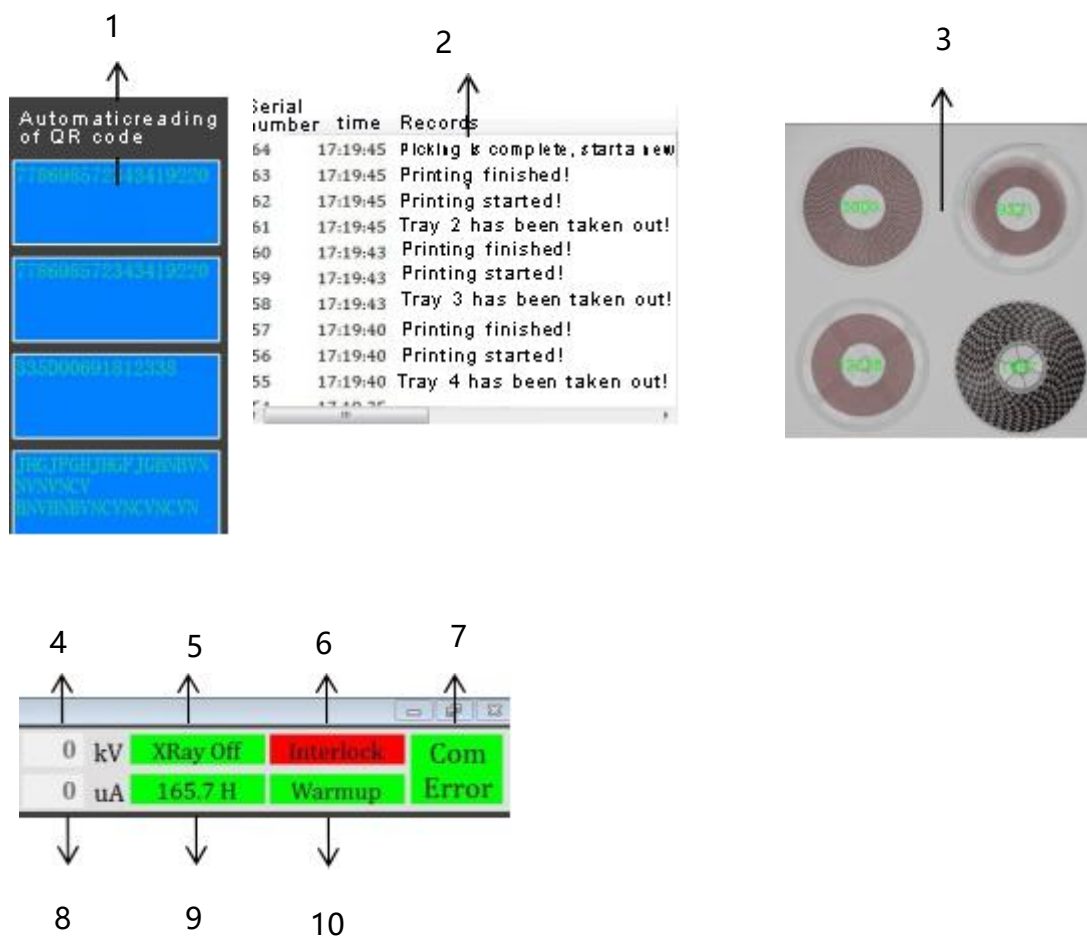


### 9.4 Introduction to the menu bar



①	The start button: for initial stage preparation.
②	The tray insert button: for controlling tray insertion only.
③	The operator button: for setting operator information
④	Settings: Machine parameter settings
⑤	The printer button: to control whether the print is printed or not
⑥	Single tray mode button: ticked for single tray counting
⑦	Multi-disk mode button: use for counting multiple trays simultaneously (up to 4 trays)
⑧	QR code auto-scan button: to be ticked when QR code is automatically scanned
⑨	Docking EMS, REP button: for interfacing to EMS, REP systems
⑩	Tray in/out button: for controlling tray in/out






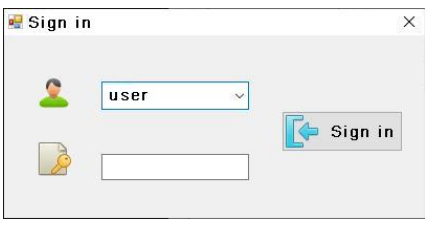
## 9.5 Introduction to software area information display


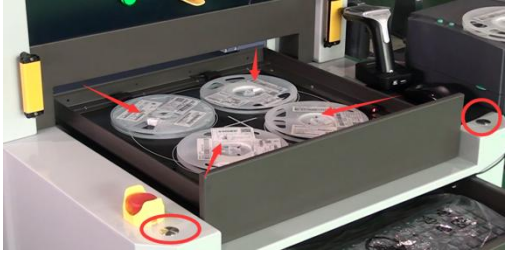
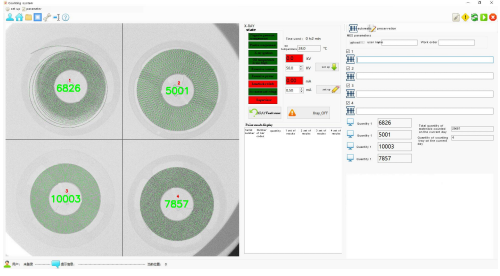

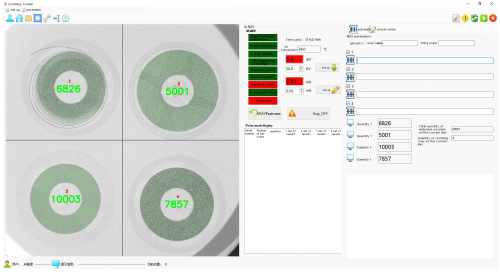


1	QR code reading display area
2	Counting quantity display area
3	Software process operation log
4	X-Ray tube voltage display
5	X-Ray tube OFF/ON status display
6	Induction security lock status display
7	Emergency status display
8	X-ray tube current display
9	X-Ray tube usage time display
10	Preheat status display

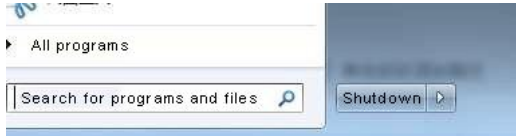

X. Operational use.

10.1 Operational use


<p>1. Check for power of equipment.</p>	
<p>2. Turn on the main power switch.</p>	
<p>3. Turn on the computer power switch.</p>	
<p>4. Turn on the emergent stop button.</p>	
<p>5. Start the RobotVision.exe software of the counting machine.</p>	
<p>6. Select the <i>operator</i> button and input the password to enter the software operation interface.</p>	

<p>7. Select print, auto read QR code, single/multiple tray mode according to demand, and then click the start button. (Refer to 9.8 Introduction to the menu bar).</p>	
<p>8. Place the material tray and activate the double side button.</p>	
<p>9. Waiting for test results</p>	
<p>10. Take out the trays in turn and attach the print barcode. (Do not take more than one tray at a time for inductive label printing).</p>	
<p>11. Repeat steps 6, 7, 8 and 9 to complete the next round of counting.</p>	

## 10.2 Shutdown process

<p>1. Close the software → Close all running software → Shut down the computer.</p> <p>(Tip: The material tray is automatically reset after closing the software)</p>	
<p>2. Turn off the main power switch</p>	

## Eleven. Related failures and solutions.

Failure phenomenon	Exclusion method	Remarks
<p>After setting the font print test no problem, but point material printing will not work</p>	<p>Restart the software</p>	<p>If the problem is still not eliminated, please contact the original factory for repair</p>
<p>Material placed in the third area, the fourth area will be mis-sensing</p>	<p>First, adjust the sensitivity of the No. 4 device (No. 4 position screw two removed, put a material plate on the No. 3 position, with a very small screwdriver slowly adjust the sensitivity of the sensor Figure 1 open light)</p> 	

Sheet-shaped resistive materials with deformation	First look at the size of the paper whether is 60 * 40, if the print paper is no problem, may be the problem of the ribbon (ribbon model is LV103 specification is 110 * 300 external carbon )	
Counting machine can not read the code	1: The code is not set correctly 2: The camera field of view is not set properly	
After updating the software, the printing problem appeared without taking out the material tray to print	If you choose to print the single tray, it will be printed directly without waiting for the material tray, it should be set to automatically scan the code, the reading type should be qrcode	
Incorrect count/printer cannot connect to computer	The number of points is not allowed to adjust the brightness, the printer to reinstall the driver	
Tablet opening failure/XRAY initialization failure	The last program did not exit the completion of the cause, restart can	
Can't print custom	Region setting as language	

templates		
No response to scanning	Set to auto-scan	
The print test works, but the point material does not print	Check the print template	

## XII. X-Ray plate manual.

### 12.1 Software Installation

- For example, copy: hbi\_fpd\_x86\_ver1.0.2.7 to the specified installation directory, which contains: HBI\_FPD\_Tool.exe - Application. HBI\_FPD.lib - Static Library. HBI\_FPD.dll - Dynamic Library. opencv\_core249.dll - Dependency Library. opencv\_highgui249.dll - Dependency Library. opencv\_imgproc249.dll - Dependent Library.

### 12.2 IP address configuration

- Follow this procedure to configure the tablet IP address: Settings → Status → Change adapter options → Right-click "Unrecognized networks" → Properties → Internet Protocol version 4 (TCP/IPv4) → Use the following IP address → Enter the tablet probe IP address (192.168.10.20) → Click Subnet Mask → Confirm.

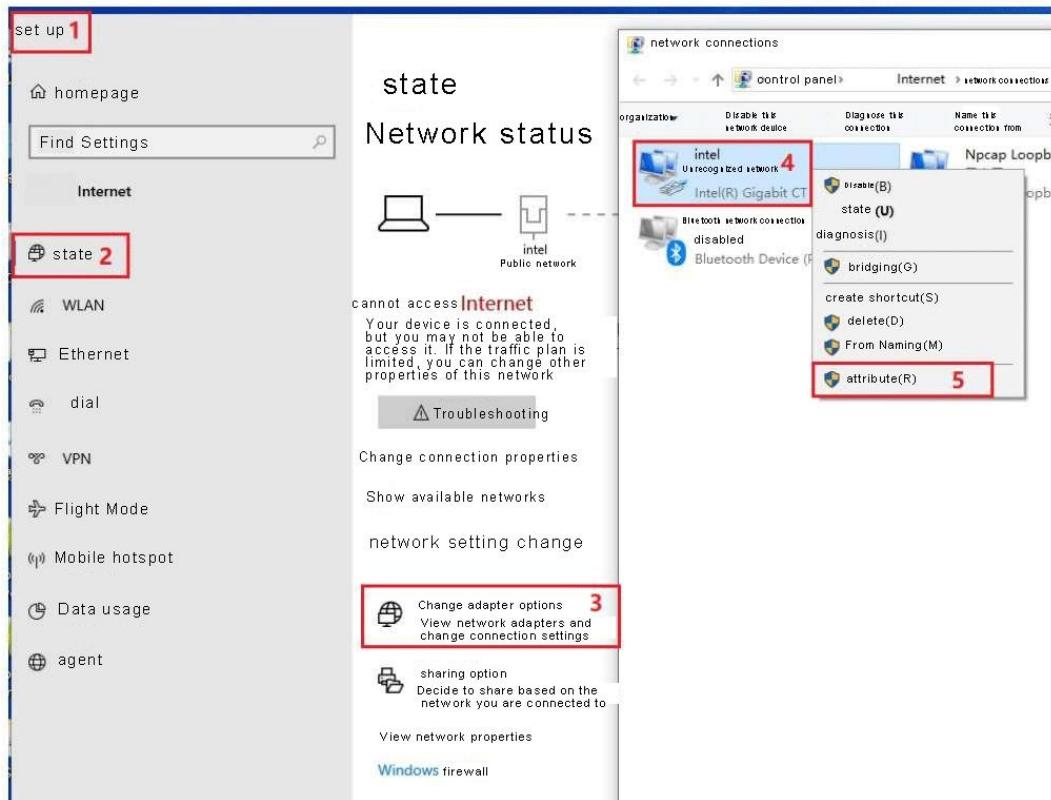


Figure 12.2-1 Configuration IP Address Diagram 1

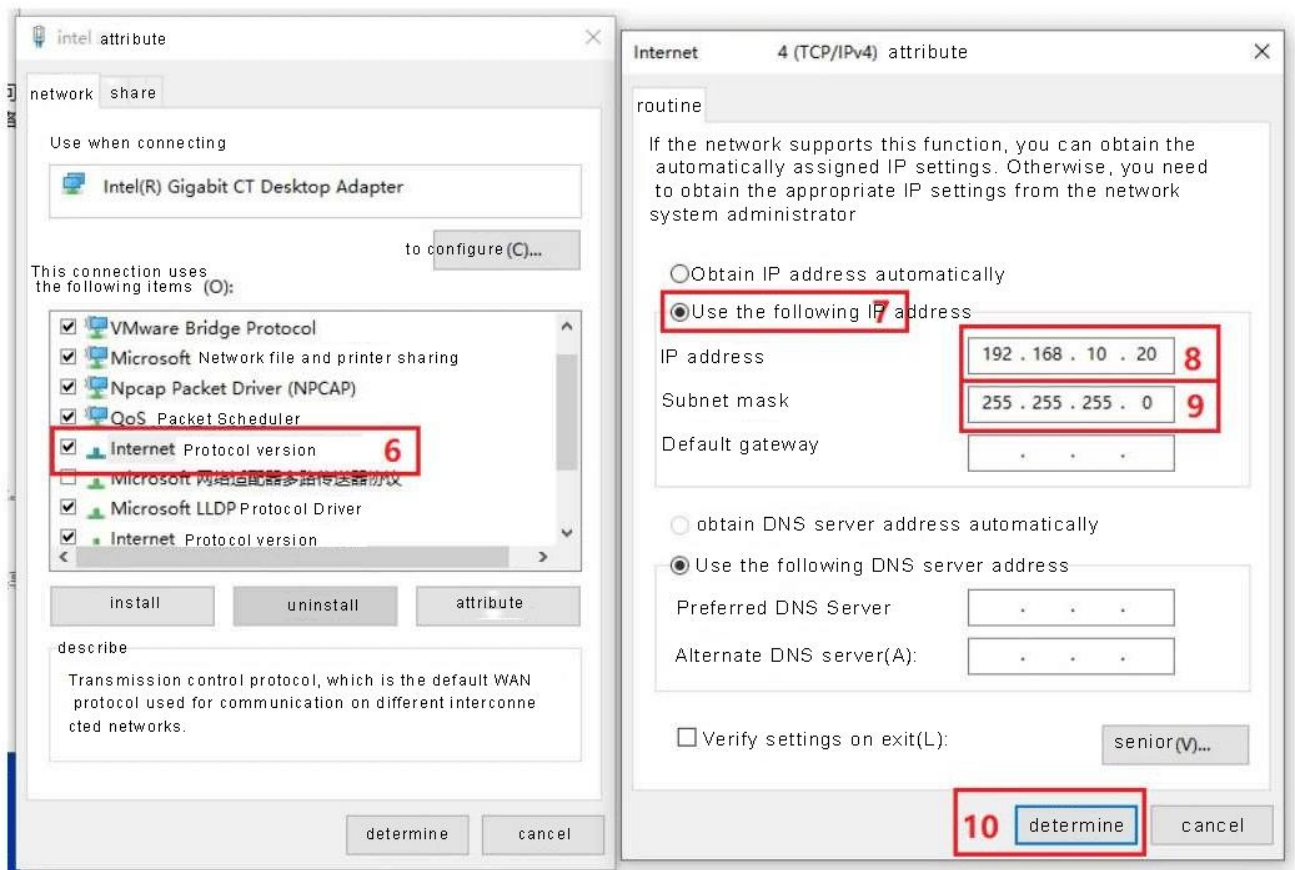


Figure 12.2-1 Configuration IP Address Diagram 1



### 12.3 X-Ray Flat Panel Hardware Failure Analysis and Troubleshooting

- X-Ray plate general failure phenomenon, cause analysis, troubleshooting methods are shown in the following table.

Failure phenomenon	Cause Analysis	Exclusion method	Remarks
The device is not powered after plugging in the power cord	Power adapter failure or flat detector failure	Re-plug the adapter power connector, check whether the power adapter indicator is always on	If the fault is still not eliminated, please contact the original factory for repair
Detector cannot be connected	Gigabit network cable not connected to the PC, configuration parameters are wrong	Check the gigabit cable connection. Check the network connection indicator, whether it is always on. Check the PC configuration parameters	If the fault is still not eliminated, please contact the original factory for repair
Press the generator can not be synchronized exposure	High-voltage hand brake wiring is not connected between the plate and the high-voltage generator synchronous trigger line is not connected	Check whether the synchronous connection line between the hand brake connecting plate and the high voltage generator is correctly connected	If the fault is still not eliminated, please contact the original factory for repair
Image horizontal and vertical channel abnormalities	Detector acquisition anomaly	Restart the detector	If the fault is still not eliminated, please contact the original factory for repair

### 12.4 X-Ray Flat Panel Software Failure Analysis and Troubleshooting

1) Q: The application tool does not open properly, indicating that the \*.dll file is missing .

A: First check if the installation package file is missing dependent

libraries, if it indicates missing *MSVC\*.DLL*, please setup  
“*vc\_redist\_2013\_x86.exe*” .

2) Q: Pressing the exposure handbrake does not update the picture.

A: Check if the configuration Work Mode is '03' and exclude if the firmware configuration is normal. If it still fails to upload, check the logs for network anomalies and finally provide the logs to the R&D engineering staff for analysis.

3) Q: When generating a template, it prompts "Abnormal data collection, please check"

A: Check that the sets of data collected are complete, because the system verifies the completeness of the date, and if images are missing, please make them up before generating the template.

4) Q: Image cannot be dragged.

A: Click on the toolbar "*Drag*" button, move the mouse to the graphic display area and the hand marker image will change to a hand shape image that can drag the image.

5) Q: Correction enable does not take effect.

A: Check if the calibration enable status is enabled, if it is not, the template file does not exist or does not match, please create the corresponding template before starting the enable status.

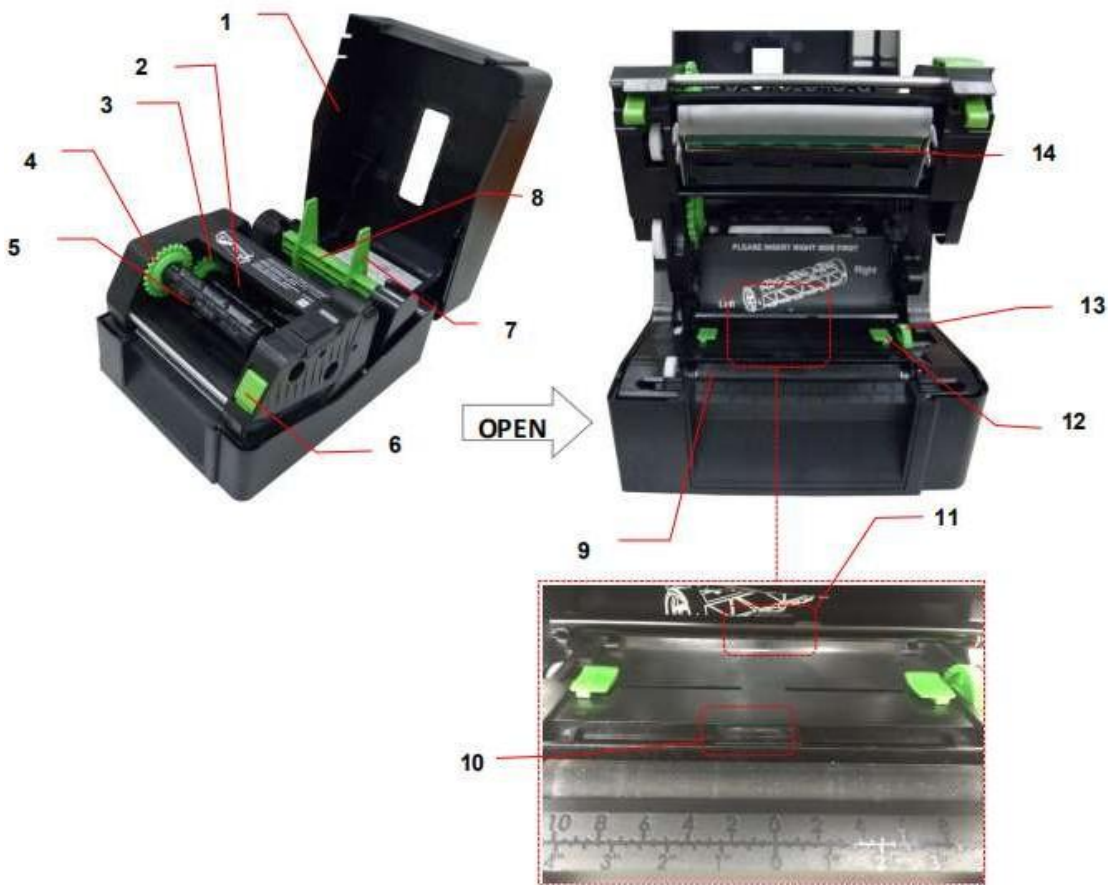
Thirteen, the printer manual.

### 13.1 External appearance



1	LED indicator
2	Paper feed/pause button
3	Top cover opening switch
4	Print Label Outlet

### 13.2 Internal



1	Printer top cover
2	Magnetic tape supply shaft
3	Magnetic tape supply spool
4	Magnetic tape supply recovery shaft
5	Tape Recovery Shaft
6	Printed head open switch
7	Roll paper fixing sheet
8	Paper supply shaft

9	Rubber Rollers
10	Black marker sensor
11	Gap sensor
12	Paper guide
13	Paper guide adjustment knob
14	Printed head

### 13.3 Rear



1	Power Switch
2	Power supply connector
3	USB port (USB 2.0/Hi-Speed mode)
4	USB host port (TE210/TE310 series only)
5	RS-232 port (TE210/TE310 series only)
6	Ethernet connection port (TE210/TE310 series only)

### 13.4 Printer Installation

- Please place the printer on a smooth surface first, follow the steps below to turn it on.
- 1) Plug the power cord into the power slot at the back of the printer,

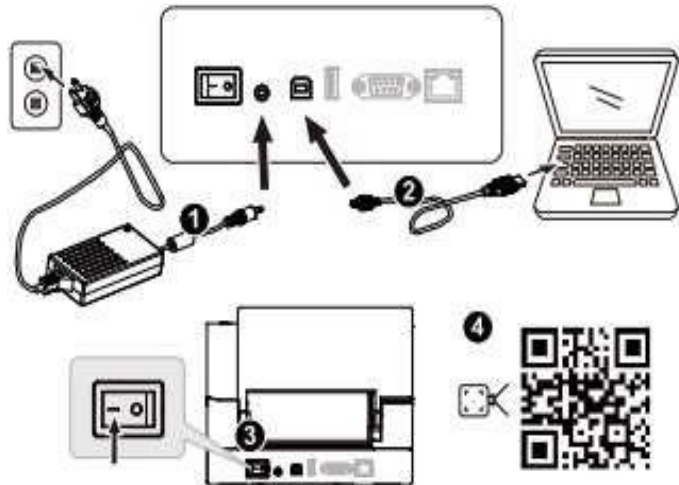
and then plug the other one end is plugged into an AC outlet.

2) Insert one end of the USB cable into the slot on the back of the printer.

Then connect the other end of the cable to the computer slot.

3) Turn on the power switch at the rear of the printer ("-" is on "O" is off).






(4) If you need to refer to the installation video of the printer, please scan the QR code on the right to the TSC download area to watch.




Note: Please turn off the printer's power switch before plugging the power cord into the printer's power slot.

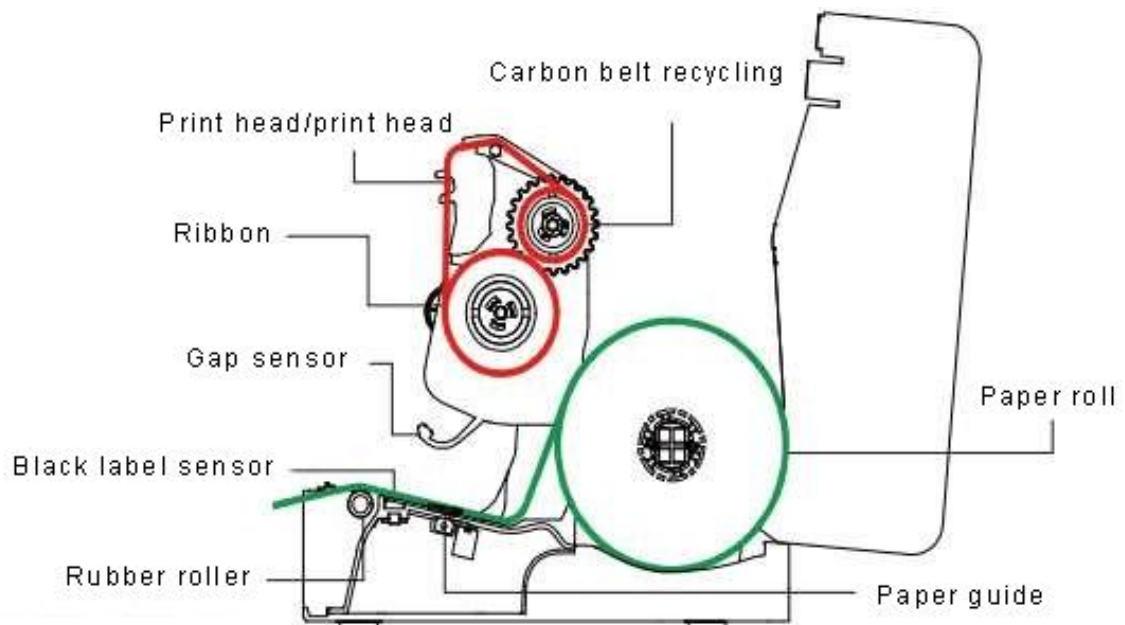
### 13.5 Tape Installation

<p>1. Press the switches on the both sides of the top cover and push up at the same time to open the printer top cover.</p>	
<p>2. Insert the empty paper roll into the ribbon recovery spindle.</p> <p><b>Note:</b> You can also use a 0.5" or 1" paper roll with grooves on both sides to press directly into the ribbon</p>	

<p>recovery spool, making sure that both grooves are fully seated in the spool)</p> 	
<p>3. Press the right side of the recovery shaft (marked "R" side) first, and then press the left side (marked "L" side) into the recovery runner (green).</p> <p><b>Note:</b> A 0.5" or 1" paper roll with holes on both sides can also be used instead of the recycling spindle.</p>	
<p>4. Press the print head on switch to turn on the print head.</p> 	
<p>5. Slide the ribbon onto the ribbon supply shaft.</p> <p><b>Note:</b> 1. The ribbon with grooves on both sides can be pressed directly into the ribbon supply spool, which can be used directly instead of the ribbon recycling spool. 2. If you choose the ribbon</p>	

<p>spindle, you do not need to use the ribbon paper roll with grooves on both sides</p> 	
<p>6. Press the right side of the supply shaft (marked "R" side) into the supply runner first, and then press the left side (marked "L" side) into the supply runner (green).</p>	
<p>7. Wrap the ribbon around the print head and adhere it flat to the ribbon recovery spindle (empty paper roll).</p> <p>8. Rotate the ribbon recovery wheel until the black area of the ribbon is over the print head and roll the ribbon tightly so that there are no wrinkles on the ribbon.</p>	
<p>9. Close the print head by pressing down with both hands at the arrow in the figure above. Make sure the print head is fully closed to ensure print quality.</p>	

- Tape installation path



### 13.6 Mounting paper

1. Press the switches on the left and right sides of the top cover with both hands and push up at the same time to open the printer top cover.



2. Load the paper roll into the label supply spool and secure it with the paper roll

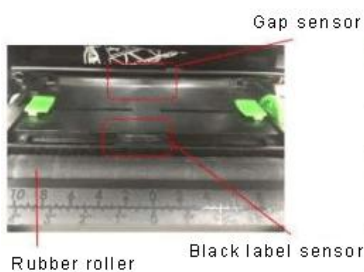
The paper roll is fixed in the center of the supply shaft by using the tabs. (If using a 4" wide paper roll, remove both fixing tabs and use the Paper scrolls will do.)



3. Place the paper roll squarely on the paper roll stand. The paper supply shaft is attached separately  
With two 1.5" paper spool bushings



4. Press the print head switch to turn on the print head.



5. Pull the front end of the paper out (print side up) through the paper sensor and pull the paper through the rubber rollers. Adjust the paper guide to be the same width and in light contact with the paper.



6. Close the print head by pressing down with both hands at the arrow on the left. Make sure the print head is fully closed to ensure print quality.





### 13.7 LED indicators

LED indicator color	Description
Green (fixed)	Power on, printer on standby for printing
Green (blinking)	The printer is downloading data or the printer is suspended
Orange	The printer is clearing data
Red (fixed)	Top cover opening, cutting knife error
Red (blinking)	Printing errors, such as paper exhaustion, paper jams or memory errors... etc.

### 13.8 General key functions

Paper feed button	When the printer is ready (LED is fixed in green), press the button and the label sheet will feed to the front of the next label sheet.
Print pause button	While the printer is printing, pressing the button causes printing to pause. The power indicator flashes green. As soon as the button is pressed again, the print job returns to normal.

## XIV. Equipment maintenance.

### 14.1 Maintenance

- Machine exterior and interior clean, no dust, water stains, oil stains.
- Check if the machine safety lock is working properly.
- Check if the power and ground connections are secure.
- Check whether the movement of each axis is smooth and whether the limit switch of each axis is working properly.
- The guide rails are inspected once a month to remove dirty grease and add new lubricant.



## 14.2 Notes

- No water and oil liquid can be placed inside the platform.
- Do not open the door when the X-rays are on to prevent being irradiated.
- Please press the emergency stop button when the movement is out of control or in danger of collision.
- Machine use environment, no water vapor, dust, vibration, high temperature.
- The machine casing must not be drilled to prevent leakage.
- Ensure that the machine case is well grounded to prevent machine failure and personnel injury.
- The machines are used by designated trained personnel.
- Copy the picture data using a special U disk, U disk before use to kill the virus to prevent damage to the computer software.
- If the software is abnormal, please use the backup software.