

WIX-gelPHOTO Gel Doc

Instruction Manual

Catalogue Numbers

10701001



WIX TECHNOLOGY BEIJING CO.,LTD

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Safety Warning



The imaging systems should be used only by trained personnel who know the health risks associated with the UV radiation normally associated with these instruments. Users should be trained on the appropriate personal protective equipment for working with UV light to minimize UV exposure.

LED (light-emitting diode) HAZARD. Removing the protective covers and (when applicable) defeating the interlock(s) may result in exposure to the internal LED. LED can burn the retina, causing permanent blind spots. To ensure safe LED operation:

- Never look directly into the light beam.
- Wear proper eye protection and post a warning sign at the entrance to the laboratory if the LED protection is defeated for servicing.
- Keep the lid open for as little time as possible. When there is a need to open the lid, BLUE light must be off. Or must wear blue light protection glasses and avoid prolonged exposure to BLUE light.

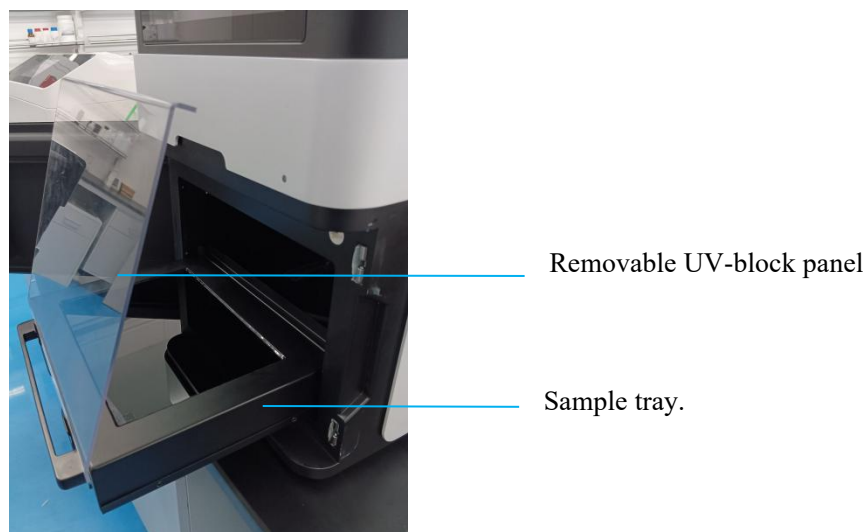
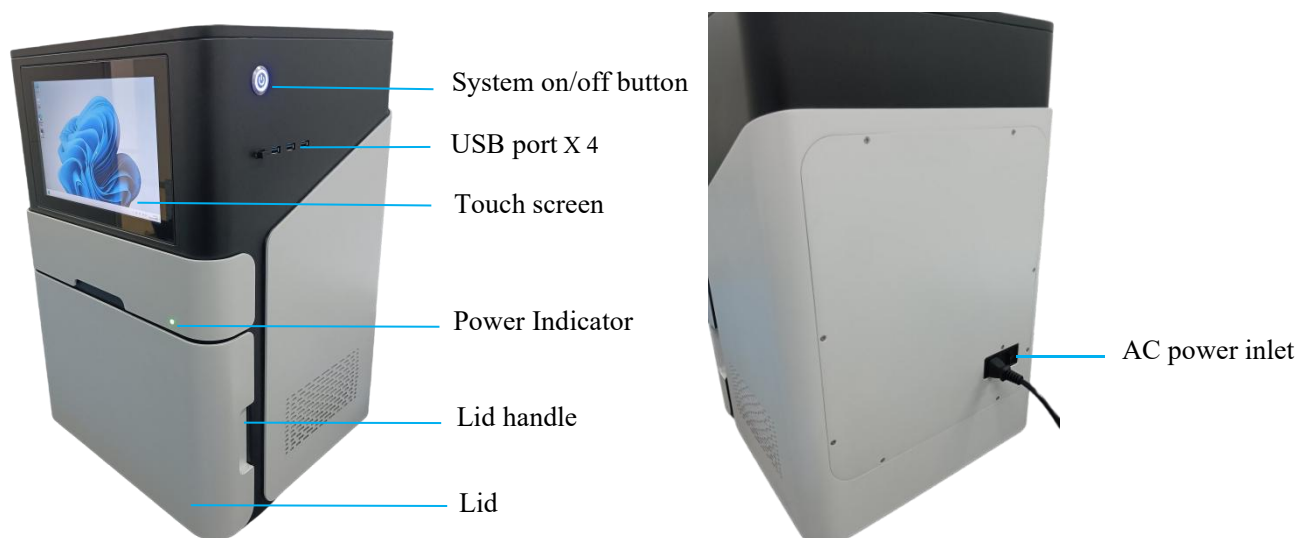


- Gel Doc is an electromechanical instrument, and the general safety precautions should be applicable to electrical equipment during operation. If the user does not follow the instructions in this manual, electric shock and personal injury may occur.
- The power cord of Gel Doc must be connected to a qualified power supply (110-240V/500W/6A) with a grounded socket. Using an unmatched power supply may cause electric shock and fire accidents.
- If an un-grounded socket is used, which shall be replaced by a grounded socket by a qualified electrician according to local electrical codes.
- Do not make any electrical changes or intentional damages to Gel Doc, otherwise it will cause a dangerous situation and the quality guarantee of the instrument will be invalid.
- If the power cord is broken, worn or disconnected, please contact WIX TECHNOLOGY BEIJING CO., LTD immediately for replacement.
- Do not touch the switch and power cord with wet hands.

1. Introduction

WIX-gelPHOTO Gel Doc, an integrated fully automatic gel imaging system, based on technology of advanced scientific grade cameras and lenses, accommodating both automatic and manual imaging modes, and a built-in computer for fast gel imaging.

1.1 Front and back components



System on/off button: Turn on/off the touch screen.

USB port: for external devices such as USB drives, mice, keyboards, etc.

Touch screen: Replacement of computer.

Power Indicator: Indicate the power supply status of the equipment. When the equipment is powered on, the indicator light will illuminate. When the power is cut off, the indicator light will go out.

Lid handle: Open the lid.

Lid: Provide a shading condition for the experiment.

AC power: 100-220V~50Hz/60Hz.

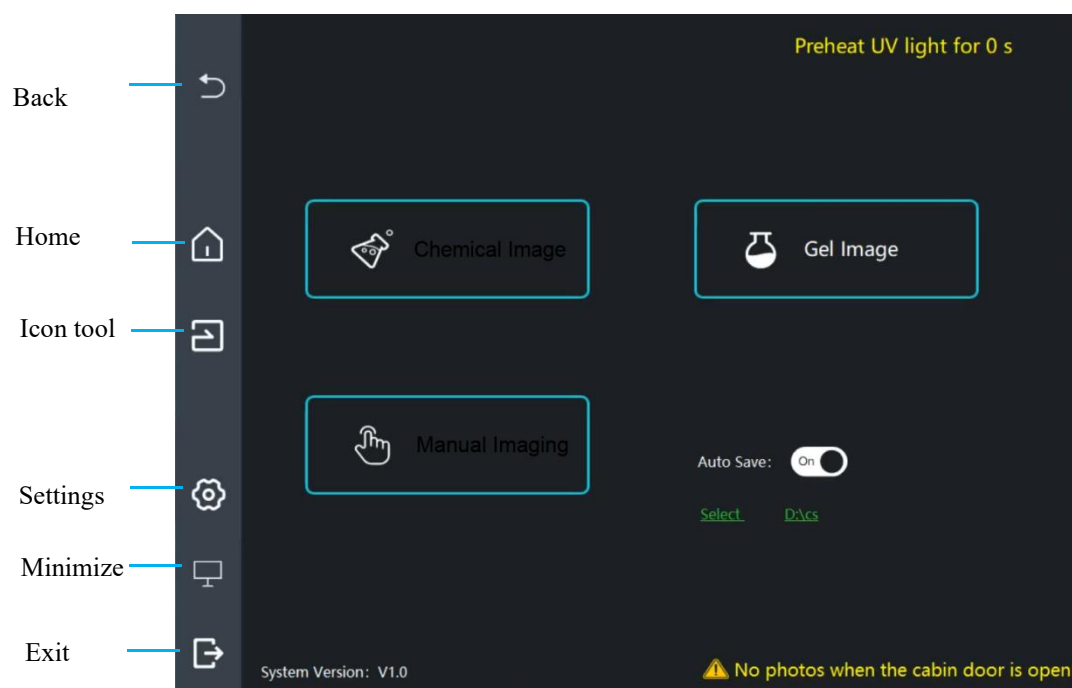
Removable UV-block panel: avoid exposure to UV radiation.

Sample tray: supported applications of DNA stain of EB, Gel Red, etc.

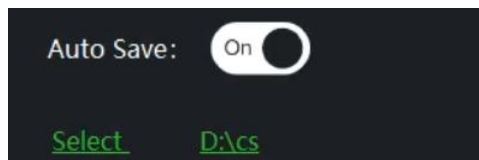
1.2 Specifications

Model	WIX-gelPHOTO Gel Doc		
Sensor model	Sony IMX226	Lens aperture	F2.4
Pixel size	1.85 μ m x 1.85 μ m	Maximum image area	16x21cm
Sensor size	1/1.7 inch	Excitation source	Double LED white light
Effective resolution	4024x3036	Screen size	10.1 inch capacitive touch LCD screen
Image resolution	12 megapixels	Transmission UV	365nm/302nm
Exposure time	34 μ s ~ 2 sec	Blue wavelength	470nm
SNR	40.5db	Emission filters	1 included (standard), 5 optional
Dynamic Range	70.5db	Shutter type	Electronic Rolling Shutter
Dimensions (mm)	360x350x530 (LxWxH)		

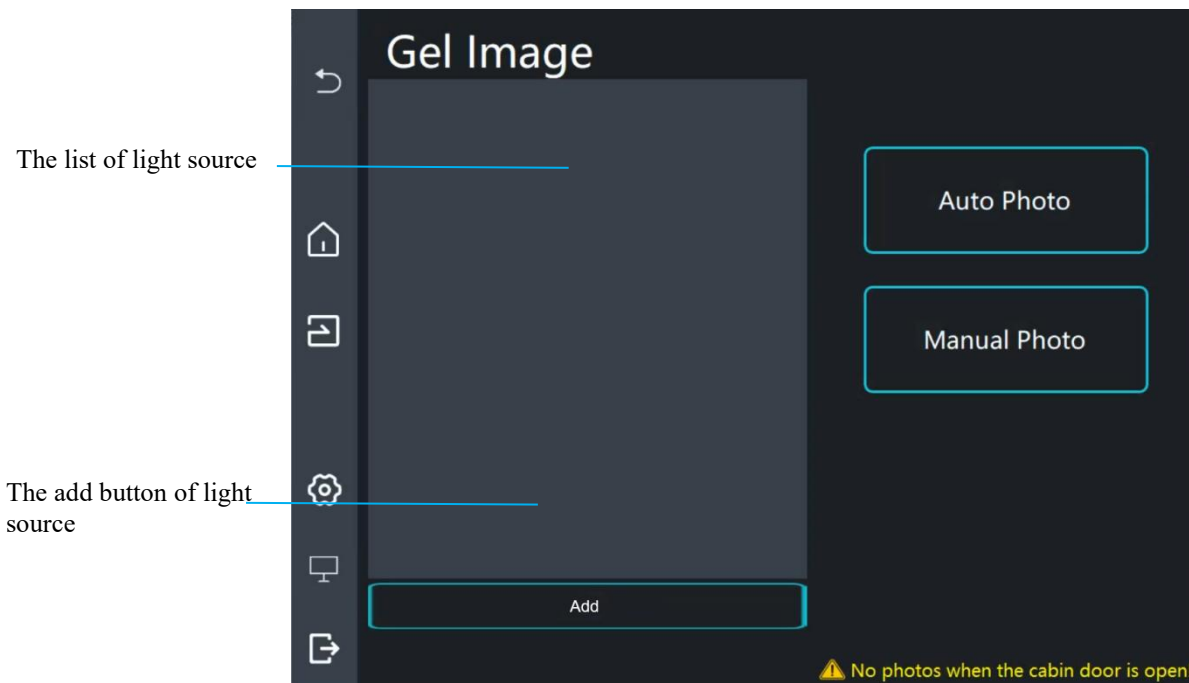
2. Home



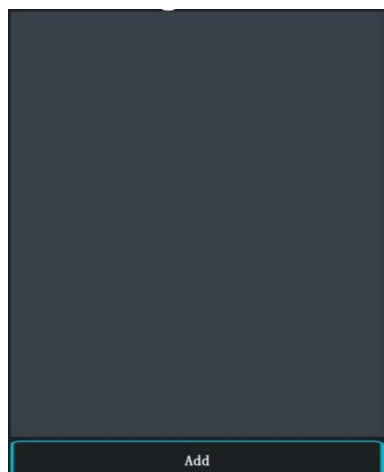
1. Back: Navigate to the previous page.
2. Home: Navigate to the home.
3. Icon tool: Navigate to the page of image processing. Further details about the image processing page will be provided later.
4. Settings: Navigate to the page of the settings. Further details about the settings interface will be provided later.
5. Minimize: Minimize the page.
6. Exit: Exit the software.
7. UV lamp preheating Time: After turning on the device, the system will automatically preheat the ultraviolet lamp. Before the preheating countdown, it is impossible to navigate to the page of automatic photo-taking and manual photo-taking. Open the lid, the countdown will automatically pause. Close the lid, the countdown will continue to run.
8. Gel imaging module: Navigate to the page of the gel imaging.
9. Auto save: Turn off/off auto save, allowing you to save your file locations for future use.




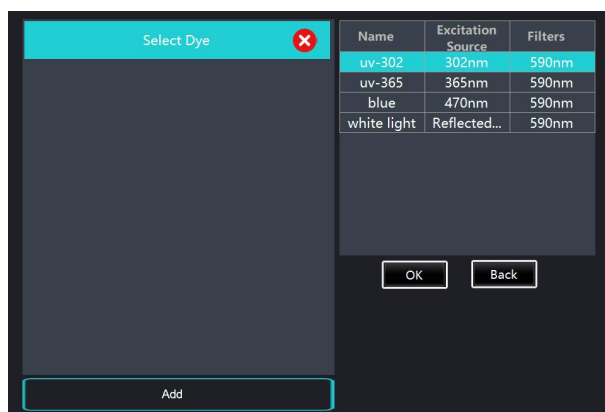
3. Introduction of the Gel Imaging Function




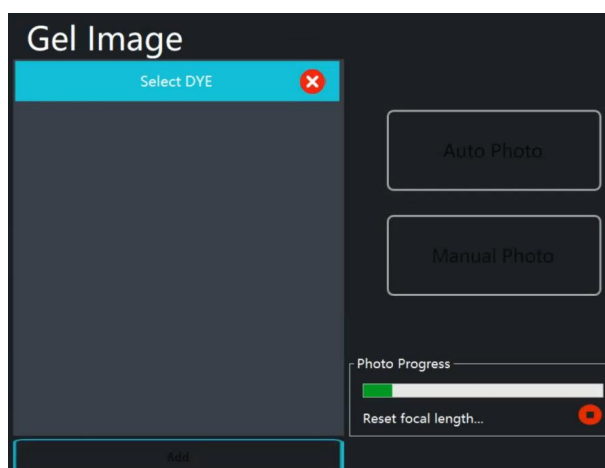
1. The list of light source: set parameters of light source and light filter



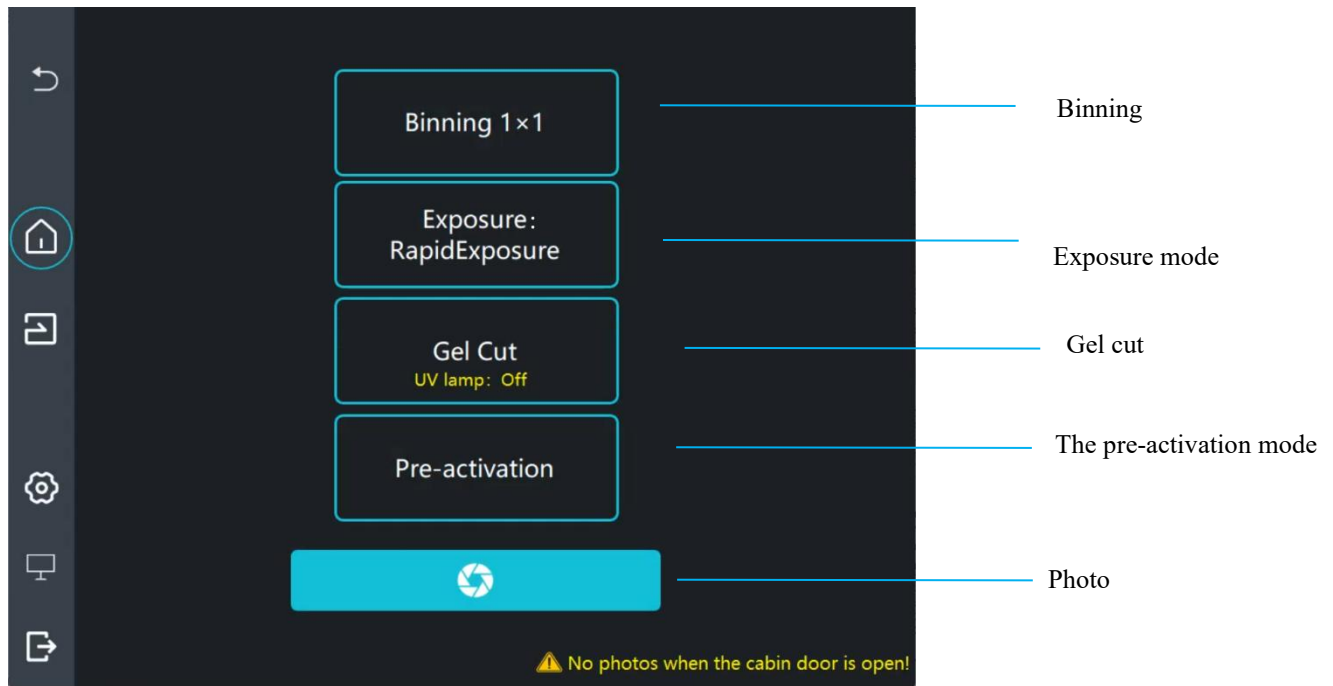
2. The add button of light source: hit for add light source and light filter. The added light source will shown inside the list, hit the relevant light source and the light source menu will be shown on its right. Hit the proper light source to confirm your selection. The button  is for deleting the previously set light sources. Up to four sets of light sources can be selected. When taking photos with multiple light sources, the camera will take pictures of each of the four light sources in sequence according to the preset conditions.



3. Auto photo: hit for taking photos automatically. The photo progress will be shown, hit  to stop.



4. Manual photo: hit for navigating to the manual photo page.



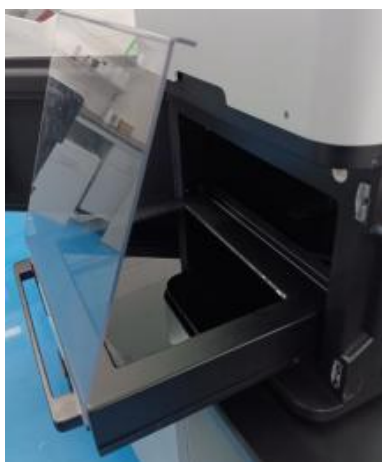
4.1 Binning: for Binning settings, three choices of 1x1, 2x2 and 4x4.



4.2 Exposure mode: for exposure settings, four choices of fast exposure, wide dynamic range exposure, overexposure and manual exposure. Hit the manual exposure to set the exposure time and exposure gain.



4.3 Gel cut: open the lid, place the UV protection plate inside, hit the "Gel cut" button, the UV tray will light up, and if you hit again, the light will go off.




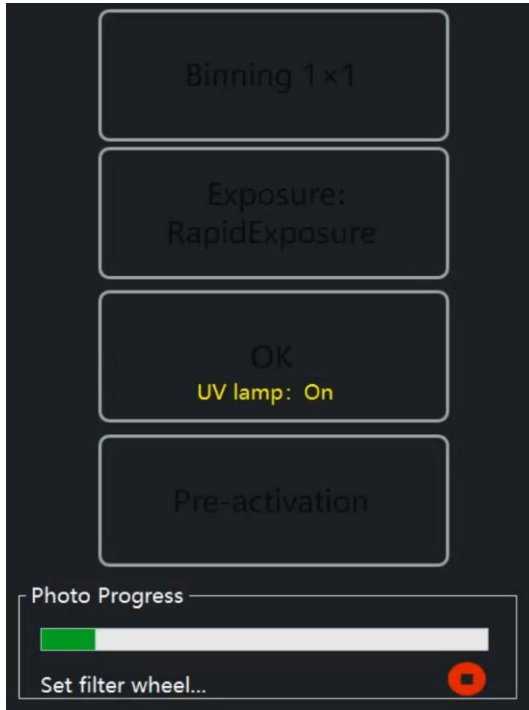
4.4 The pre-activation mode: After hit, the program will take a 5-minute countdown, the ultraviolet lamp will automatically turn on for the pre-activation of the samples.

If auto photo-taking was chosen, photo will be taken after the countdown automatically. If not, you have to take a photo manually.

00:04:31 Take photos

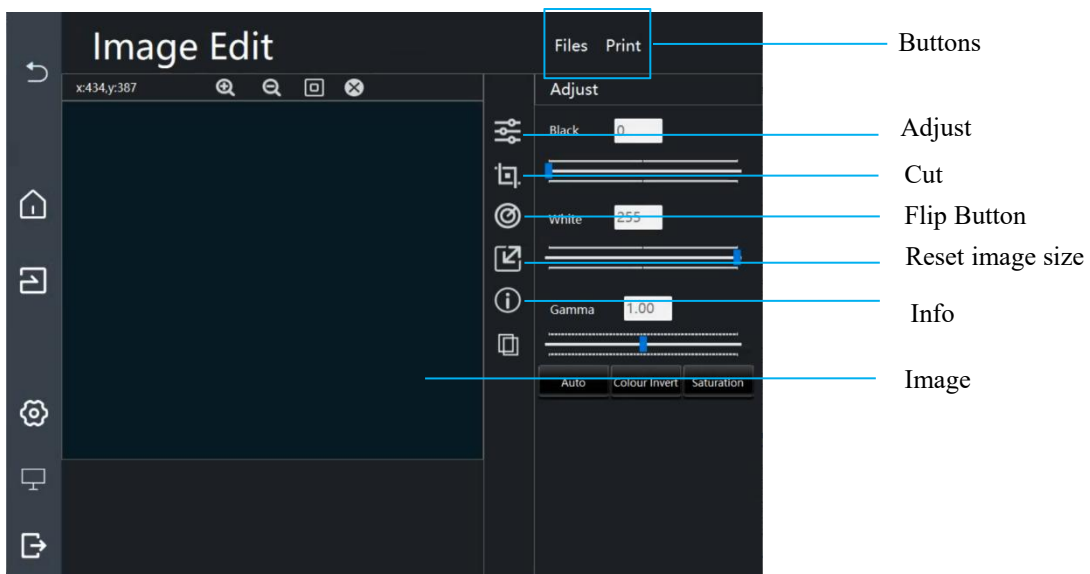
00:04:19 Take photos

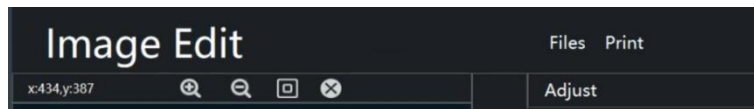
4.5 Photo: for taking photo, the photo will be taking upon your settings, hit  for stop.



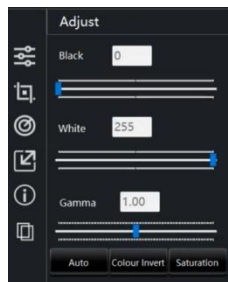
4. Image settings

After photo, will navigate to the page of image settings, can be also navigated manually.

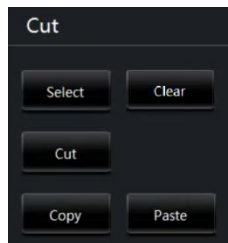




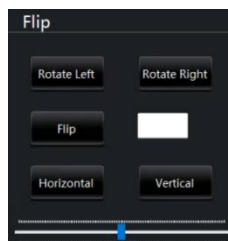
1. **Toolbar:** Includes functions such as File, Print (Print can be set to print images or reports. The printed report will save the images and the camera parameters used for taking photos in PDF format), Zoom In/Out for images, Restore Original Image, Close, and Mouse Position Coordinates.
2. **Adjust:** black/white, manual and automatic gamma. Functions for reversing the black and white of the image, and marking the over-saturated areas.



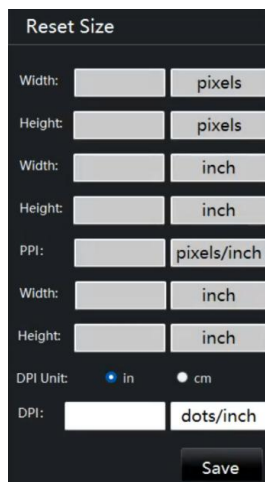
3. **Cut:** selecting and cropping images, as well as copying and pasting.



4. **Flip Button:** Counter-clockwise 90°, Clockwise 90°, custom angle flipping, horizontal flipping, and vertical flipping.



5. **Reset image size:** show current pixel and dpi. dpi can be set to save the image separately.



6. Info: Display the camera parameters and system parameters used for taking photos.

Info	
Date/Time	
Protocol Type	
Capture Type	
Protocol Name	
Pixel Merged	
Exposure Time	
Gain	
Exposure Type	
Channel Name	
Light Source	
Filters	
Aperture	
Trays	
Focus	
Calibration	
Software version	
System SN number	

5. Basic settings

The screenshot shows the 'Settings' application interface. On the left is a navigation sidebar with icons for home, back, settings, and other functions. The main area is divided into two panels: 'Basic Settings' and 'DYE List'.

Basic Settings:

- File Save Settings:**
 - Auto Image Save
 - 300dpi tiff
 - 600dpi tiff
 - JPEG
- Total Photos:** 3
- Auto Merged Markers
- Auto Exposure Threshold:** 50
- UV Delay Time:** [input field]
- Serial Number:** 4
- Simulation Mode

DYE List:

Name	Excitation Source	Filters
SS	ECL	525nm
uuu1	Transmitting...	None

ADD DYE:

Name: uuu1 | Excitation Source: ECL | Filters: None

Samples: Chemiluminescence Gel Image

1. File saving settings: Multiple saving formats for choices, 300tiff, 600tiff, and jpeg, etc. Hit the auto saving button , the images will be saved by the selected format in the corresponding folder.
2. Cumulative number of photos taken: None.
3. Automatic marker merging: None.

4. Automatic exposure threshold: The threshold for taking photos during automatic exposure can be set (range: 1 - 255).

5. Ultraviolet delay time: None.

6. Serial number: Default.

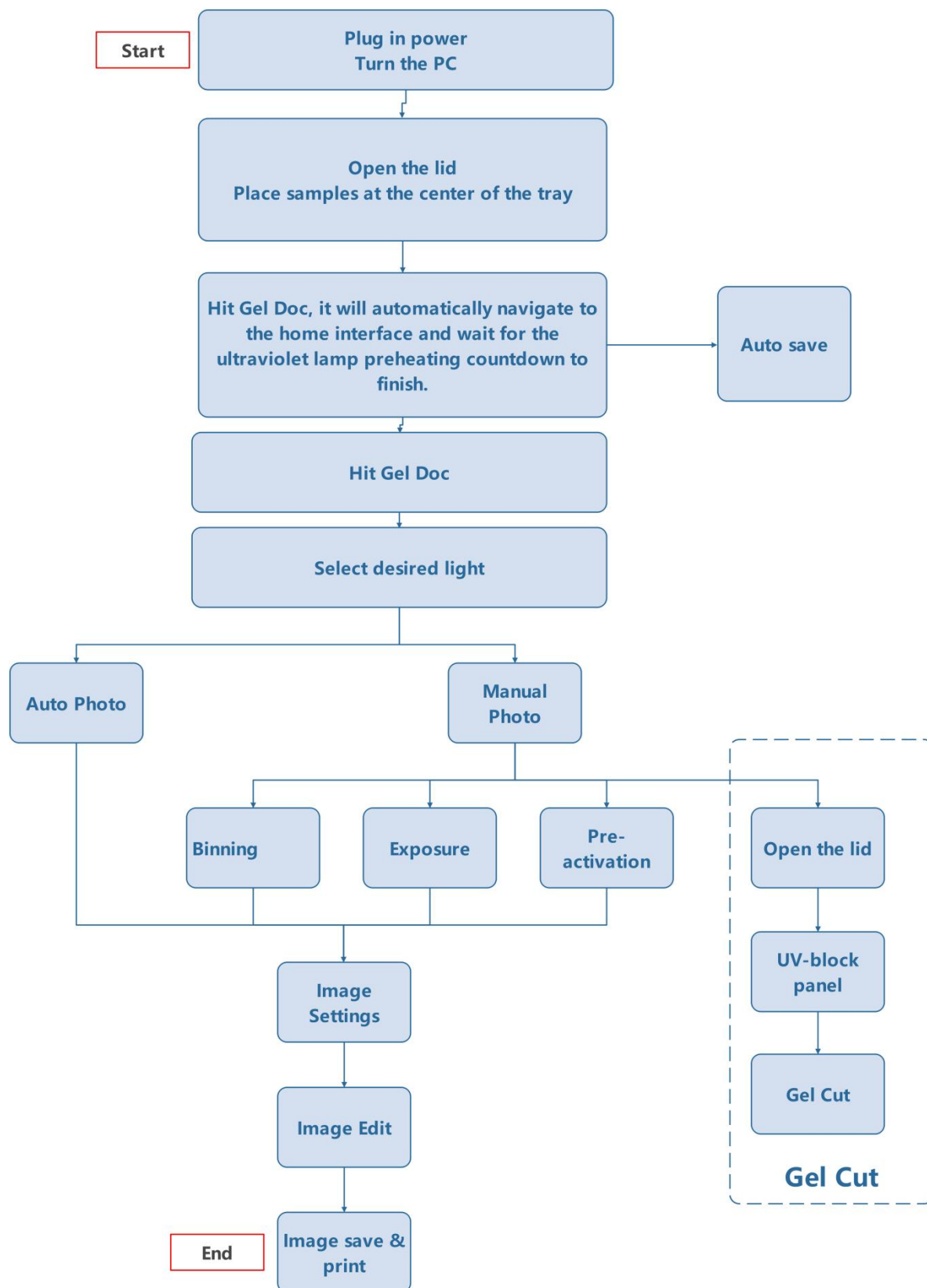
7. Dye list: Displays the names of saved dyes, excitation light source, and filter.



Delete the saved dye information.

8. Add dye: Can add new dye settings.

6. Basic process



5. Quality guarantee

- (1) The warranty is 1 year since the date of sales.
- (2) The warranty excludes the following situations otherwise it is charged.
 - a. No presentation of warranty card and invoice.
 - b. The invoice is revised.
 - c. Improper operation or accident factors.
 - d. The damage is caused by the user's repair.
 - e. Out of the warranty, the instrument is still in usage after repair.

Makes research and development simple



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