

ZRIP User Manual



Aobo Innovations
V1.0.1 - 251225

Welcome to using ZRIP!

Introduction

ZRIP is a RIP (Raster Image Processor) software meticulously developed by the obziy team for image editing, layout, and output. The software is mainly used for the post-processing of digital image output printing, and is customized with a professional output workflow for printers launched by the obziy team. Using RIP for professional digital image output makes your work easier and the image output results more perfect!

Version Information

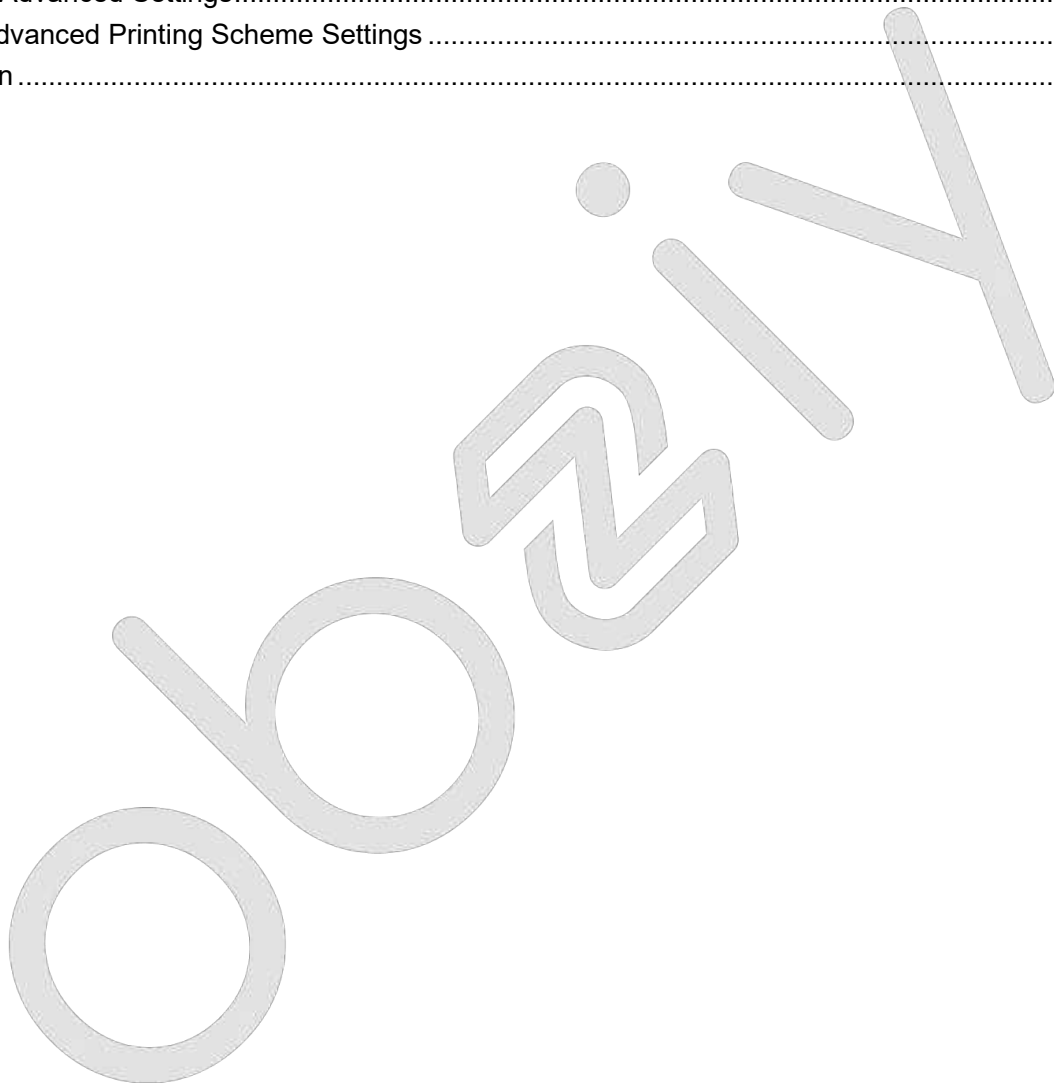
Version Number	Features	Change Type	Description	Update Date
7.2	- Added Korean and Portuguese - Optimized multilingual version naming - Fixed some English character garbling issues - Supported shortcut key customization	Upgrade	- Improved PDF parsing speed - Implemented Ctrl+D for paste and duplicate functions - Changed the default color of vector paths to monochrome black - Optimized spot color settings interface - Added save guidelines function in canvas saving - Supported PSB format import	2025.12.25

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1 Product Introduction

1.1 Features and Description

ZRIP consists of three core components: the ZRIP front-end design and layout core (frontend), the printer hardware control core (frontend), and the RIP data processing and print transmission core (backend). These three cores work together to complete the entire process of data processing, transmission, and

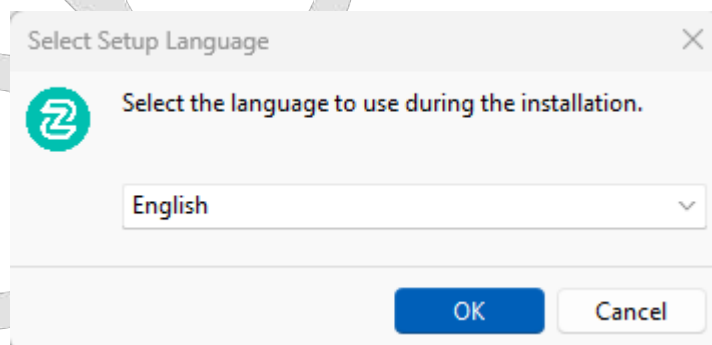
printing.  ZRIP  ZRIP-PrintExp  ZRIP-PrintExp

- Supports one-click automatic material-saving layout for multiple images on the canvas
- Supports multiple image formats with high resolution
 - *.TIF, *.TIFF, *.BMP, *.JPG, *.JPEG, *.PDF, *.AI, *.DXF, *.EPS, *.PNG, *.PSD
- Supports multiple languages
 - Chinese (Simplified), English, Korean, Chinese (Traditional), Portuguese
- Supports adding footnotes to printed images
- Supports task queue printing and real-time progress tracking

2 Quick Start

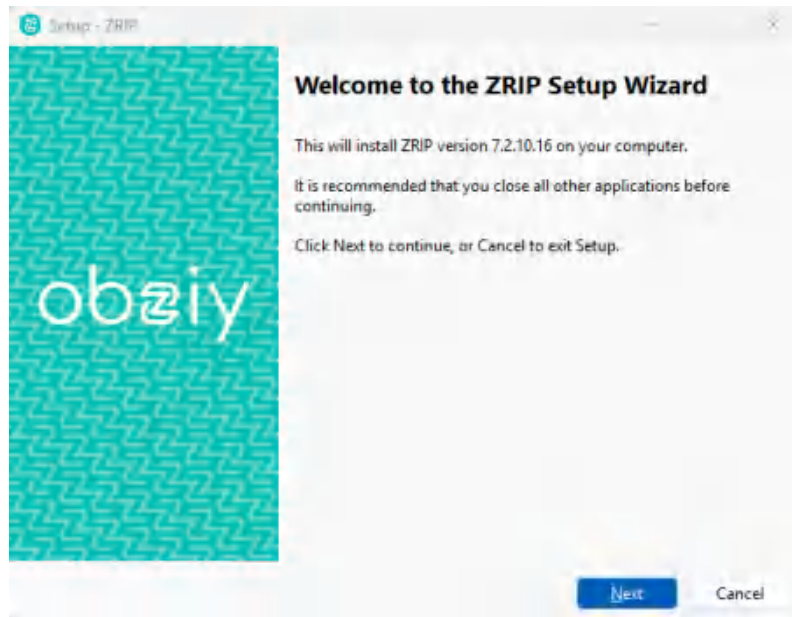
2.1 Installation and Activation

1. Unzip and run the.exe file

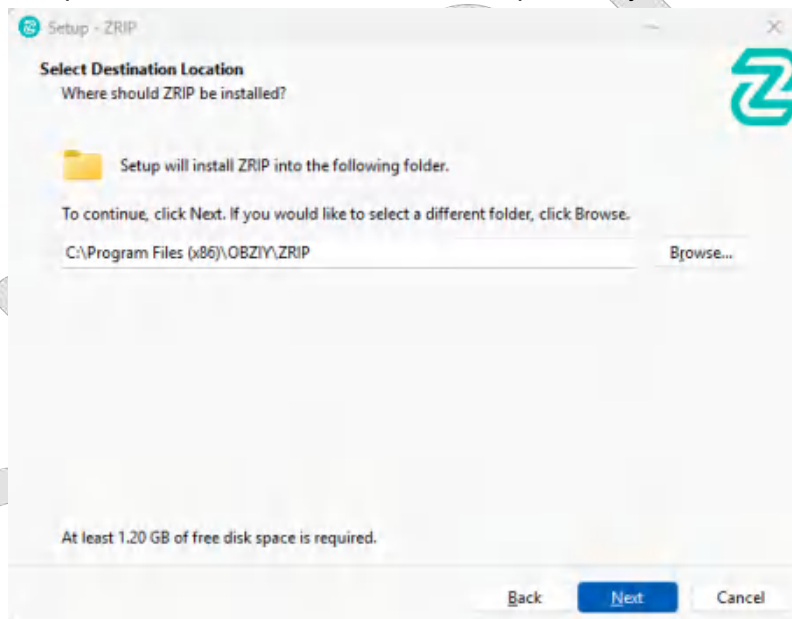


Unzip the software package into a folder with the same name, run the file with the.exe extension, and choose the language.

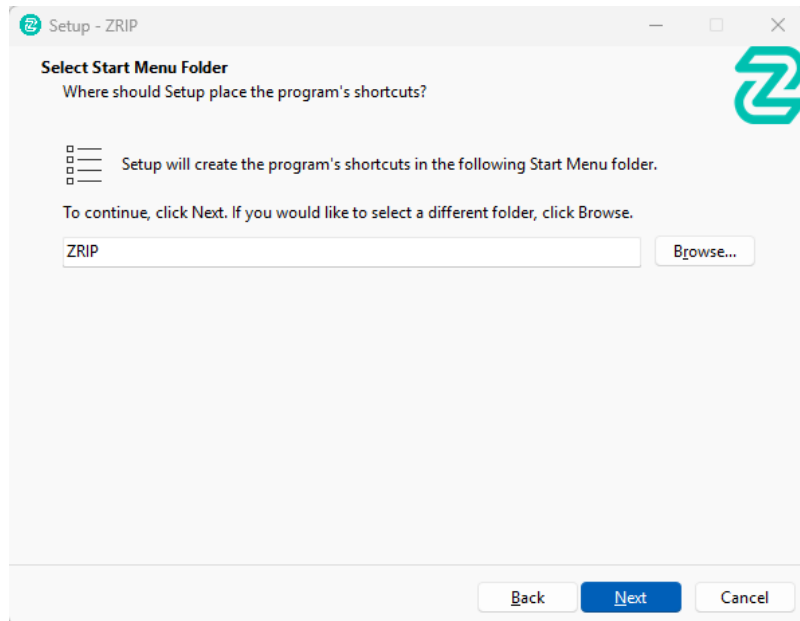
2. Install the ZRIP software according to the text prompts

**Notes:**

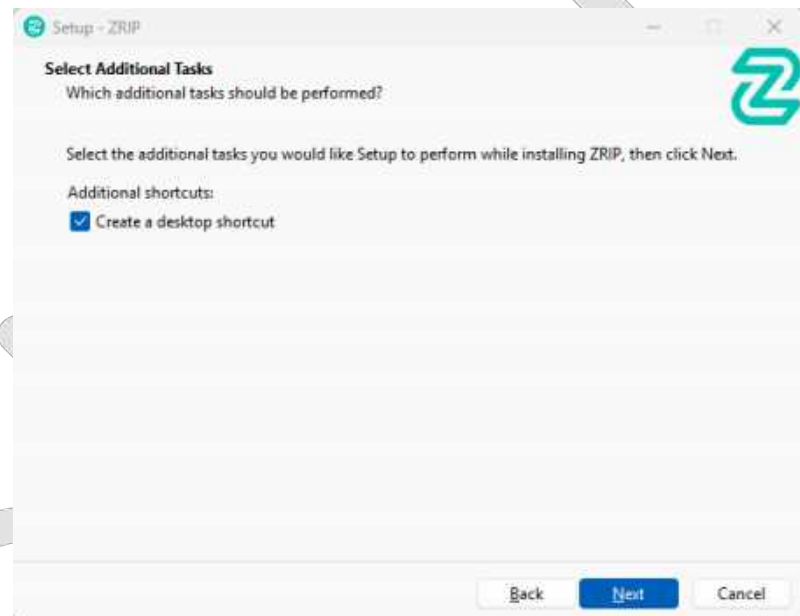
- The disk space for software installation should preferably be more than 2000MB



- It is recommended to use the default folder for the program shortcut

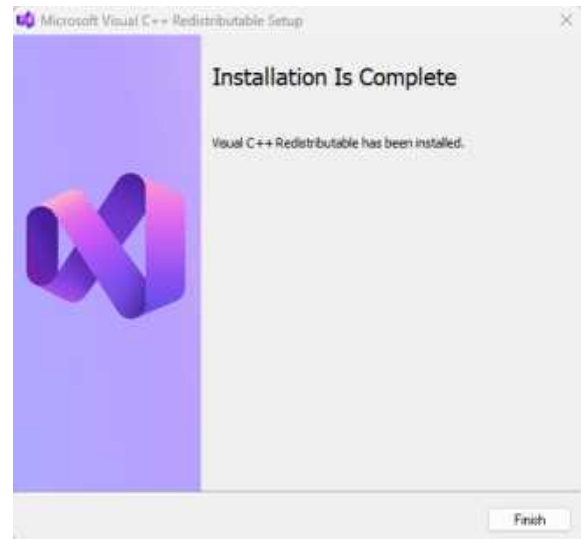
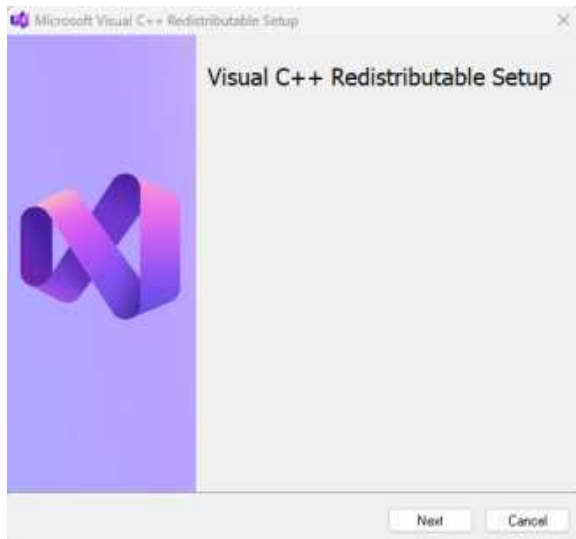


- It is recommended to check the options to create shortcut icons and quickly launch them

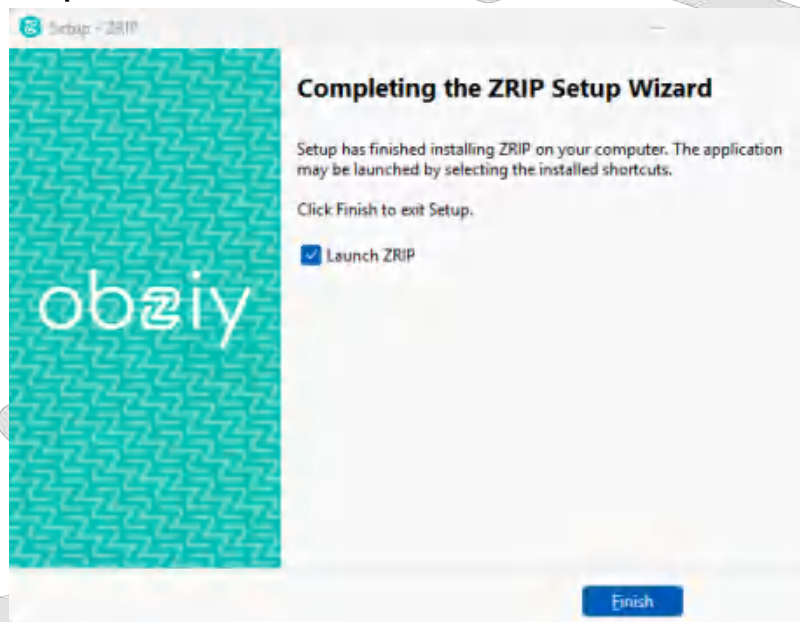


3. Install the C++ environment

After completing the above operations, the C++ environment installation guide will automatically pop up. Follow the prompts and click the default [Next] to proceed with the installation.



4. Installation complete



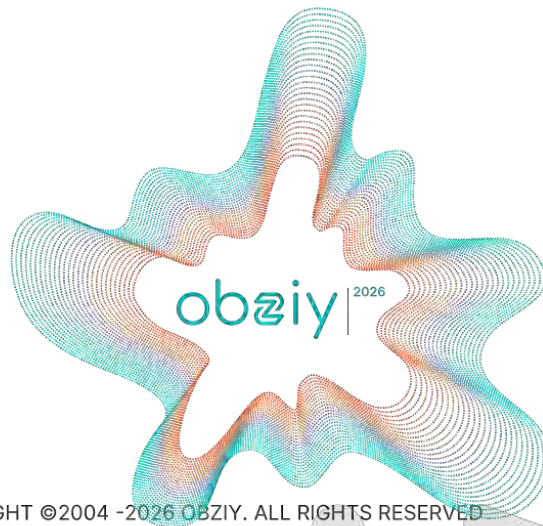
Notes:

- The content displayed on the installation interface of different versions of the ZRIP software may vary slightly, but the installation steps are roughly the same.
- If your first installation was not successful, it is recommended that you uninstall the previously installed ZRIP software before attempting a second installation.
- When using the software, please use the resolution recommended by the operating system; other resolutions are not recommended.

5. Open ZRIP software

Two ways to open:

- 1) Double-click the ZRIP icon on the desktop
- 2) Search for 'ZRIP' in the computer's Start menu, find ZRIP.exe, and click to open it.



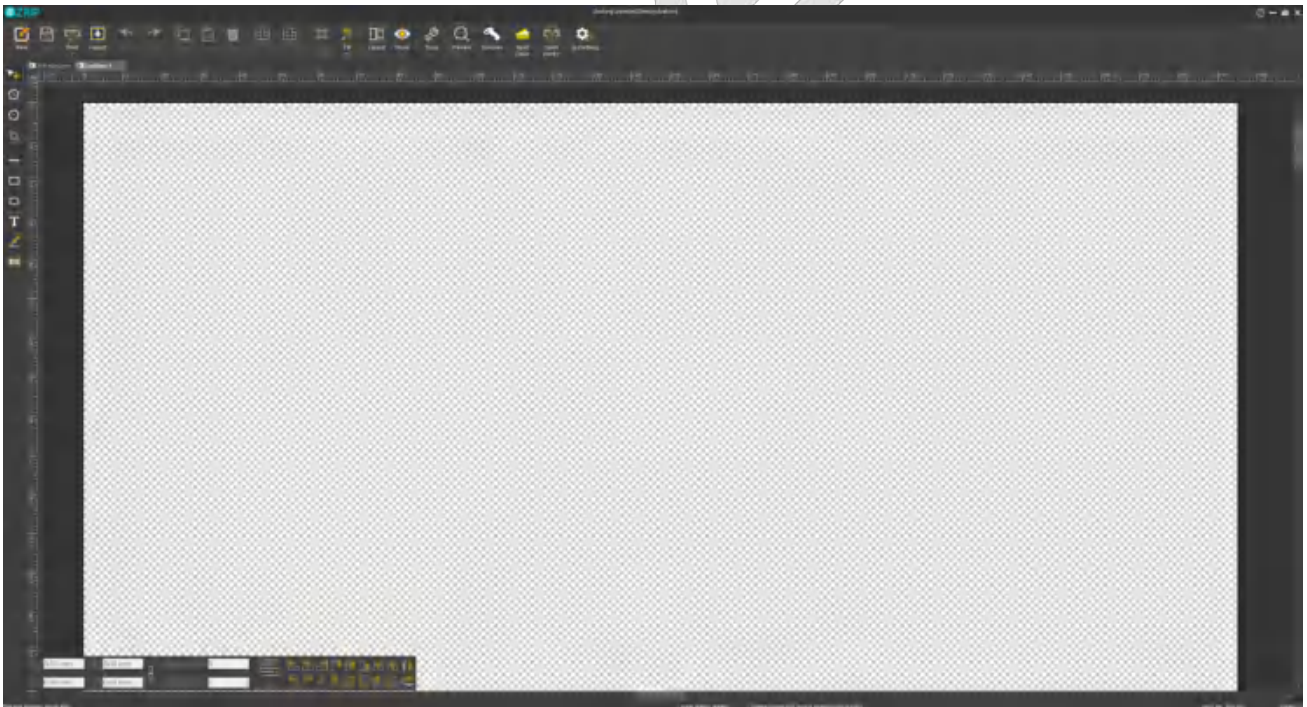
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Notes:

- The software requires a large amount of memory during printing. It is recommended that you close some temporarily unused software before starting ZRIP to prevent affecting ZRIP's work efficiency.
- If you did not choose to create a desktop shortcut during installation, you can only choose the second way to open it.

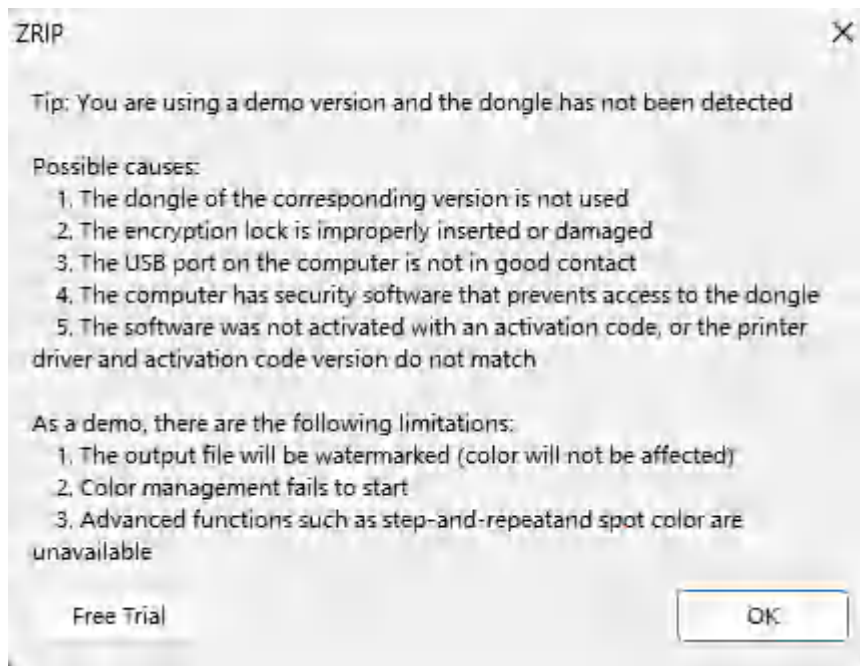
6. Activate ZRIP

- 1) The ZRIP software interface is shown in the figure below.

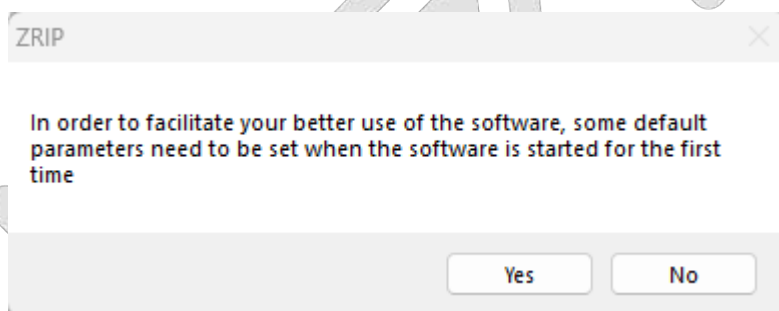


- 2) The text at the top says XX version (demo version), indicating that the current ZRIP software is not activated.



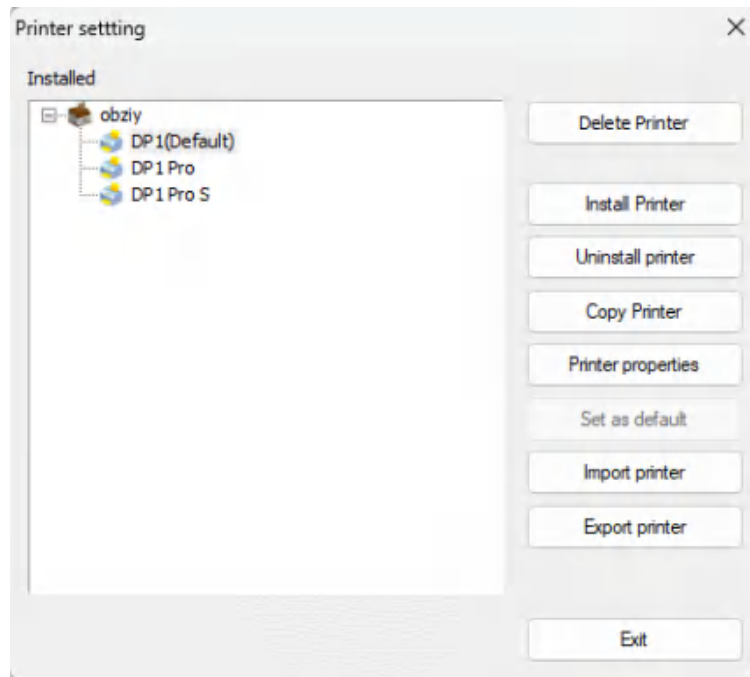


When using it for the first time after installation, if the Dongle is not detected, the software will indicate that the current version is a demo and needs to be activated. Once activation is completed, this prompt will no longer appear.



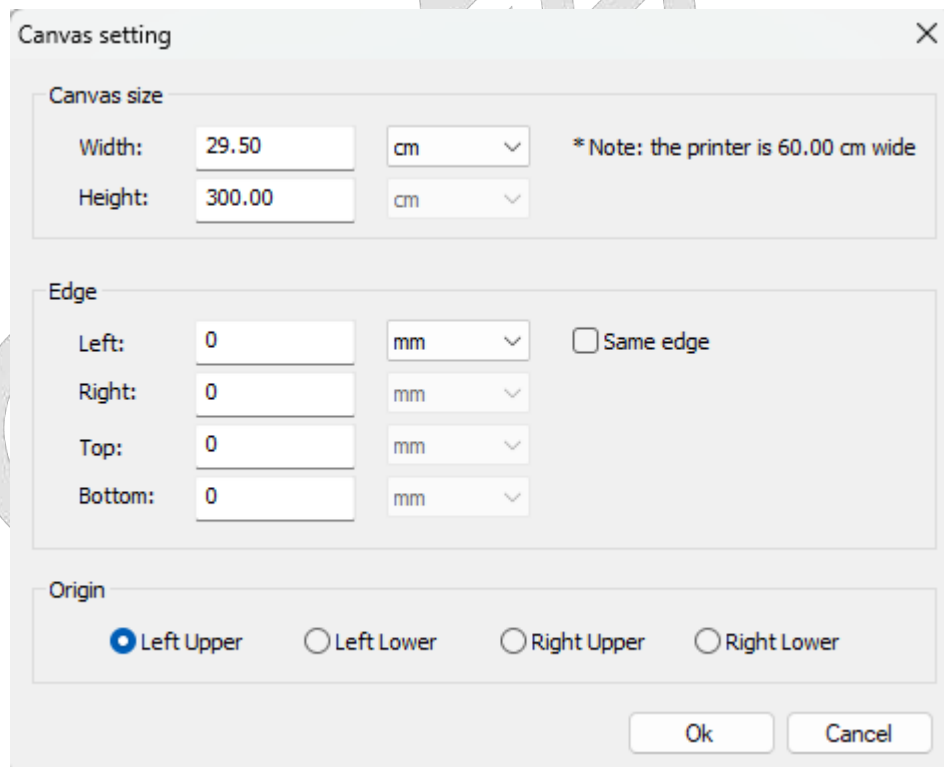
When installing ZRIP for the first time, you will be prompted to set the initialization parameters for the target connected printer. After clicking Yes, we will set the printer model, canvas settings, and default print method in sequence.

1. Set printer model



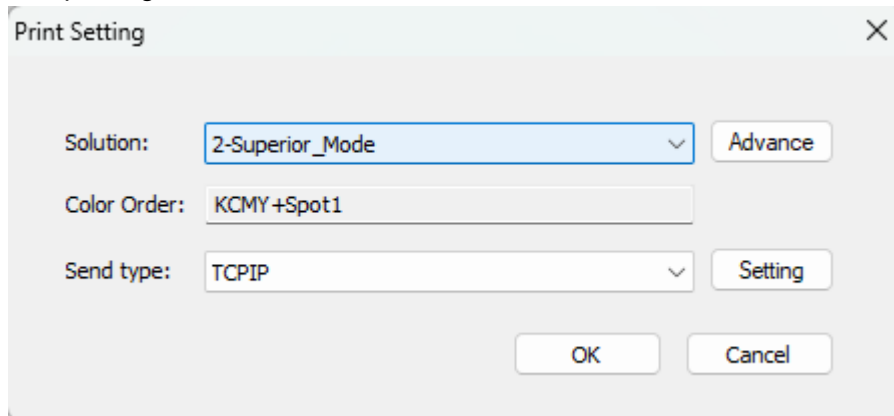
Select the target printer model, then click the Set as default button to set it as the default printer. The default printer you set will display (Default) after the printer model to indicate the currently set printer model.

2. Set default canvas parameters



- The canvas width parameter corresponds to the width of the printing media we installed. The canvas width parameter should be slightly smaller than the printing media width to prevent the printed image from exceeding the printing area. The canvas height can be freely set according to the number of images we print in batch.

- The edge setting parameter is the reserved distance we leave at the top, bottom, left, and right sides of the printed material image on the canvas.
 - The origin setting parameter is the default initial reference alignment position when we import the first printed material image.
3. Set default printing method



- Printing mode
 - 1-Express_Mode (1-Fast Mode)
Very fast, suitable for rush jobs or proofs
 - 2-Balanced_Mode (2-Balanced Mode)
Default option, the most balanced in all aspects, for daily production, stable output
 - 3-Superior_Mode (3-Excellent Mode)
Superior image quality
 - 4-Ultimate_Mode (4-Ultimate Mode)
The slowest, but detail processing is taken to the extreme

Note: DP1 Standard only has 3 printing modes, no Express_Mode.

- Printing Methods

The sending method can be chosen as [File] or [Network].

 - Choosing to print to a file port first generates a PRN file, which is then opened by the printing software for printing.



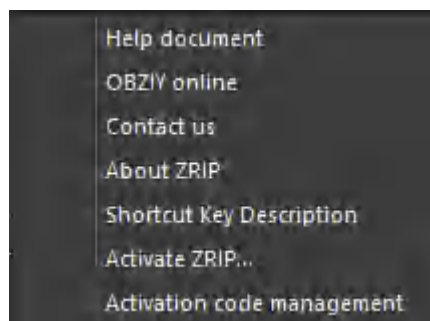
Note: The generated PRN format print file contains pre-set print scheme modes, print sizes, etc., and these parameters cannot be flexibly adjusted. It is suitable for repeatedly printing a single print material multiple times.

- Choosing to print to a network port processes the image while printing and does not generate a PRN file. The printing software only needs to have the parameters set and keep ZRIP running in the background.

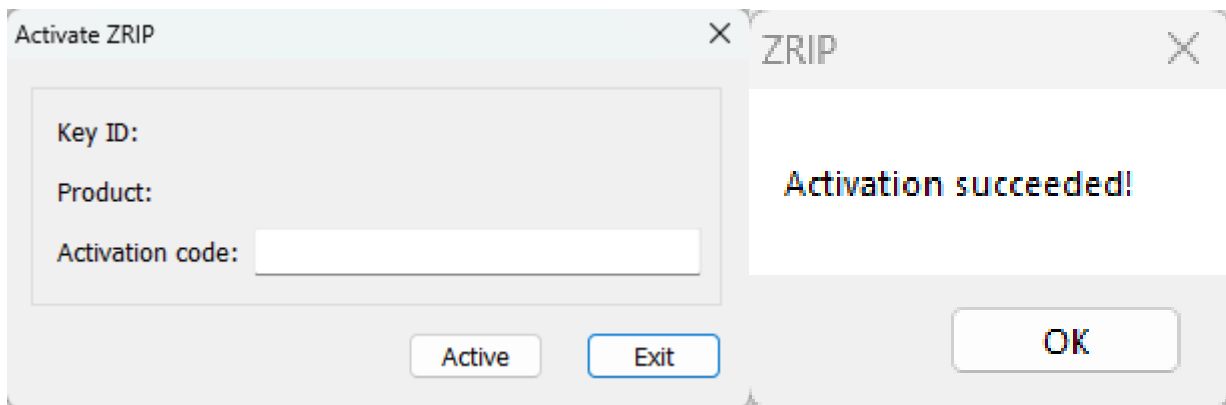
Note: During long-term printing tasks involving multiple images, if the computer goes into sleep or hibernation, the printer will not receive real-time print RIP data from the computer. The print job will be paused or terminated, and the printer will stop executing the task. For long-term printing of multiple images, please set the computer's automatic sleep function to "Never."

3) ZRIP is activated via an input activation code.

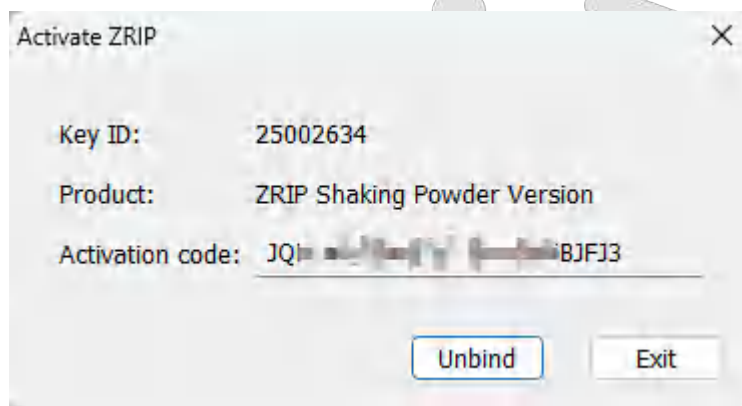
- a) Click the question mark help menu in the upper right corner, a list will appear, then click [Activate ZRIP].



- b) Enter the activation code and click [Activate], and a message indicating successful activation will appear.



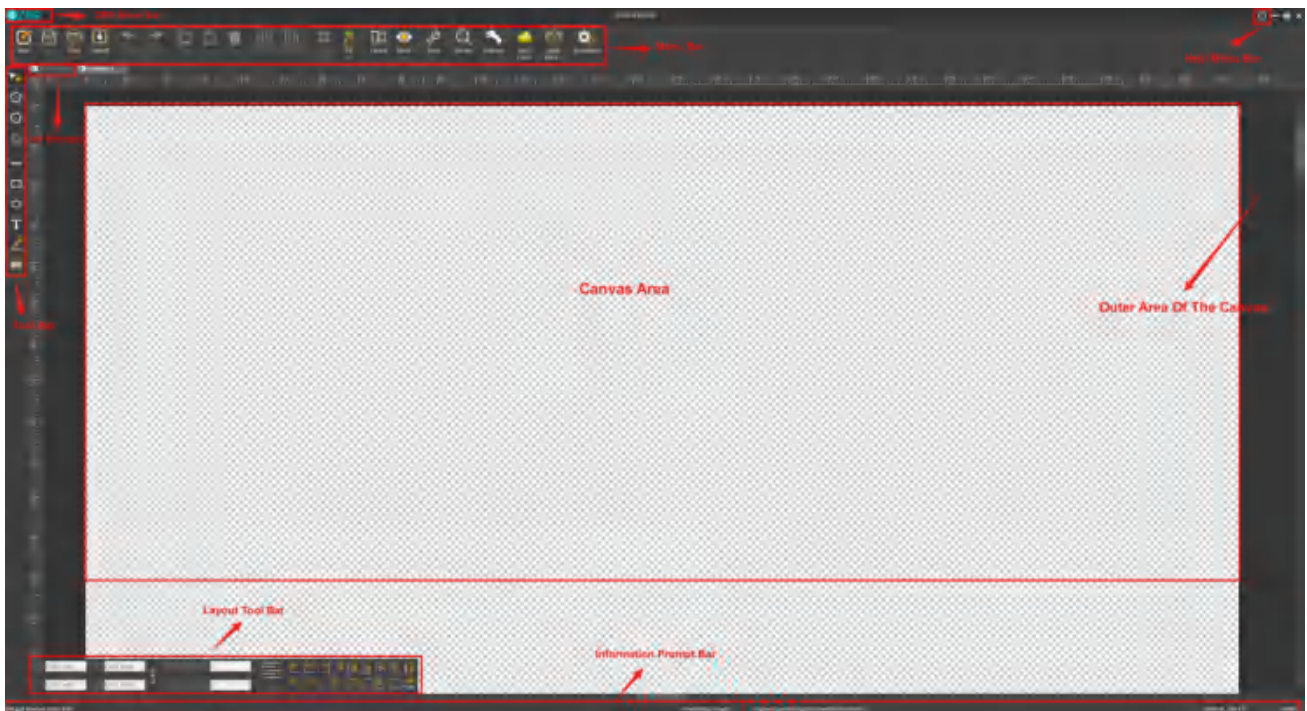
The printer comes with a ZRIP activation code. Once we locate the activation code and manually enter it and click Activate, the following information means that the activation code has been bound and activated for the ZRIP installed on this system.



This activation code can only be used on one computer at a time. If you need to switch computers, we need to manually click the [Unbind] button to unbind this activation code from the ZRIP installed on the current system, and then repeat the above activation code binding process on another computer to activate it. If you have multiple computers that need to use the printer simultaneously, you can purchase multiple ZRIP activation codes separately from Obziy for this purpose.

- c) After completing the above activation process, return to the ZRIP software interface, and the text at the top will change to the corresponding software version, with no 'Demo Version' label, and no watermark will appear when printing works.

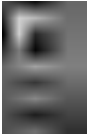
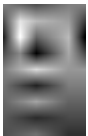
2.2 Interface Introduction

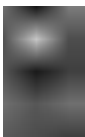
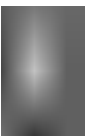


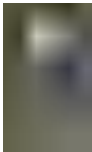
The ZRIP interface is divided into ten functional areas, which are: menu bar, toolbar, ZRIP menu bar, help menu bar, Print RIP Task Management Center, canvas area, off-canvas area, information prompt area, layout toolbar (which can be shown or hidden through the layout function in the menu bar), and right-click menu. Please see the diagram below for their locations.

2.2.1 Menu Bar

The menu contains the menu items for all the functions of the software, including creating a new canvas project, importing images, printing, and so on. You can perform various operations of the software through the menu.

Features	Shortcut key	Function Details
 New	Ctrl + N	You can use this command to create a new canvas.
 Save	Ctrl + S	Save the current canvas project with the current name and directory. When you are saving the project for the first time, the software will display a save dialog. The system default directory is the file output directory in the options settings, and the default file format is set to .rcf or .rcfx. You can name the canvas project.

 Print	Ctrl + P	Entry to the print confirmation interface. Area printing: Print by customizing a sample. For customizing a sample, please refer to the operation description of customizing a sample later in the text.
 Import	Ctrl + O	Import images to the canvas.
 Undo	Ctrl + Z	Use this command to undo the last executed edit action. This software supports multiple levels of undo. Repeatedly executing the undo command will undo previous commands one by one. Undo steps are not unlimited.
 Redo	Ctrl + Y	Use this command to redo actions previously undone with the undo command. If a command has been undone and a new operation has been executed, the redo command will not allow redoing the previously undone action. Redo steps are not unlimited.
 Copy	Ctrl + C Ctrl + drag the mouse	Copy the selected image(s) in the current canvas project.
 Paste	Ctrl + V	Paste the copied image(s) into the current canvas.
Copy + Paste	Ctrl + D	Achieve copy and paste in one step.
 Delete	Delete	Delete the selected image(s) from the canvas.
 Group	Ctrl + G	Group the selected two or more images into a single image.

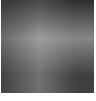
	Ctrl + U	Ungroup the combined image into individual images as they were before grouping.
 Image Segmentation	Alt + S	Divide an image into multiple images as you want.
 Fill	/	1. Fill vector graphic rectangles, ellipses, etc., with the colors you want. 2. Fill a vector graphic rectangle with an image, ensuring the image does not distort at fixed sizes.
 Layout	Alt + L	Access the layout tool. The layout box contains element position information such as X coordinate, Y coordinate, element width, element height, and aspect ratio constraint; one-dimensional layout information for horizontally or vertically distributed elements and two-dimensional auto-layout information for elements; alignment functions such as left align, center align (horizontal), right align, top align, center align (vertical), bottom align, horizontal center, vertical center; rotate left, rotate right, horizontal mirror, vertical mirror, move up one layer, move down one layer, equal width, equal height, and other element operation functions.
 Display	/	Access to settings for showing or hiding certain page content. You can set whether to display rulers, choose the unit for rulers, whether to show snap guides, whether to show snapping elements, set snap distance, whether to display thumbnails, whether to show borders, whether to display dividing lines, whether to show reminders when importing images, language selection, and theme selection.
 Tools	/	Access to clear cache, error compensation, border settings, color tracking settings, and vector settings. If you want to use these features, you can find them here, and their specific usage will be introduced in the advanced features section.
 Full Page Preview	/	Adjust the canvas view to canvas height, canvas width, 100% canvas preview, or a custom canvas preview.

 Spot Color Settings	/	If you want to use this feature, you can directly click with your mouse to set the relevant parameters. Specific usage will be introduced in the Advanced Features.
	/	Print directly according to the previous printing parameters. The quick print function is a simplified version of printing; you no longer need to repeatedly select desired curves or other print settings during printing; clicking this quick print button always prints according to the previous print parameters.
	/	The button to open the printer settings interface allows you to control a series of operations such as pausing printing, testing (printing test strips), flashing printhead, printing car, and configuration parameters for printer configuration.

2.2.2 Toolbar

A gadget for drawing vector graphics is included, allowing you to draw rectangles, ellipses, and other shapes through the toolbar.

Icon	Features	Function Details
	Selection Mode	Used to switch between tool menus. When you have used a tool in the tool menu and want to use another tool in the menu, you can switch between them using the mode selection button to meet your needs.
	Zoom In/Out	Used to adjust the display aspect ratio of the current canvas. You can also hold down the Ctrl key and slide the mouse wheel down; swipe up to zoom in on the current canvas, and slide down to reduce the current screen size.
	Crop Image	Used to crop images on canvas.
	Draw Straight Line	Used to draw a straight line. Click the icon on the toolbar, and while holding down the Ctrl key on the keyboard, drag the mouse to draw a straight line.
	Draw Rectangle	Used to draw a rectangle. Click the icon in the toolbar, place the mouse on the canvas, and drag the mouse to draw. Make a rectangle.
	Draw Ellipse	Used to draw an ellipse. Click the icon on the toolbar, place the mouse on the canvas, and drag the mouse to draw an ellipse.

	Draw Static Text	Used to draw text on the canvas. Click the icon in the toolbar, place the mouse on the canvas and drag the mouse, and enter the text you want to add in the pop-up Add Text dialog box.
	Add Footnote	Used to add footnotes to elements in the canvas. For adding footnotes, please refer to the description of the footnote addition operation later in the text.
	Draw QR Code	Used to draw barcodes on the canvas. Click the icon in the toolbar, place the mouse on the canvas, and drag the mouse to draw a barcode. Double-click the barcode, and in the barcode properties interface, select the barcode type you need to use and set the variable rules. The use of the body will be introduced in advanced features.

2.2.3 Information Prompt Area

This area will provide you with real-time information about the current software, such as the functions of menu and toolbar buttons, the current default printer, print status, the number of images on the canvas, image names, as well as the current position of the cursor, ruler scales, and more.

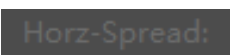
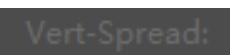
Prompt message	Details
View default printer	The main interface of the software displays the name of the current system's default printer at the bottom.
Printer Status	The main interface of the software displays the status of the printer at the bottom. For example, if the current default printer is idle, it shows 'Ready'; if the current default printer is printing, it will display 'Printing' and show the printing progress.
Number of elements in the canvas	The main interface of the software displays in real time the number of elements in the canvas at the bottom. The elements include self-drawn vector graphics and imported colored images.
Show element name	When an element on the canvas is selected, the area at the bottom of the software's main interface displays the name of the element.
Display the mouse's coordinate position	Move the mouse to the position on the canvas, and the area below the main interface of the software will display the mouse coordinates on the canvas in real time.

2.2.4 Layout Toolbar

When there is an image on the canvas, you may need to layout the canvas image in order to output the image in the most material-saving way.

Icon	Features	Function Details
------	----------	------------------

	Automatic Material-Saving Layout	Automatically arrange all elements in the most material-saving way, supporting the setting of horizontal and vertical spacing between elements and canvas spacing.
	Align Left	Align the other images in the selected images to the left edge of the leftmost image.
	Center align	Align the other images in the selected image with the centerline of the leftmost image.
	Align Right	Align the other images in the selected images to the right edge of the rightmost image.
	Align Top	Align the other images in the selected image to the top boundary image.
	Align vertically center	Align the other images in the selected image with the centerline of the topmost image.
	Align Bottom	Align the other images in the selected image to the bottom boundary image.
	Center on Canvas Horizontally	Position the selected image on the canvas in a horizontally centered manner.
	Center on Canvas Vertically	Position the selected image on the canvas in a vertically centered manner.
	Distribute Horizontally	Distribute three or more selected images evenly in the horizontal direction.
	Turn left 90 degrees	Rotate the selected image 90 degrees to the left and output it.
	Turn right 90 degrees	Rotate the selected image 90 degrees to the right and output it.
	Horizontal mirror image	Output the selected image mirrored horizontally.
	Vertical mirror	Perform a vertical mirror output of the selected image.

	Move up one level	Move the layer of the selected overlapping image up by one level.
	Move down by one level	Move the layer of the selected overlapping image down by one level.
	Equal Width	Make the width of the selected image equal to the width of the "active image," where the active image is the last selected image, surrounded by a solid black rectangular frame, using the active image's width as the standard.
	Equal Height	Make the height of the selected image equal to the height of the "active image," where the active image is the last selected image, surrounded by a solid black rectangular frame, using the active image's height as the standard.
	Distribute Vertically	Evenly space three or more selected images vertically.
	Horizontal Distribution	Arrange the selected images from left to right at the specified horizontal spacing.
	Vertical Distribution	Arrange the selected images from top to bottom at the specified vertical spacing.

2.2.5 Canvas Area

When you create a canvas project, the ZRIP software will display a rectangular frame with a black border in the interface. This rectangular frame is called the canvas, and the area within the frame is referred to as the canvas area. You can think of this frame as a real canvas. In subsequent operations, we need to work within this canvas area (such as importing images, moving images, etc.).

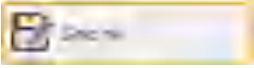
2.2.6 Area Outside the Canvas

In the software interface, the area outside the canvas area is referred to as "outside the canvas," and these areas are beyond the operation range. If you place images in the area outside the canvas, ZRIP will notify you during printing.

2.2.7 ZRIP Menu Bar

When you click on "ZRIP" at the top left corner of the software, this menu bar contains the following commands:

Features	Shortcut key	Function Details
	Ctrl + N	Create a new canvas.

	/	Open an existing canvas project (*.rcf). If you want to open a saved canvas, you need to create a new empty canvas first and then open the saved canvas. If you want to open multiple canvases, you can create canvases one by one and open them sequentially.
	Ctrl + S	Save the current canvas project using the current name and directory. When saving a project for the first time, the software will display a save dialog. The system default directory is the file output directory set in options, and the default file format is .rcf. You can name the canvas project as needed. If you want to change the existing project name or path before saving, please select the "Save As" command.
	Ctrl + Shift + S	Save the current canvas project as a new file. The software will display a save dialog that allows you to rename or change the save directory. After saving, the system will change the current file name and directory to those of the saved file. If you want to save the canvas project using the existing name and directory, please use the "Save" command.
	Ctrl + Shift + M	Set up the current canvas; you can set the canvas size (i.e., width and height) and edge margins. You can determine the canvas width according to the width of the paper you will print on. If you want to set print margins, you can set different margins for the left, right, top, and bottom. If you want to set equal margins on all sides, you can select "Equal Margins" so that you only need to set one margin value, and the other three will automatically be set to the same value.
	Ctrl + Shift + C	Enter color management to view the print scheme mode.
	Ctrl + Shift + P	Manage printer driver settings, configure printer-related parameters, and operate the printer. For example: install a printer, delete a printer, view printer properties, set the printer as default, perform custom printer installation, delete existing manufacturer data, etc.

2.2.8 Help Menu Bar

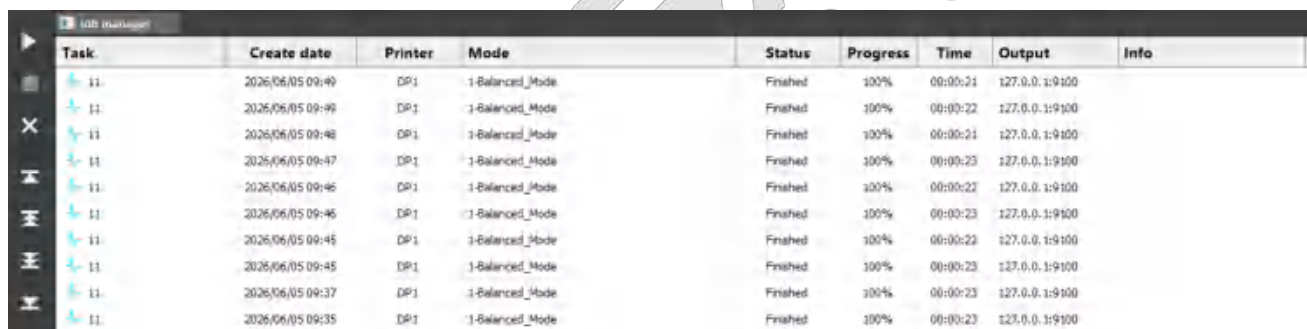
When you click the question mark icon in the upper right corner of the software, the following menu appears:

Features	Function Details
Help Documentation	Used to open the software help documentation.
obziy Online	Used to visit the obziy website homepage, to get more help

	information and learn about the latest updates of the software.
Contact Us	Used to send an email to our technical support to provide feedback about your usage experience and report any issues or requests. We will reply to you as soon as we receive your message.
About ZRIP	Used to display the version information and licensing information of the software you are using.
Hotkey Instructions	Details of each command's specific operations in the software, and you can also customize hotkey combinations according to your usage habits.
Activate ZRIP	Used for the activation of ZRIP software. Enter the activation code to bind the ZRIP software.
Activation Code Management	Used to manage activation codes, you can jump to the activation code management platform with one click.

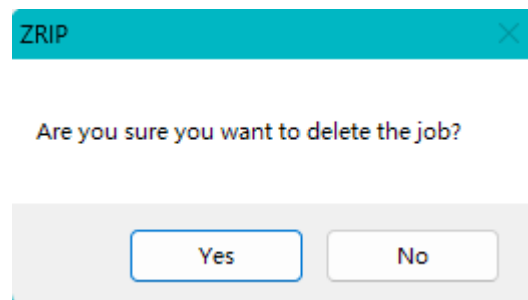
2.2.9 Print Management Center

When you have already started printing, the software will by default not switch to the Print Management Center interface. Of course, you can also set it to switch to this interface. The Print Management Center interface is shown as follows:



Task	Create date	Printer	Mode	Status	Progress	Time	Output	Info
11	2026/06/05 09:49	DP1	1-Balanced_Mode	Finished	100%	00:00:21	127.0.0.1:9100	
11	2026/06/05 09:49	DP1	1-Balanced_Mode	Finished	100%	00:00:22	127.0.0.1:9100	
11	2026/06/05 09:48	DP1	1-Balanced_Mode	Finished	100%	00:00:21	127.0.0.1:9100	
11	2026/06/05 09:47	DP1	1-Balanced_Mode	Finished	100%	00:00:23	127.0.0.1:9100	
11	2026/06/05 09:46	DP1	1-Balanced_Mode	Finished	100%	00:00:22	127.0.0.1:9100	
11	2026/06/05 09:46	DP1	1-Balanced_Mode	Finished	100%	00:00:23	127.0.0.1:9100	
11	2026/06/05 09:45	DP1	1-Balanced_Mode	Finished	100%	00:00:22	127.0.0.1:9100	
11	2026/06/05 09:45	DP1	1-Balanced_Mode	Finished	100%	00:00:23	127.0.0.1:9100	
11	2026/06/05 09:37	DP1	1-Balanced_Mode	Finished	100%	00:00:23	127.0.0.1:9100	
11	2026/06/05 09:35	DP1	1-Balanced_Mode	Finished	100%	00:00:23	127.0.0.1:9100	

Each print in the software creates a print job in the Print Management Center, where users can view the RIP status, progress, and time required for each print job (Note: This center can only manage RIP tasks for target print works; for actual print job management, please refer to section 3.3 Print Job Management). Users can use the left [Start Print], [Stop Printing], [Delete Task], [Move Up], [Move Down], [Top], [Pinned] to perform corresponding tasks on the task. If you want to delete a print job, select the task and click the [Delete] button on the left. The program will pop up a confirmation dialog box, as shown below:



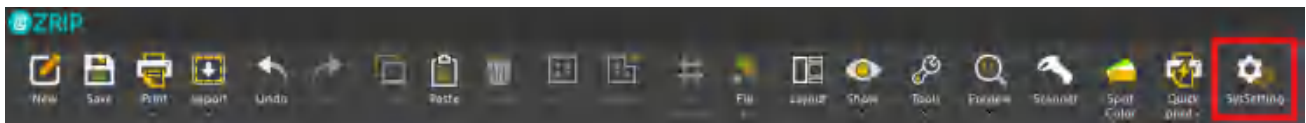
If you click [Yes], the program deletes the print job, and the print management center list will not display the print job. If you click [No], the print management center task will still display the print job.

2.2.10 Right-click Menu Bar

After right-clicking on a blank area of the canvas, expand the right-click menu. The right-click menu includes the following command functions:

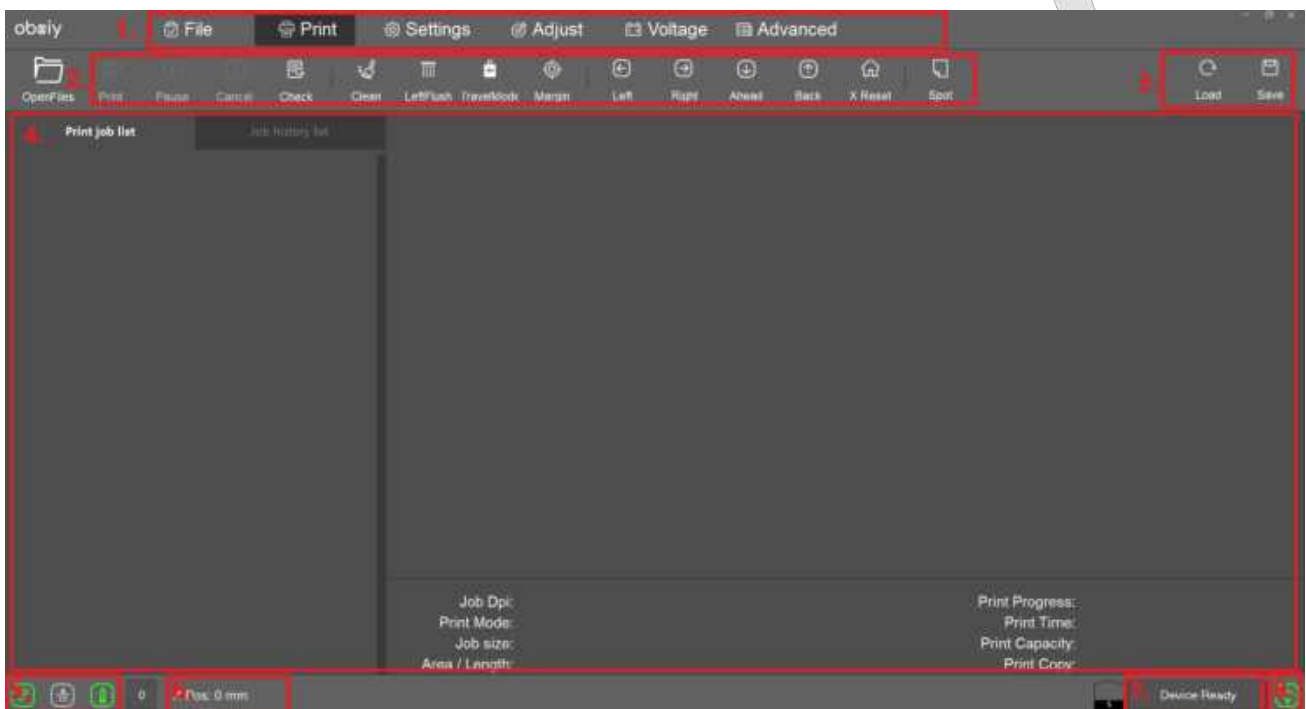
Features	Details ("/" below indicates the above has appeared multiple times and will not be repeated)
Import images	/
Refresh	Click Refresh to reload the image on the canvas
Undo	/
Redo	/
Restore the original dimensions	Restore the selected pixel to its original size
Copy	/
Paste	/
Paste multiple times	Paste multiple copies of the image on the current canvas and lay them out according to the settings
Removed footnotes	Delete footnote information from the element. To do this, the prerequisite is that the pixel has already been annotated
Show thumbnails	Three modes are available: Standard mode, Border mode, High-precision mode
Group	/
Ungroup	/
Output Size	You can set the horizontal width and vertical height of the selected image
Image Cropping	Crop the selected graphic element
Image Properties	You can view the basic information of the selected image on the canvas, such as: file information, output information, status information
Edit Text	Edit the content of the text again after the text has already been created
Image Stroke	You can set the borders of self-drawn vector rectangles and ellipses, supporting no border, solid line, dashed line, dotted line, border width, and border color
Image Outline	Assist in cutting and trimming; after outlining the selected image, draw a fine line on the edges of the image, and export to PLT to get the overall cutting contour of the image
Canvas Information	You can view the basic information of the current canvas, such as: canvas properties, graphic element statistics, other statistics

3 Printer Settings



The button to open the printer settings independent interface window is located at the far right of the ZRIP menu bar shown above.

3.1 Introduction to the Settings Interface

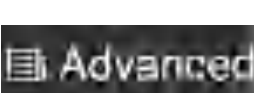


The print settings page independent window is mainly composed of eight primary functional areas: the printer settings interface menu bar, the printer action button operation bar, the printer configuration load and save button bar, the functional interface content area, the printer status and printhead status indicator light bar, the printhead X position information bar, the printer status information bar, and the printer exception log indicator light bar. It mainly performs functions such as printing local RIP-parameterized print files, setting printer parameters, real-time management of print tasks, printer component control, and management of printer firmware and mainboard programs.

3.1.1 Printer Settings Interface Menu Bar

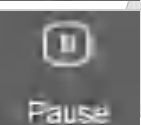
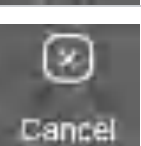
There are the following seven interfaces for the printer, and by using these buttons, you can enter different printer setting function pages:

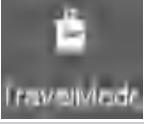
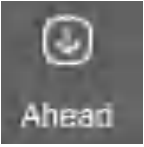
Interface Menu	Interface Details
	Local Print File Overview Interface. On this page, you can conveniently browse and manage a large number of local print files stored in the selected target

	location.
	Print Task Management Interface. On this interface, you can overview and manage ongoing and historical print tasks, with real-time overviews of print task progress and print productivity.
	Printer Parameter Settings Interface
	Printer Print Quality Calibration Interface
	Printhead Drive Voltage Fine-tuning and Real-time Printhead Temperature Monitoring Interface
	Printer Advanced Management Interface, including factory advanced parameters, version information, RIP parameters, network parameters, and other settings.
	Printer Operation Log Viewing Interface

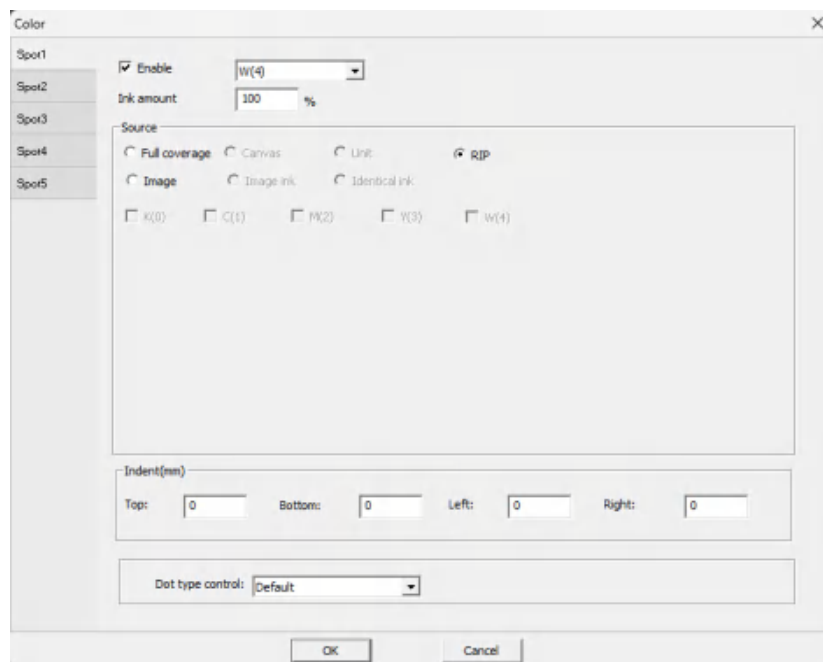
3.1.2 Printer Action Button Operation Bar

In addition to performing a series of control operations on our printer through the printer's touchscreen, we can also perform a series of control operations on the printer through the ZRIP printer settings independent window interface using the following operation buttons:

Button Icon	Features	Function Details
	OpenFiles	Open a localized print file with preset parameters
	Print	Start printing the print tasks selected in the print queue in the print job management interface
	Pause	Pause the print tasks currently being executed in the print queue
	Cancel	Cancel the print tasks currently being executed in the print queue
	Check	Print a printhead status detection test strip to check if the printhead nozzles are in good condition

	Clean	Perform a printhead cleaning operation
	LeftFlush	Perform a printhead nozzle purge to remove excess ink droplets and other contaminants from the printhead surface.
	TravelMode	Enter printer travel mode, where waste ink is cleared from the ink pad and moisturization fluid is injected to keep the printhead surface moistened in the fluid, preventing nozzle drying and clogging
	Margin	Reset the current printhead X position to the original starting position (please do not click this button randomly for operation settings unless you know what you are doing and can restore the printer to normal)
	Left	Move the print carriage to the left (after moving the printhead for maintenance tasks, promptly reset it to the ink stack to prevent the printhead surface from contacting air, which can accelerate drying and cause nozzle clogging)
	Right	Move the print carriage to the right (after moving the printhead for maintenance tasks, promptly reset it to the ink stack to prevent the printhead surface from contacting air, which can accelerate drying and cause nozzle clogging)
	Ahead	Control the printer to feed the printing film material
	Back	Control the printer to retract the printing film material
	X Reset	Control the printhead to reset back to the original position
	Spot	White ink printing spot color settings

3.1.2.1 Printer spot color settings

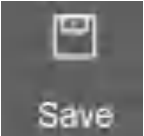


On the Printer Spot Color Settings page, you can adjust the parameters for spot color (in DTF printing, spot color typically refers to **white ink spot color**).

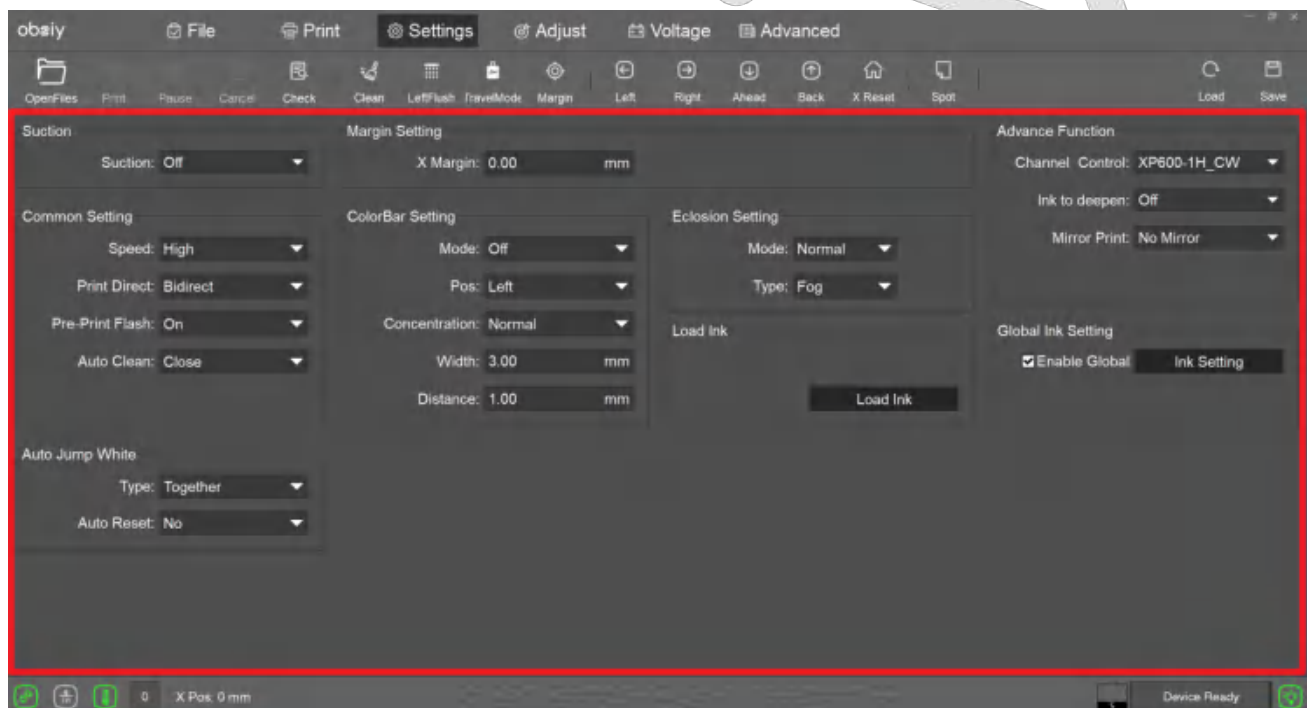
- **Enable**
Check this box to turn on white ink spot color layer printing.
- **Ink amount**
Adjust this setting if the white ink volume is too low or too high in certain ZRIP print mode profiles.
- **Source**
 - **Full coverage**
Covers the entire print area with the white ink spot color layer.
 - **RIP**
Generates the white ink spot color layer by intelligently processing the image data in ZRIP (for more details, refer to Section 6.2 *RIP Spot Color Settings*).
 - **Image**
Applies the white ink spot color layer over all image content areas.
- **Indent**
Adjusts the overall straight-line inset for the white ink spot color layer along the top, bottom, left, and right edges.
(Note: This setting applies to **straight-line boundary** insets, ideal for rectangular images. To shrink the white ink layer along all irregular contours of an image, refer to Section 6.2 Spot Color Inset Function.)
- **Dot type control**
Configures the white ink droplet type to achieve the desired white ink printing effect.

3.1.3 Printer configuration load and save button bar

All the parameter settings we make on the printer in ZRIP can be loaded and saved using the following buttons.

Button Icon	Features	Function Details
	Reload printer board settings parameters	Reload and refresh the parameters set on the board. If you are unsure whether the currently set parameters were successfully applied, you can use this button to reload the board settings to check if the parameters are effective.
	Save printer board settings parameters	Save the parameters modified in the settings interface and make them effective

3.1.4 Function interface content bar

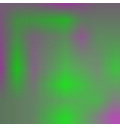


The layout of the function bar within the settings interface is as shown in the figure; the specific content of the function bar varies across different settings screens. For detailed information, please refer to the function description sections 3.2 through 3.8.

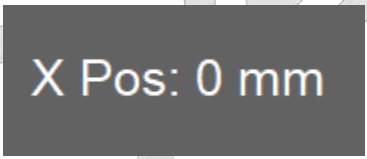
3.1.5 Printer status and printhead status indicator bar

We use the following indicator lights to show the printer status and printhead status, making it convenient for real-time monitoring of the machine status.

Indicator lights	Features	Function Details
------------------	----------	------------------

	Printer connection status indicator light	This indicator light shows the connection status with the current printer. When the printer is not successfully connected, the indicator light will remain flashing red to indicate that the printer is not connected. When the connection is successful, it will stay solid green.
	Printer printhead flash spraying status indicator light	When the printhead is performing a flash spraying operation, this indicator light stays solid to indicate that the current printhead is executing the flash spraying operation. The indicator light turns off when the flash spraying action is finished.
	Printhead temperature monitoring status indicator light	This indicator light shows the current working temperature status of the printhead. When the printhead is at a normal working temperature, the light stays solid green. When the printhead temperature is abnormal, the light flashes red.

3.1.6 Printhead X Position Information Bar



X Pos: 0 mm

This information bar displays the real-time position of the printhead as it moves, making it convenient to monitor the printer's operating status and troubleshoot any issues.

3.1.7 Printer Status Information Bar



Device Ready

This information bar displays the real-time operating status of the printer, such as initialization, printing, pause, and flash spraying, so that the printer's status can be monitored while creating on the computer.

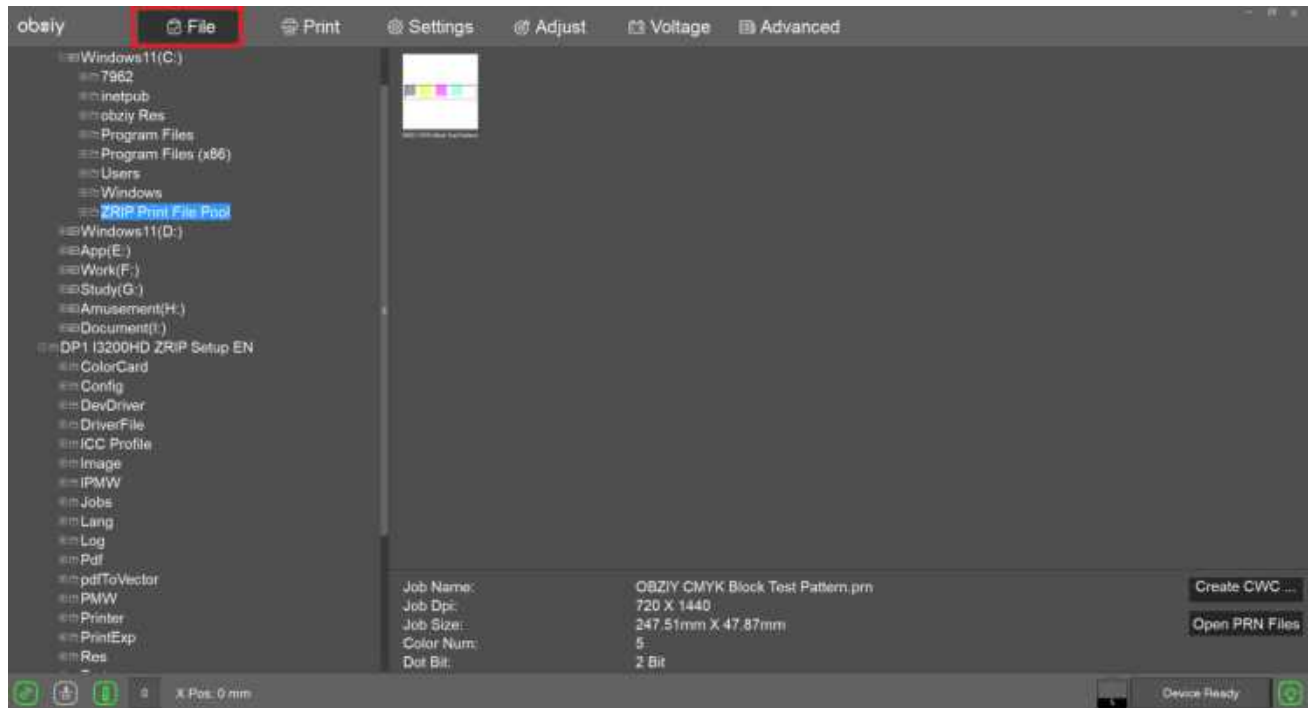
3.1.8 Printer Error Log Indicator Light Bar



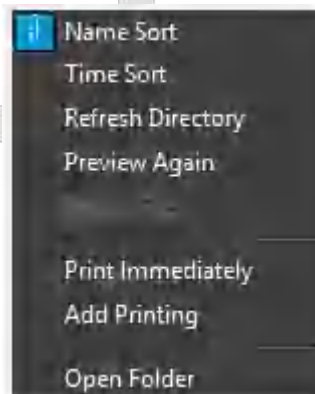
This indicator light shows abnormal states detected by the printer's operation log detector. By clicking this button, we can enter the detailed log view. When the log detector does not detect new abnormalities and the printer operates normally, this indicator remains solid green. When the printer reports an error or

abnormal condition, the light flashes red until the user clicks the indicator to enter the detailed log view to check newly generated error logs for troubleshooting.

3.2 Local Print File Browsing



On this interface, we can browse batch print files saved locally. By right-clicking on the target print file preview, we can see the right-click menu as shown in the figure below.



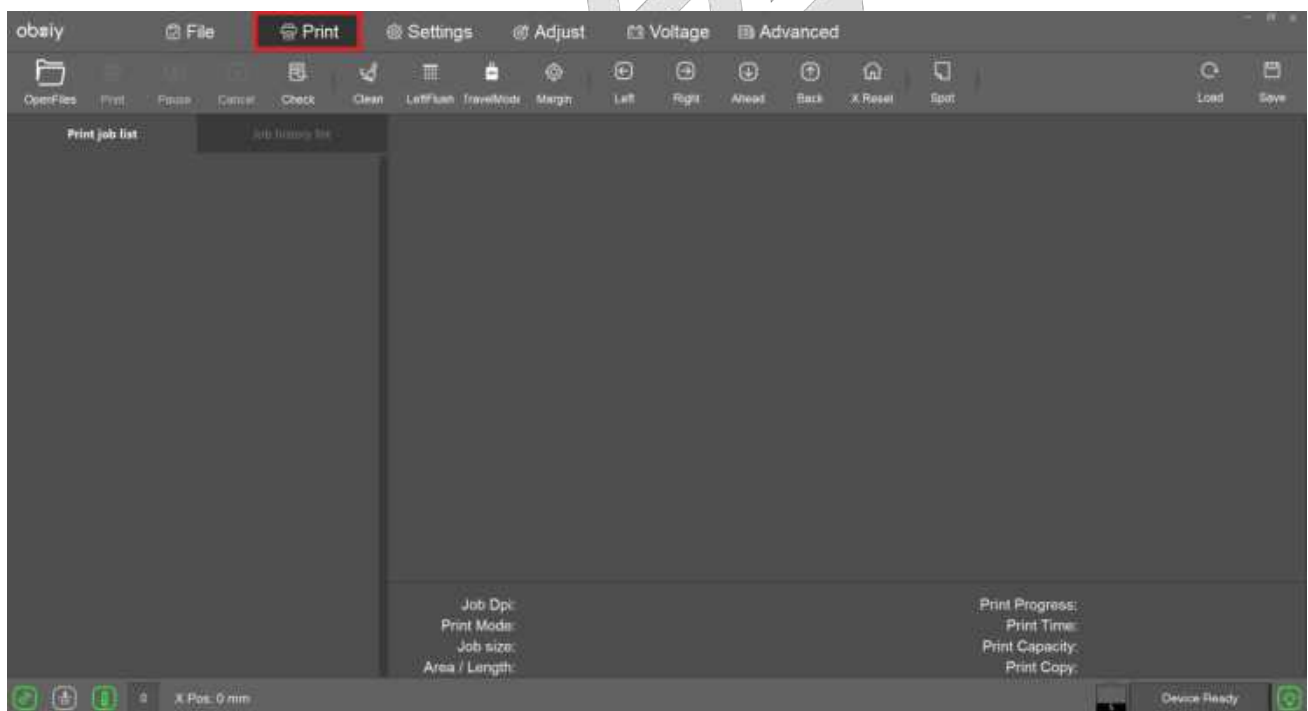
Right-click menu	Function Details
Name Sort	Local print files arranged by name order
Time Sort	Local print files arranged by file creation order
Refresh Directory	Refresh the local print task files detected in the current local folder location
Preview Again	Refresh the preview image of the local print task file
Delete Files	Delete the local print task file

Print Immediately	Print the local print task file immediately (The task status in the print queue shows as Print Ready, it will automatically print after the currently printing task is finished)
Add Printing	Add the local print task file to the print queue (The task status in the print queue shows as Task Ready, it will not automatically print when idle)
Open Folder	Open the location where the local print task file is saved via the system file explorer

At the bottom of the local print file preview interface, you can view the task parameters of the print task file in real time.

Job Name:	OBZIY CMYK Block Test Pattern.prn
Job Dpi:	720 X 1440
Job Size:	247.51mm X 47.87mm
Color Num:	5
Dot Bit:	2 Bit

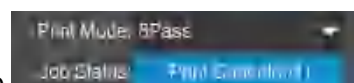
3.3 Print Task Management

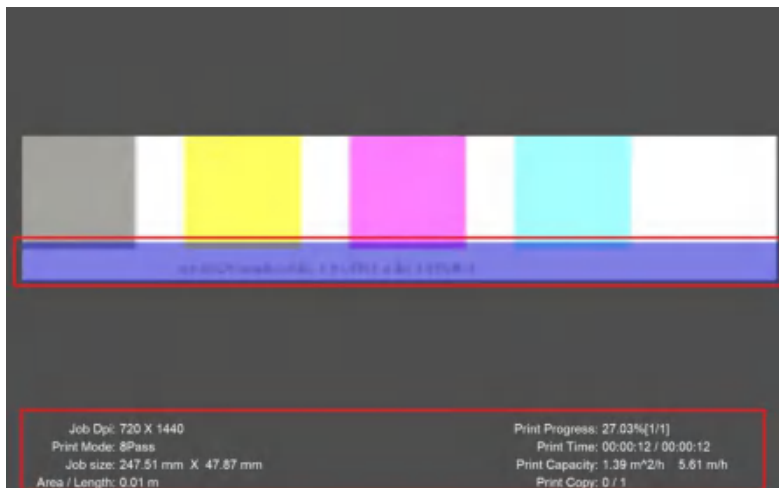


This interface manages all actual print tasks processed with RIP data.

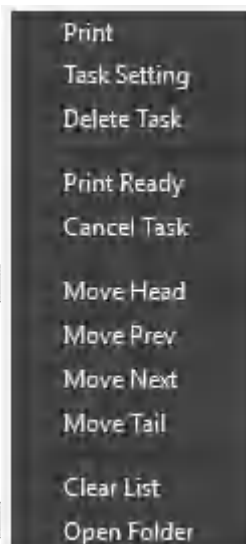
- The Print job list displays all currently executing print tasks. The first column shows the task being processed, the first row shows the Pass number information of the current print job, and the second

row shows the execution status of the current print job.





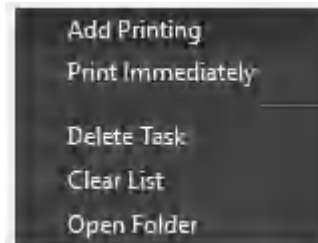
The right-side interface displays the current printing progress and real-time position of the ongoing print job. The portion highlighted in blue represents the part that has already been printed. Detailed information about the current print job is shown at the bottom. Right-clicking the target print job in the print job queue will display the following print queue task context menu:



Right-click menu	Function Details
Print	Start printing this print job
Task Setting	Configure this print job individually
Delete Task	Delete this print job from the print queue
Print Ready	Change the status of this print job to Printable; the printer can automatically print tasks in the Print Ready status sequentially
Cancel Task	Cancel printing this print job
Move Head	Move this print job to the front of the queue to execute first
Move Prev	Move this print job forward by one position in the queue to prioritize execution
Move Next	Move this print job back by one position in the queue to delay execution
Move Tail	Move this print job to the end of the queue to execute last

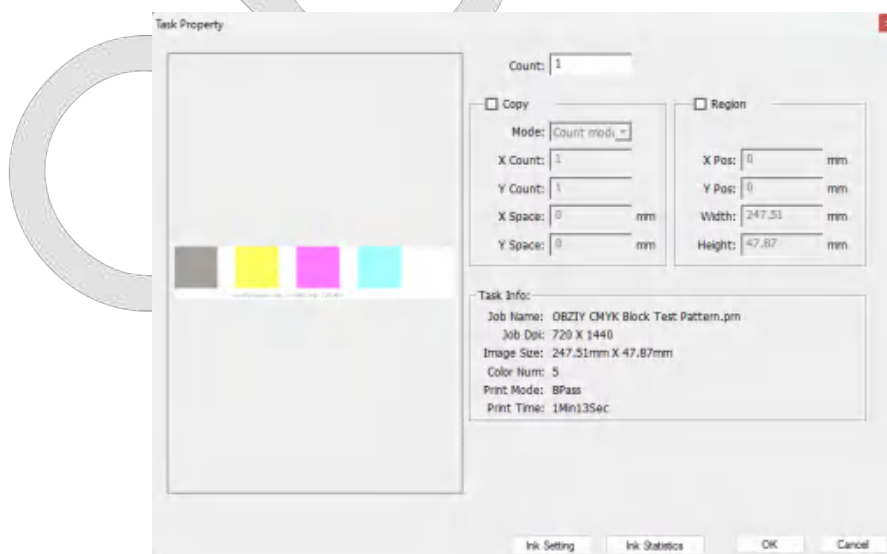
Clear List	Clear all tasks in the current print queue
Open Folder	Open the location of the local file used to create this print job

- The Job history list shows all previously printed tasks. Right-clicking the target print job in the historical print job queue will display the following print queue task context menu:

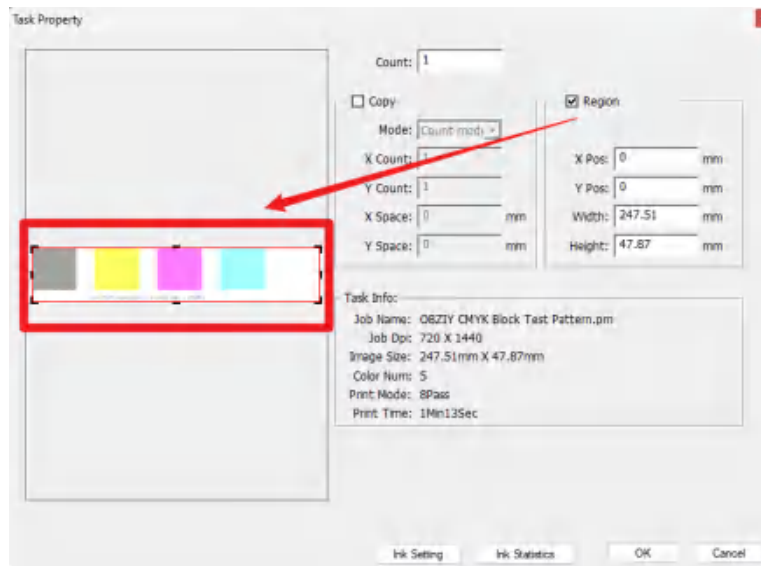


Right-click menu	Function Details
Add Printing	Add this historical print job to the print queue (only applicable to print jobs created from local files; the status of the task in the print queue will show as Task Ready and will not be automatically printed when idle)
Print Immediately	Immediately print this historical print job file (applicable only to print jobs created by this print file; the status of tasks in the print queue will display as Print Ready and will automatically execute printing after the current print job finishes and the printer is idle)
Delete Task	Delete this print job from the historical print queue
Clear List	Clear the historical print job queue
Open Folder	Open the location of the local file used to create this print job

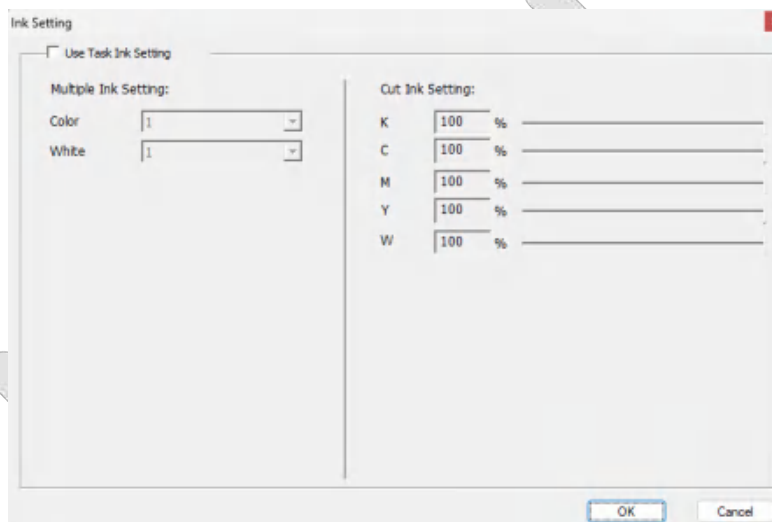
3.3.1 Print Job Settings



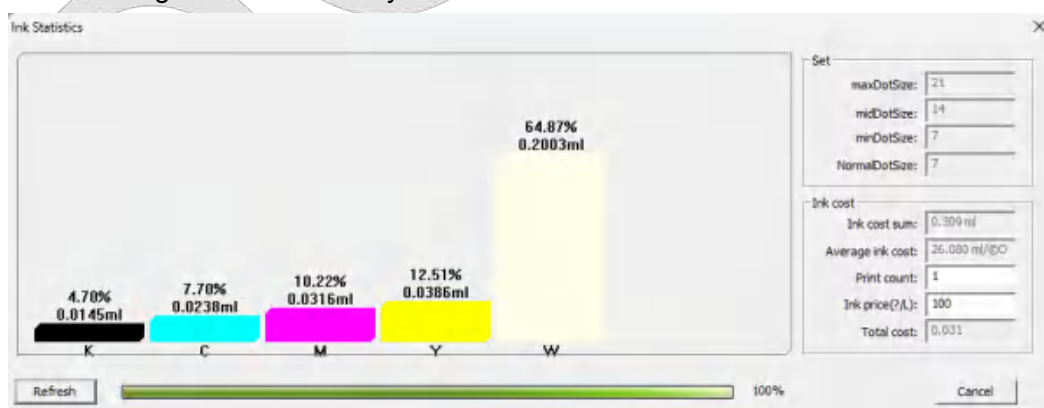
In the print job pop-up window, you can also set multiple copies printing, sequential printing, and region printing independently for this print job. After selecting the region printing setting, we can select the target print area at the following location.



- Print Job Ink Usage Settings



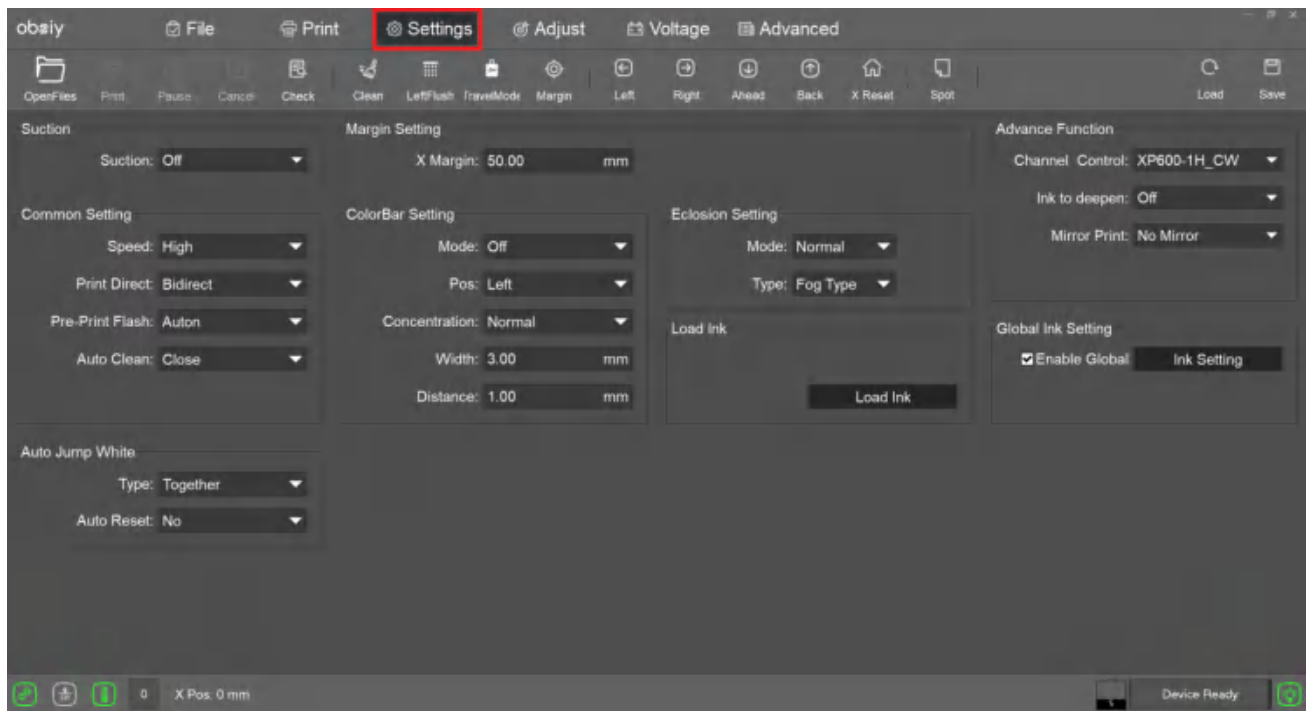
- Print Job Ink Usage Estimation Analysis



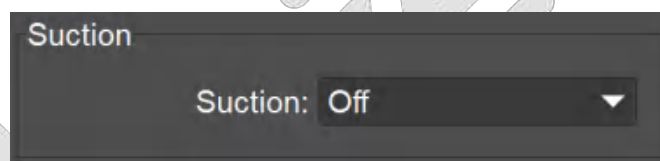
3.4 Parameter Settings

These parameters have been adjusted to optimal status at the factory. Please do not set these parameters arbitrarily unless you know the consequences. If you have questions, you can request obziy technical

support assistance for the settings.

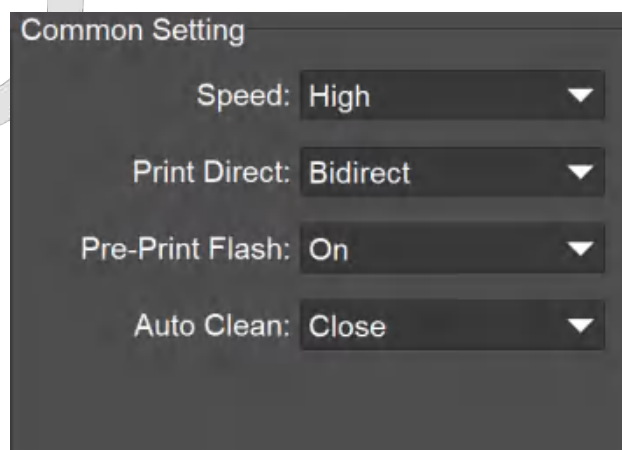


3.4.1 Suction Switch Control



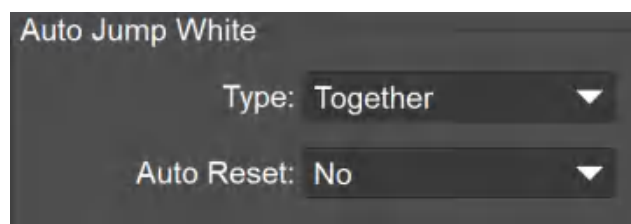
When Suction is set to Off, the printer will automatically control the suction on the printing platform when executing a print job. The suction will automatically stop after printing to extend the life of the suction components. When set to On, the suction function will remain continuously on.

3.4.2 General Settings



Speed	Low, Middle, and High correspond to different print speed settings respectively
Print Direct	Left means the printhead will only print when moving to the left. Right means the printhead will only print when moving to the right. Bidirect means the printhead will print during movement in both directions. This setting has the highest printing efficiency.
Pre-Print Flash	Perform a flash spray before starting printing to remove excess residue on the printhead surface.
Auto Clean	Perform flash spray cleaning during long continuous printing to maintain print quality, which may be used for large area printing.

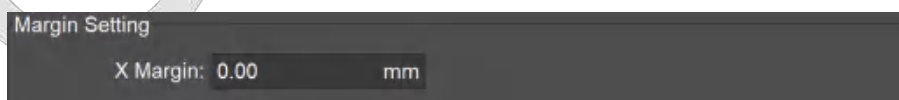
3.4.3 Auto Skip Blank



The auto skip blank function means the system automatically identifies blank areas in the image without patterns, allowing the printhead to quickly skip these blank sections or avoid ineffective ink spraying, thereby improving printing efficiency.

- Intelligent Recognition: The software will automatically detect horizontal blank distances without patterns in the image data.
- Speed Up and Save Time: When the blank distance exceeds the set size, the machine will not move line by line idly or make useless sprays, but will directly "fast forward" to the next patterned coordinate to continue printing.
- Core Advantages:
 - Save Time: Significantly reduces idle time when there are large top and bottom blank areas on the entire image.
 - Protect Equipment: Reduces ineffective wear on the printhead and mechanical structure.

3.4.4 White Edge Setting



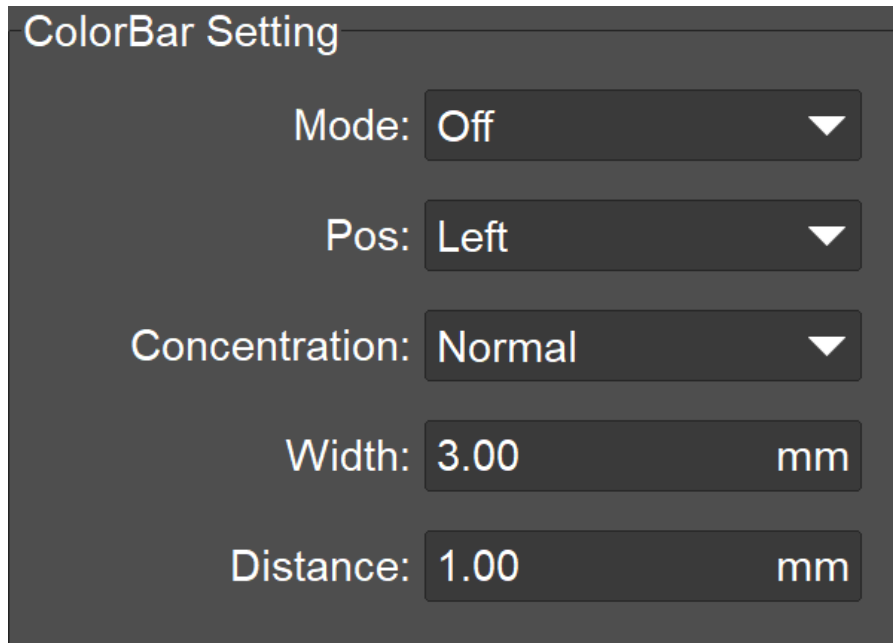
White edge setting parameters determine the starting horizontal printing position of the printhead. The starting position on the printing platform varies for different widths of film.

For example, on the DP1 Series printer:

- Using 381mm film material, set the canvas width to 381mm, print a 370mm pattern (it is recommended to print the maximum size pattern to leave some margin on both sides), and the default best starting white margin value is 10.
- Using 300mm film material, set the canvas width to 300mm, print a 290mm pattern (it is recommended to print the maximum size pattern to leave some margin on both sides), and the default best starting

white margin value is 50.5.

3.4.5 Color Bar Settings



ColorBar Setting

Mode: Off

Pos: Left

Concentration: Normal

Width: 3.00 mm

Distance: 1.00 mm

A color bar refers to a row of small colored blocks or gradient lines that the printer actively sprays at reference positions on the print according to the color bar settings.

Main functions:

- Prevent printhead drying: When printing large areas of solid color or colors that are not sprayed for a long time, the corresponding nozzles are prone to crusting and clogging due to air drying. The color bar allows all color nozzles to periodically and in small amounts spray ink to stay moist and unobstructed.
- Real-time monitoring of print quality: Operators can observe whether the color bars at the edge of the print are missing colors or broken lines to assess whether the printhead is clogged (needle break), so as to pause and clean the printhead in time.

Common related issues:

- Color bar broken lines: Indicates the printhead is clogged and the printhead cleaning function needs to be performed.
- Stripes appear on the finished product: If the main printed pattern has uneven stripes, it is usually caused by slight nozzle clogging or white ink sedimentation.

Color Bar Settings	Setting Instructions
Mode	Off means not printing color bars, Wetting means printing moisture-preserving color bars, Status means printing status-type color bars, and Wetting and status means printing both moisture-preserving and status-type color bars simultaneously.
Pos	Left prints the color stripe on the left side of the pattern, Right prints the color stripe on the right side of the pattern, Both prints color stripes on both the left and right sides simultaneously.

Concentration	Weak prints color stripes at low density, Normal prints color stripes at medium density, Strong prints color stripes at high density.
Width	Set the width of the printed color stripe.
Distance	Set the distance between the color stripe and the pattern.

3.4.6 Feathering Settings

Feathering (also known as feathered printing) is a software-level inkjet optimization technique primarily used to eliminate visible "pass lines" (horizontal stripes or brush marks) on the image.

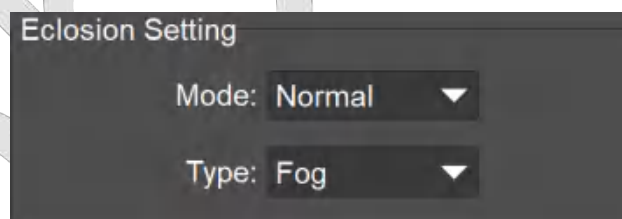
When the printer is operating, the printhead carriage moves back and forth, printing line by line. Each round trip or paper feed coverage is called a Pass. Due to tiny mechanical stepping errors or nozzle junctions, the connection between different Passes can easily produce hard edges or gaps, leaving parallel streaks on the final pattern (i.e., pass lines). The feathering function randomly selects, gradients, or specially arranges ink dots at the edges of each Pass, causing the edges of ink droplets between adjacent layers to become blurred, staggered, and natural, thus hiding the seams.

Main Functions of Feathering

- Eliminate Pass lines: Enhance printing precision and image smoothness, preventing horizontal stripes with uneven darkness.
- Improve fault tolerance: Reduce image quality damage caused by minor mechanical errors or slight ink breaks.
- Optimize ink usage: Distribute ink dots reasonably, making transitions more uniform in certain modes.

Advantages and Disadvantages of Feathering Settings

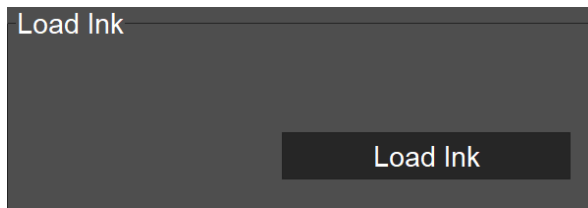
- Advantages: Significantly improves image quality, and color transitions are smoother.
- Disadvantages: The higher the feathering value (e.g., 80%, 90%, or higher), the slower the printing speed.



There are six Eclosion modes in total, with two types of Eclosion:

- Modes:
 - Off
 - Light
 - Normal
 - Depth
 - Super Eclosion
 - Custom
- Type:
 - Fog
 - Fog Strong A (a higher-strength type of feathering algorithm)

3.4.7 Ink Priming Control

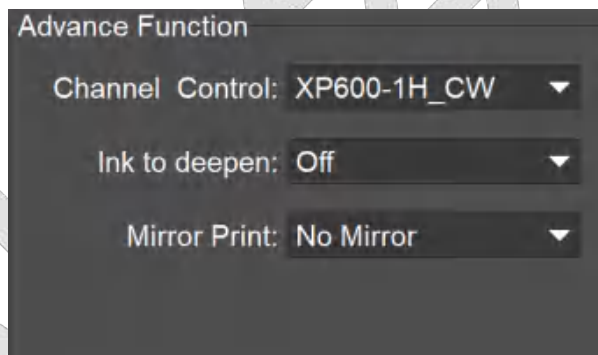


When you click the Ink Priming button, the priming motor draws air and ink through the ink path from the printhead. Use this function during initial setup or to remove excess air from the ink path. After you click the button, an ink-priming counter dialog appears:

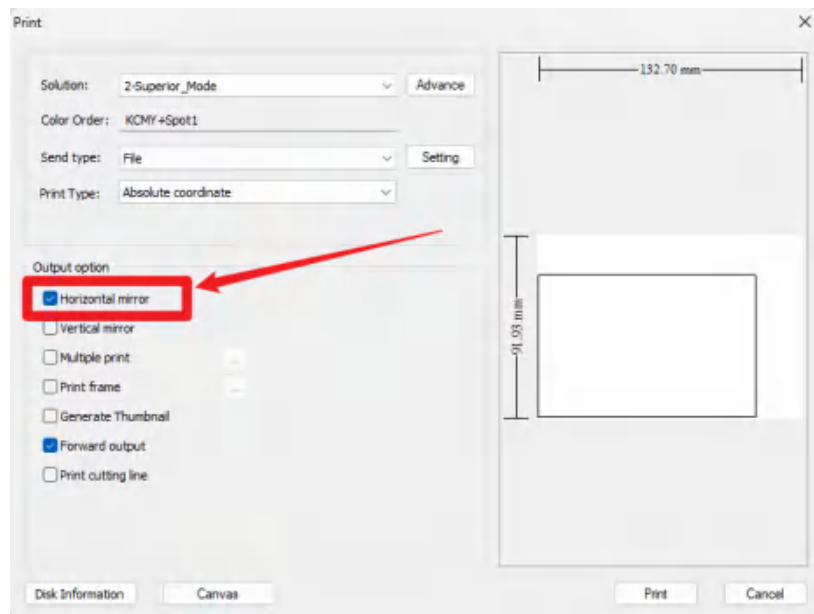


After excess air has been removed from the ink path, click Stop promptly to end ink priming and avoid wasting ink. Monitor the waste-ink bottle during the process and empty it before it becomes full to prevent overflow and contamination.

3.4.8 Advanced Settings

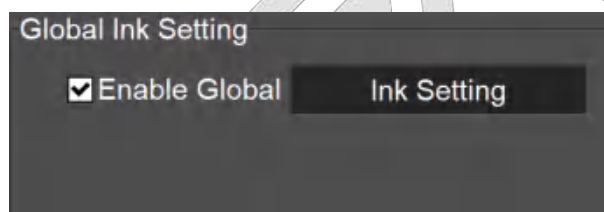


Channel Control in this setting sets the factory configuration parameters for the printhead of the current printer model. Ink to Deepen allows you to set ink concentration settings for different hardware configuration layers. The default is Off (factory-tuned to the best state, so it's not recommended to change in normal usage scenarios). Mirror Print sets our mirrored image printing. Since DTF is a transfer process, the printed patterns are all mirrored output. Note that this is the same as the Horizontal mirror function in ZRIP printing shown below.

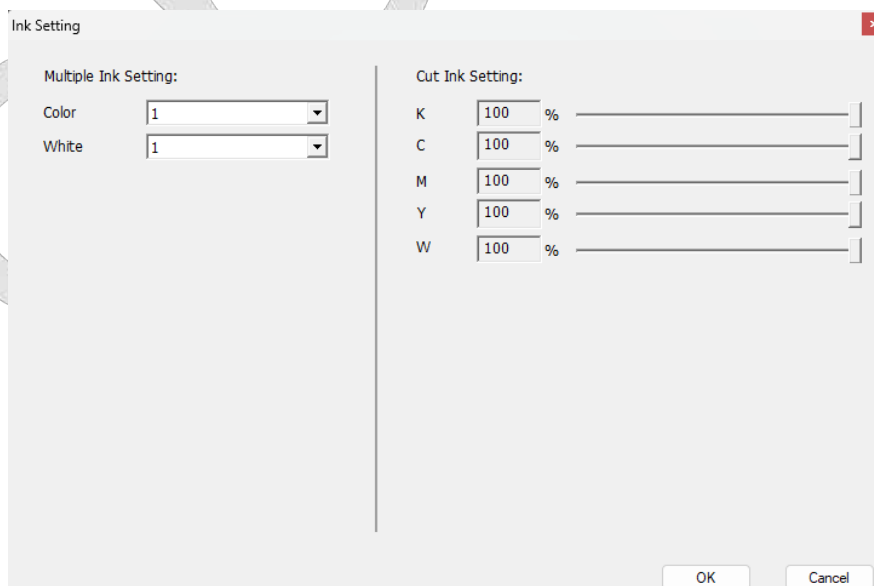


When printing with DTF, just choose one of these two options.

3.4.9 Global Ink Volume Settings



Global ink volume settings allow independent adjustment of the white and color ink multipliers, as well as the ink limit for each color channel.



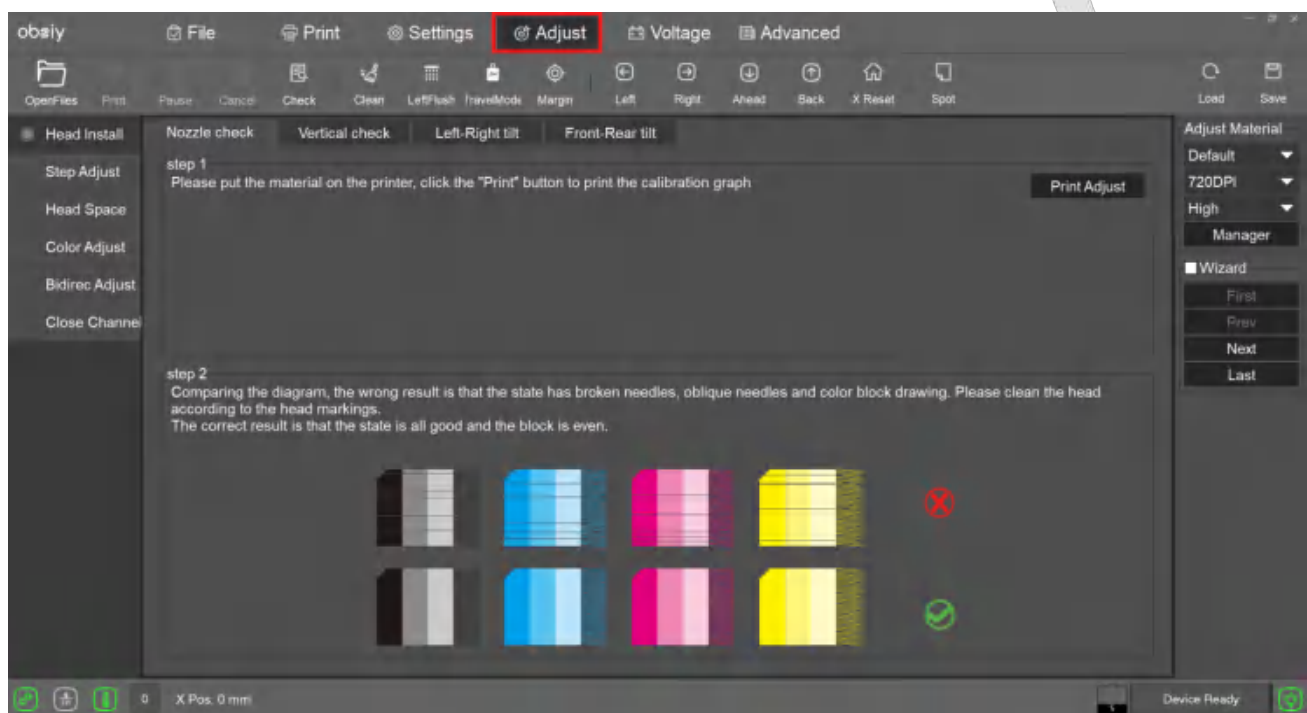
When we need to deepen or reduce the intensity of a single color, we can adjust its parameters in the window shown above. The Multiple Ink Setting controls the amount of ink sprayed for each color channel to achieve multiple layers, with a maximum of 8 layers. The higher the multiple, the slower the printing

speed, because the principle is to spray multiple times at the same position to reach the desired ink level. The Cut Ink Setting adjusts the ink cutoff level for each color channel. The default value is the maximum, 100%. Reducing the cutoff amount will significantly lower the concentration level of the set color channel.

3.5 Calibration Settings

The calibration settings page provides guided calibration content by adjusting various software parameters to ensure precise inkjet printing, accurate colors, and no ghosting or misalignment in bidirectional printing.

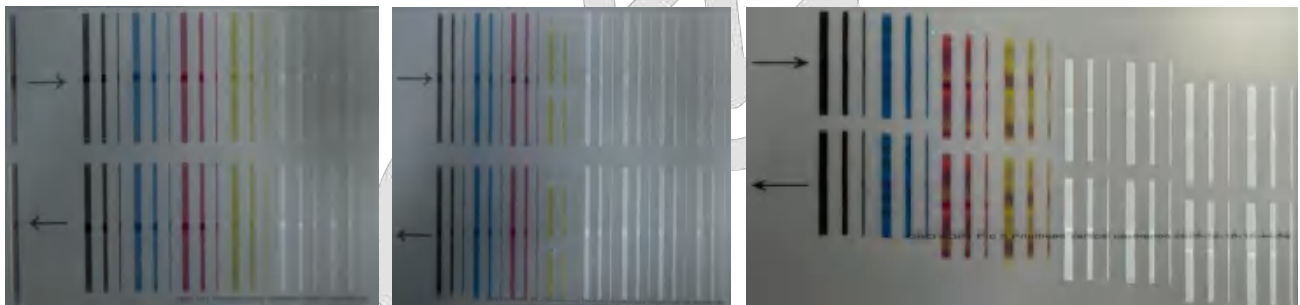
3.5.1 Printhead Installation Calibration



When we replace and install a new printhead, use the Nozzle check function to print a nozzle check pattern (the same as the test strip function of the Check button) to check whether each nozzle of the printhead is unobstructed.



When replacing and installing a new printhead, we need to keep the print channel and the frame as vertical as possible. A slight angle can cause overlapping of the ink positions, resulting in misaligned images and poor print quality. By printing vertical detection bars, we can judge whether the printhead is installed vertically in place. If misalignment occurs as shown in the illustration, it is necessary to loosen the screws securing the printhead and make slight angle adjustments. The standard vertical reference state is shown in the figure below:



3.5.2 Step Calibration

Step calibration refers to adjusting the movement distance of the feed roller (or platform) each time it transports the film, to ensure accurate and error-free longitudinal feeding during printing.

Why is step calibration needed?

- Eliminate white lines or overlaps: If the stepping distance is inaccurate, the printer feeding too fast will produce thin horizontal blank lines; feeding too slowly will cause overlap and compression of the image.
- Ensure image proportion: Make sure the printed pattern's vertical size is accurate and not distorted.

How to perform step calibration?

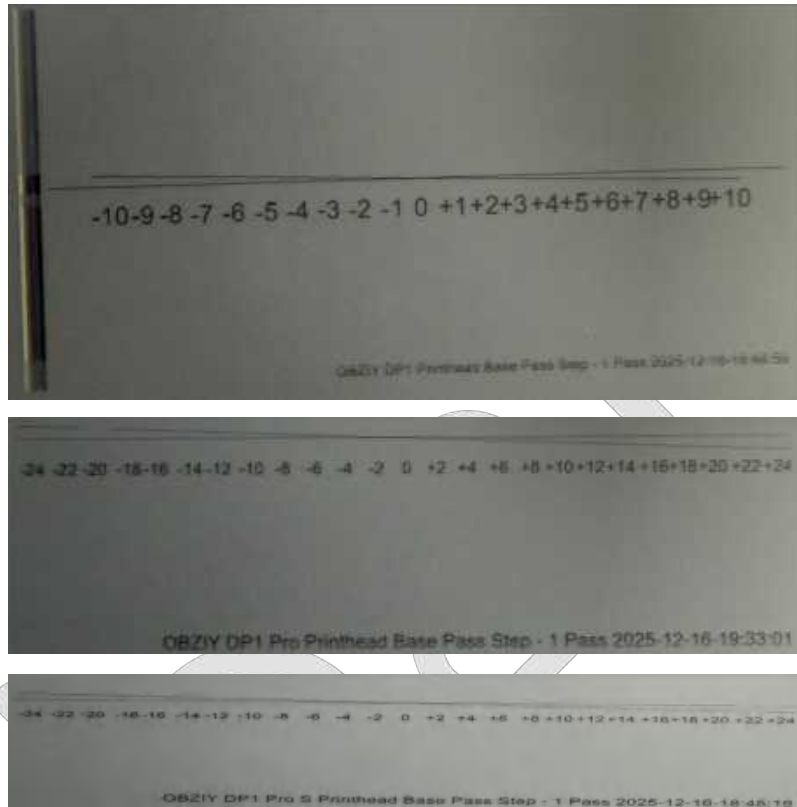
1. Print a test pattern: In this calibration interface, click [Print Adjust] under Base Step to print a set of special test lines.
2. Observe and measure: Check whether the printed lines perfectly align with the "0" scale or reference position. If there are gaps or overlaps, note how many pixels or units they deviate.
3. Enter correction values: On the right side of the parameter box beside [Calculate] in Base Step, check the box first. Only after checking can you correct the parameter values in the box. Then

enter the cumulative parameter value based on the actual deviation (such as +1 or -1) on top of the original parameter value, and then click [Calculate] to let the system automatically compute and update the step parameters, and save the settings.



4. Repeat verification: Print the test pattern again until the lines are completely aligned.

The standard reference state diagram for stepping is shown below:



3.5.3 Printhead Spacing Calibration



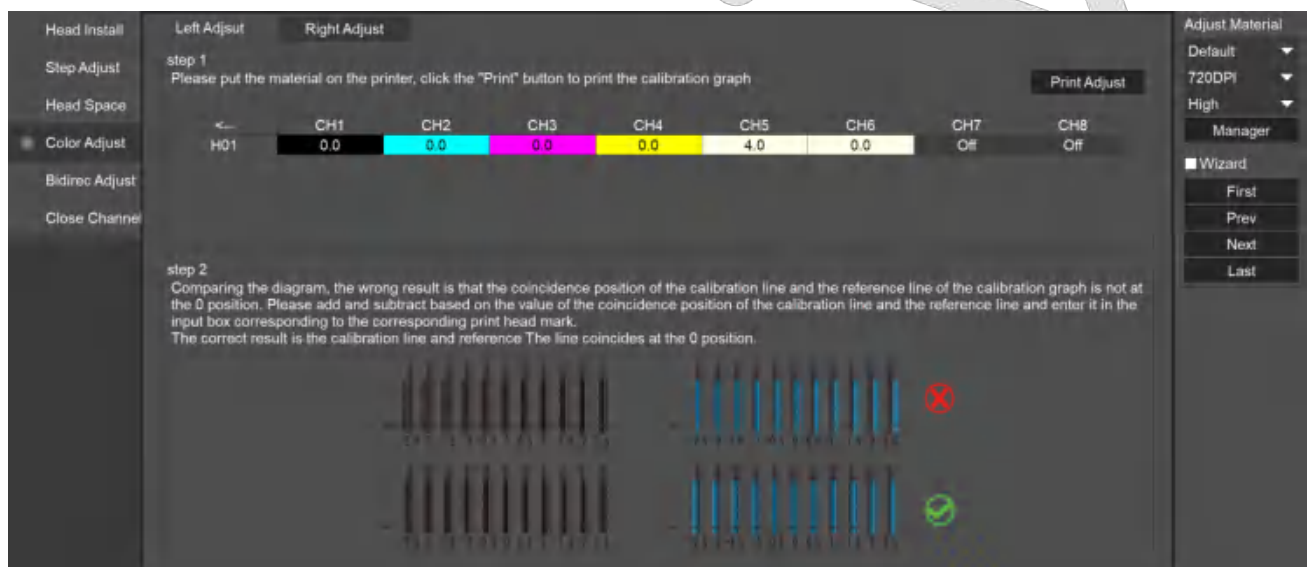
printhead calibration is applicable to multi-printhead printers. single-printhead models do not require

printhead distance calibration (for example, our DP1 Series printers use a high-integration, high-performance single-printhead solution, avoiding multi-printhead calibration and various error issues). printhead distance refers to the horizontal/vertical installation spacing and calibration values in multi-printhead machines (the spatial distance and position alignment parameters of multiple printheads).

Why do multi-printhead models require printhead spacing calibration?

- **Overlap Alignment:** If the horizontal or vertical spacing between multiple printheads is not precisely calibrated, the colored ink and white base ink will become misaligned during printing.
- **Avoid ghosting and edge blurring:** abnormal spacing parameters can cause white edges, ghosting, or inaccurate colors at the edges of the image. By printing a calibration strip and entering precise compensation values (such as adjusting the horizontal/vertical spacing parameters), the ink droplets ejected by each printhead can perfectly align.

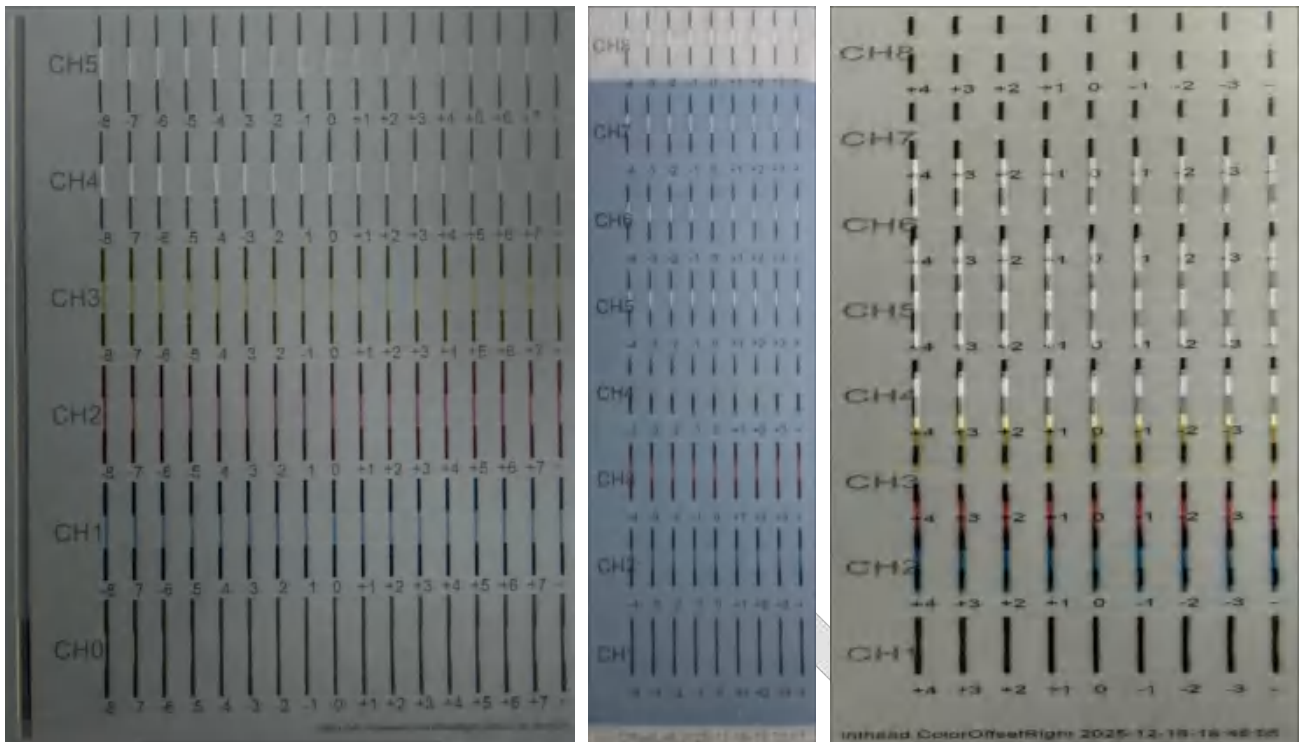
3.5.4 Color Registration Calibration



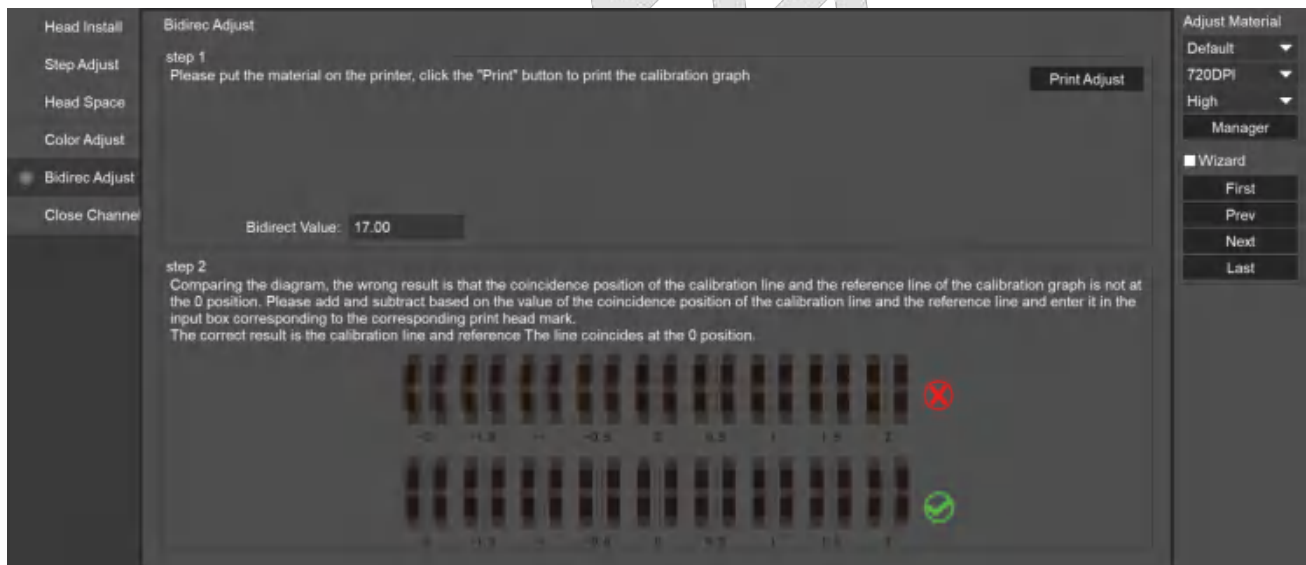
Color alignment calibration refers to the process of adjusting the relative positions of different color nozzles during printing to ensure that drops of various colors can precisely overlap at the printing positions.

During the recalibration process, use the black channel reference line as the standard (black calibration values do not need to be set), check the deviation of the middle lines of the other color channels from the upper and lower black reference lines, fill in the actual deviation values (such as +1 or -1), and click [Print Adjust] to print the test chart again until the lines are completely aligned.

The standard overprint reference status diagram is shown below:



3.5.5 Bidirectional Calibration



Bidirectional calibration refers to adjusting the alignment of the printhead's ink droplets during back-and-forth (left and right) printing to ensure that the ink positions coincide perfectly when moving in both directions.

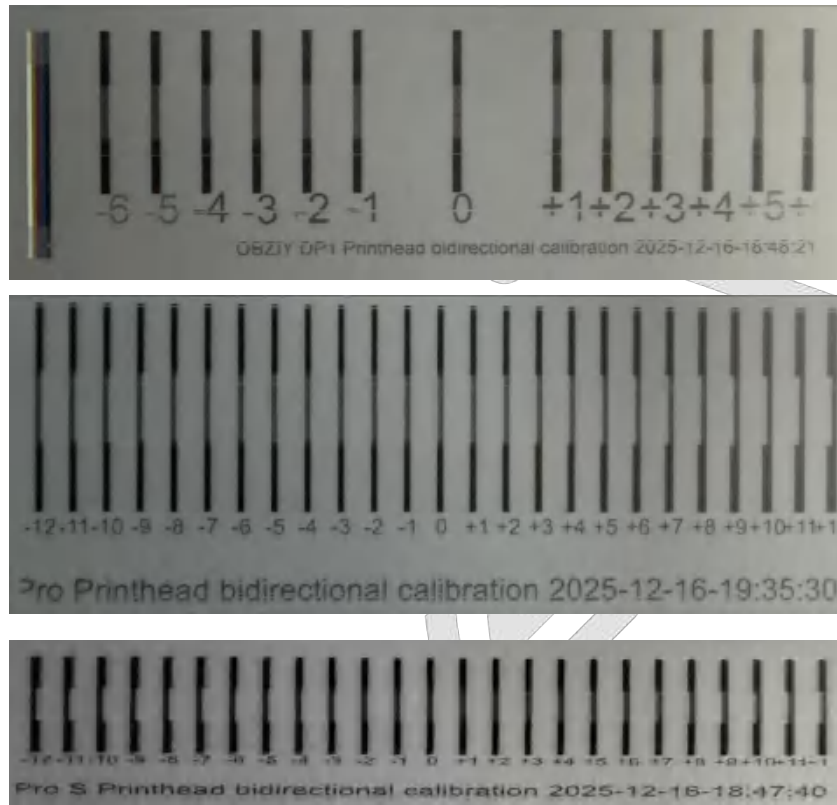
Why is bidirectional calibration necessary?

- Increase printing speed: Unidirectional printing only sprays ink when the printhead moves to one side, while bidirectional printing sprays ink in both directions, making it faster.
- Fix misalignment and blurriness: If the printhead's back-and-forth ink positions are inconsistent, shadowing, left-right misalignment, or fuzzy lines may appear at the edges of the pattern. Bidirectional calibration can restore clarity and sharpness to the image.

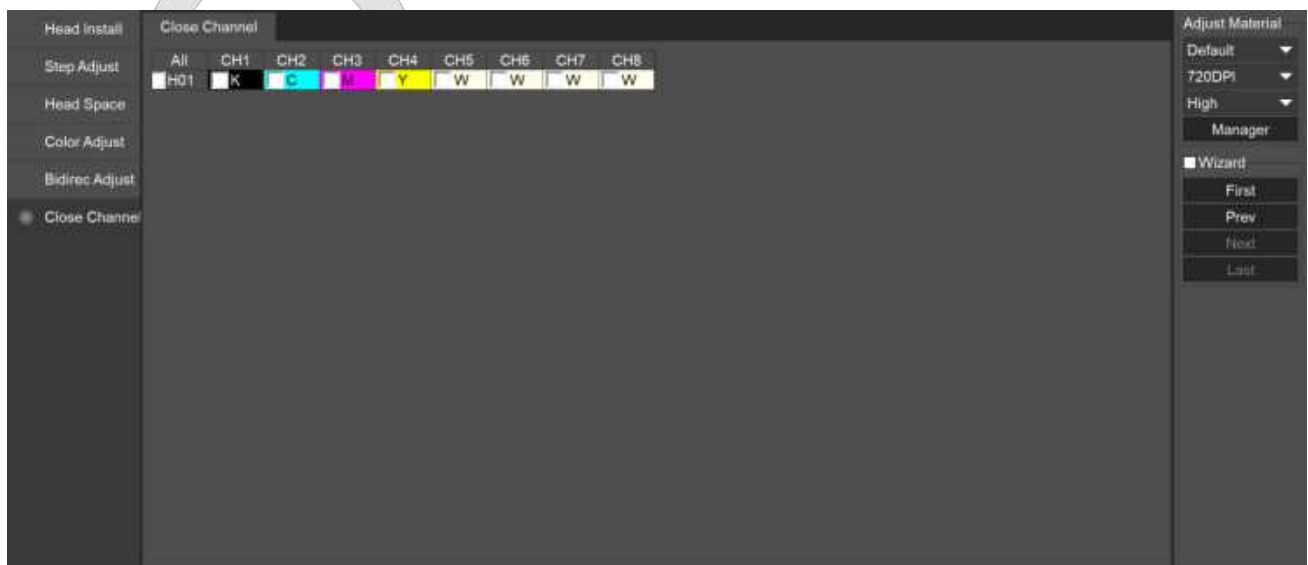
How to carry out bidirectional calibration?

- Print test pattern: On this page, click **【Print Adjust】**, and a set of test patterns with scales or lines will be printed.
- Observe the alignment situation: Check the lines on the test pattern to see which line's back-and-forth trajectory perfectly coincides at the "0" scale (perfectly aligned position).
- Adjust the values: If alignment occurs at positions like "+1" or "-1", enter the corresponding correction value in the software until the line aligns at position 0.

The standard bidirectional reference status diagram is shown below:



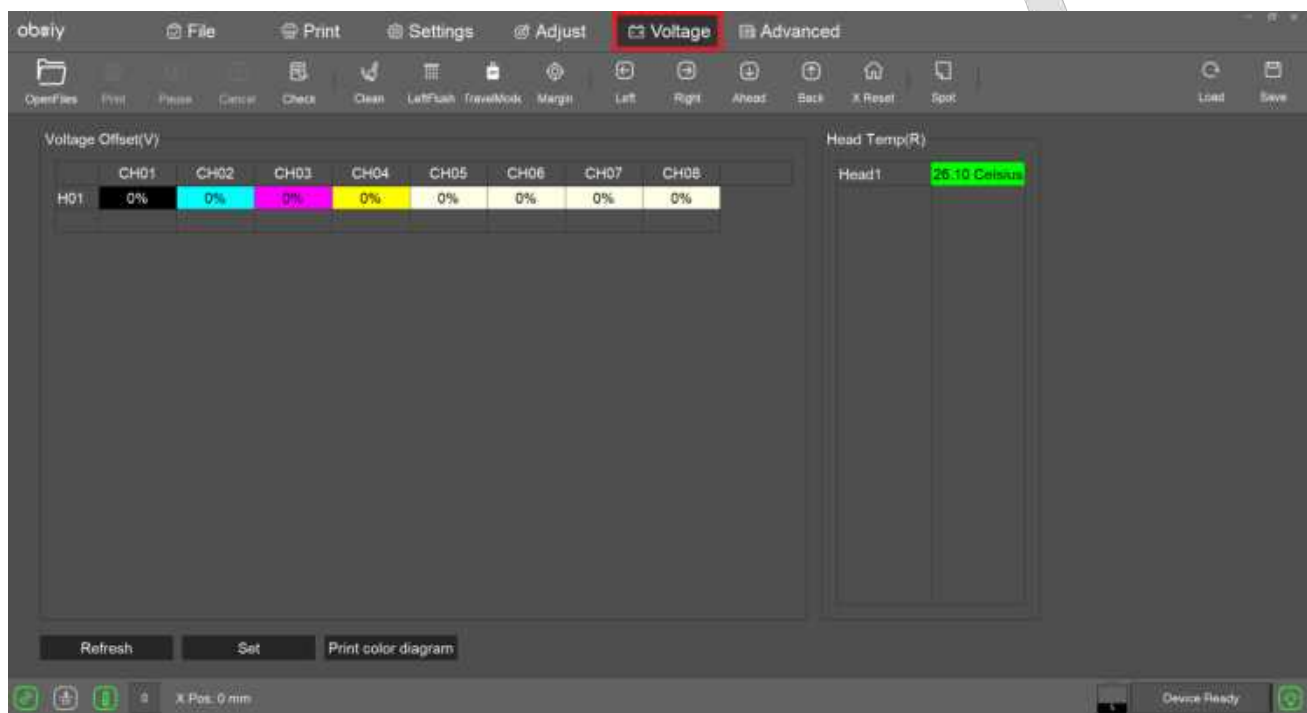
3.5.6 Printhead Color Channel Control



On this color channel switch control interface, we can individually control the switch of any color channel

on the print printhead. Checking this box means turning off this channel, and during printing, the channel will stop working. ☒

3.6 Printhead Drive Voltage and Status Information



What Is Printhead Voltage Offset?

- Working principle: The printhead relies on voltage to drive the deformation of the internal piezoelectric crystal to squeeze out and spray ink droplets.
- Meaning of offset: Each printhead has a factory-calibrated reference voltage. Voltage offset is set within a range from -100% to +100%.

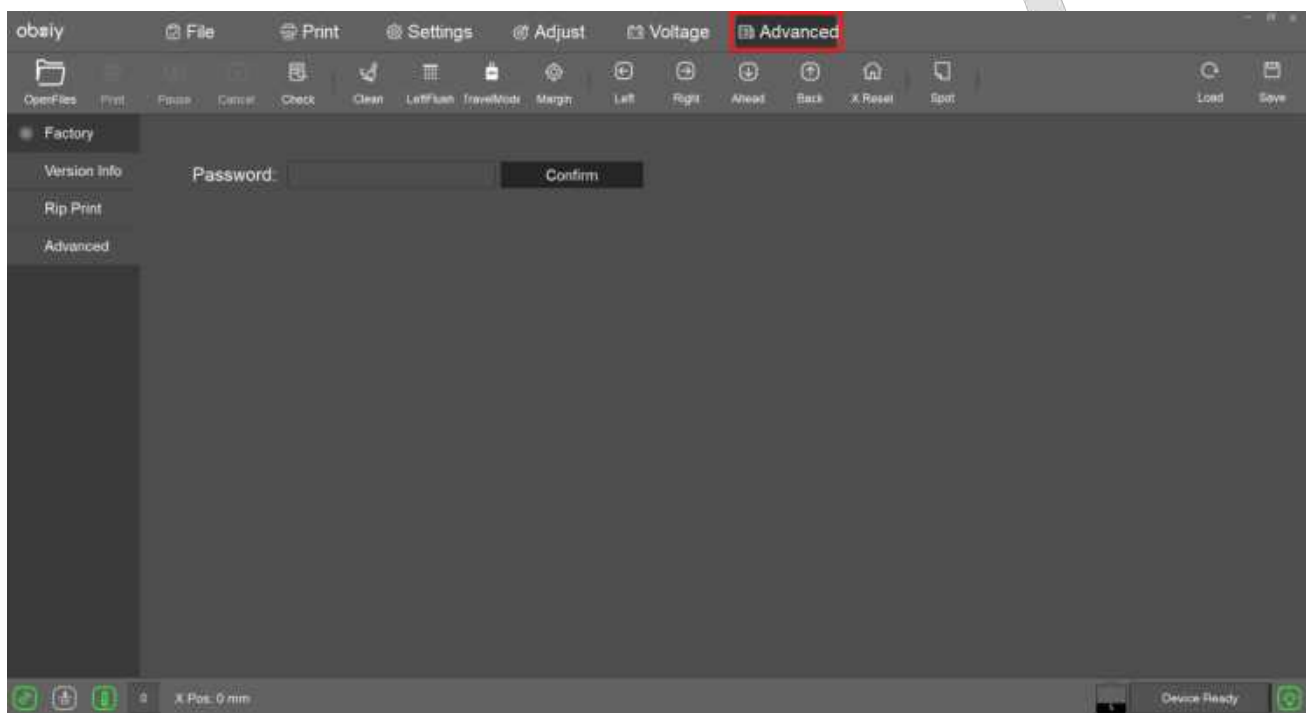
Voltage offset refers to a small positive or negative correction value applied to the working reference voltage of the internal piezoelectric crystal in the nozzle, used to change the deformation strength of the piezoelectric ceramic and the ink ejection speed. In this interface, you can fine-tune the voltage of specific channels or nozzles for slight adjustments, to fine-tune the ejection force.

Under normal use, adjustment is not allowed and not recommended (please perform under the supervision of official technical support personnel).

- Accelerating piezoelectric crystal fatigue: Blindly increasing the voltage can cause the piezoelectric ceramic to bend excessively and oscillate violently at high frequencies, which can easily lead to internal crystal fatigue, aging, or even fracture damage.
- Causing flying ink and skipping ink: Excessive voltage can lead to overly fast inkjet speed and oversized ink droplets, resulting in flying ink, jagged edges, or ink splatter; insufficient voltage can cause faded colors, lack of saturation, or severe line breaks.

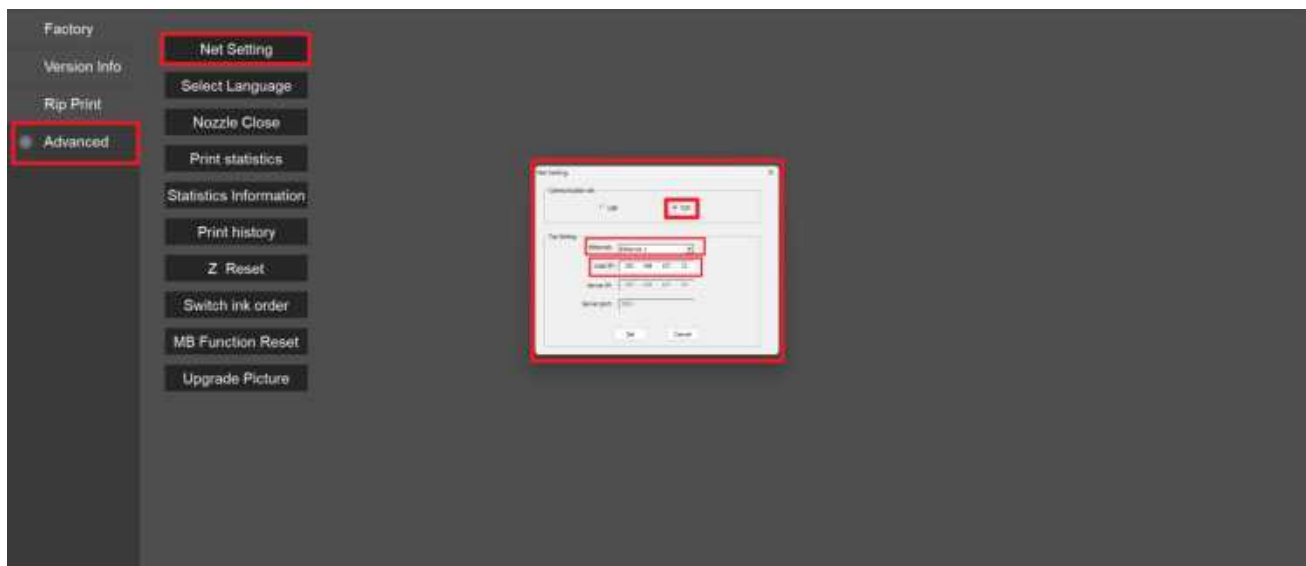
- Disrupting ink matching balance: The printhead voltage is strictly proportional to ink viscosity. Arbitrarily changing the voltage will cause a mismatch between ink viscosity and ejection force, making printhead clogging or nozzle blockage more likely.
- Unable to solve fundamental faults: When printing shows missing colors or needle breaks, it is usually due to clogging, bubbles, or aging. Adjusting the voltage cannot fix physical faults, and forcibly masking the problem will only further shorten the printhead's lifespan.

3.7 Advanced Settings

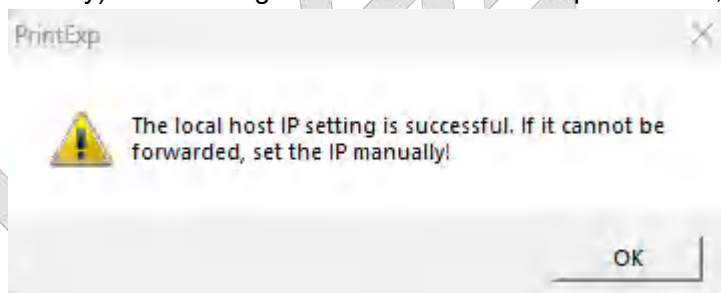


This page contains factory-level firmware settings, version information, ZRIP's RIP parameter settings, and other card advanced settings. Modifying these configurations privately is not allowed. Please operate under the guidance and supervision of obziy professional technical support personnel.

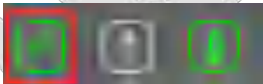
3.7.1 Set IP Address Network Card Parameters to Connect to the Printer



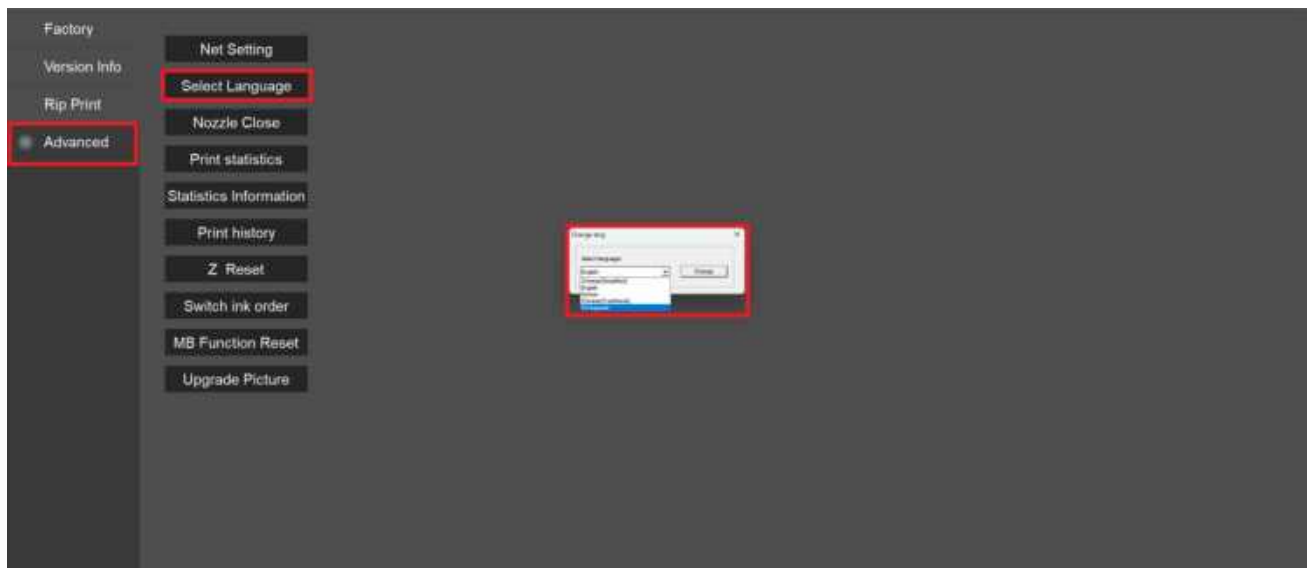
By finding the button in the image above, open the network card settings popup for connecting your computer to the printer. If you are using the computer's built-in network card and not other expansion network cards, select Ethernet by default. If your computer has a built-in network card but uses an expansion network card when connecting to the printer, select Ethernet X. Enter the IP address 192.168.127.10 with the printer's subnet at Local IP (for example, 192.168.127.12 or 192.168.127.13 will connect to the printer normally). After setting the network connection parameters, a pop-up will appear.



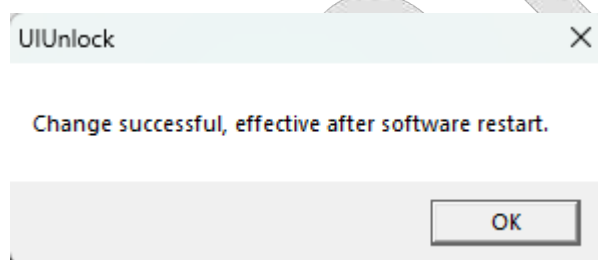
Click "OK". Under normal system settings, wait a few seconds before automatically addressing and

connect to the target printer.  The printer connection status indicator will stay on green, and the printer will perform a print reset. If you find that the network card settings are not working and are not properly connected to the printer, please try manually setting the network card IP in System Settings. (If the issue is still unresolved, please contact obziy professional technical support for assistance.)

3.7.2 Switching Languages

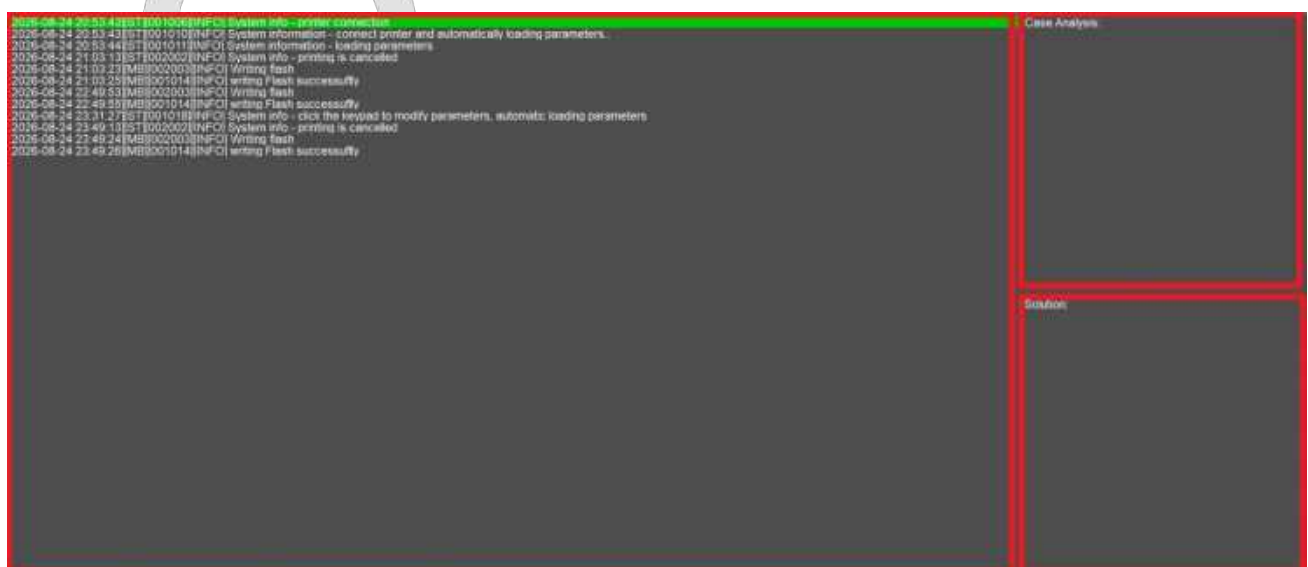


By finding the button at the location shown above, open the printer settings independent window and display a language settings pop-up. After selecting the target language, a prompt like the one to restart the software will appear.



After restarting, it will display the target language (note that the software synchronizes language settings with the system language; otherwise, the system may not include the selected language encoding, causing garbled text).

3.8 Viewing Operation Logs



Here you can view the printer's operation logs. The left window is the main log output browsing area. The upper right area displays the possible causes of error codes when exceptions occur to help us troubleshoot and resolve issues promptly. The lower right area shows the reference error resolution method based on the inferred error code.

4 Operating Instructions

4.1 Basic Operation Process

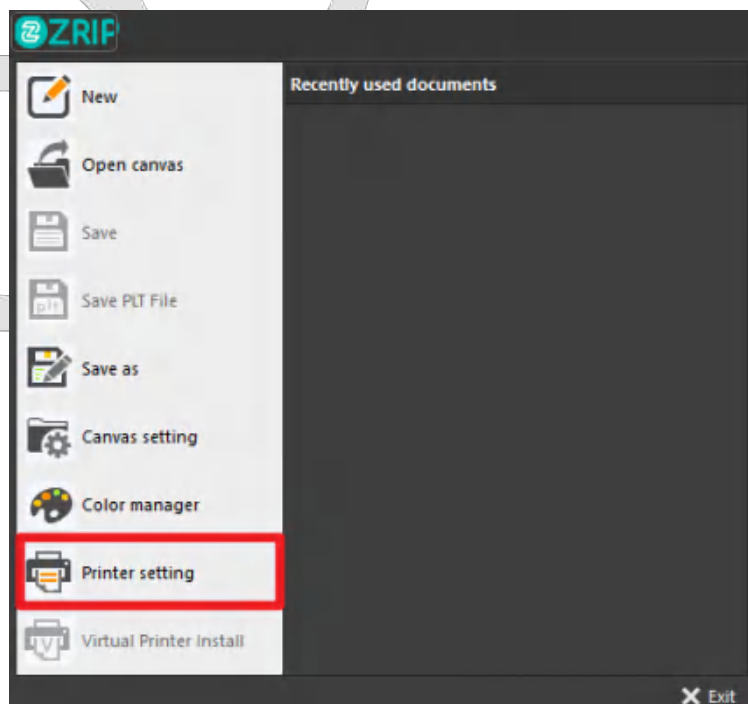
The following example demonstrates the software operation process. Suppose there is an image to print; the image size is 2.4×2.0 meters. The image file has been prepared using Photoshop (or other image processing software) and stored in a directory on the disk. The file name is a.tif.

4.1.1 Opening ZRIP Software

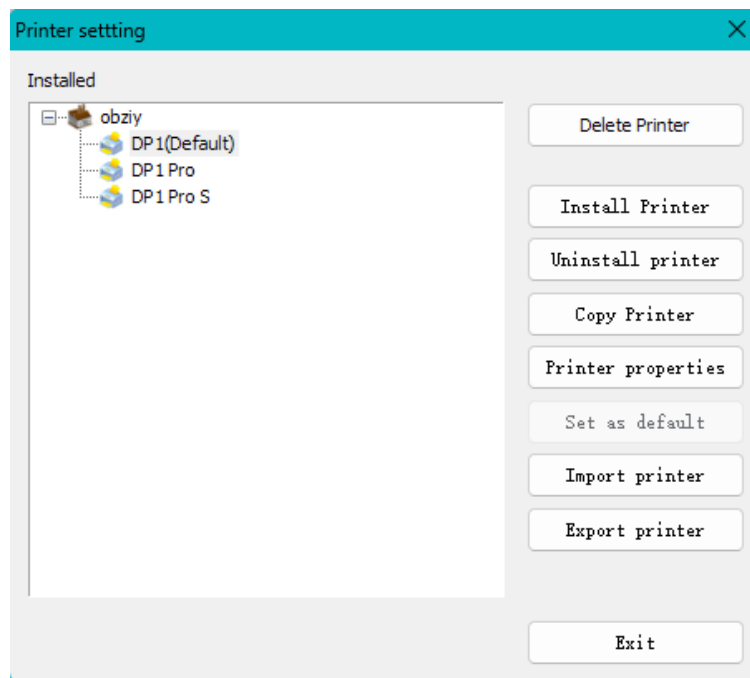
According to Section 2.1 above, after installing and activating the ZRIP software, you do not need to bind it again each time you open it; it is ready to use upon opening.

4.1.2 Setting Printer Parameters

Click the icon in the upper left corner of the software, that is, the **【Printer Management】** in the ZRIP menu bar (or use the shortcut Ctrl+Shift+P), and complete the corresponding printer settings in the printer settings interface.



By default, there is already a default printer in the printer list. This is the built-in printer driver of the program and it supports file output ports.

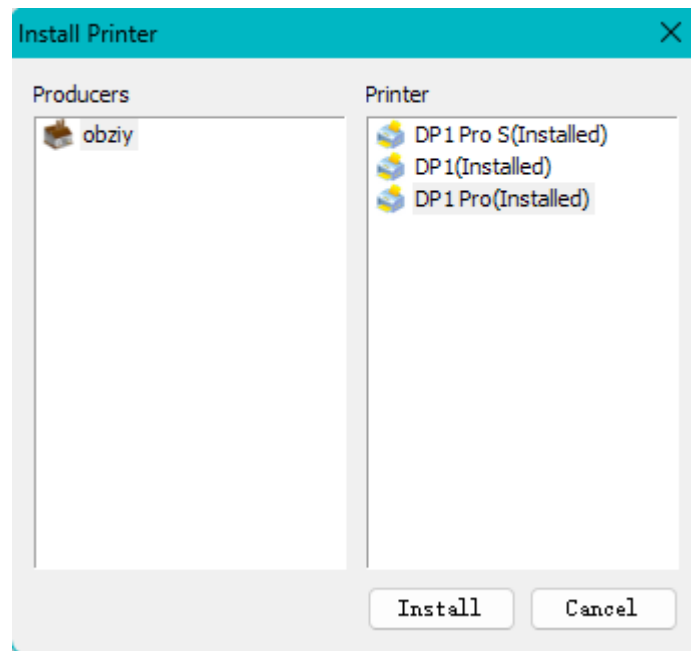


After confirming the default printer, if you do not change any printer driver settings later, you do not need to set the printer parameters again and can directly proceed to the third step.

4.1.2.1 Common Functions of Printer Management

1) Install Printer:

If the printers listed in the installed printer list do not meet your requirements, you can add this printer yourself. Click the **【Install Printer】** button, and the program will pop up the Add Printer dialog box, as shown below:



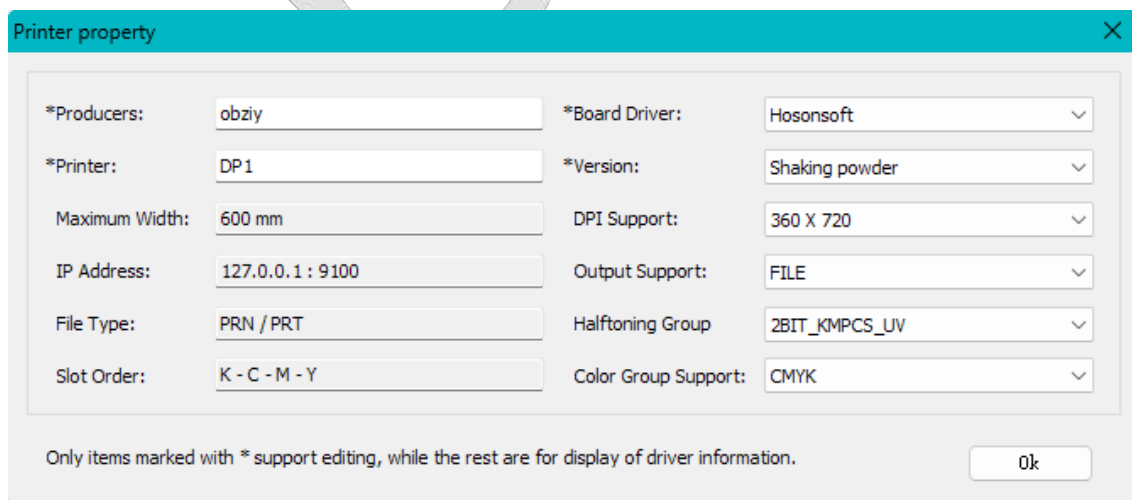
Normally, if you have officially purchased the ZRIP software, the software supplier should have already provided the drivers you need. The printer list from the corresponding manufacturer should include the printer you need. Select it and click the **【Install】** button, and the newly added printer will appear in the installed printer list.

2) Uninstall Printer:

During use, if you want to remove a printer you do not use from the installed printer list, you only need to select that printer and click **【Uninstall Printer】**. After the operation is completed, all information about that printer will be deleted, so please proceed with caution.

3) Set Printer Properties:

Select the printer you want to set up and click the **【Printer Properties】** button. The program will pop up the printer properties dialog box, as shown in the figure below:



Here, you can check parameters such as the output resolution, color combination, and output method of the printer. After checking, click **【OK】** to exit.

4) Set as default printer:

After setting the printer parameters, you need to set the selected printer as the default printer. Select the

printer and click the **【Set as Default】** button. The index of this printer will indicate that it is the default printer.

5) Import printer driver:

During use, if you need to import drivers for other printer models, you can import DPF format files (these files contain font card driver files, curves, and software drivers), which makes it convenient to install the software.

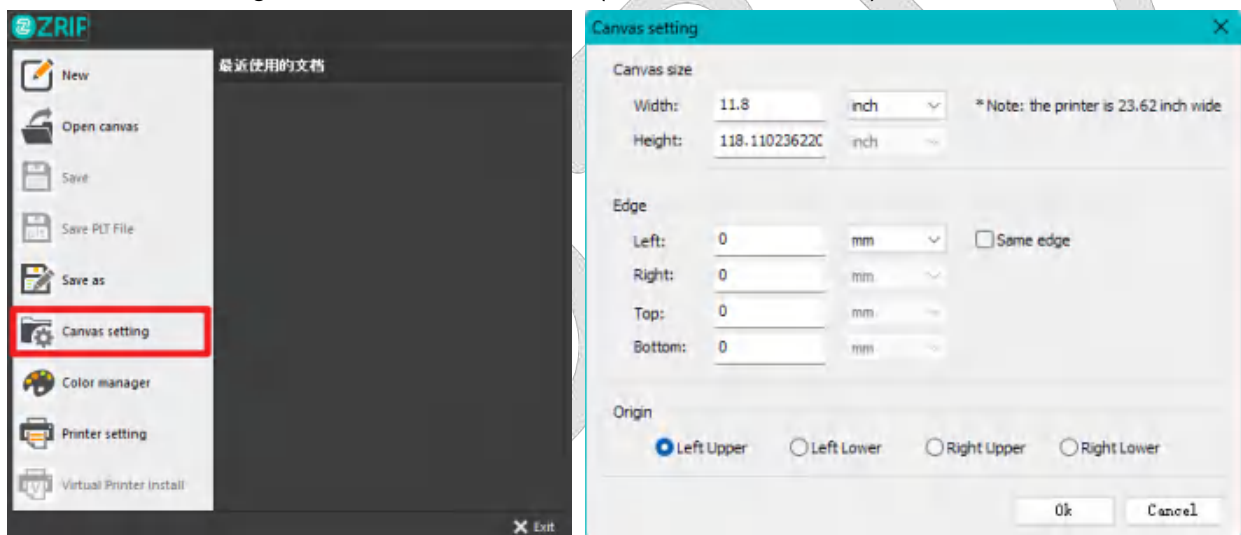
6) Export printer driver:

During use, if you need to export the printer driver of the current model, you can export it as a DPF format file for use on ZRIP in other systems.

4.1.3 Set Canvas Parameters

Since the width of the printing film used varies, the width of the canvas should also be set to match the corresponding canvas size. This ensures that the printed pattern appears in the expected position. When creating a new canvas, the program provides default width and height for the canvas. However, generally, we need to adjust the width of the canvas according to the width of the printer paper to achieve the most material-efficient output.

Click **【Canvas Settings】** in the ZRIP menu bar (shortcut Ctrl+Shift+M).



The program will pop up a canvas settings window as shown in the figure. Here, you can complete the parameter settings for the canvas size and canvas margins. Enter the dimensions you want for the canvas in the width and height text boxes, but the width of the canvas cannot exceed the current printer's maximum width. When setting canvas edge margins, if you want equal margins on all sides, you can select 'Equal Margins'; this way, you only need to set one margin value, and the other three will automatically be set to the same value. When setting the related dimensions, you can choose your preferred measurement unit. The software provides various length units, including inches, millimeters, centimeters, meters, picas, and points.

After finishing the settings, click the [OK] button to exit.

4.1.4 Creating a New Canvas

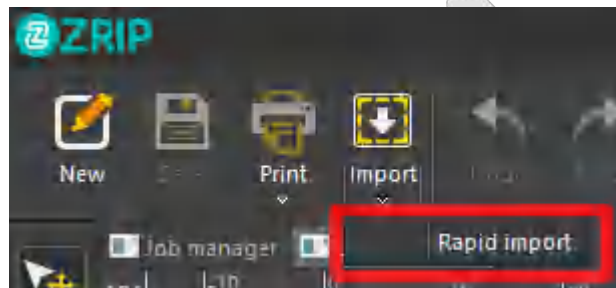
Click [New] in the menu bar or [New] in the ZRIP menu bar to create a new canvas that meets the parameters set in the previous step.

4.1.5 Importing Images

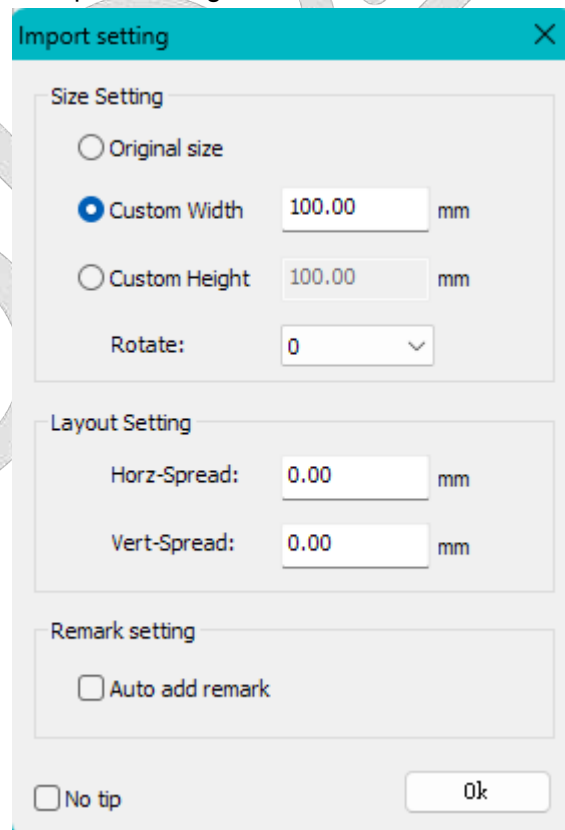
After successfully creating an empty canvas, you can add the image a.tif that you want to print onto the canvas. After successfully adding it, you will see the image on the canvas.

Batch importing of images is supported, with three import methods:

- 1) [Import] button in the menu bar
- 2) Right-click to bring up the common function menu and select [Import Image]
- 3) If you need to quickly import multiple images, you can click the black downward triangle below the [Import] function in the menu bar to access the [Quick Import] function. Click to use it. The method is the same as importing images, but the imported images will be displayed in border mode on the canvas. When importing to the canvas, the image display mode is border mode, so thumbnails do not need to be loaded, significantly increasing speed.



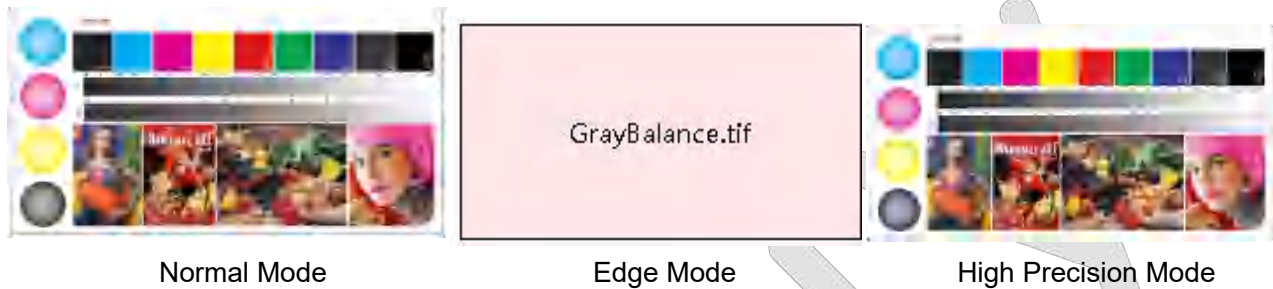
Set the size and spacing for the imported images:



Select the image you want to add, and the interface will prompt you to choose whether to save the original

size or customize the imported image size. When customizing the image size, you can either lock the image's aspect ratio for import or set a custom aspect ratio before importing. Once set, the image will be placed on the canvas. If you don't want the interface to prompt import image settings, you can choose to hide this prompt (to hide it, click the 'View' menu in the menu bar and uncheck 'Import Image Prompt' in the dropdown list). After hiding it, the prompt will no longer appear when importing images.

The software provides three display modes (which can be set in the 'Show Thumbnails' option in the 'Display' dropdown menu in the menu bar). Depending on your different settings, you will see different display results. The default display mode for images is to show thumbnails. On the same canvas, you can place multiple images by simply repeating the image adding process.



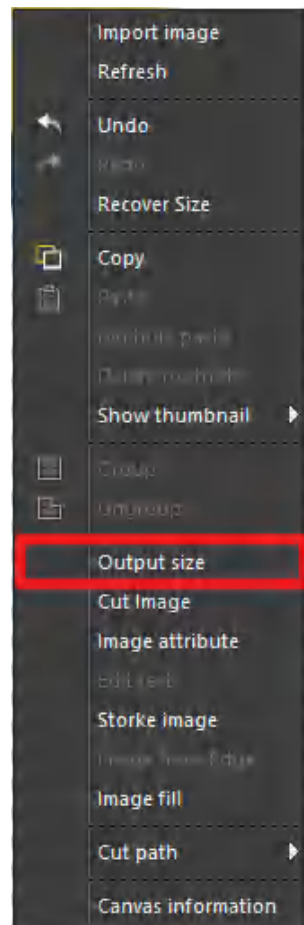
Notes:

- If you need to print multiple copies of the same image on the canvas, you can use the software's 'Copy-Paste' or 'Copy-Multiple Paste' functions (select the image. You can see this feature option by right-clicking the mouse), which is much faster than repeatedly adding the same image.
- When the width or length of the added image exceeds the canvas range, the software will give a warning that the graphic exceeds the canvas, and the excess part will be automatically cropped. At this time, you can choose to continue printing or appropriately adjust the image's [output size] or perform [image segmentation].

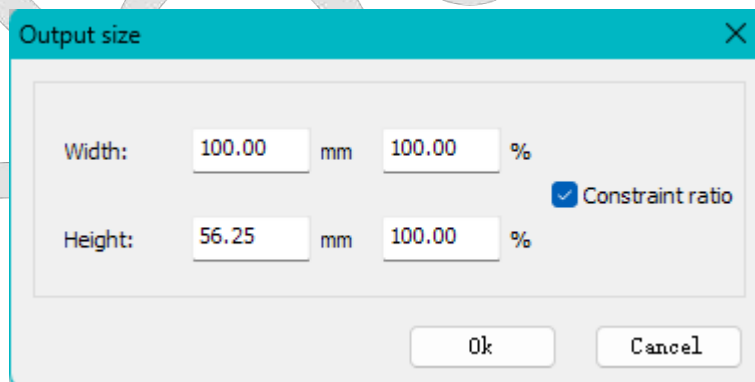
4.1.6 Setting Image Output Size and Image Layout

After adding the image, you can set the output size of the image. If there is more than one image to be printed on the canvas, you will also need to complete the image layout work.

- 1) If you want to precisely position the output location and size of an image, you need to complete the following image settings. Select the image you want to set, right-click, and choose Output Size. The program will pop up a dialog box as shown in the figure below:

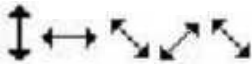


Set the horizontal width and vertical height, or use a ratio to set the output size.



When setting the output size of an image, please enter the horizontal width and vertical height separately if you do not select to constrain the aspect ratio; if you choose to constrain the aspect ratio, you only need to enter either the horizontal width or the vertical height, and the software will automatically fill in the other value, keeping the output image's width-to-height ratio consistent with the original aspect ratio of the input image.

2) In addition, you can also adjust the approximate output size of the image using the mouse: Select an image to be adjusted, move the mouse to a handle on the image (all eight small black blocks around the image are selection handles), at which point the mouse will change to a draggable style (↖). Press and hold the left key while moving the mouse, and you can freely modify the image's output size. If

you drag a handle of style  the program will scale the image proportionally.

Notes:

Modifying the output size of an image is only valid when a single image is selected.

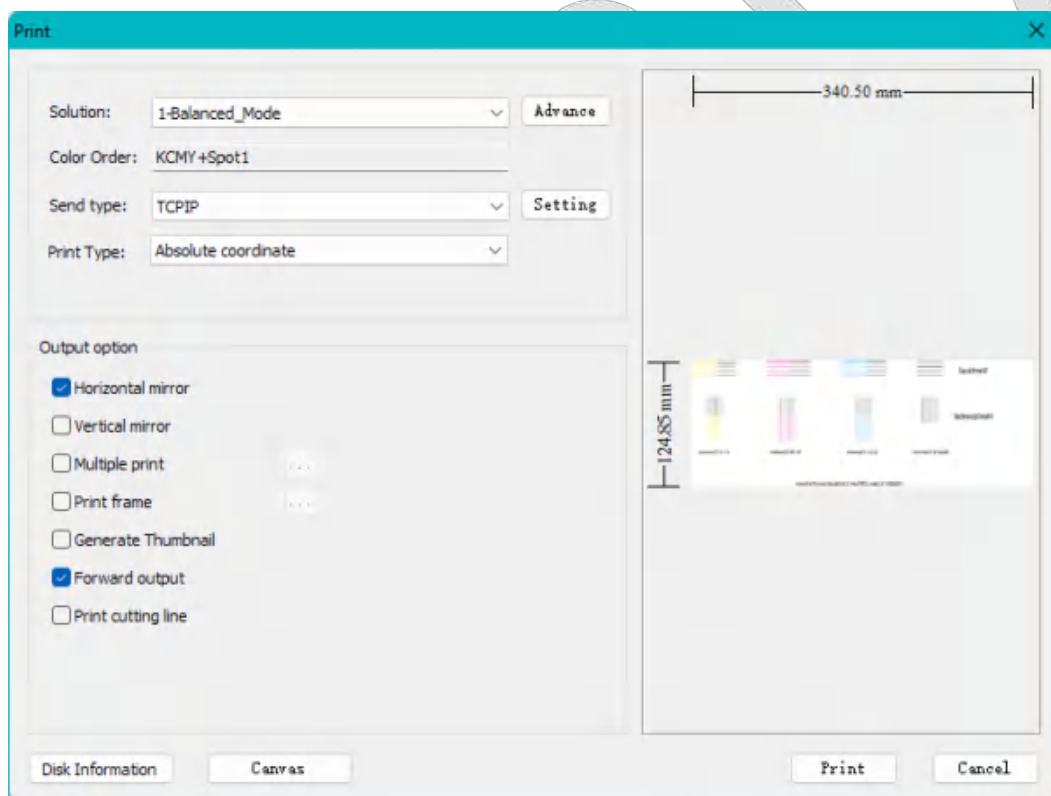
- 2) Image layout: use the layout toolbar or manually drag the image for layout. For using the layout toolbar, see section 2.2 Interface Introduction.

Notes:

Except for the operations **【Vertical Mirror】**, **【Horizontal Mirror】**, **【Rotate Right 90°】**, **【Rotate Left 90°】**, **【Horizontal Center】**, and **【Vertical Center】**, you must select two or more images before performing other arrangement operations.

4.1.7 Basic Image Print Settings

Click the **【Print】** button in the ZRIP menu bar (shortcut Ctrl+P), and the program will pop up a print confirmation dialog, as shown below:

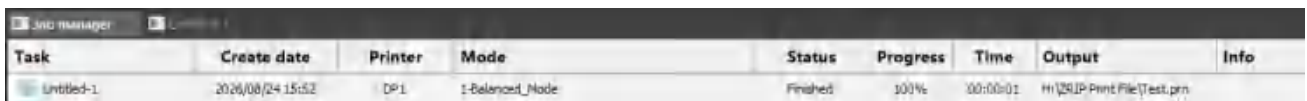


Here you can set the relevant printing parameters:

- 1) printing scheme: Choose a printing scheme from all newly created printing schemes that you need for printing.
- 2) Set the print parameters according to your needs. The sending method can be chosen as [File] or [Network]. Choosing to print to a file port first generates a PRN file, which is then opened by the printing software for printing. Choosing to print to a network port processes the image while printing, without generating a PRN file. The printing software only needs to be running in the background and have the parameters set, which saves time and space, but requires

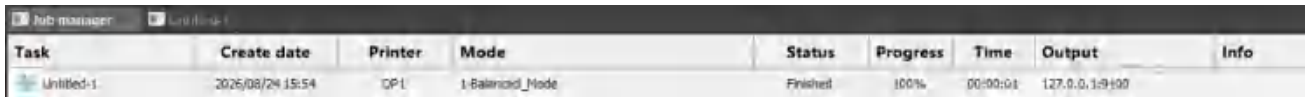
higher computer specifications.

Select Print to File port, and click the [Print] button on the print confirmation interface, as shown in the figure below:



Task	Create date	Printer	Mode	Status	Progress	Time	Output	Info
Untitled-1	2026/08/24 15:52	DP1	1-Balanced_Mode	Finished	100%	00:00:01	H:\261P Print File\Test.ppn	

Select Print to Network Port, and click the [Print] button on the print confirmation interface. The progress indicator is as shown below:



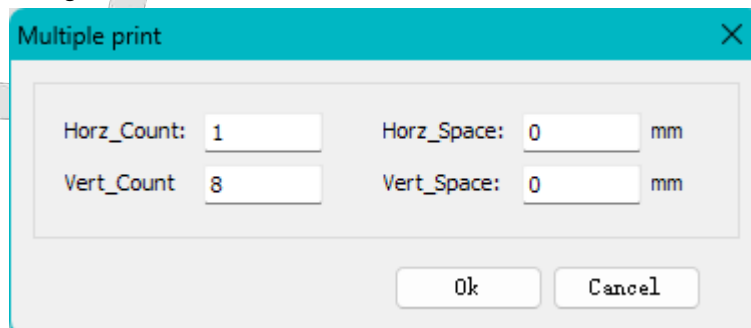
Task	Create date	Printer	Mode	Status	Progress	Time	Output	Info
Untitled-1	2026/08/24 15:54	DP1	1-Balanced_Mode	Finished	100%	00:00:01	127.0.0.1:9100	

- 3) Here, it is necessary to explain the meanings of the parameters progress, timing, and output mode:

100% indicates the percentage of the current RIP completed, 00:00:04 means it took 4 seconds to RIP 100%, and the output mode shows the path and filename where the file is saved.

In addition, when printing to a network port, the user can pause printing. After clicking the [Stop Printing] button, the program pauses printing. If the user wants to continue printing, clicking the [Start Printing] button will resume printing. If you want to terminate printing midway, you can click [Stop Printing]; the program will stop printing, and after the program stops printing, you can carry out other operations.

- 4) Print types: Support **【Print Elements】**, **【Absolute Coordinates】**, **【Print Canvas】**, and **【Canvas Width】**. **【Print Elements】** means printing only the valid area of elements within the canvas; **【Absolute Coordinates】** means printing from the origin to the maximum width and height area of elements within the canvas; **【Print Canvas】** means printing the entire canvas area; **【Canvas Width】** means printing only the valid area that matches the canvas width and elements' height.
- 5) Horizontal mirroring: Choose whether the current print image requires horizontal mirroring output.
- 6) Vertical mirror: Choose whether the current printed image needs to be output as a vertical mirror.
- 7) Multiple Copies Printing: By selecting multiple copies printing, you can set the related information for printing multiple copies. Click the three-dot button on the right to bring up the following dialog box:



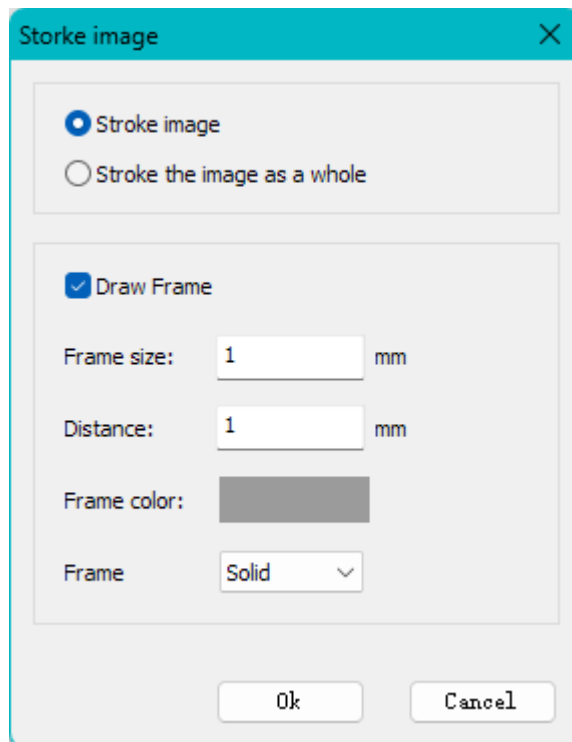
Multiple print [X]

Horz_Count: Horz_Space: mm

Vert_Count: Vert_Space: mm

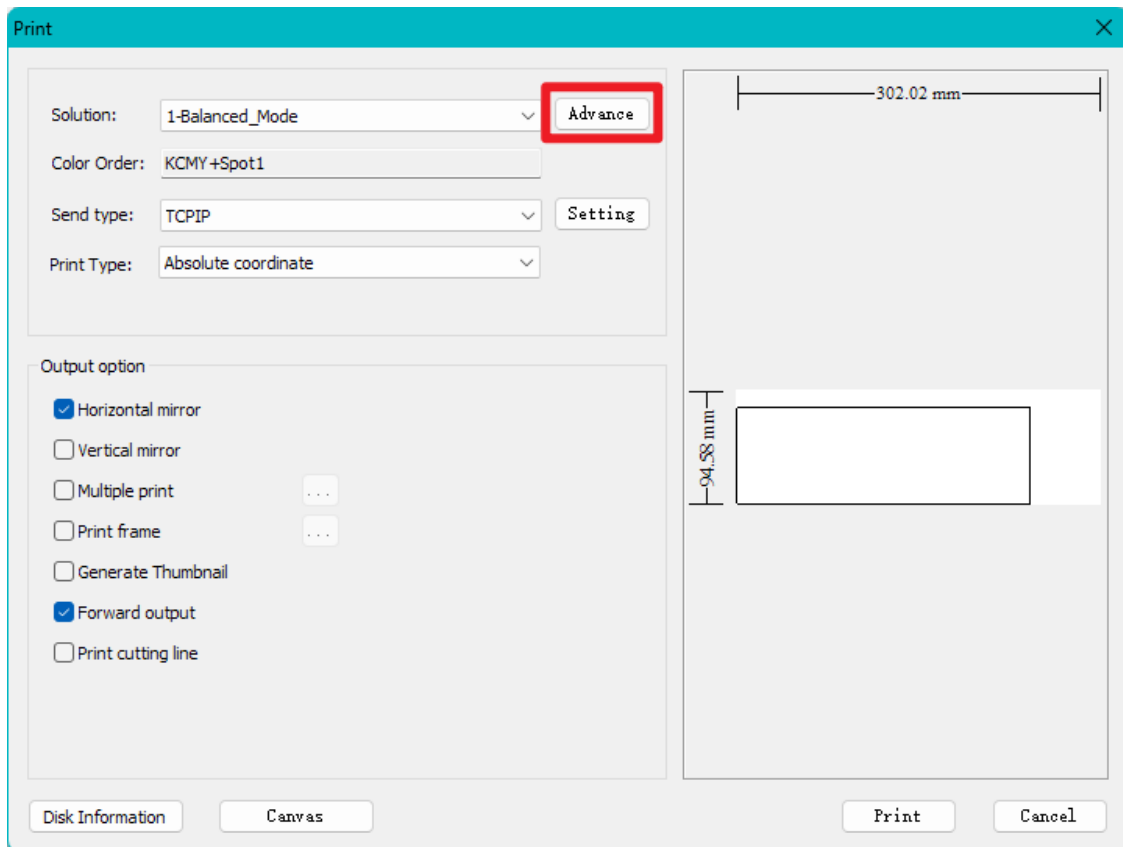
Ok Cancel

- 8) Border Printing: To outline individual images or the entire image. Select border printing and click the three-dot button on the right to bring up the following dialog box:



- 9) Generate JPG Preview File: Checking 'Generate JPG preview file' will, while outputting prn in a local file manner, also save a JPG preview file with the same name in the same path.
- 10) Forward Output: Checking 'Forward output' will rotate the elements on the canvas by 180 degrees before printing to the machine.
- 11) Set Canvas: For canvas settings, please refer to the above description of setting canvas parameters.
- 12) Disk Information: View the total storage space and available remaining space of the current computer disk.

After setting the above and saving, you can click [Print] to automatically jump to the Print Management Center, where you can view the current process or terminate the printing process at any time. The above are only the basic settings for printing. In actual operation, you may also need to use advanced color-related functions; see Chapter 7 Advanced Print Settings for details.

**Notes:**

- Before printing, the software will check if any image exceeds the canvas boundary. If it does, a reminder will be displayed on the interface.
- If the print output is in file format, you will need to input the file's storage location and name yourself.
- The time required for printing depends on the size of the image to be printed. The larger the image, the longer the printing time.

4.1.8 End of Printing

After printing, you can exit the ZRIP software, or you can create a new canvas project for another printing task.

Notes:

- The software will automatically save the relevant parameters of the printer settings and canvas settings. If your parameter settings remain unchanged the next time you use it, you can skip step 2 in your printing process.

Steps 3 and these two.

- Before printing, you can adjust the print color parameters by clicking on the color management module in the software menu bar, so that the printing effect better meets your needs.
- At the start of printing, the software will occupy a large amount of memory. If your memory configuration is low, it will slightly increase the printing time.

4.2 Detailed Explanation of Basic Functions

4.2.1 Select Image

1) Select a single image:

Click the left mouse button on the image you want to select to select it. 2) Select multiple or all images: You can directly click the left mouse button on the blank area around the images to be selected, hold down the button and move the mouse, and you will see a dashed rectangular box. Release the left mouse button, and the images within this dashed box will be marked as selected; you can also hold down the Ctrl key and click the images you want to select one by one with the left mouse button to achieve the same result; you can use the shortcut Ctrl + A on the canvas interface to select all images on the canvas.

3) Go to select an image:

Click the left mouse button on the non-image area of the canvas, and all images on the canvas will be marked as unselected.

4.2.2 Undo and Redo

- 1) The software will back up each of your valid actions. If you make an operational mistake or want to return to a previous canvas state, you can click the **【Undo】** button in the menu bar (or the **【Undo】** option in the right-click menu or use the shortcut Ctrl + Z). At this point, the canvas will update to the previous state of your current operation. You can perform this action consecutively until the canvas reaches the state you want.
- 2) If after undoing a canvas action you want to restore the canvas to the next state, you can click the **【Redo】** button in the menu bar (or the **【Redo】** option in the right-click menu or use the shortcut Ctrl + Y). The canvas will then update to the next state of your current operation. You can perform this action consecutively until the canvas reaches the state you want.

Notes:

The number of undo and redo steps is not unlimited, so you need to keep this in mind while editing the canvas.

4.2.3 Group and Ungroup

1) Grouping images:

Select two or more images you want to group, then click the **【Group】** button in the menu bar (or the **【Group】** option in the right-click menu or use the shortcut Ctrl + G) to complete the image grouping.

2) Ungrouping images:

Select a grouped image, then click the **【Ungroup】** button in the menu bar (or the **【Ungroup】** option in the right-click menu or use the shortcut Ctrl + U) to complete the ungrouping of the images.

Notes:

A single image does not respond to grouping and ungrouping.

4.2.4 Copy, Paste, and Multiple Pastes

1) Copying images:

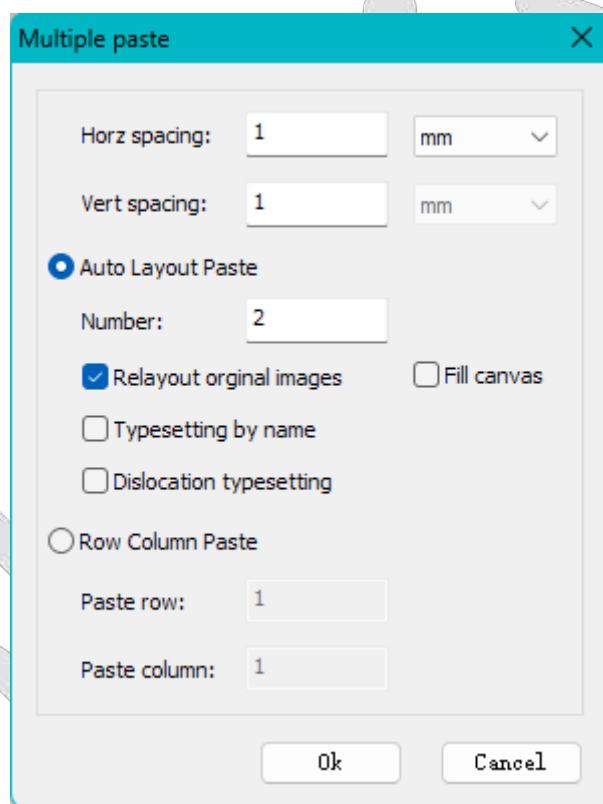
Select the image you want to copy, then click the **【Copy】** button in the menu bar (or the **【Copy】** option in the right-click menu or use the shortcut Ctrl + C) to complete the image copy.

2) Paste Image:

After you have copied an image, you can paste the copied image onto the canvas at any time. Click the [Paste] button in the menu bar (or right-click and select [Paste] from the menu, or use the shortcut Ctrl + V) to complete the image paste.

3) Paste Multiple Times:

After you have copied an image, if you want to paste multiple copies of the same image onto the canvas, you can do so by pasting the image multiple times. Right-click and select the [Paste Multiple] button, and the program will display the dialog box shown below:



You need to set the following values here:

- Specify the number of times the image will be pasted. If you select "Fill the entire canvas," the program will continue to paste images onto the canvas until there is not enough space left.
- Specify the horizontal and vertical spacing when pasting onto the canvas. You can choose a unit of measurement you are familiar with; the software provides inches, millimeters, centimeters, meters, picas, points, and other units for selection.
- Specify the number of rows and columns to paste. If you set the rows and columns for pasting, the program will paste the image according to the number of rows and columns you set. After setting the parameters, click the [OK] button, and the program will start pasting the image as specified.

4.2.5 Save/Open Canvas

After you have finished editing a canvas project file, you can save this canvas file for later use. Click the [Save] button in the ZRIP menu bar (or the [Save] button in the menu bar, or use the shortcut Ctrl + S), and the program will display the save file dialog box as shown below:

You select the storage path and file name for the canvas project here, and then click the Save button. The program will save all the information related to the current print job to the file you specified (the file name is the name you entered, and the file extension is .rcf). Later, you can use the [Open Canvas] function to load the canvas project file into the ZRIP software. The software interface will return to the state it was in when you saved the canvas project file, allowing you to continue editing the canvas or output it directly.

4.2.6 Add Footnotes

When you need to add a footnote to an image on the canvas, you can click the [Add Footnote] button on the toolbar, and the program will pop up the following dialog:

After setting the footnote information you want to add in the Add Footnote interface, click the [OK] button. Once the footnote is added, the footnote information will be visible in your printed output image.

4.2.7 Splitting Images

If the output size of an image on the canvas exceeds the canvas, you can try rotating the image. If part of the image still exceeds the canvas after rotation, you can split the image to complete the printing.

Select the image you want to split, click the [Split Image] button on the menu bar (or use the shortcut Alt + S), and the program will pop up the following dialog as shown.

Split image

Canvas size: (381.00 X 3000.00)mm
Image size: (100.00 X 153.99)mm

☒ Add serial number
Set remark

☒ Horizontal

☒ Same width

Number: 2
60.00 mm

☐ Custom width

Split width: 50 mm
First image width: 50 mm

Overlap width: 20 mm

☐ Vertical

☐ Same height

Number: 2
86.99 mm

☐ Custom height

Split height: 50 mm
First image height: 50 mm

Overlap height: 20 mm

☐ Overlap Ruler
SIZE(W*H): 1 5

Ok Cancel

The default width for horizontal splitting is the difference between the current canvas width and the horizontal canvas margin (default is 2 cm), with a default overlap width of 2 cm. You can also specify the width of the first horizontal split block individually.

The default height for vertical splitting is the difference between the current canvas height and the vertical canvas margin (default is 2 cm), with a default overlap height of 2 cm. You can also specify the height of the first vertical split block individually.

Of course, you can modify the segmentation parameter values according to your segmentation intentions. The width and height of the current canvas and the image to be segmented are displayed above the segmentation settings box, and you can set the values based on these. When setting, you can choose the length measurement units you are familiar with; the software provides units such as inches, millimeters, centimeters, meters, picas, points, and more for your selection.

Once the settings are complete, click the OK button to complete the image segmentation.

Notes:

- 1) The software does not support segmenting combined images.
- 2) If you need to restore the segmented image, click the [Undo] button on the menu bar (or right-click and select [Undo] or use the shortcut Ctrl + Z) to return to the image state before segmentation.

4.2.8 Fill

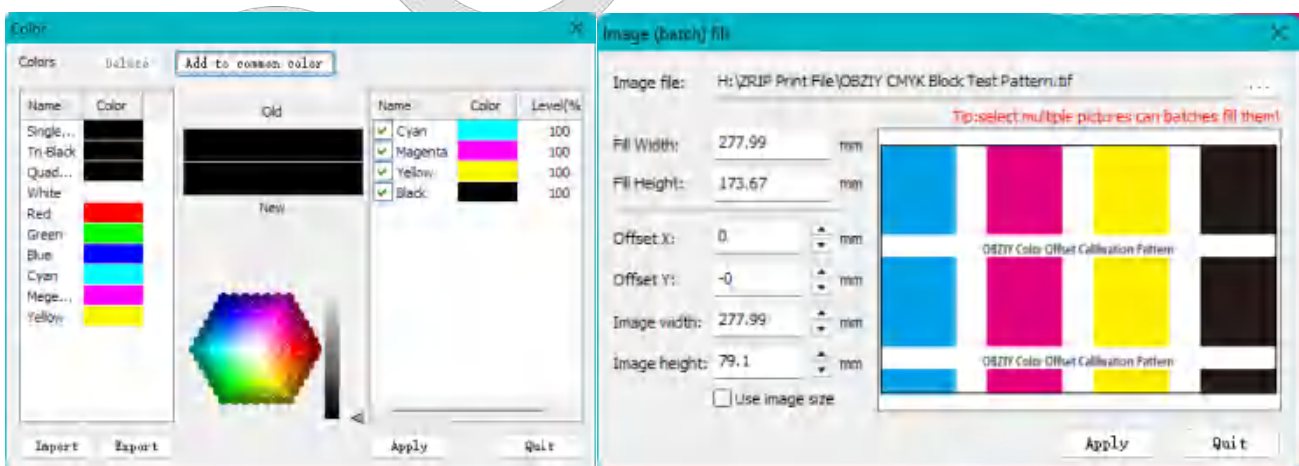
Sometimes you draw a rectangle or ellipse on the canvas using the toolbar tools, and you want to fill it with color. In that case, you can use the color fill function.



After selecting the rectangle or ellipse to fill, click the Fill option in the ZRIP menu bar. You can use colors from the default common color palette or choose the color you want from the color library. Once the operation is completed, the rectangle or ellipse will be filled with the color you want.

If you draw a rectangle on the canvas with toolbar tools and want to fill it with an image, you can choose image fill. After selecting the image to fill and setting a fixed size, it will be applied (batch processing of images is also possible).

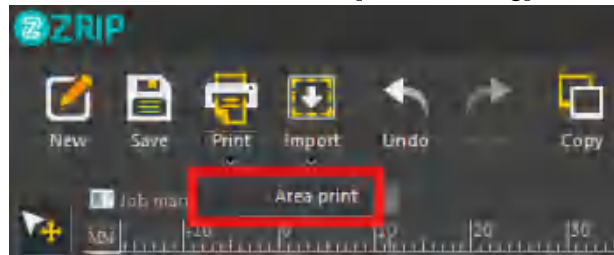
The color library and image fill pop-up window are shown in the figure below:



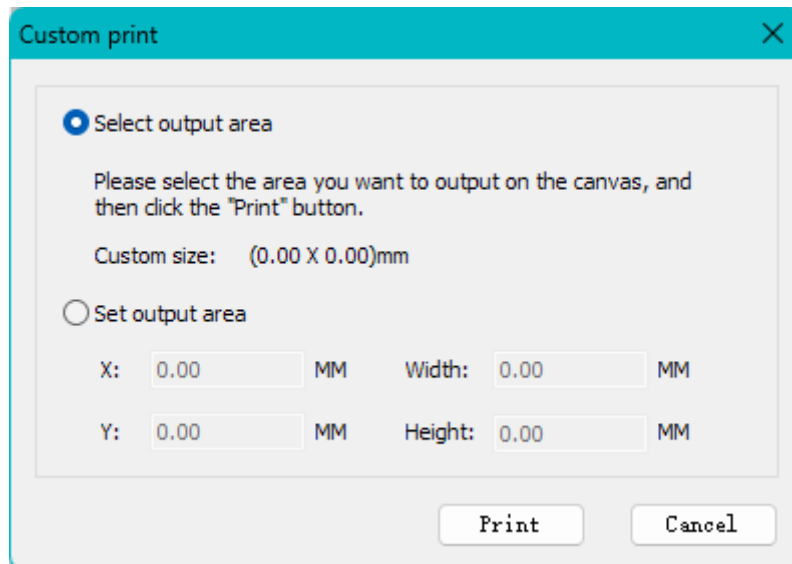
4.2.9 Area Print (Custom Sample)

If you want to preview the output effect of the canvas before outputting it, ZRIP supports area printing, allowing you to create a custom proof of the current canvas. You need to click the black downward triangle

under the [Print] function in the menu bar to access the [Area Printing] function.



Clicking it will pop up the window shown in the figure below:



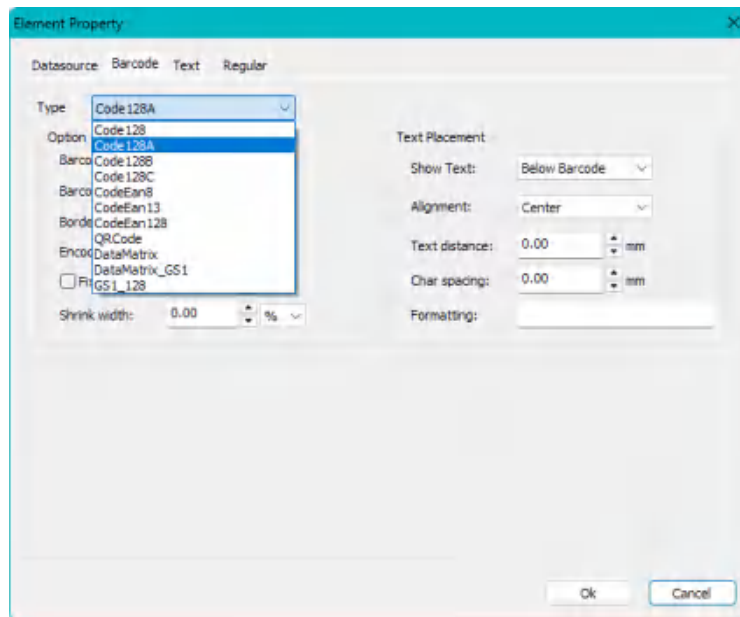
After clicking the area to print, a red rectangular frame appears on the canvas. The image within this rectangle is the sample that will be output. Before outputting, you use the mouse to adjust the position and size of this rectangular frame. Once adjustment is complete, you click the [Print] button on the customize sample dialog to directly output the sample.

4.2.10 Barcodes

Click on the toolbar, move the mouse to the canvas, and drag the mouse to draw a barcode. Double-click

the barcode to display the following barcode properties interface:





Currently supports 10 types of barcodes, which are Code128A, Code128B, Code128C, Code Ean8, Code Ean13, Code Ean128, QRCode, DataMatrix, DataMatrix_GS1, GS1_128

- 1) Code128A code has no length limit; the characters supported by Code128A code are: 0~9, A~Z, control characters (the actual code supports ASCII codes 0-95)
- 2) Code128B codes have no length limit; the characters supported by Code128B codes are: 0-9, A-Z, a-z, characters (in fact, the code supports ASCII codes 0-126)
- 3) Code128C codes have no length limit; Code128C codes support the characters: 0~9
- 4) EAN-8 code length: 7+1, 7 digits of valid data plus 1 check digit; Characters supported by EAN-8 code: 0~9
- 5) EAN-13 code length: 12+1, 12 digits of valid data plus 1 check digit; Characters supported by EAN-13 code: 0~9
- 6) Ean128 codes have no length limit; characters supported by Ean128 codes: all ASCII codes
- 7) Characters supported by QRCode: numbers, letters, symbols, Chinese characters
- 8) Supported characters for DataMatrix: numbers, letters, characters

4.3 Display Settings

4.3.1 Guidelines

- 1) Place the mouse in the ruler area, hold down the left mouse button and drag the mouse to

create a guide line;

- 2) Place the mouse on a guide line and hold down the Ctrl key on the keyboard, the mouse will turn into a double-headed arrow, allowing you to drag the guide line;
- 3) Drag the guide line back to the ruler area, and the guide line will disappear from the canvas.

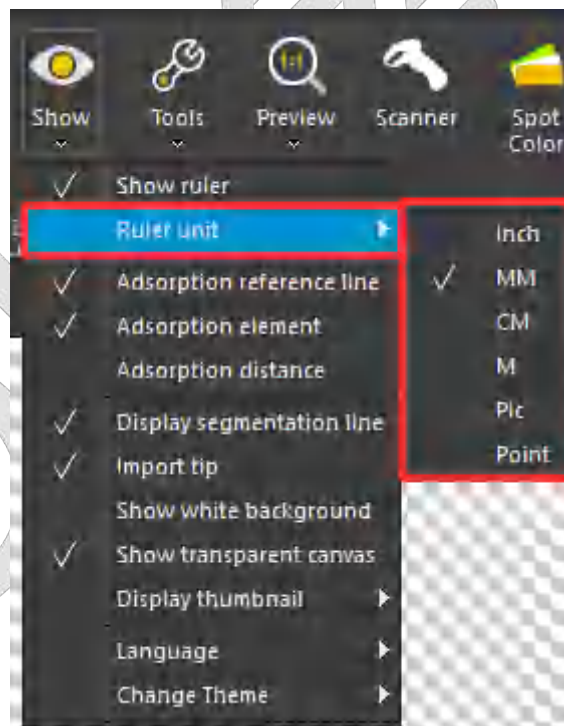
4.3.2 Automatic Alignment Lines

When there are 2 or more elements on the canvas, alignment lines will automatically appear when dragging an element. Automatic alignment lines assist users in arranging the page layout.

4.3.3 Adjusting the Ruler

Adjusting the ruler: To display the actual size and position of the canvas and image, ZRIP software provides rulers (including horizontal and vertical rulers). You can use the scale marks on the ruler to determine the size of the canvas and image, as well as the position of the image on the canvas, helping you complete layout operations.

You can click the [Display] button in the menu bar and select whether to show the ruler on the current canvas and the unit of the ruler scale as needed.



There are six units for the ruler scale: inches, millimeters, centimeters, meters, pica, points.

4.3.4 Snap to Guide Lines, Snap to Elements, Snap Distance

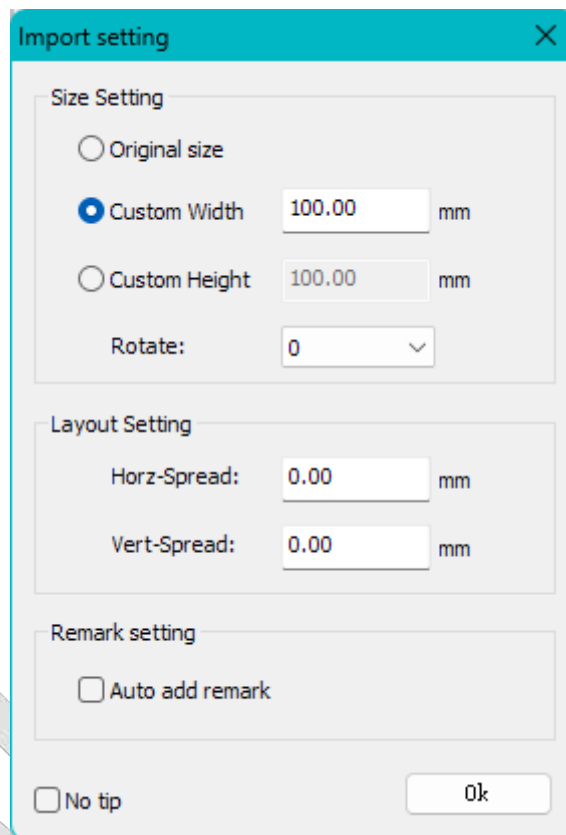
You can select [Snap to Guide Lines] in the [Display] button on the menu bar. When moving objects (such as shapes, text, etc.), the edges or center of the object will automatically snap to these guide lines.

You can also set 【Snap Objects】. When an object (element) is moved, its edge or center will automatically

snap to the edge or center of other objects. You need to set the **【Snap Distance】**, which refers to the proximity or tolerance range at which the object will snap to a reference line or another object. When the object moves within a certain distance, it will automatically snap to the target position.

4.3.5 Image Import Prompt

If you always retain the original size when importing images, you can choose not to display the import image settings popup in the **【View】** button on the menu bar. Once the import image display is canceled, the following popup will no longer appear when creating maps:



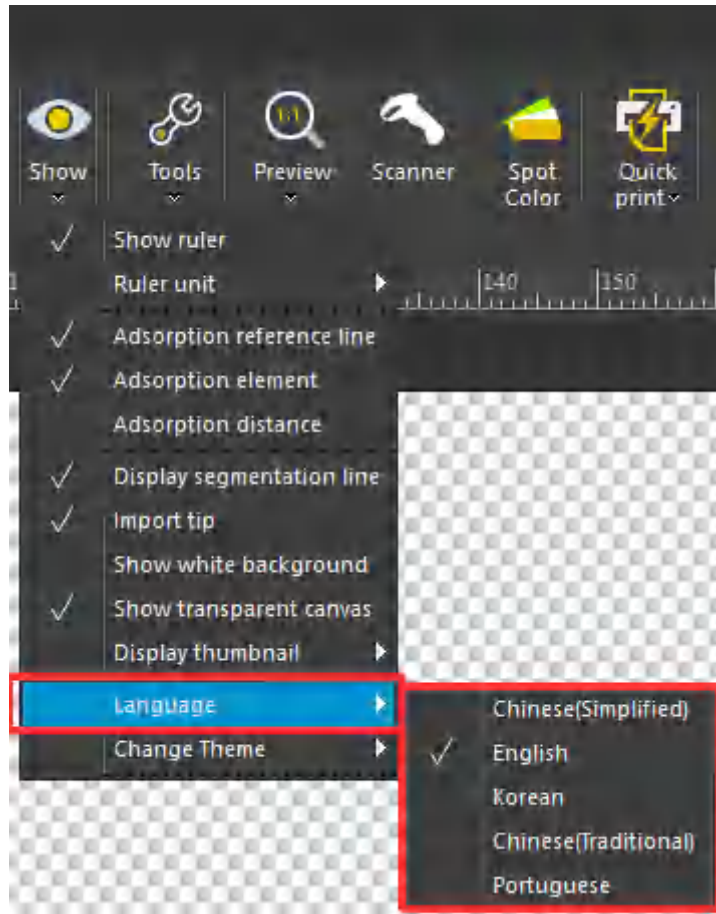
You can also check **【Do not remind again】** in the lower left corner of the popup, which is the same effect as the above operation.

4.3.6 Display Divider Lines, White Background, Transparent Canvas

You can choose in the **【View】** button on the menu bar whether to display divider lines when segmenting images, whether to display a white background outside the canvas, and whether to display a transparent canvas within the canvas area.

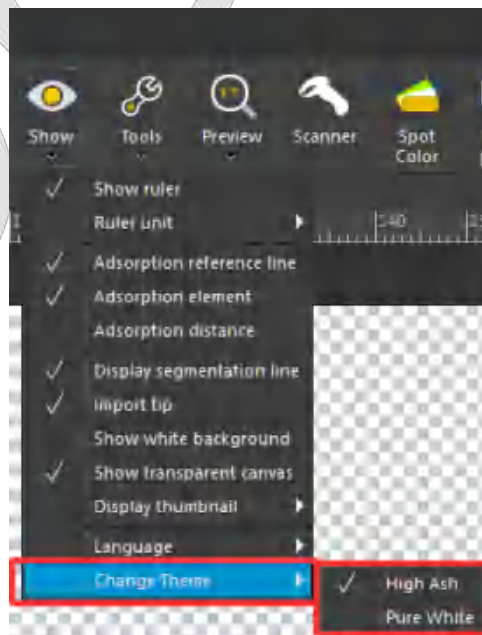
4.3.7 Language

Currently, ZRIP supports five languages: Simplified Chinese, English, Korean, Traditional Chinese, and Portuguese. You can select the corresponding language in the **【View】** button on the menu bar, as shown below:



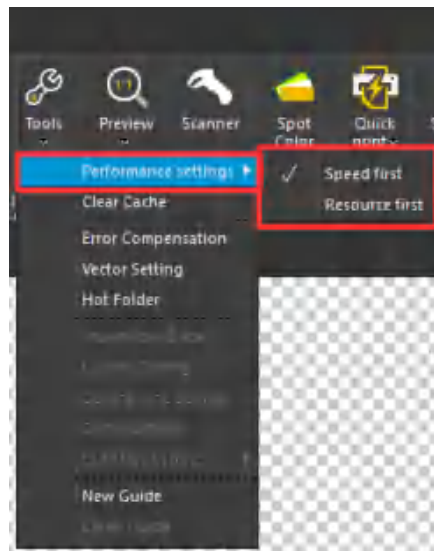
4.3.8 Change Theme

If you have a preference for the software theme, ZRIP provides two themes, 【High-End Gray】 and 【Pure White】, for you to choose.



5 Tools

5.1 Performance Settings

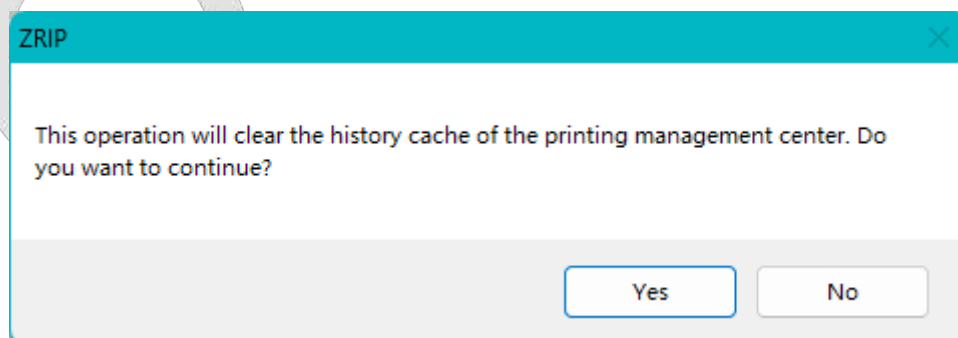


When the software executes RIP tasks, if you need to complete the RIP tasks as quickly as possible and do not need to save CPU and memory resources, you can choose the speed-priority option; if you need to run multiple software programs and RIP simultaneously, you can choose the resource-priority option.

5.2 Clear Cache

Sometimes you may feel that the software runs slower after long-term use, which could be due to the accumulation of a large number of cache files during use.

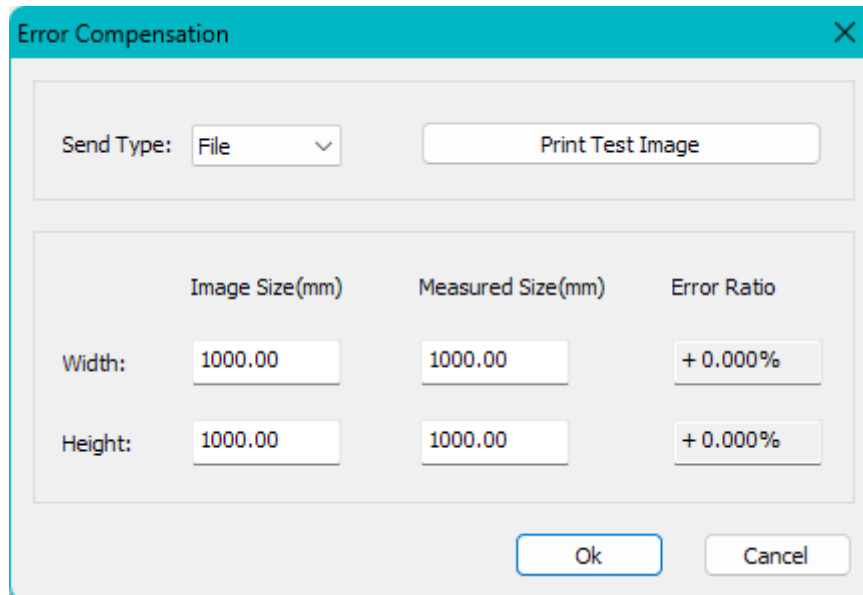
You can try clicking the [Clear Cache] button in [Tools], and the following interface will appear:



Click [Yes] to clear the cache, click [No] to not clear the cache. Clearing the cache here means deleting the temporary storage files in the Jobs folder.

5.3 Error Compensation

When the actual printed image size from the machine deviates from the theoretical size, you will use the size error compensation function. Click the [Tools] button in the menu bar and select [Error Compensation], the following interface will appear:

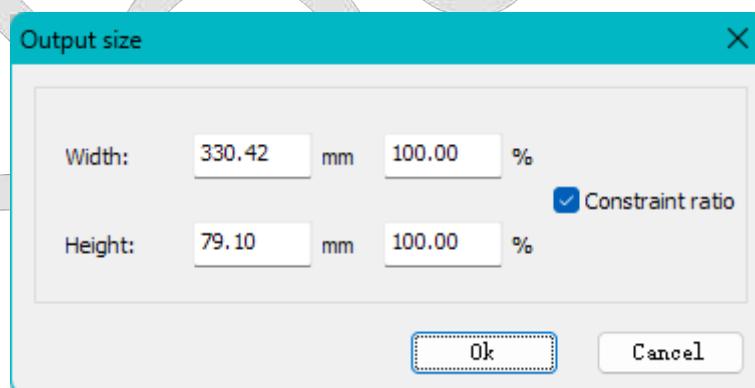


The 'Error Compensation' dialog box features a teal title bar with a close button. It contains a 'Send Type' dropdown menu set to 'File' and a 'Print Test Image' button. Below this is a table for inputting image dimensions and error ratios.

	Image Size(mm)	Measured Size(mm)	Error Ratio
Width:	1000.00	1000.00	+ 0.000%
Height:	1000.00	1000.00	+ 0.000%

At the bottom are 'Ok' and 'Cancel' buttons.

Import a suitable test image onto the canvas. The image needs to have a clear border to facilitate measuring the actual size. Set the size of the test image: after selecting the image, right-click and set the output size of the image.

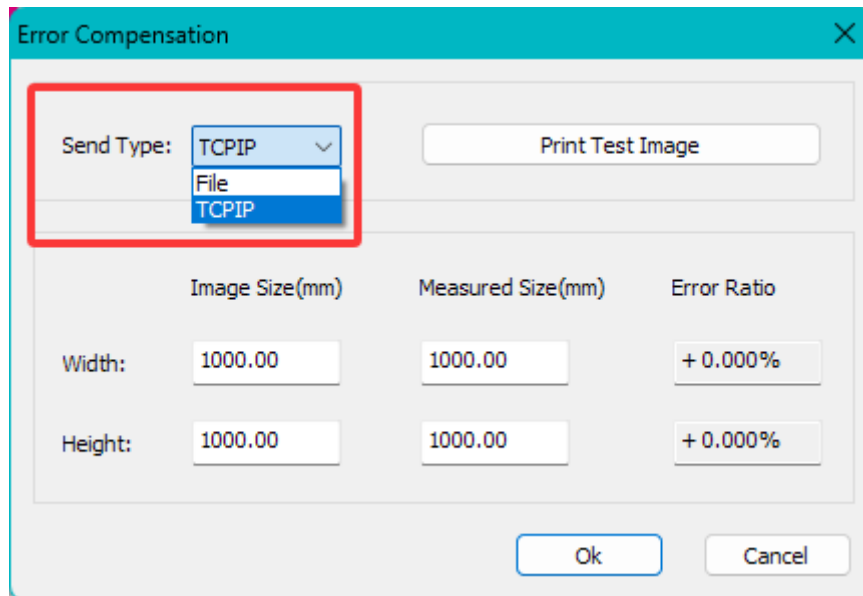


The 'Output size' dialog box has a teal title bar and a close button. It displays input fields for width and height, each with a value, a unit, and a percentage.

Width:	330.42	mm	100.00	%
Height:	79.10	mm	100.00	%

A 'Constraint ratio' checkbox is checked. 'Ok' and 'Cancel' buttons are at the bottom.

Choose the method for printing the test image. If you select File, a corresponding print file will be generated and then printed through the print control software. If you select Network, it needs to be connected to the print control software for RIP and printing.



Error Compensation

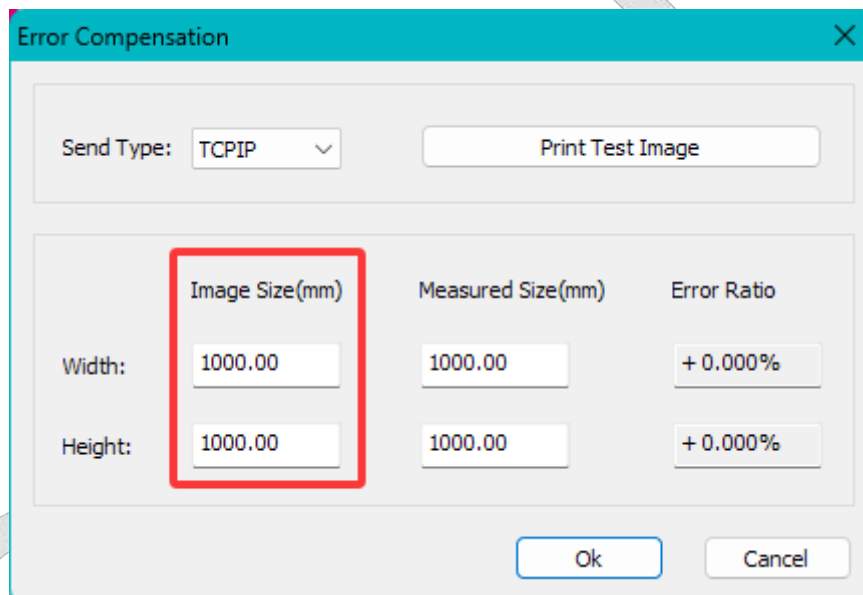
Send Type: TCPIP

Print Test Image

	Image Size(mm)	Measured Size(mm)	Error Ratio
Width:	1000.00	1000.00	+ 0.000%
Height:	1000.00	1000.00	+ 0.000%

Ok Cancel

Set the ideal size of the test image.



Error Compensation

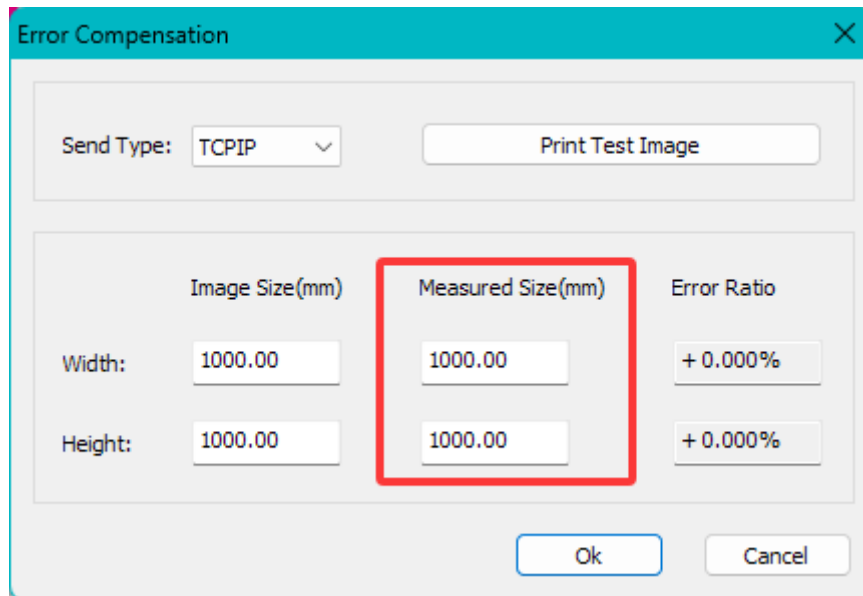
Send Type: TCPIP

Print Test Image

	Image Size(mm)	Measured Size(mm)	Error Ratio
Width:	1000.00	1000.00	+ 0.000%
Height:	1000.00	1000.00	+ 0.000%

Ok Cancel

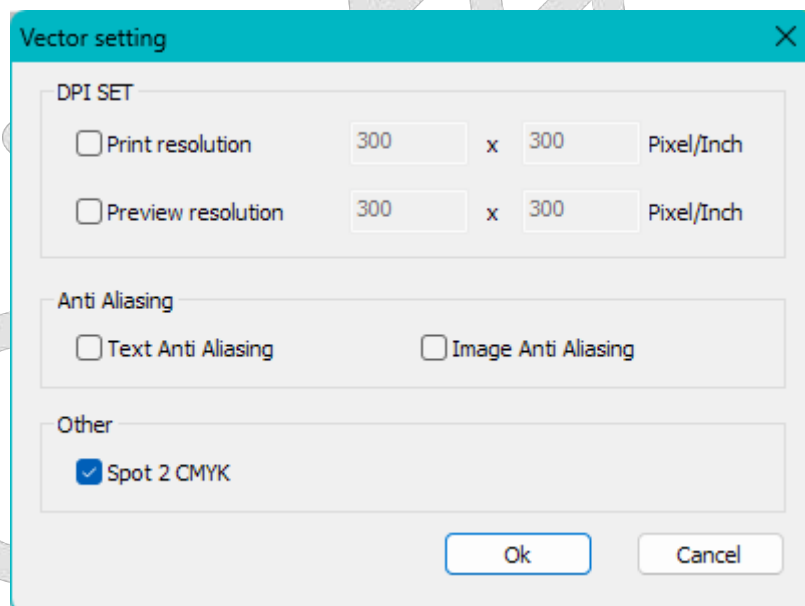
Measure the actual printed image size, enter it in the position shown for print measurement size, and click OK to complete the settings.



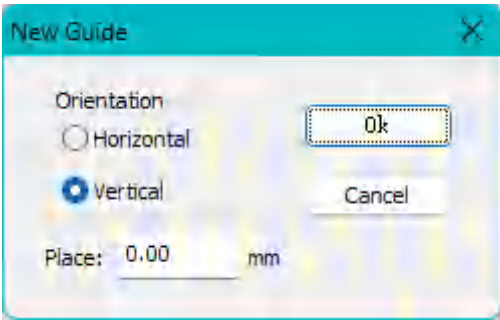
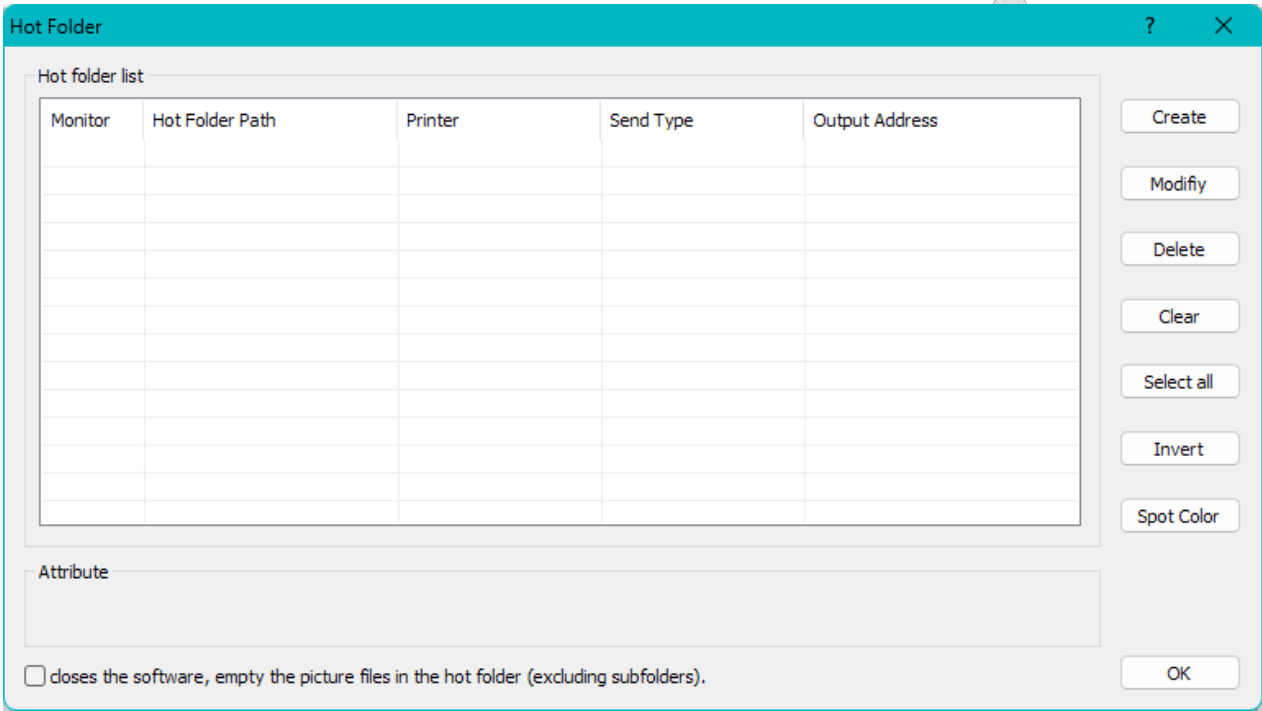
After completing the above steps, use the software normally.

5.4 Vector Settings

Click [Vector Settings] in [Tools] on the menu bar, and the following interface will appear:



- This feature allows you to set rendering parameters for vector files (such as PDF/EPS), supporting settings for print resolution, preview resolution, anti-aliasing, and other parameters. If the print resolution is not set, the resolution for parsing the vector file during printing will use the horizontal and vertical resolution in the curve scheme.
- After checking the 'Text Anti-aliasing' option, the text in the vector file will be anti-aliased when parsing the vector file;
- After checking the 'Image Anti-aliasing' option, the images in the vector file will be anti-aliased when parsing the vector file; conversely, if unchecked, anti-aliasing will not be applied.
- The 'Transparent Mode Parsing' option is mainly for parsing some vector files that



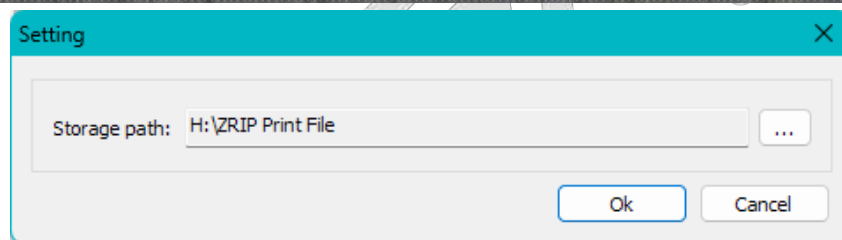
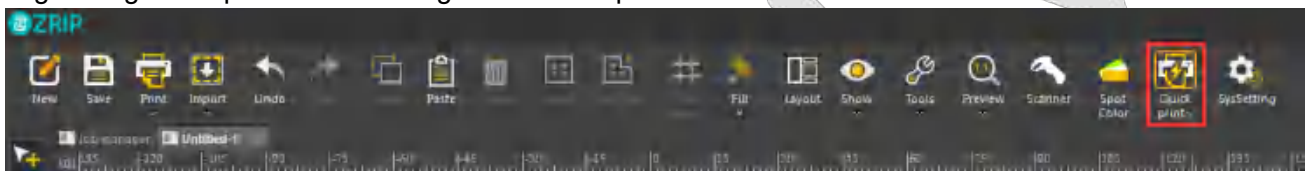
If you no longer need the guide lines, you can click 'Clear Guide Lines'.

6 Advanced Functions

Advanced features are available in non-standard versions. If you need certain advanced features, you can contact ZRIP staff to upgrade your version.

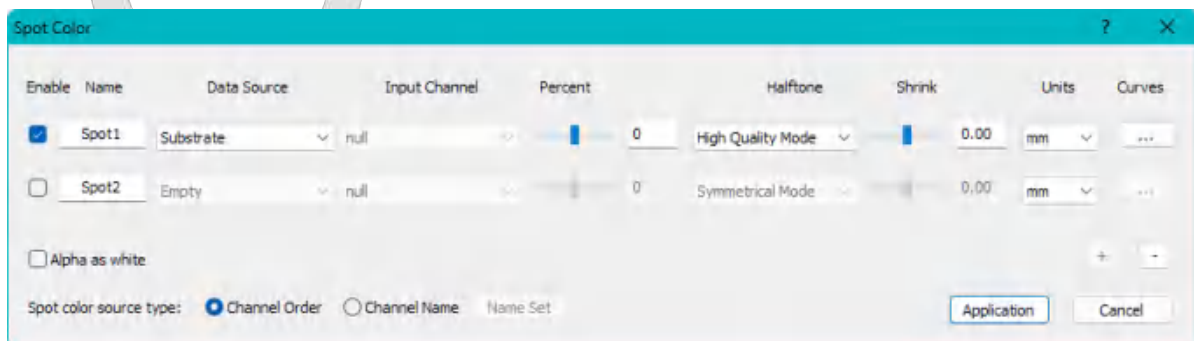
6.1 Quick Printing

The quick print function is a simplified version of printing, so you don't need to repeatedly select the curves or other print settings when printing; it prints according to the parameters used last time. It should be noted that if you need to use fixed print parameters and save the PRN in a fixed location, you can first print an image using these parameters through the normal process.



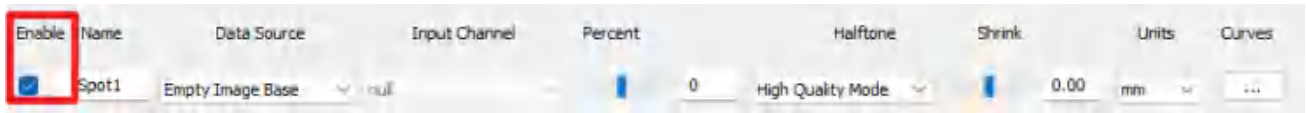
If you need to print in file form, simply select the path where you want to save the PRN in the quick print drop-down menu, and you can start printing.

6.2 Spot Color Settings



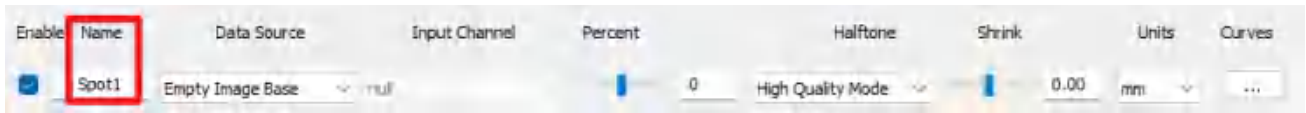
In DTF printing, spot colors typically refer to **white ink spot colors**.

- Enable



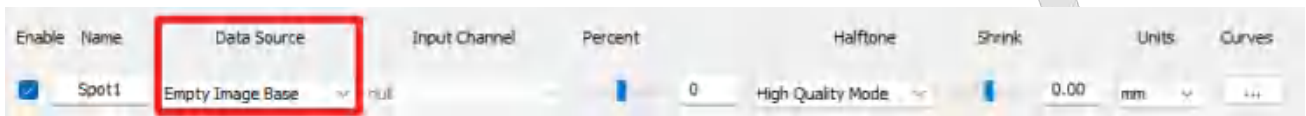
Specifies whether to enable the current spot color channel (i.e., whether to print the white ink layer).

- Name



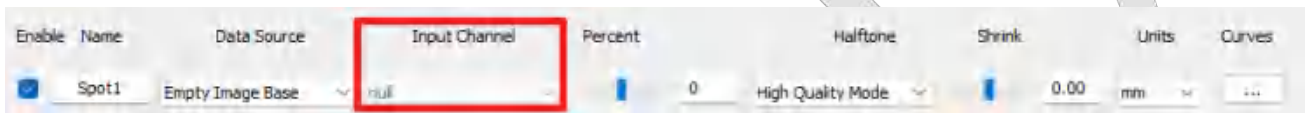
The name of the current spot color channel, used to distinguish between different channels and displayed on the print confirmation screen.

- Data Source / Generation Mode



Determines how data for the current spot color channel is generated.

- Input Channel (N/A or unavailable for DTF printing)



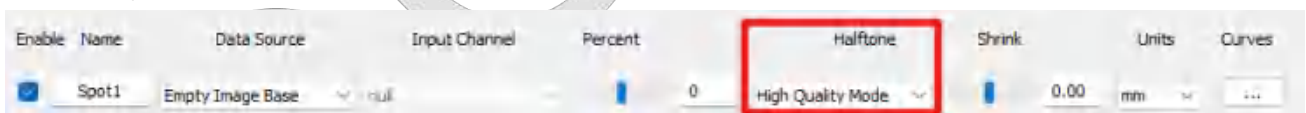
When the generation mode includes "Spot Color", this option sets the spot color index corresponding to the image's spot color channel.

- Density Adjustment



Adjusts the transition gradient between the maximum and minimum values of the current spot color channel. Positive values increase density; negative values decrease density.

- Dot Type



Defines the screening halftone method for the spot color channel, categorized into 1-Bit and 2-Bit dot types.

- Choke / Spread (Indent / Expansion) €



Adjusts the white ink boundary relative to the image contours. Positive values expand the white ink layer outwards (Spread), while negative values shrink it inwards (Choke). The maximum setting range is ± 5 mm or ± 50 pixels.

The following sections explain these settings in detail using schematic diagrams. The original image has no border; borders in the figures serve only to mark image edges.



6.2.1 Data Source / Generation Mode Details

6.2.1.1 Empty

Outputs blank data (no white ink processing).

6.2.1.2 Spotcolor

Outputs white ink directly based on the embedded spot color channel in the image file.

6.2.1.3 Imgdensity

Outputs white ink proportionally according to the image's grayscale values.



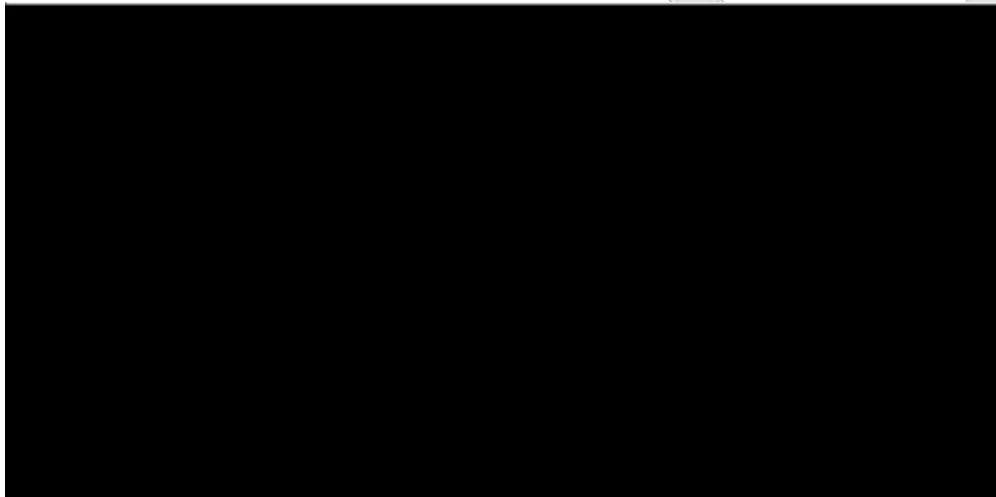
6.2.1.4 UnImgdensity

Outputs white ink inversely according to the image's grayscale values.

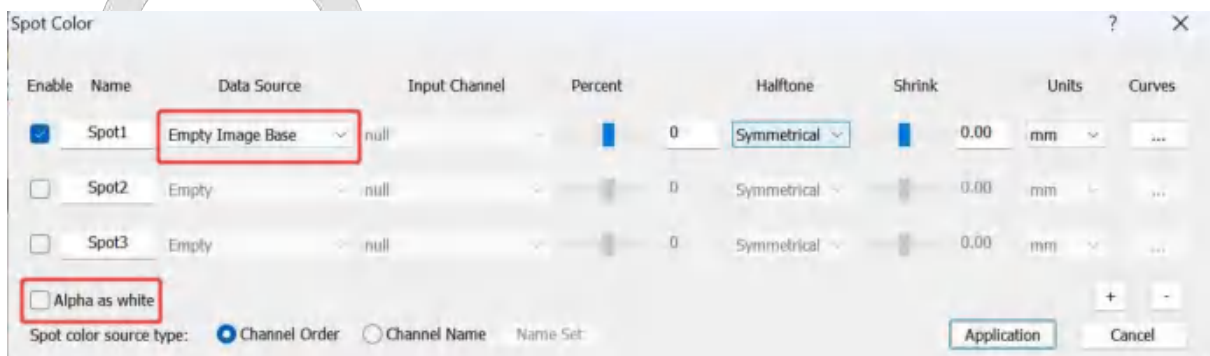


6.2.1.5 EmptyImageBase

Outputs white ink across all pixels at 100% ink coverage.



(Note: If "Full Flood White" is selected and "Treat Transparent as White" is unchecked, transparent areas will not output white ink.)





6.2.1.6 Substrate

Outputs 100% white ink only on colored areas; pure white areas receive no white ink.



6.2.1.7 ColorSubstrate

Outputs white ink inversely based on color grayscale values in colored areas; pure white areas receive no white ink.



6.2.1.8 UnColorDensity

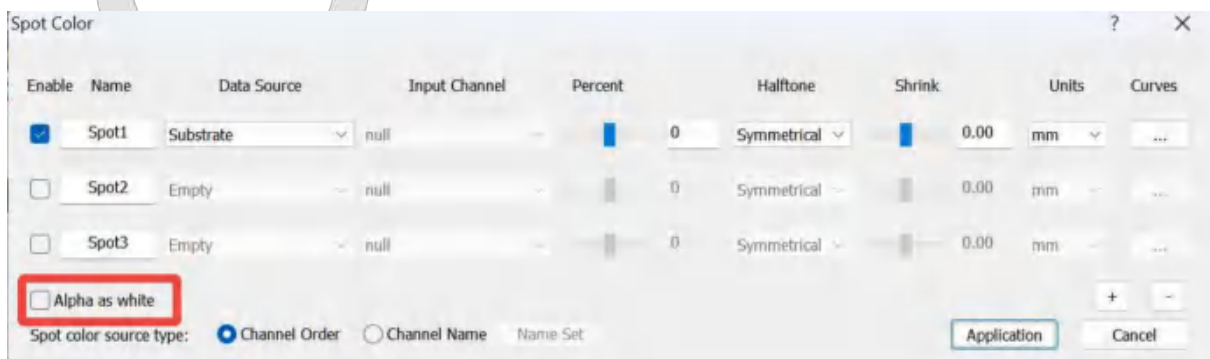
Outputs 100% full-flood white ink on pure white areas, with no white ink on colored areas.



Checkbox Option: 【Treat Transparent as White】

Checked: Transparent areas are treated identically to white areas.

Unchecked: Transparent areas receive no white ink under any condition.



6.2.2 Halftone Type Details

6.2.2.1 SingleDotMode

Screening Method: 1BIT_DITHER.

Features: Mandatory mode when using 1-Bit printheads.

6.2.2.2 High-SpeedMode

Screening Method: 2BIT_EXPRESS

Features: Designed for 2-Bit printheads. High printing speed with slightly reduced precision; effective at suppressing banding.

6.2.2.3 SymmetricalMode

Screening Method: 2BIT_KMPCS_MIX

Features: Designed for 2-Bit printheads. Delivers a balanced mix of speed and precision while suppressing banding.

6.2.2.4 SymmetricalMode(Large-MediumDots)

Screening Method: 2BIT_KMPCS_MIX_LM

Features: For 2-Bit printheads supporting only Large and Medium dots. Provides balanced speed and detail while reducing banding.

6.2.2.5 SymmetricalMode(Medium-SmallDots)

Screening Method: 2BIT_KMPCS_MIX_MS

Features: For 2-Bit printheads supporting only Medium and Small dots. Offers balanced performance with effective banding suppression.

6.2.2.6 PureSmallDotMode

Screening Method: 2BIT_KMPCS_UV

Features: Designed for 2-Bit printheads. Delivers high output precision at lower print speeds.

6.2.2.7 PureMediumDotMode

Screening Method: 2BIT_SMALLDOT

Features: For 2-Bit printheads. Uses exclusively small droplets, resulting in ultra-fine image details and high precision, though overall ink volume is light.

6.2.2.8 PureMediumDotMode

Screening Method: 2BIT_MIDDLEDOT

Features: For 2-Bit printheads. Uses exclusively medium droplets, providing high precision and moderate ink volume.

6.2.2.9 PureLargeDotMode

Screening Method: 2BIT_LARGEDOT

Features: For 2-Bit printheads. Uses exclusively large droplets for high white coverage, but offers lower precision in highlight or subtle detail areas.

6.2.2.10 SmoothMode

Screening Method: 2BIT_LMPCS

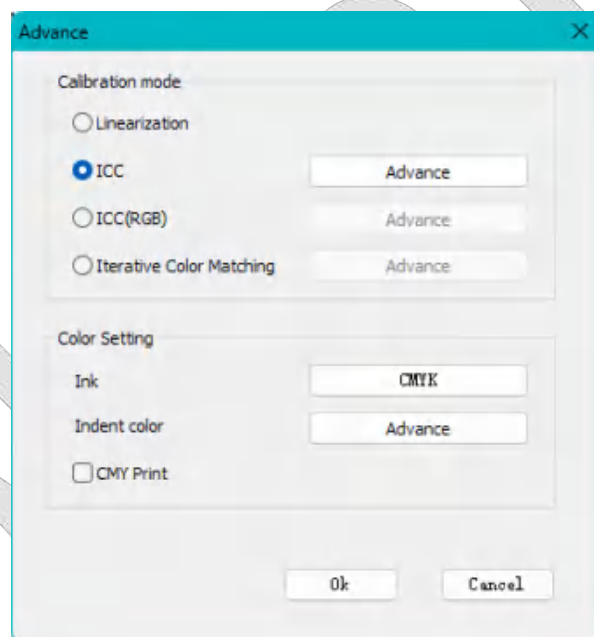
Features: For 2-Bit printheads. Utilizes a three-stage dot distribution algorithm for ultra-smooth and delicate print results.

7 Printing Advanced Settings

Advanced settings are a supplement to the basic printing settings, and the functions and settings below are frequently used in actual practice.

7.1 Advanced Printing Scheme Settings

Click the [Advanced] button on the print confirmation screen, and the following dialog box will appear:

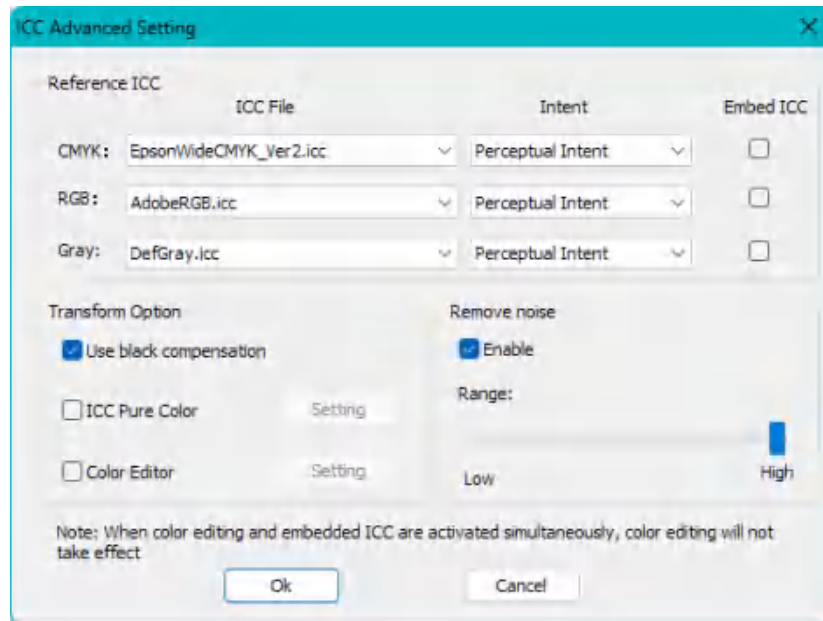


1) Linearization

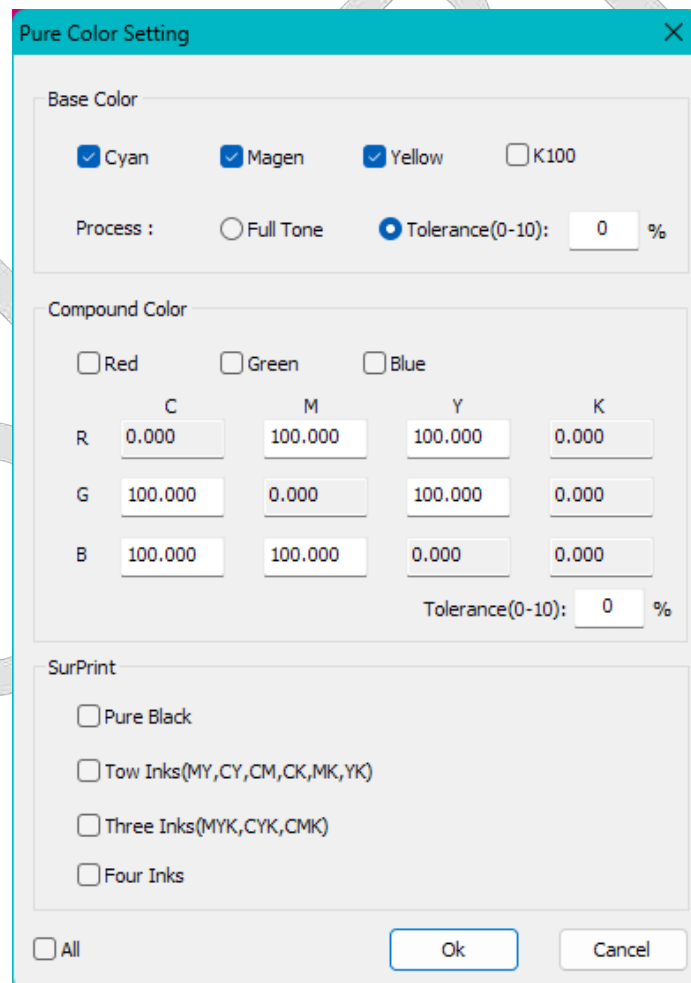
If you want to use linearized output printing effects, you can check Linearize.

2) ICC

If your printing profile curve contains ICC information and you need to enable ICC to print images, then you need to check to enable ICC here. The ICC Advanced Settings interface provides the corresponding ICC reference sources to choose from.



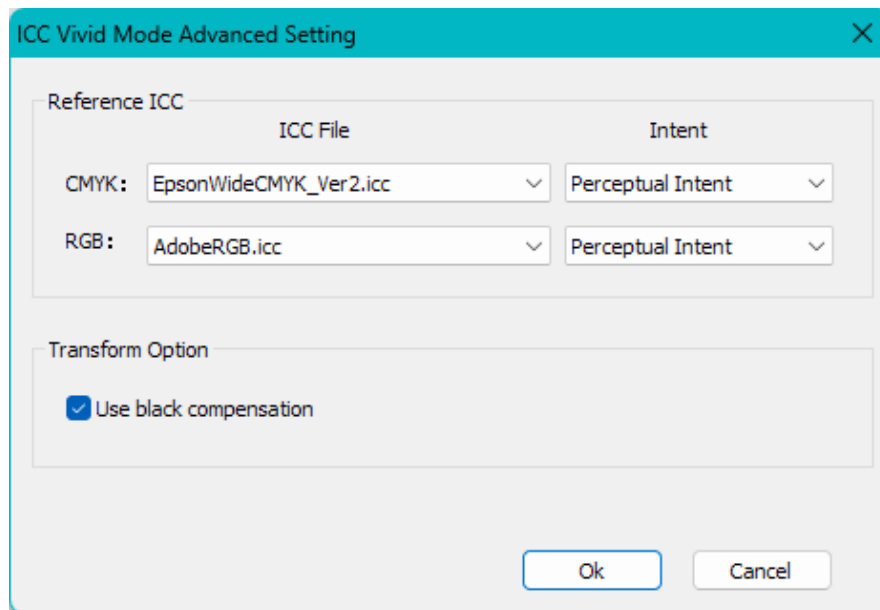
- Enable ICC solid color function: When using the ICC solid color function, solid color blocks will not be mixed with other colors that have undergone ICC.



- Enable black level compensation: Use the black level compensation function to optimize the detail layers of the dark parts of the image.

- Remove noise: After enabling ICC printing, during color conversion, there may be noise in the light areas of the color blocks. At this time, you can enable the noise removal feature in the ICC advanced settings to resolve it.
- Embedding ICC: When we need to use the ICC that comes with an image for color conversion printing, we can choose to enable embedding ICC in the ICC advanced settings. At this time, the conversion target space will use the rendering intent standards in the image.

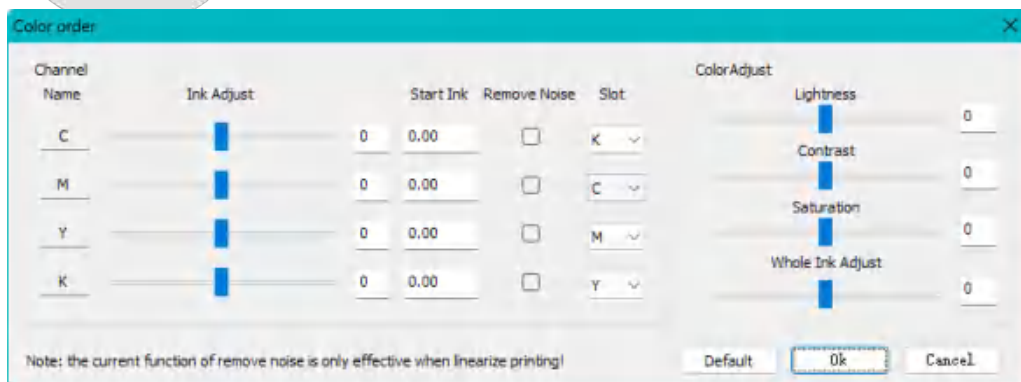
3) ICC (Vivid Mode):



4) Closed-loop Color Matching: Used when the color matching target has an ICC.

5) Color Settings

- On the output color order interface, you can change the slot color order. This means that while you may not be able to change the printer printhead color order, the software provides an alternative solution: you can change the slot color order for this printing scheme here to ensure you print a satisfactory pattern.
- You can decide whether to set the corresponding channels for intensification based on the ink you are using. You can also adjust the brightness, contrast, and vividness of the printed image here to ensure you print a satisfactory image.
- Checking the linearization noise removal function can remove 1 to 2 dots of other color values in solid colors under linearized printing mode.



After setting and saving the above, click [Print], and the image you want to print will be printed according to your settings.

Notes:

The Slot color order has been set with default parameters at the factory. Please do not change the default slot color order casually, as it may cause abnormal printing colors. Unless you know the consequences, do not change it. Setting the slot color order for one print process does not mean that using another printing scheme will use the same slot color order; for a new printing scheme, you still need to set the slot color order again. To avoid errors, it is recommended to check the slot color order in advanced settings when printing to confirm it matches your intended sequence.

Conclusion

This concludes the ZRIP manual. If you have more questions regarding color management, you can contact obziy's technical service team for assistance. We wish you a pleasant experience using it!

