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User Manual



UVP101001 / UVP101001D

UV Microscope Slide Printer
(Single Hopper & Dual Hopper)

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Chapter 1 Introduction

1.1 Instrument Overview

This instrument is intended for direct marking of standard microscope slides using UV laser technology. It provides high-precision, permanent marking through laser ablation. For best results, laser-reactive coated slides are recommended. The resulting markings are durable, high-contrast, and resistant to routine laboratory processing, ensuring long-term readability. The instrument is intended for use in pathology, histology, cytology, toxicology, and other laboratory applications requiring reliable slide identification.

1.2 Intended Use

The UV Microscope Slide Printer is intended for use in laboratory environments, including pathology, histology, cytology, clinical, and research laboratories, for the identification and labeling of microscope slides. The device shall be operated only by trained personnel in accordance with the instructions provided in this manual.

1.3 Technical Specifications

Product Name	UV Microscope Slide Printer (Single Hopper)	UV Microscope Slide Printer (Dual Hopper)
Model	UVP101001	UVP101001D
Printer Type	Long Life UV Laser	
Capacity	100 slides	100 slides x 2 slots
Removable Hopper	Yes, 1 Hopper	Yes, 2 Hopper
Printing Capabilities	Text, Symbols, Barcodes, QR Code Multiple formats of Linear and 2D Barcodes	
Printing Resolution	2500 dpi	
Print Speed and Consumables	<3 seconds, no consumables required	
Interface and Connections	10"Color Touch Sareen, 2×Ethernet, 4×USB, 1×VGA Connection Types 1×COM, 1×HDMI, Built-in Barcode Scanner	
Output Storage Solutions	Around 50 slides	45 slides x 2 slots
LIMS/HIMS Compatible	Yes, all systems	Yes, all systems
Operation Modes	Standalone, Batch Printing Software, Connected to Cassette Printer, LIMS/HIMS Controlled	
Dimension (L×W×H) (Output tray excluded)	435x200x440 mm	445x210x440 mm
Dimension (L×W×H) (Output tray included)	445x200x440 mm	465x210x440 mm

1.4 Operating Conditions

To ensure safe operation and optimal performance of the instrument, operate the Printer under the following environmental conditions:

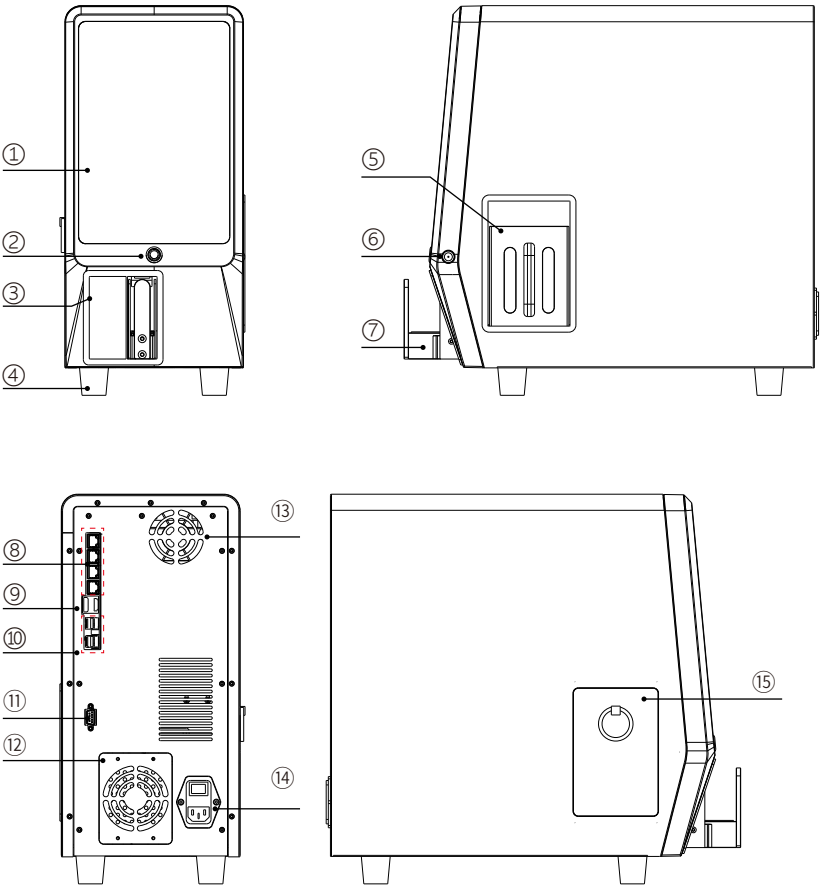
• Power Supply: AC 100–240 V, 50/60 Hz

• Ambient Temperature: 10 °C to 30 °C (recommended: 10 °C to 28 °C)

• Relative Humidity: ≤70%, non-condensing

The printer should be installed in a clean, dry, and well-ventilated laboratory environment, away from direct sunlight, excessive dust, vibration, and strong electromagnetic interference.

1.5 Instrument Structure



① Display screen
② PC power button
③ Barcode scanner
④ Rubber foot pad
⑤ Slide input hopper
⑥ Scanner power switch
⑦ Slide collection tray
⑧ Network ports
⑨ HDMI & DP ports
⑩ USB ports
⑪ External serial port
⑫ Air filter cover
⑬ System cooling Fan
⑭ Main power switch
⑮ Maintenance door

1.6 Unpacking

Unpack the package carefully and examine the contents for potential damages that may have occurred during transit. If you observe discernible damage, please promptly contact your local seller for assistance. In the event of any discernible damage to the device, refrain from connecting the device to a power source to avoid any potential risks or further harm.

box contents

No.	Items	QTY
1	UV Microscope Slide Printer	1
2	Power cable	1
3	Slide input hopper	1
4	Slide collection tray	1
5	Wired mouse	1
6	Network cable	1
7	USB-to-Ethernet cable	1
8	USB-to-serial cable	1
9	Mouse pad	1
10	Filter	1
11	Packing list	1
12	User manual	1

Chapter 2 Instrument Installation

2.1 Loading the Slide Input Hopper

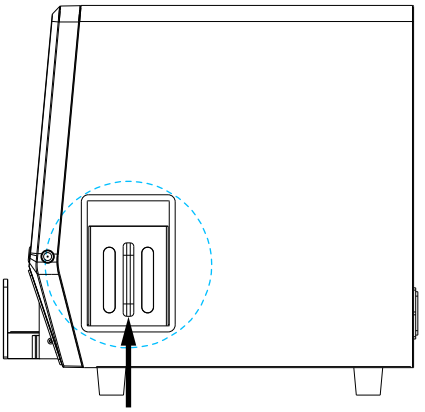


Figure 2.1

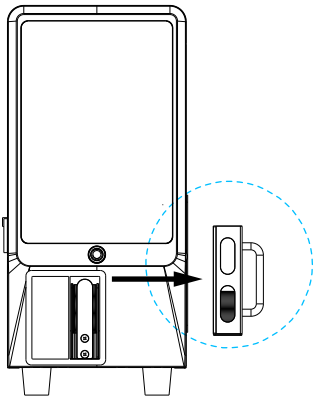


Figure 2.2

Step 1: Hold the slide input hopper vertically (as shown in Figure 2.1). Pull the hopper outward in the direction indicated by the arrow until it is fully removed (as shown in Figure 2.2).

Step 2: Follow the label instructions mentioned on the hopper to load an appropriate number of new microscope slides into the slide input hopper.

Reinstall the hopper by placing it suffix into the slot. Ensure that the hopper is fully seated into position before operation.

2.2 Loading the Slide Collection Tray

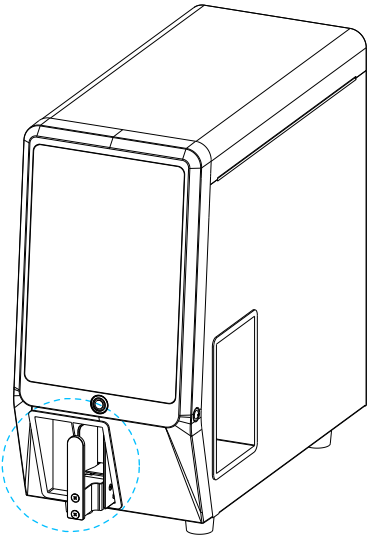


Figure 2.3

Push the slide collection tray horizontally into the slot in the direction indicated by the arrow (as shown in Figure 2.3). Ensure that the tray is fully inserted in place and properly aligned with the platform.

2.3 Filter Replacement for the Filter Module

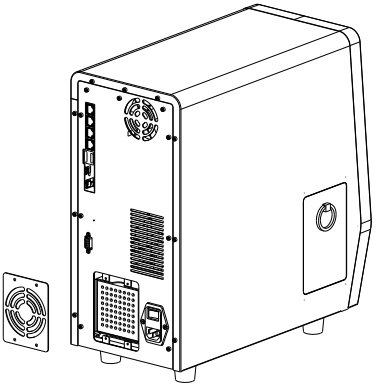


Figure 2.4

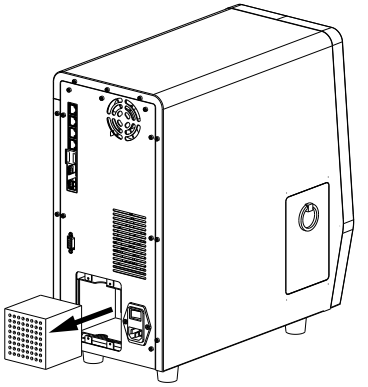


Figure 2.5

It is recommended to replace the air filter every 3 months. Loosen and remove the four thumb screws on the air outlet cover at the rear of the instrument, then remove the air filter cover (Figure 2.4). Take out the air filter as shown in Figure 2.5.

Install a new air filter, and then reinstall the air filter cover and thumb screws in their original positions.

Chapter 3 Instrument Operation

To ensure proper operation and optimal printing performance, follow the instructions below.

3.1 Startup

(1) Connect the power cord to the instrument.

(2) Turn on the main power switch on the rear panel of the instrument.

(3) Press the PC power button on the prefix of the instrument.

(4) After approximately 1–2 minutes, the operating system desktop appears and the system is ready for operation.

3.2 Printing

(1) Load an appropriate number of slides into the slide input hopper.

(2) Double click the software icon 

on the desktop to initiate the printing management software.

(3) Create a slide printing template if required. (This step can be skipped if no changes are needed.)

(4) Enter the printing information.

(5) Switch the printer status to “Start” and start printing. (This step can be skipped if the printer is already in the ready state.)

(6) Collect the printed slides from the slide collection tray.

Note: For detailed instructions on print area configuration, template settings, and print content editing, refer to **Chapter 5. Software Operation.**

3.3 Shutdown

(1) Switch the printing status to “Pause” and wait until all operations have completely stopped. Then click the **[Quit]** button on the main interface to exit the printing management software.

(2) Press the PC power button and wait for the system shutdown process to complete.

(3) If the instrument will not be used for an extended period, turn off the main power switch at the rear of the instrument and disconnect the power cord.

3.4 Safety Precautions

Please observe the following precautions during operation:

- Follow the prescribed startup and shutdown procedures to avoid damage to the instrument.
- Do not insert any objects into the instrument while it is in operation.
- Do not leave the instrument powered on continuously for extended periods, as this may accelerate laser aging.
- Perform routine maintenance according to the instructions provided in Chapter 8 below.
- In the event of a malfunction, refer to the “Troubleshooting” section for guidance.

• If the issue cannot be solved, contact our after-sales service department for technical support.

Chapter 4 Software Installation

The Slide Printer Software is supplied with the instrument prior to shipment. The software system must be installed on the instrument during initial setup. After installation, the instrument is ready for use.

For network printing configuration, refer to Chapter 6.

4.1 Install/Upgrade Software

• Double click the latest version of the software installation package and select your desire language, as shown in Figure 4.1.

• Select “Create a desktop shortcut”, click “Next” , as shown in Figure 4.2.

• Click the “Install” button and wait for the installation process to complete, as shown in Figure 4.3 and 4.4.

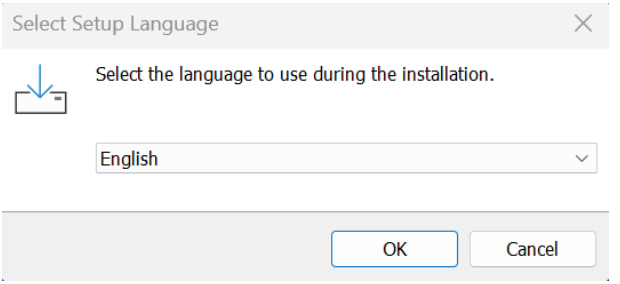


Figure 4.1

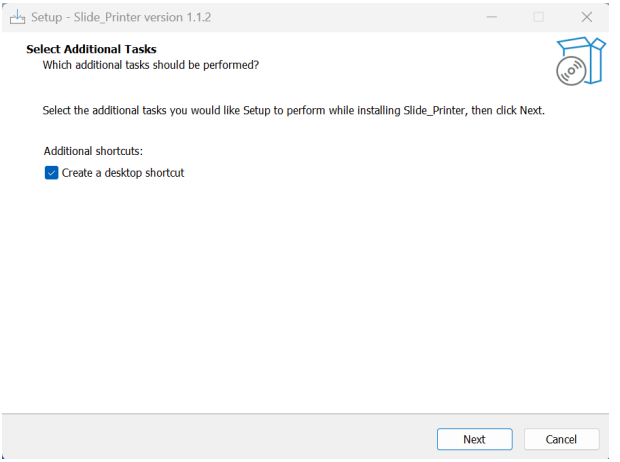
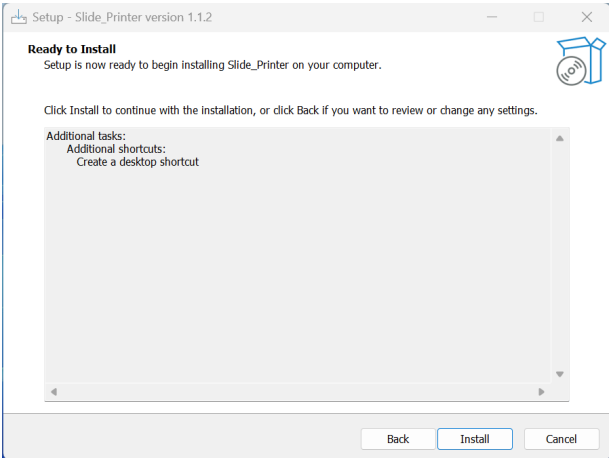


Figure 4.2



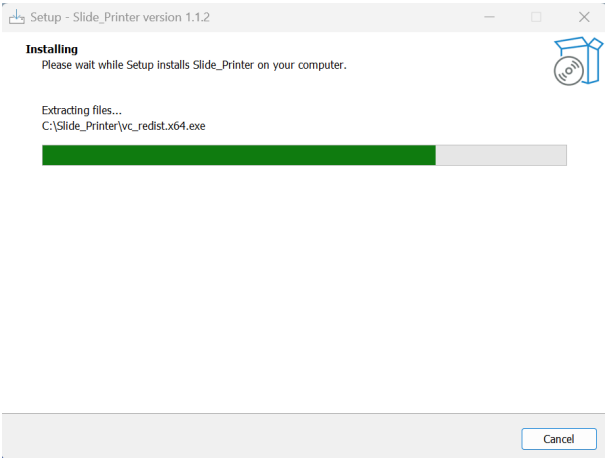


Figure 4.3

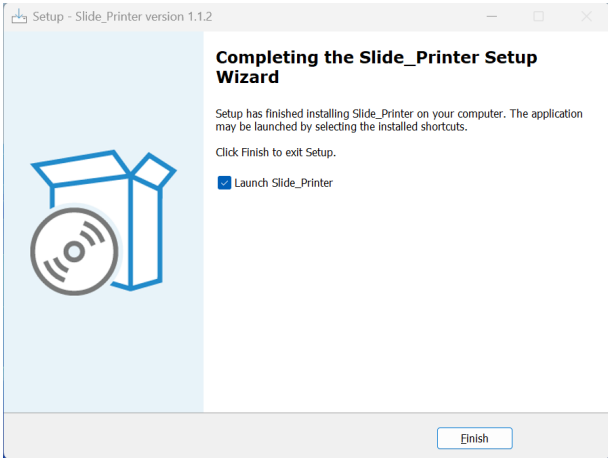


Figure 4.4

4.2 Uninstalling the Software

- Click on the software, then select Uninstall.
- When the confirmation dialog appears (as shown in Figure 4.5), select “Yes” to confirm and continue.
- The system will automatically remove Slide_Printer and all associated components.
- Wait until the uninstallation process is completed, click “OK” , as shown in Figure 4.6.

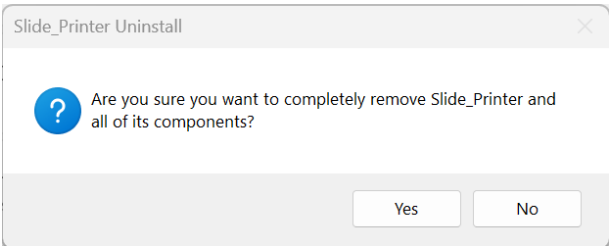


Figure 4.5

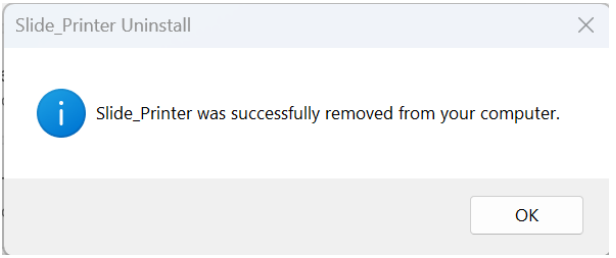


Figure 4.6

Chapter 5 Software Operation

5.1 Software Overview

The print management software includes the following modules: **Print, History, Template, Settings, Debug, About,** and **Exit.**

[Print]: Used to create, edit, and manage print tasks.

[History]: Used to view, delete, and export print history records.

[Template]: Used to create and manage slide printing templates.

[Setting]: Used to set parameters.

[Debug]: Used for instrument parameter debugging and troubleshooting.

[About]: Displays software version information.

[Exit]: Closes the software.

5.2 Software startup

Double click the software icon 

on the desktop, the main interface is displayed as shown in the Figure 5.1 below.

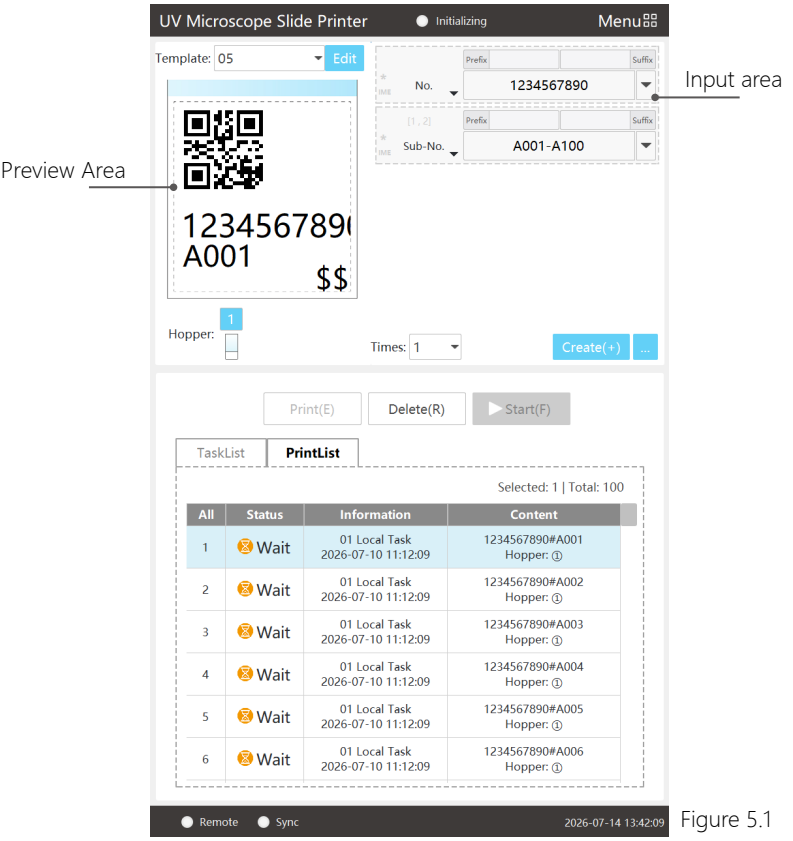


Figure 5.1

5.3 Printing

The main interface consists of the **Preview Area, Input Area, Task List, and Print List**, as shown in Figure 5.1.

The software supports keyboard shortcut operations for improved workflow efficiency and ease of use:

Function		Shortcut
Task List	Print (E)	Alt + "E"
	Delete (R)	Alt + "R"
Print List	Start (F)	Alt + "F"
	Pause (F)	Alt + "F"
	Delete (R)	Alt + "R"
Switch to the input area		Ctrl + Enter
Switch to the next input box (Note: If the user presses Enter in the final input box, the system automatically creates a print task and returns the cursor to the first input box.)		Tab / Enter
Create a task		Ctrl + "/"
Create a task and print		Ctrl + "*"
Create and print a priority task		Ctrl + "-"
Import a local file and create a print task		Ctrl + "+"
Clear all input box		Ctrl + "="
Increment or decrement the numeric / alphabetic value in the input box Example: • If the current input box contains "A01", pressing Ctrl + ↑ changes the value to "A02". • If the current input box contains "Project B", pressing Ctrl + ↓ changes the value to "Project A.		Ctrl + ↑ / Ctrl + ↓

5.3.1 Input Area

(1) Input Field Properties

Click the drop-down arrow beside the field name to access input field properties, as shown in Figure 5.2. Select the desired property to apply it to the field.

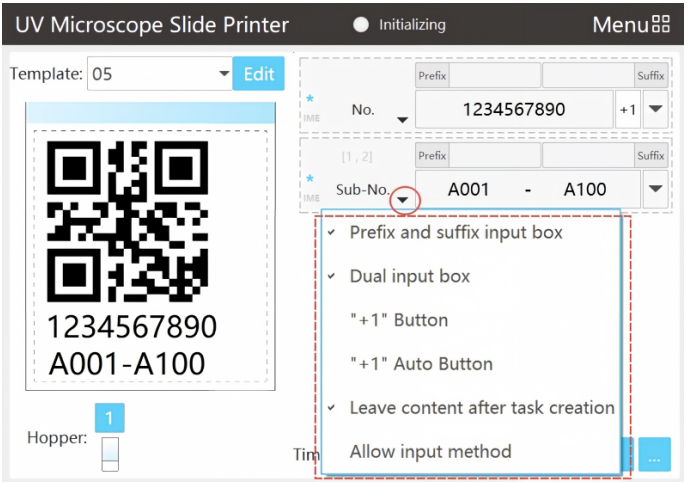


Figure 5.2

• **Prefix and suffix input box**

To avoid repeated entry, frequently used text can be entered in the prefix and suffix box, as shown in Figure 5.3 below.

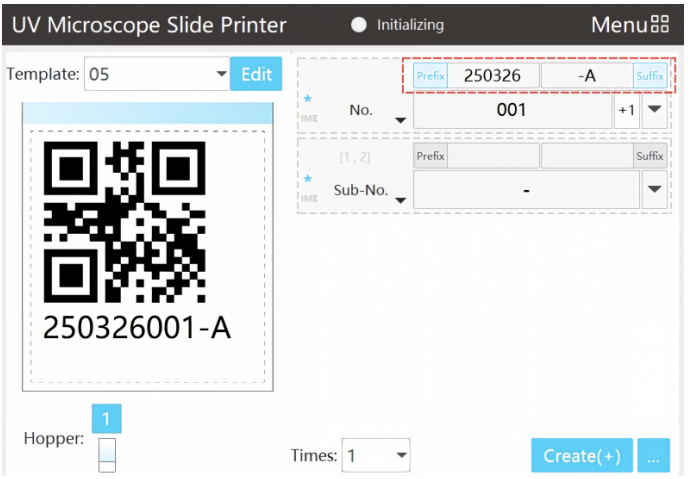


Figure 5.3

Text entered in the prefix and suffix input box is automatically combined with the text in the main input box when a task is created. The text in the prefix and suffix input box is retained after task creation for reuse in subsequent tasks.

For instance, the prefix input box is "250326" , the suffix input box is "-A" and the main input box is "001". Click the **[Create]** button to create a task, the No. will be combined into "250326001-A". (See Figure 5.4)

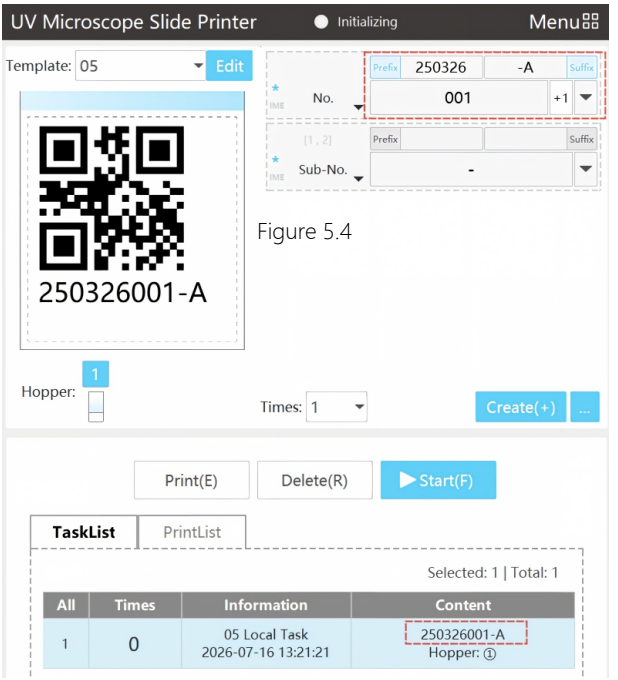


Figure 5.4

Figure 5.4

- **Dual input box**

When the Dual Input box option is enabled for the Sub-No. box, two input boxes separated by a hyphen (-) are displayed. Enter the start and end values (for example, A001 and A100), and the system automatically generates the corresponding tasks, as shown in Figure 5.5.



Figure 5.5

- **"+1" Button**

When the "+1" Button option is enabled for a box, clicking the "+1" button automatically increases the entered value by one. For example, "A01" changes to "A02" after clicking the "+1" button, as shown in Figures 5.6 and 5.7.

This function also supports alphabetical increment. For example, "1A" changes to "1B" after clicking the "+1" button.

Keyboard shortcuts can also be used to increase or decrease the value by one. For example, pressing "Ctrl + ↑" changes "HE" to "HF" , while pressing "Ctrl + ↓" changes "HE" to "HD".

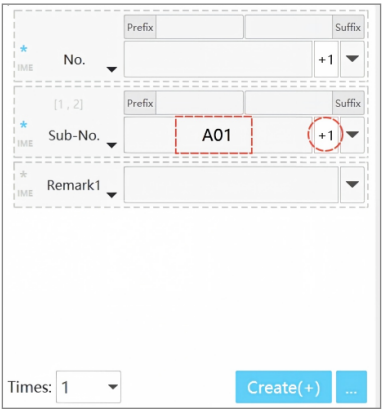


Figure 5.6

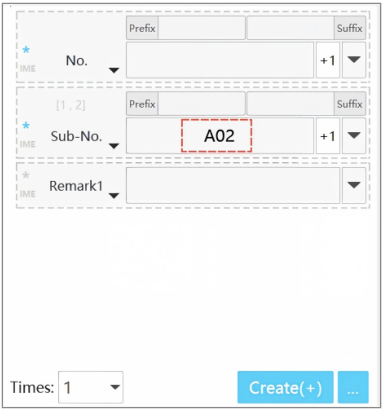


Figure 5.7

- **"+1" Auto Button**

When the "+1" Auto button option is enabled for a box, the value is automatically increased by one each time after a task is created.

Click the "+1" Auto button to enable or disable this function. A blue button indicates that the function is enabled, while a gray button indicates that it is disabled.

For example, when this function is enabled, the value "001" automatically changes to "002" after the task is created, as shown in Figures 5.8 and 5.9.

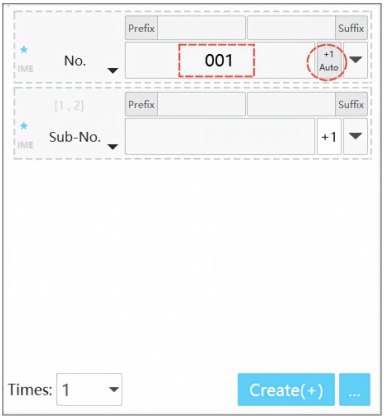


Figure 5.8

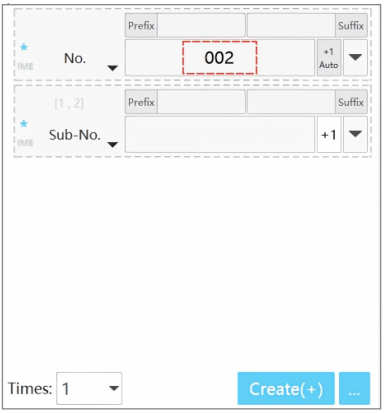


Figure 5.9

- **Leave content after task creation**

When this option is disabled, the content in the input box is cleared after task creation to allow new data entry for subsequent tasks.

When this option enabled (* indicator will be displayed), the content is retained after task creation and can be reused for subsequent tasks without re-entering the information.

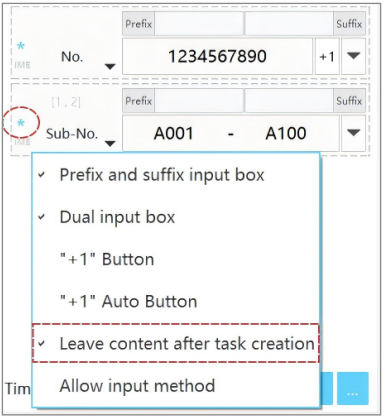


Figure 5.10

• **Allow input method**

Enable this option when the box requires text input via an input method (IME), as shown in Figure 5.11.

Disable this option when the box requires direct entry of numbers, letters, or symbols without IME support, typically for codes or structured identifiers.

Important: When a barcode scanner is used, it is recommended to disable the input method even if the scanned data contains alphabetic characters, to prevent unintended IME conversion and ensure input accuracy.

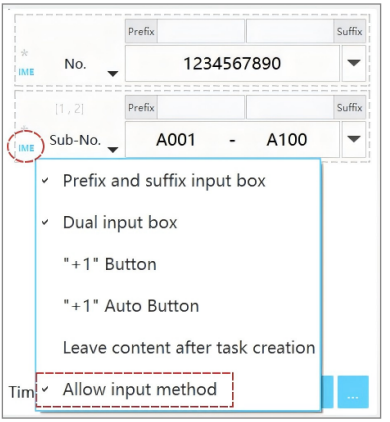


Figure 5.11

(2) Virtual Keyboard

Tap a text input box on the touchscreen to open the virtual keyboard, as shown in Figure 5.12. Use the virtual keyboard to enter printing information in the input boxes.

The function keys on the virtual keyboard, such as “Enter”, “Backspace”, and “Tab”, operate in the same way as those on a physical keyboard. For example, pressing “Enter” moves the cursor to the next input box. If the cursor is already in the last input box, pressing “Enter” directly creates the task.

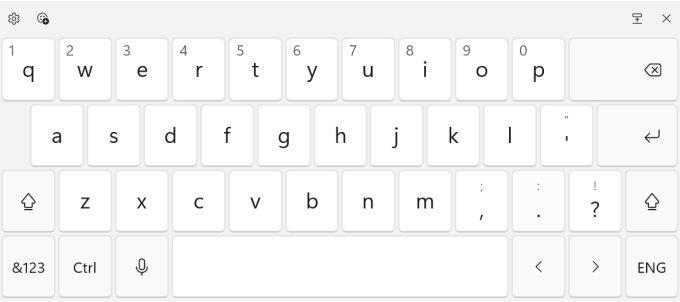


Figure 5.12

Press the “&123” button to switch to the Numeric Keyboard, and press the “abc” button to return to the Alphabetical Keyboard, as shown in Figure 5.13.

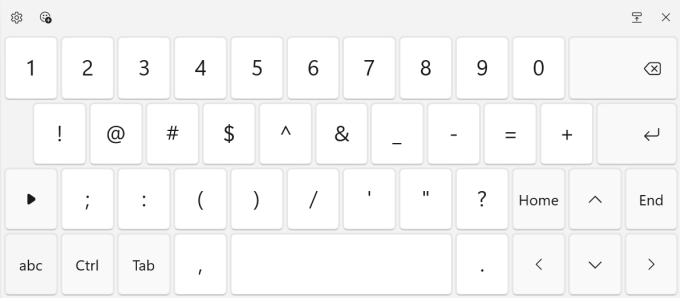


Figure 5.13

(3) Create a Task

Select a template or enter the printing information in the input area, then tap the **[Create]** button to create a task. Tap the button next to “Create” to display additional options, as shown in Figure 5.14.

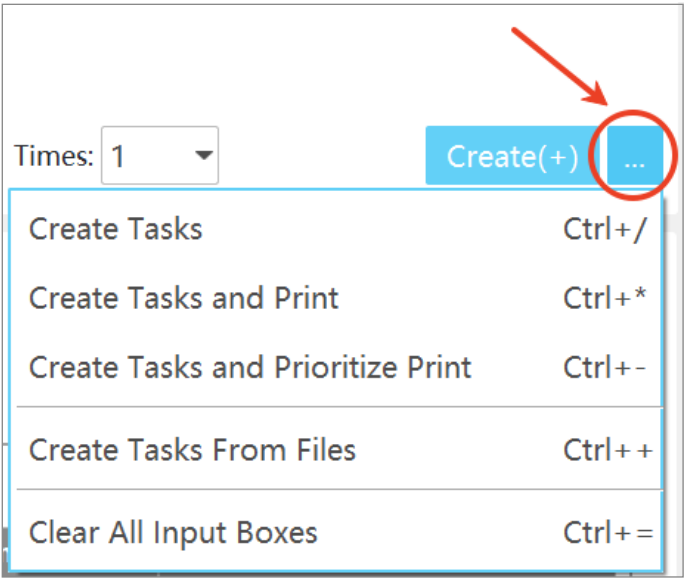


Figure 5.14

• **Create Tasks**
Creates tasks and adds them to the Task List only.

• **Create Tasks and Print**
Creates tasks, adds them to the Task List, and places them in the Print List for queued printing.

• **Create Tasks and Prioritize Print**
Creates tasks, adds them to the Task List, and places them at the top of the Print List for priority printing.

• **Create Tasks From Files**
Creates tasks from local files. TXT, PNG, CSV, and PDF file formats are supported.

• **Clear All Input boxes**
Clears all content from the input boxes.

(4) Memory List

After task creation, the entered content is automatically stored in the drop-down memory list, as shown in Figure 5.15. The memory list can store up to 20 entries.
Selecting an entry inserts it into the input box. When multiple entries are selected, they are automatically separated by period (“.”), as shown in Figure 5.16.

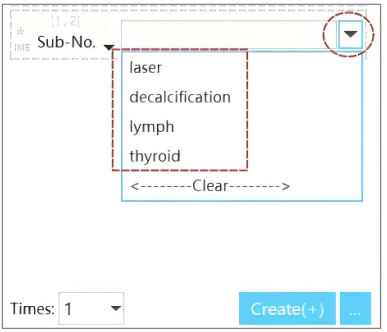


Figure 5.15

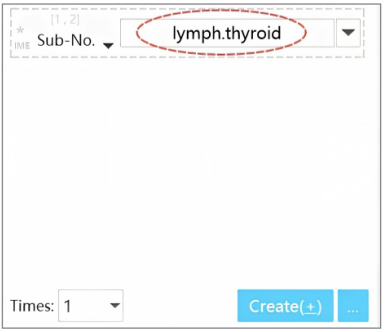


Figure 5.16

(5) Multi-value Input

For tasks with consecutive values (including numbers, letters and symbols), use the Multi-value Input function to simplify batch entry.

Use the delimiters "-" and "," when entering multiple values.

• Range Separator Usage

Examples:

- Enter "A1-A3" → automatically creates "A1", "A2", "A3" (See Figure 5.17 & 5.18)
- Enter "2A-2C" → automatically creates "2A", "2B", "2C"

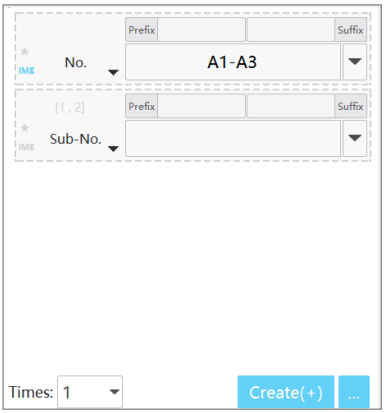


Figure 5.17

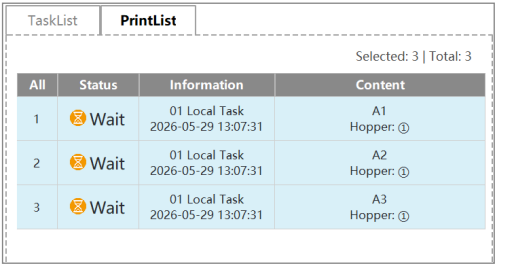


Figure 5.18

• **Multiple Delimiter Usage**

- Enter “1.2.3B” → automatically creates “1”, “2”, “3B” (See Figure 5.19 & 5.20)

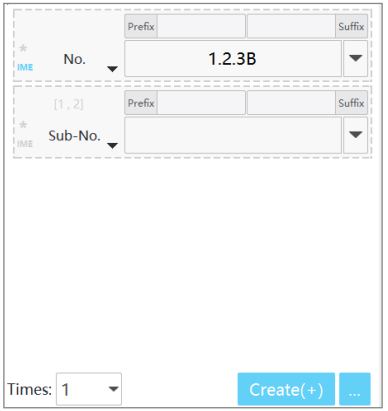


Figure 5.19

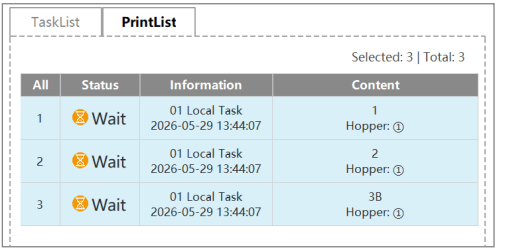


Figure 5.20

• **Range Separator&Multiple Delimiter Usage**

- Enter “A1-A3.HE → automatically creates “A1”, “A2”, “A3” , “HE”
- Enter “0001-0003” → automatically creates “0001”, “0002”, “0003”
- Enter “01-03” with prefix input “#” and suffix input “L” → automatically creates “#01L”, “#02L”, “#03L”

• **Use multi-value input to multiple input boxes**

Examples:

- No. box “005-006” with prefix input “20250326”
- Sub-No. box “01.03.04” with suffix input “LD”

As shown in Figure 5.21 and Figure 5.22, six tasks are automatically created based on the combined entries.

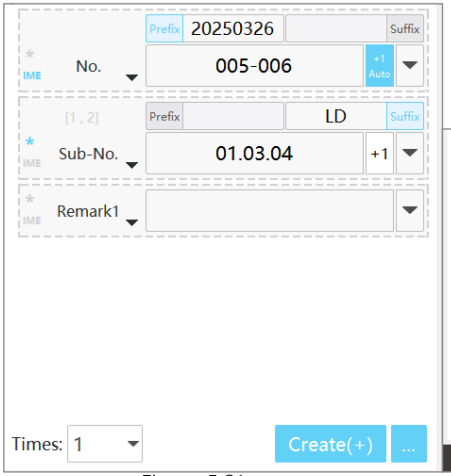


Figure 5.21

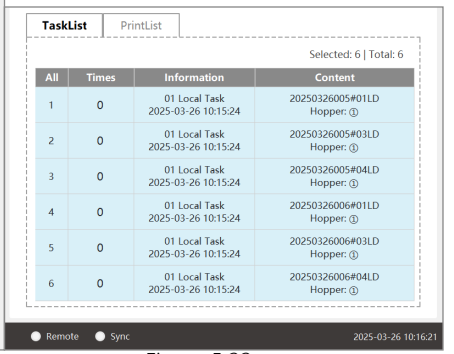


Figure 5.22

• Sub Number Merge Symbol

In the Sub-No. input box, click [1,2] to switch between Single Number Mode and Double Number Mode. The button is highlighted in blue in Double Number Mode and displayed in gray in Single Number Mode.

In Single Number Mode, each slide is assigned one Sub-No., which is the most commonly used setting.

In Double Number Mode, each slide is assigned two Sub-Nos. separated by the delimiter "," (see Section 5.6). This mode is intended for applications where two pathology specimens need to be printed on the same slide.

As shown in Figure 5.23 & 5.24, enable the Double Number Mode and enter "01–06" into the Sub-No. Input box, and click [Create]. The system automatically merges the numbers into pairs ("01, 02", "03, 04", "05, 06").

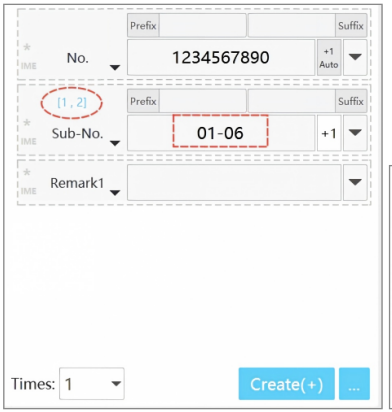


Figure 5.23

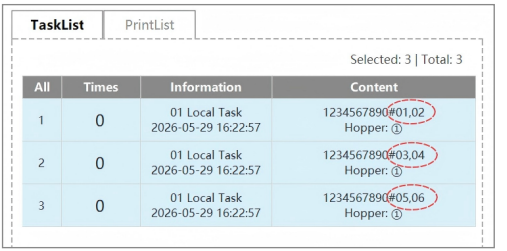


Figure 5.24

• Task Repetition Times

Click the drop-down menu shown in Figure 5.25 to set how many times the created tasks will be repeated. In the example below, the default Task Repetition Times is "1" and six tasks are created. If the value is set to "2", a total of 12 tasks will be created.

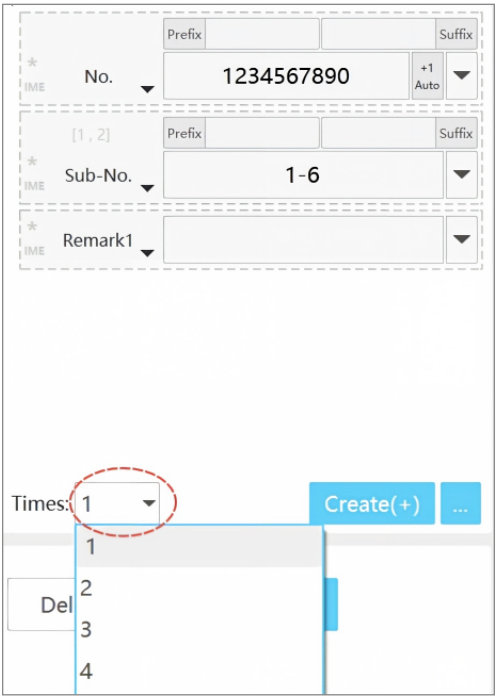


Figure 5.25

(6) Barcode Scanning Input

Use the barcode scanner to create print tasks by scanning barcodes.

Before using this function, switch on the scanner power switch. In the Settings menu, enable "Automatically Print After Scanning Code" and "Delimiter" (see Section 5.6).

Before scanning, select the desired print template and place the cursor in the first input box of the task input area. Position the slide approximately 5cm in prefix of the scanner. A beep from the scanner indicates that the barcode has been successfully read and the print task has been created. If no beep is heard, adjust the scanning distance or angle and scan again.

5.3.2 Task List

All created tasks are stored in the Task List, which displays the print times, creation details, and print content, as shown in Figure 5.26.

Tasks can be removed from the Task List as needed. Deleting a task from the Task List does not remove it from the Print List.

To reprint a previously printed task, select the desired task and click [Print] button. The selected task will be added to the Print List for printing.

Right-click within the Task List to open the context menu, as shown in Figure 5.26. The Task List context menu provides the following functions:

- **Select All:** Selects all tasks in the Task List.
- **Cancel:** Cancel the current selection.
- **Extract Content:** Loads the print content of the selected task(s) into the input box(s).
- Delete: Deletes the selected task(s) from the Task List.

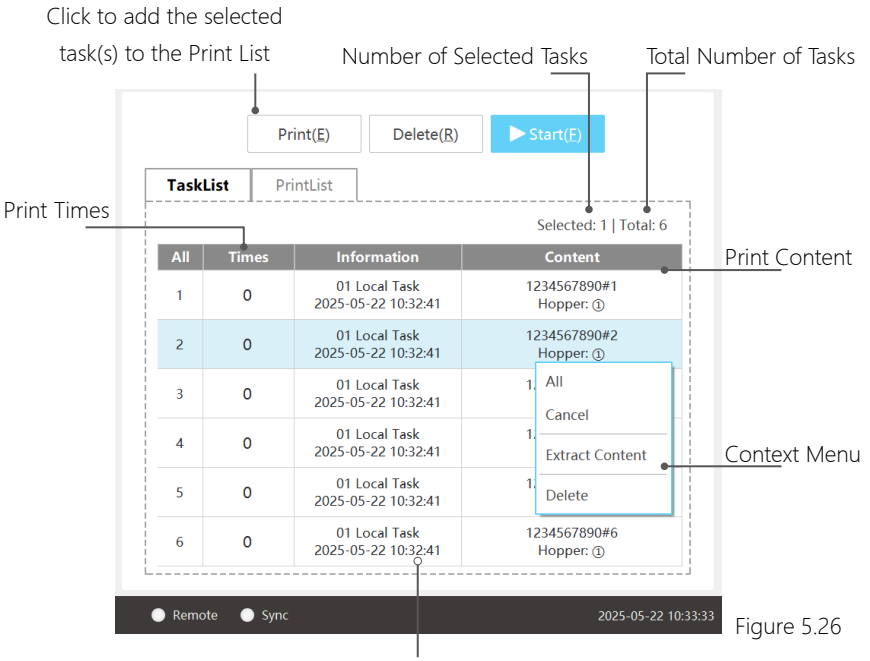


Figure 5.26

5.3.3 Print List

The Print List contains tasks that are queued for printing, as shown in Figure 5.27.

Click **[Start]** to begin the printing process. The instrument continuously monitors the Print List for pending tasks. When a printable task is available, tasks are processed and printed in sequence according to their order in the list.

During printing, the task status changes from "Waiting" to "Printing". Once printing is completed successfully, the task is automatically removed from the Print List, and the next task in the queue is processed.

To remove a task manually, select the desired task and click **[Delete]**, or right-click the task and choose Delete from the context menu.

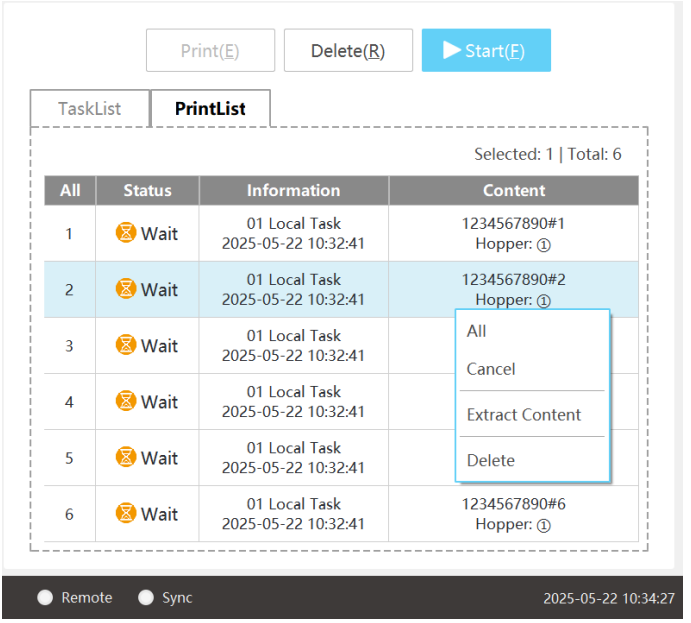


Figure 5.27

5.4 Template Management

Slide printing requirements may vary depending on laboratory workflows and application needs. This print management software enables users to design customized label layouts and save them as templates for future use. Saved templates can be quickly selected when creating print tasks, improving efficiency and ensuring consistent print output.

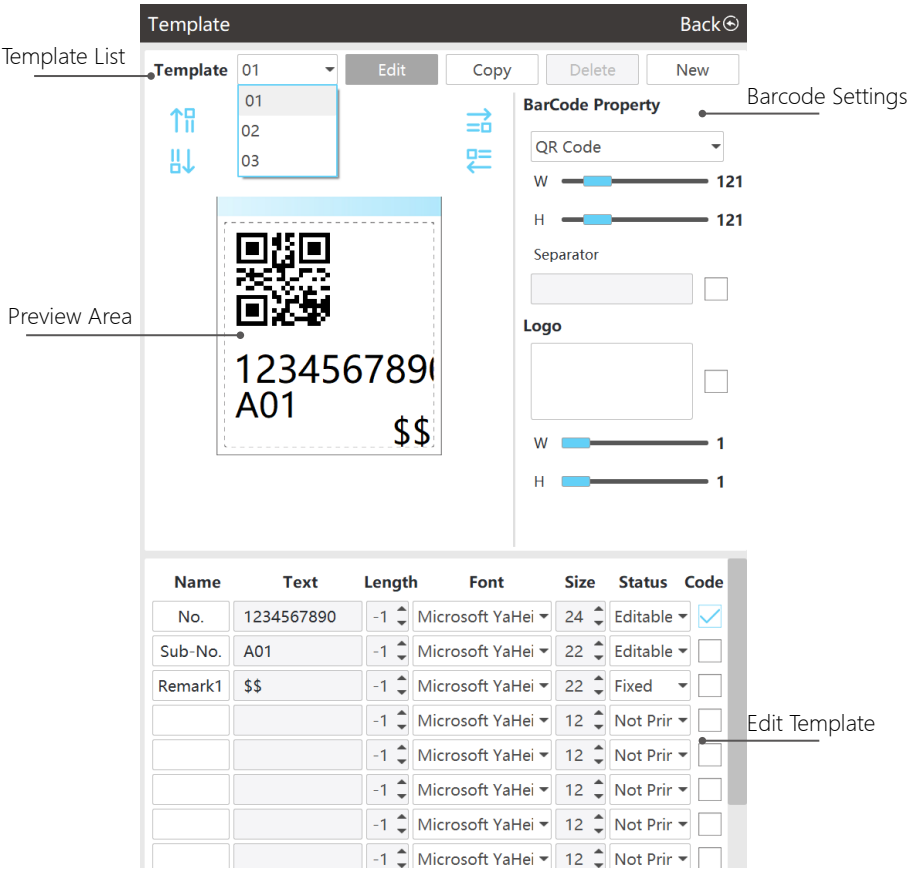


Figure 5.28

The print management software includes a default template for general use. The default template is provided by the system and cannot be modified.

Users may also create custom templates to meet specific application requirements. When a template is selected from the template list, a preview of the corresponding print layout is displayed in the preview pane on the left side of the interface.

Click the corresponding buttons to perform the following operations:

- Copy: Click **[Copy],** enter a new template name, and create a duplicate of the selected template.
- Delete: Click **[Delete]** to remove the selected template.
- New: Click **[New]** to create a new template.
- Edit: Click **[Edit]** to modify the selected template.

5.4.1 Slide Print Orientation

The preview pane shows the printed slide as viewed from the prefix after printing. Click the orientation arrows to set the print orientation to 0°, 90°, 180°, or 270°, as shown in Figure 5.29.



Figure 5.29

5.4.2 Barcode Property

The slide print area can include a 1D barcode, a 2D barcode, or no barcode at all. To add a barcode, select the desired barcode type from the barcode list. (Figure 5.30) QR Code and Data Matrix are recommended. If no barcode is required, select None.

By default, the barcode content is linked to the first input box, which is the Case No. box shown in Figure 5.31. If required, the barcode can be configured to include data from multiple input boxes. For details, refer to Section 5.4.7 Barcode Data Source.

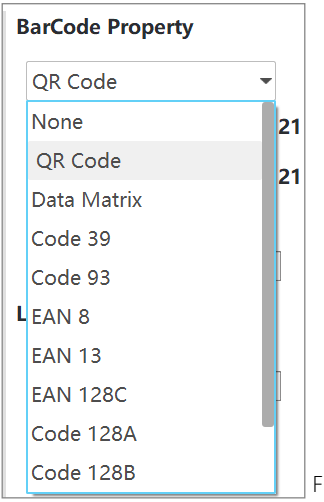


Figure 5.30

5.4.3 Editing Template

(1) The text displayed in each box can be configured in the Text column. Each box can be assigned one of the following status settings:

• Editable:

The box is available for data entry when creating or editing a print task. Users can enter or modify the box content as needed. This setting is typically used for boxes whose values vary from task to task, such as No. and Sub-No.

• Fixed:

The box content is predefined in the template and is automatically applied when a print task is created. The content cannot be modified during task editing. This setting is typically used for information that remains constant, such as the hospital name, department name, or laboratory name.

• Hide:

The box is disabled for the current template and is not displayed in the task editing area.

• Not Print:

The box remains available in the task editing area, but its content is not printed on the slide.

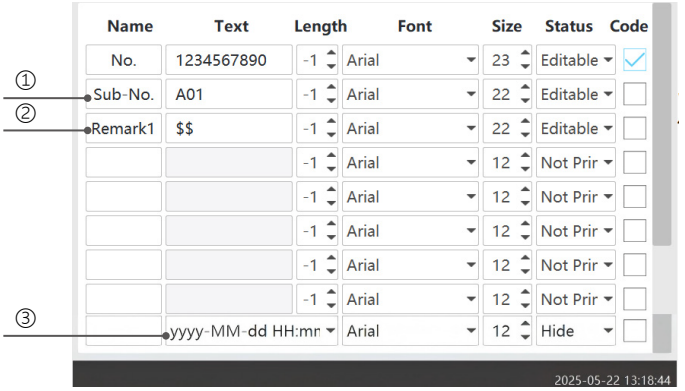


Figure 5.31

(2) The name displayed in each box can be edited in the Name column. Click ① to open the dialog box for editing box names.

(3) Configure the box content in ② by entering predefined text. By default, the content of the No. box is automatically encoded into the barcode. If a box is set to "Editable", any text entered here is used for layout preview purposes only. The actual print content must be entered when creating or editing a print task.

(4) Adjust the content length for No. and Sub-No. boxes in the Length column. Characters exceeding the specified length will not be displayed or printed. The default value is "–1",

which indicates that no length limit is applied.

(5) Select the date and time display format in ③. There are nine formats are available.

Note:

1. Information that remains unchanged, such as the institution name, can be configured as "Fixed" content to avoid repetitive data entry.
2. Fields that are not required should be set to Hide to simplify task entry and improve workflow efficiency.

5.4.4 Editing Template Font

As shown in Figure 5.31, select your desired font for each box.

5.4.5 Layout

The configured text and barcode are displayed in the preview pane, as shown in Figure 5.32. Drag individual elements to adjust their positions within the printable area of the slide to achieve your desired layout.



Figure 5.32

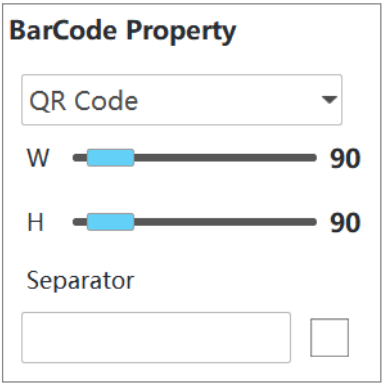


Figure 5.33

5.4.6 Barcode Setting

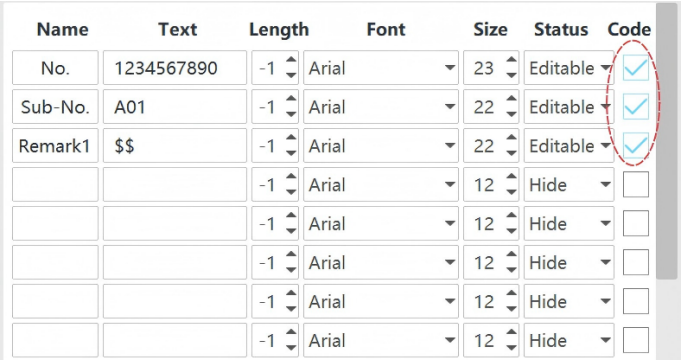
As shown in Figure 5.33, drag the slider to adjust the width and height of the barcode.

5.4.7 Barcode Data Source

By default, the barcode is generated from the content of the No. box.

To include data from additional boxes in the barcode, select the corresponding boxes in the "Code" column, as shown in Figure 5.34. The barcode content will be generated from the combined values of the selected boxes.

If a separator is required between each value, select "Separator" and enter the desired delimiter, as shown in Figure 5.35.



Name	Text	Length	Font	Size	Status	Code
No.	1234567890	-1	Arial	23	Editable	☑
Sub-No.	A01	-1	Arial	22	Editable	☑
Remark1	$$	-1	Arial	22	Editable	☑
		-1	Arial	12	Hide	☐
		-1	Arial	12	Hide	☐
		-1	Arial	12	Hide	☐
		-1	Arial	12	Hide	☐
		-1	Arial	12	Hide	☐

Figure 5.34

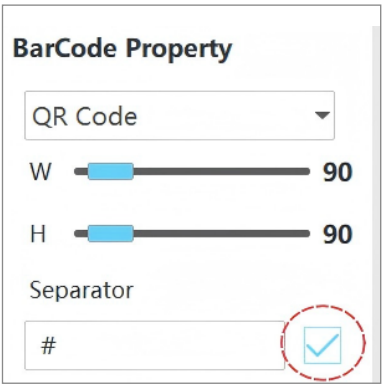


Figure 5.35

For example, if the No., Sub-No., and Remark1 boxes are selected and "#" is specified as the separator, the barcode content will be generated in the format:

No.#Sub-No.#Remark1

If this template is used to create a task where No. is "1234567", Sub-No. is "001", and Remark 1 is "Laser", the barcode will encode the following content:

1234567#001#Laser

5.5 History

Click **[History]** in the menu to access the History interface, as shown in Figure 5.36.

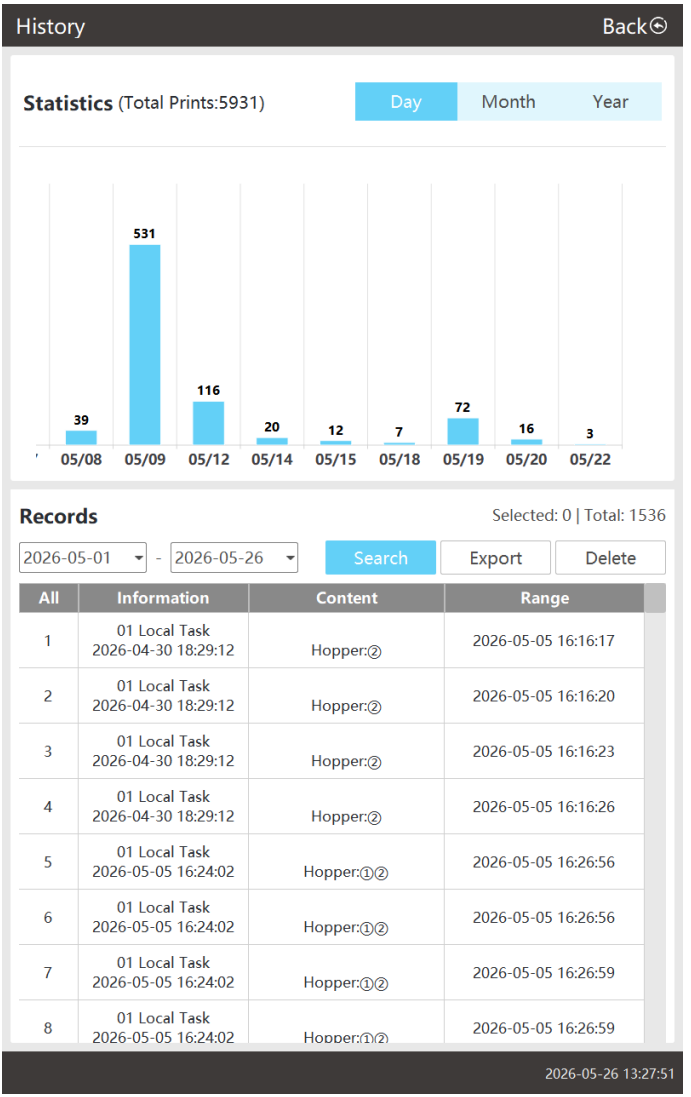


Figure 5.36

- **Statistics**

Total Prints: Displays the total number of slides printed by the instrument.

Click [Daily], [Monthly], or [Yearly] to switch between daily, monthly, and yearly statistics views.

- **Records**

[Search]: Searches for history records based on the date range and displays the matching

results in the history list.

[Export]: Exports the selected records from the history list to a local file.

[Delete]: Deletes the selected records from the history list. (This action will also remove the corresponding records from local storage.)

5.6 Settings

Click **[Settings]** in the menu to access the Settings interface, as shown in Figure 5.37. The settings are read-only by default. To make changes, click **[Edit]** at the bottom of the interface. After completing the settings, click **[Save]** to save the changes.

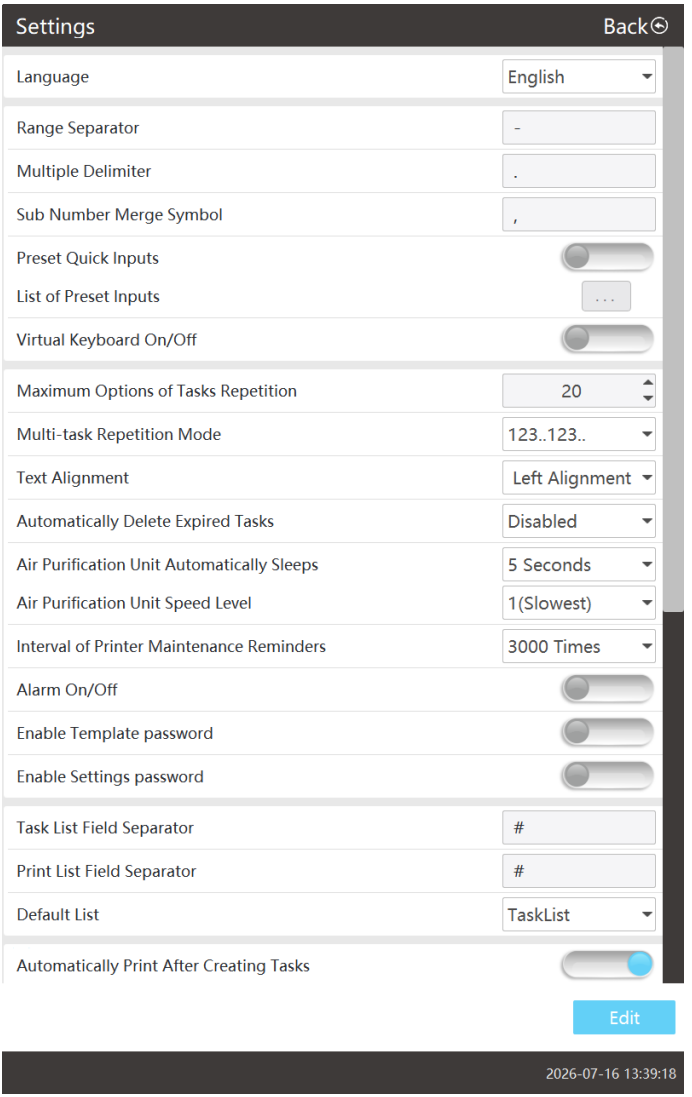


Figure 5.37

• Language

Select the desired display language (Chinese or English).

• Range Separator

The default range separator is "-". A different separator may be specified if required. To avoid confusion between similar-looking symbols in different languages, the use of standard ASCII characters is recommended. The range separator applies to all input boxes in the task entry area. The range separator supports automatic expansion of sequences ending in numbers or letters.

For example,

"A1-A3 is expanded to A1, A2, A3"

"3A-3D is expanded to 3A, 3B, 3C, 3D"

• Multiple Delimiter

The default multiple delimiter is ",". A different delimiter may be specified if required. To avoid confusion between similar-looking symbols in different languages, the use of standard ASCII characters is recommended. The multiple delimiter applies to all input boxes in the task entry area.

For example,

"Enter 1.3.5 → automatically creates "1, 3, 5"

"Enter 1A.HE.#Special → automatically creates "A1, HE, #Special"

• Sub Number Merge Symbol

The default symbol is ".". A different symbol may be specified if required. To avoid confusion between similar-looking symbols in different languages, the use of standard ASCII characters is recommended.

For example,

"Enter 01-06.08.10 → automatically creates "01, 02" "03, 04" "05, 06" "08, 10"

• Maximum Options of Tasks Repetition

Set the maximum value available in the Task Repetition Times drop-down list. (See 5.3.1 Section-Task Repetition Times)

Example: If it is set to 20, users can select a repetition times from 1 to 20.

- Multi-task Repetition Mode

When multiple tasks are created and the Task Repetition Times is larger than 1, the tasks can be generated using one of the following repetition modes:

- Mode "123...123..."

Tasks are repeated as a group. For example, entering "1-3" and setting the Task Repetition Times to 2 generates: "1, 2, 3, 1, 2, 3"

- Mode "11...22...33..."

Each task is repeated consecutively before the next task is generated. For example, entering "1-3" and setting the Task Repetition Times to 2 generates: "1, 1, 2, 2, 3, 3"

• Automatically Delete Expired Tasks

If Disabled is selected, tasks in the Task List will not be deleted automatically. Unneeded tasks must be removed manually. If a retention period is selected (for example, 5 Weekdays), the software automatically deletes tasks that were created 5 weekdays ago each time the software starts. Saturdays and Sundays are not counted as weekday.

• Air purification Unit Automatically Sleeps

The instrument is equipped with a air purification unit that helps neutralize odors generated during laser slide printing. The unit operates automatically during printing. Users can configure how long the unit continues to run after printing is completed before it shuts down automatically.

• Task List Field Separator

The default separator between each field is "#" in the task list. (See Figure 5.38)

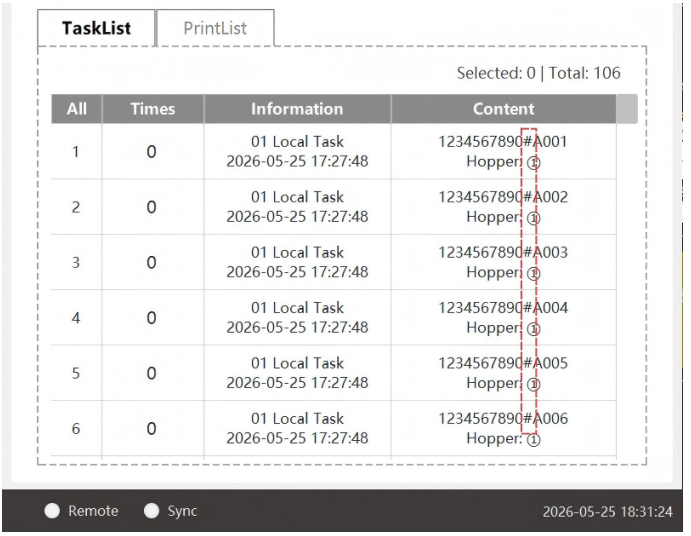


Figure 5.38

• Print List Field Separator

The default separator between each field is "#" in the print list. (See Figure 5.39)

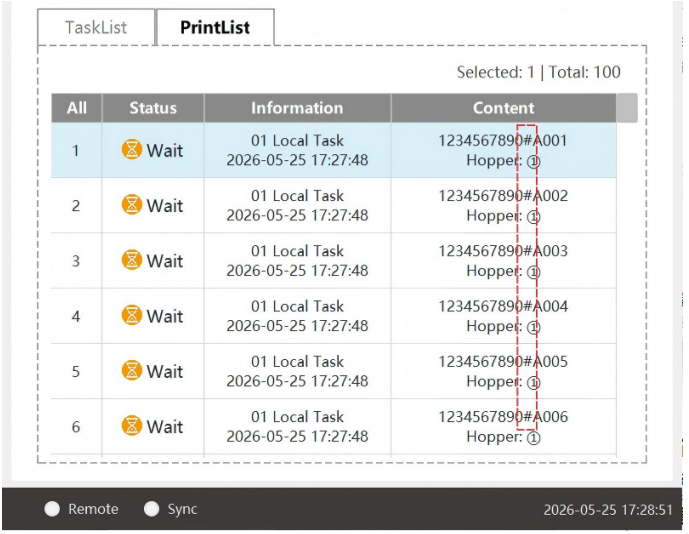


Figure 5.39

• Automatically Print After Creating Tasks

If this option is enabled, every newly created task is automatically added to the Print List and becomes available for printing.

If this option is disabled, newly created tasks are stored only in the Task List. To print a task, select it from the Task List and add it to the Print List manually.

• Allow Duplicate Tasks in the Print List

If this option is enabled, duplicate tasks are allowed in the Print List.

• Automatically Print After Scanning Code

When this option is enabled, scanning a barcode automatically creates a task without requiring the user to click [Create] button.

• Scan Mode

When entering tasks using the scanner, enable this option to automatically separate the scanned data and fill it into the corresponding input fields.

(1) **Delimiter:** Uses the specified delimiter to separate scanned data into multiple input fields. Example: If the delimiter is set to "%" and the scanned data is "202581001%A01%HE", the software automatically separates the data into three fields: "202581001", "A01", and "HE".

(2) **Preset length:** This function separates scanned data according to the preset length of No./Sub No. Enter the required length, separated by "/".

Example: If the preset length is set to "9/3", the first field is set to 9 characters and the second

field is set to 3 characters. When the scanned data is “202581001A01HE”, the software automatically separates the data as follows:

No.: 202581001

Sub-No.: A01

Next field: HE

• **Remote Text/Image Print**

(1) **Field separator:** Defines the separators used for remote print data, including the Start Character, Separator, and End Character.

- Example 1:

If the task information sent from the pathology system is: 1234567/A01/HE

Set the Start Character and End Character as blank, and set the Separator to “/”.

- Example 2:

If the task information sent from the pathology system is: $1234567/A01/HE$

Set the Start Character to “$”, the Separator to “/”, and the End Character to “$”.

(2) **Hopper selection symbol:** Defines the symbols used for remote cassette information, including the Start Character, Separator, and End Character.

- Example 1:

If the cassette information sent from the pathology system is: 1234567/A01/HE[123]

Set the Start Character to “[”, leave the Separator blank, and set the End Character to “]”.

- Example 2:

If the cassette information sent from the pathology system is: 1234567/A01/HE[1,2,3]

Set the Start Character to “[”, the Separator to “,”, and the End Character to “]”.

• **Device Network Port:** Specifies the local network port used to receive print tasks from external systems.

5.7 Print Parameter Settings

This module allows adjustment of laser printing parameters and configuration of hopper color and print level. It is intended for use only by the manufacturer, service personnel, or trained users. (Figure 5.40)

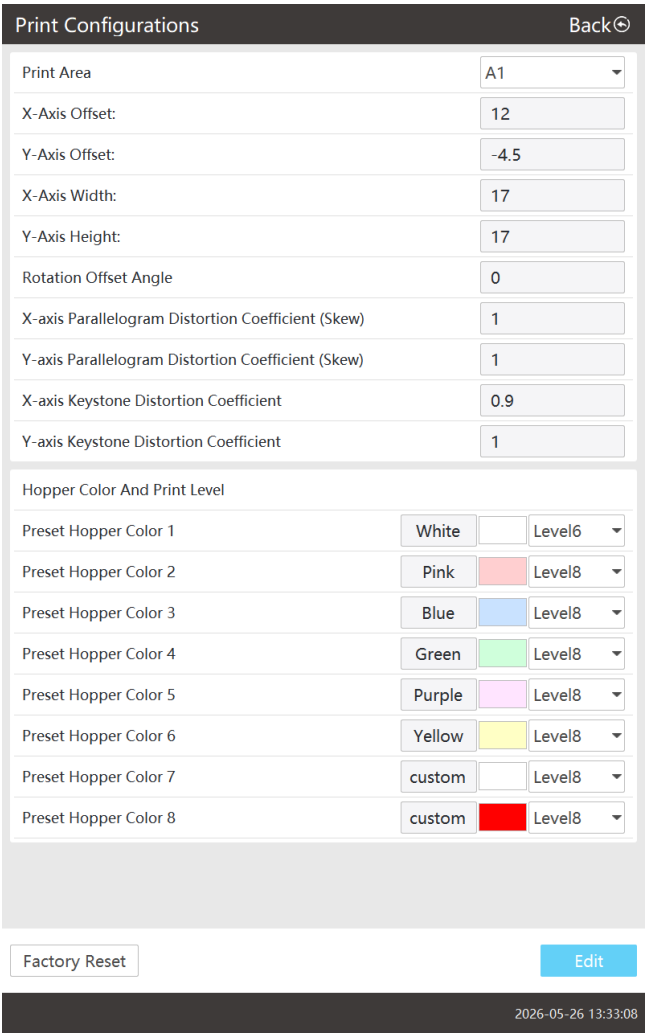


Figure 5.40

5.8 About

The About page displays the current software and firmware versions.

5.9 Exit

Before exiting the software, click **[Pause]** button and wait until the instrument stops printing. Then click **[Quit]** in the upper-right corner of the main interface to close the software. Press the PC power button on the instrument front panel and wait for the system shutdown process to complete.

Note:

- The software cannot be closed while a print task is in progress. If **[Quit]** is clicked during printing, a warning message will be displayed.
- To prevent damage to the software or hardware system, always follow the shutdown sequence below: Close the software → Shut down the system → Turn off the main power switch. Do not disconnect the power supply or switch off the instrument before the software and operating system haven't been shut down completely.

Chapter 6 Remote Printing

The instrument can be used as a remote printer and supports Windows XP, Windows 7, and Windows 10 operating systems.

6.1 Remote Printer Connection Setup

Prepare a RJ-45 network cable or the USB to RS232 serial cable that came with your purchase.

6.1.1 Serial Mode Communication

In serial mode, the instrument communicates with the computer designated for remote printing via a serial connection. To use this function, connect the instrument's serial port to your computer's USB port using a USB to RS232 serial cable.

What you'll need:

- Histopathology Printer
- External PC
- Serial Cable
- Serial Port Driver

Step-by-Step:

1.Turn on the printer and your PC. Toggle on the Remote text/Image function on the Printer settings.

2.Connect one end of the cable to the COM port on the printer. Ensure a secure connection.

3.Connect the USB end of the cable to your PC.

4.Install the provided serial port driver.

Check with COM port is being used in Device Manager. Figure below shows that COM 3 is currently used, this is needed for parameters settings on the PC software later on.

See Figure 6.1

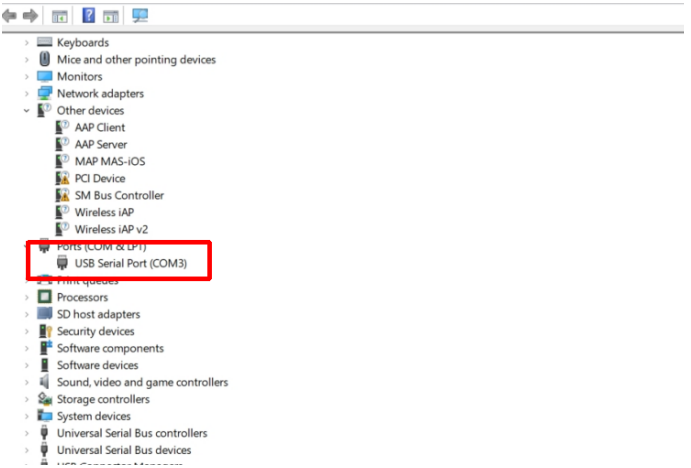


Figure 6.1

6.1.2 Network mode communication

To use the network printing function, connect your instrument to the same local area network (LAN). This will enable remote printing capabilities, allowing you to print documents to the instrument over the network. There are 2 network connection modes

- LAN Connection to Hospital/Laboratory Network. (See Figure 6.12 and 6.3)
- Direct Connection to a PC



Figure 6.2

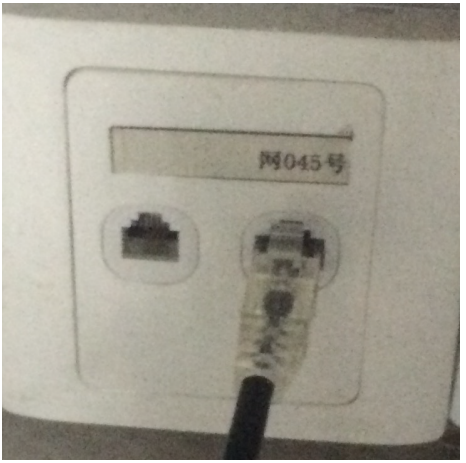


Figure 6.3

Note: You can also connect the instrument and computer directly using a single RJ-45 network cable. Simply plug one end into the instrument's RJ-45 port and the other end into your computer's RJ-45 port.

LAN Connection by Hospital/Laboratory Network

What you'll need:

- Histopathology Printer
- External PC
- Ethernet cable
- (Optional) USB-to-Ethernet Adapter (if needed to connect your PC directly to a router)

Step-by-Step:

1.Turn on the printer and your PC. Toggle on the Remote Text/Image Print funtion on the Printer.

2. Connect one end of the Ethernet cable to any Ethernet port on the printer.

Note: Each Ethernet port on the printer has its own network adapter. Use the same Ethernet port when re-connecting for consistent results.

3. Connect the other end of the Ethernet cable to your network (router or wall outlet).

4. Connect your external PC to the network (either via WiFi or Ethernet).

Refer to steps 4,5,6 in the "Direct Connection to a PC by Ethernet Cable" below to configure network connection.

Direct Connection to a PC by Ethernet Cable

What you'll need:

- Histopathology Printer
- External PC/LAN (Router or Wall outlet)
- Ethernet cable
- (Optional) USB-to-Ethernet Adapter (if needed to connect your PC directly to a router)

Step-by-Step:

1. Turn on the printer and your PC.Toggle on the Remote Text/Image Print funtion on thePrinter.

2. Connect one end of the Ethernet cable to any Ethernet port on the printer.

Note: Each Ethernet port on the printer has its own network adapter. Use the same Ethernet port when re-connecting for consistent results.

1. Connect the other end of the Ethernet cable to your network (router or wall outlet). Or Connect the other end of the Ethernet cable to the external PC (Use the USB-to-Ethernet Adapter if needed).

2. Connect your external PC to the network (either via WiFi or Ethernet).

3. Open "Network Connections" in Control Panel on both the printer and the external PC.

To open "Network Connections", press the Windows Key + R, type in ncpa.cpl, and press Enter.

4. Identify the Network Adapters to be Configured:

a. Printer: Each Ethernet port on the printer has a dedicated network adapter.

b. PC: Your PC may have multiple network adapters.

c. To identify the correct adapter for the printer: Temporarily disconnect the Ethernet cable from your printer, then reconnect it. Observe the network connection that appears or disappears in the "Network Connections" windows. The adapter that changes status is the one you need to configure.

d. The Network Adapter to configure for your PC will be the one used to connect your PC to the network, which may be the PC's Wi-Fi adapter.

5. Assign IP addresses:

a. Obtain IP addresses: If you are connecting to a Laboratory or Hospital network, your IT administrator will provide you with the IP addresses and subnet masks for the printer and your PC.

b. Set IP address on printer:

i. Right-click the network connection, select Properties.

ii. Double-click Internet Protocol Version 4 (TCP/IPv4).

iii. Select Use the following IP address.

iv. Enter the given IP address and subnet mask (subnet mask fills in automatically upon clicking the input box, if an IP address is already inputted).

Below are images (Figure 6.4,6.5,6.6) showing this workflow:

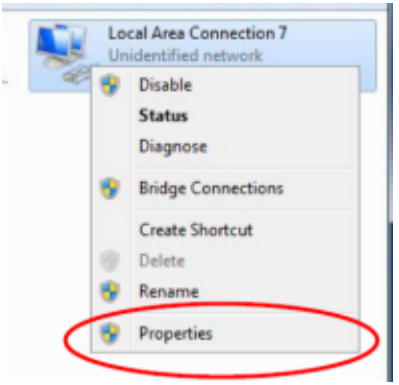


Figure 6.4

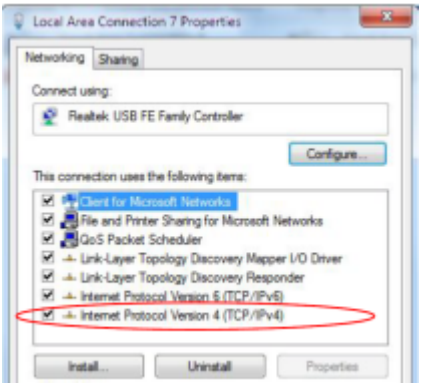


Figure 6.5

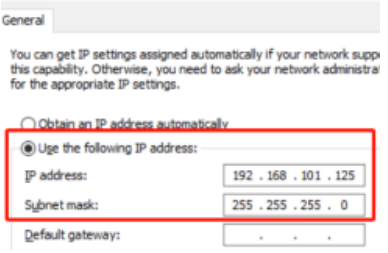


Figure 6.6

c. Set IP address on PC: Repeat these steps for the external PC, with the other IP address.

Troubleshooting Connection Issues

1) Verify Software Settings:

•

• Verify that the “Networks” option, not the “Serial Port” option, is selected in Laser Printer Software.

2) Check Network Connectivity

Perform a Ping Test:

• Open Command Prompt - Press window and R on your PC keyboard and search for "cmd"

• Type "ping [printer's IP address]" (e.g., ping 192.168.1.100) and press Enter.

• If the ping is successful (indicated by replies from the printer IP), directly input the printer IP address in Laser Printer Software and try to connect without using the search function. See Figure 6.7

• If the ping fails, verify IP addresses on both devices and check Ethernet cable connections.

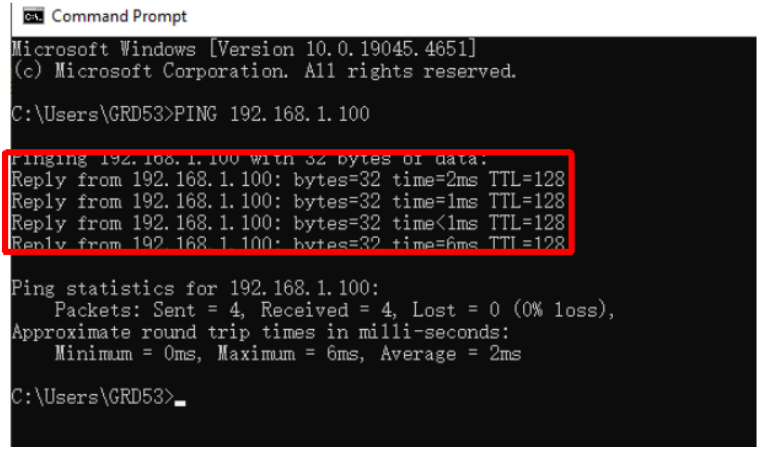


Figure 6.7

6.2 Remote Printing Software Installation and Settings

6.2.1 Installation

To use the instrument as a remote printer, you'll need to install the remote printing software on your computer. This program is currently compatible with Windows XP, Windows 7 and 10. To install the program, run the Laser_Printer_Software_x.x.x_Setup.exe file, and select the language. (Figure 6.8)

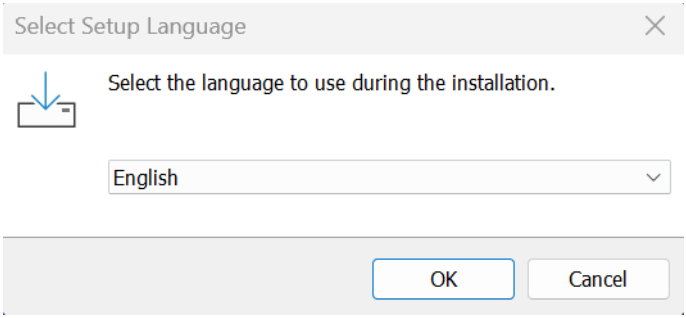


Figure 6.8

For the first-time installation, select the destination folder for the installation, then click "Next." For future software update, selecting the destination folder is not needed as it will automatically downloading to the previous directory. (Figure 6.9)

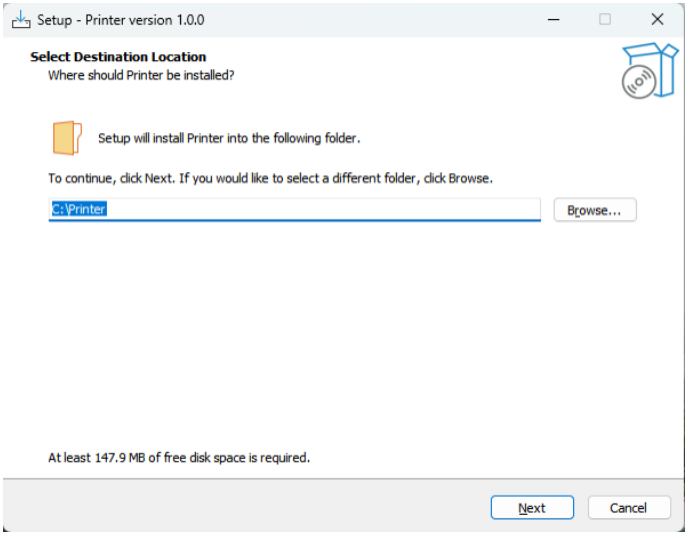


Figure 6.9

Click the “Install” button and wait for the installation process to complete. (Figure 6.10)

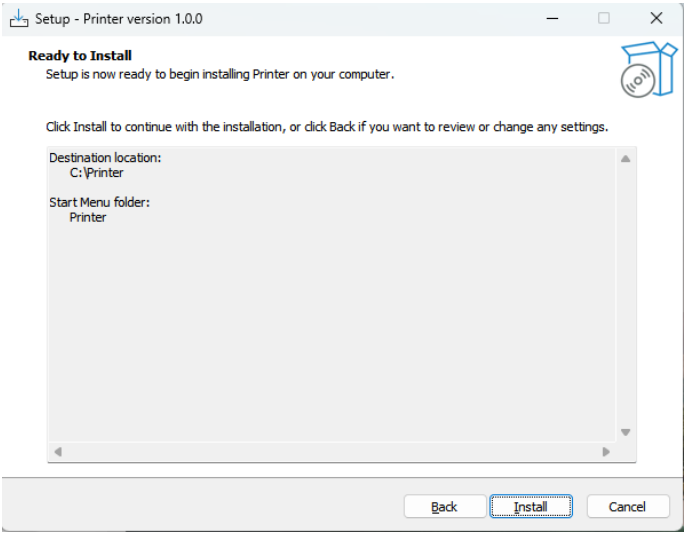


Figure 6.10

Click Finish to complete the installation of the software. (Figure 6.11)

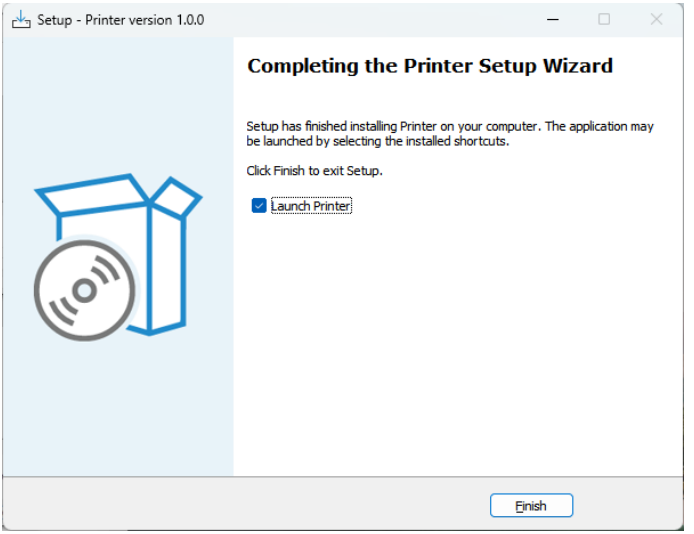


Figure 6.11

6.2.2 PC software setup

Double-click the “Laser Printer Software” icon 

on the computer desktop to launch the remote printing software. Before using the remote printing function, configure the required basic settings.

6.2.2.1 Settings

Click "Menu" > "Settings" to access the settings interface.

Once you've made your changes, click the "Save" button to apply them.

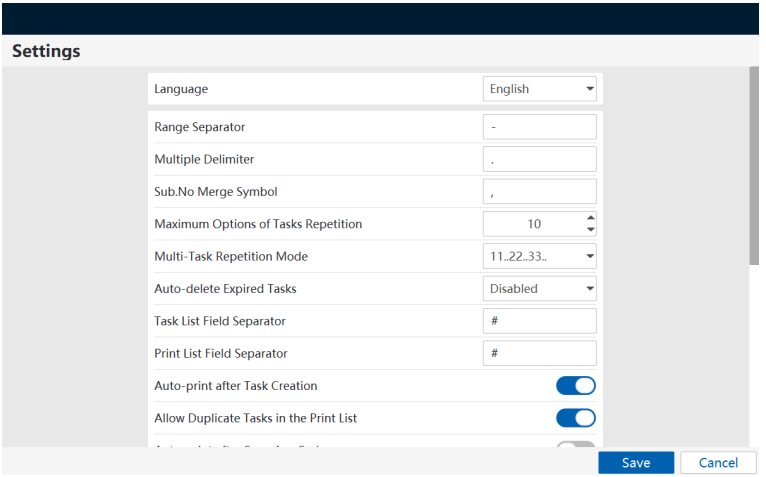


Figure 6.12

Language

You can switch the display language for the software here.

Range Separator

- **Symbol:** Defines the symbol used to indicate a range of numbers. The default symbol is “-”
- **Usage:** When you input a range like "A1-A3" in a task input box, the software will create separate tasks for each number in the range.

Multiple Delimiter

- **Symbol:** Defines the symbol used to separate multiple numbers within a single input. The default symbol is “.”
- **Usage:** When you input numbers like "1.3.5" in a task input box, the software will create separate tasks for each number. Input “1A.HE. #Specials” and click the [Create] button, and it will split print information into 3 tasks, “1A”, “HE” and “#Specials”.

Sub.No Merge Symbol

- **Symbol:** This setting specifies the character used to group sub-numbers into pairs. The default symbol is “,”
- **Usage:** This is particularly useful for tasks that require paired sub-numbers, such as those involving sample pairs or test results. Only works for the Sub-No. input field

Example: If you input "01-06.08.10," the software will pair the numbers and generate 4 tasks, "01, 02", "03, 04", "05, 06", and "08, 10".

Maximum options of task Repetition:

This setss the maximum time the task repeats itself

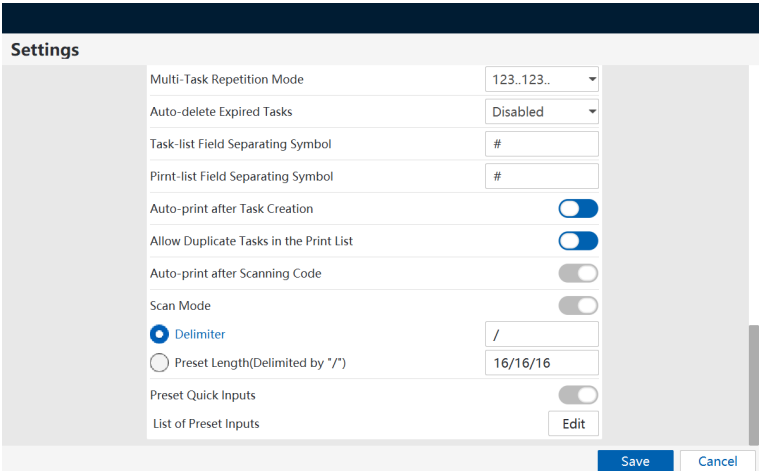


Figure 6.13

Multi-Task Repetition Mode

When creating multiple tasks using number input, if you also set "Task Repetition Times" to more than 1, the device will follow this "Multiple Repetition Mode" to organize task creation for efficient group use.

- **Example:** If you input "1-3" and set "Task Repetition Times" to 2:
- **Mode 1:** Creates 6 tasks: "1", "2", "3", "1", "2", "3"
- **Mode 2:** Creates 6 tasks: "1", "1", "2", "2", "3", "3"

Auto-delete Expired Tasks

- **Disabled:** Tasks will not be automatically deleted. Manual deletion is required.
- **Time-Based Deletion:** Tasks older than the specified number of working days will be automatically deleted upon software startup. For example, if "5 Days" is selected, tasks printed before the previous 5 weekdays will be removed on the current Monday startup. (Weekends are not counted as working days.)

Task-List Field Separating Symbol

The default separator between fields in the task list is the "#" symbol. This is illustrated in the task list. See Figure 6.14.

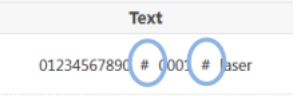


Figure 6.14

Print-List Field Separating Symbol

The default separator between fields in the print list is the "#" symbol.

Auto-print after Task Creation

This enable printing right after clicking the “Create” button

Allow Duplicate Tasks in the Print List

This setting determines whether identical tasks can be added multiple times to the print queue.

Auto-print after Scanning code

When using a scanner to input information, enabling this option will automatically create a new task as soon as the scan is completed. The user will not need to manually click the "Create" button.

Scan mode

For scenarios using a scanner for barcode input, if you check this option, the scanned information can be split and filled into fields accordingly

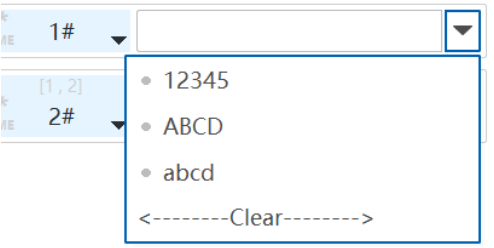
- **Delimiter:** Define a character (e.g., "#") to separate the scanned data.
  - For example, scanning "202081001#A01#HE" with "#" as the separator would split the data into "202081001", "A01", and "HE". Please note the separator set in settings should be consistent with the separator used in the data string.
  - If truncating the field is needed, set the field length in the template to truncate the scanned data per field. Eg. If the "No." field is set to 4, the "202081001A01HE" is truncated into “2020” and “81001A01HE” will be truncated away. Same with other fields for truncation function.
- **Preset length:** Edit the preset length in the box, Eg. 9/3 for the "No." and "Sub-No." and the subsequent field.
  - Eg. If the "No." field is set to 9 and "Sub-No." to 3, scanning "202081001A01HE" would populate "202081001" in the "No." field, "A01" in the "Sub-No." field, and "HE" in the subsequent field.

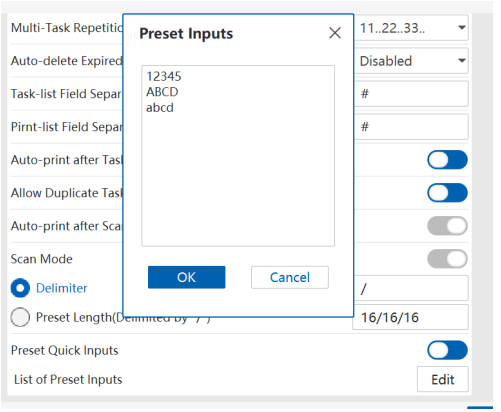
Preset Quick Input

You can click the switch on the right to enable or disable the preset quick input function. When the preset function is enabled, you can click the dropdown menu to the right of the input box to see your pinned preset content. Clicking on a specific item will quickly input that content. See Figure 6.15

List of preset inputs

Click the [Edit] button. In the pop-up dialog box, enter your preset content, with one preset per line. See Figure 6.16





Scanner Receiver: Find the Scanner Receiver toggle and switch it ON. See Figure 6.17

Name: In the Name field, enter a clear ID (e.g., "PC 1"). This is how the printer will identify your computer on the network if using the “Find printer” function. See Figure 6.17

Local Port: Sync the printer Scanner sender port on the Printer to match this local port. (default is often 9992). See Figure 6.17

Add Prefix: Insert specific text before every scanned code.

Add Suffix: Insert specific text after every scanned code.

For a complete step-by-step guide, please refer to Chapter 8: Scanning from Printer to PC Application.

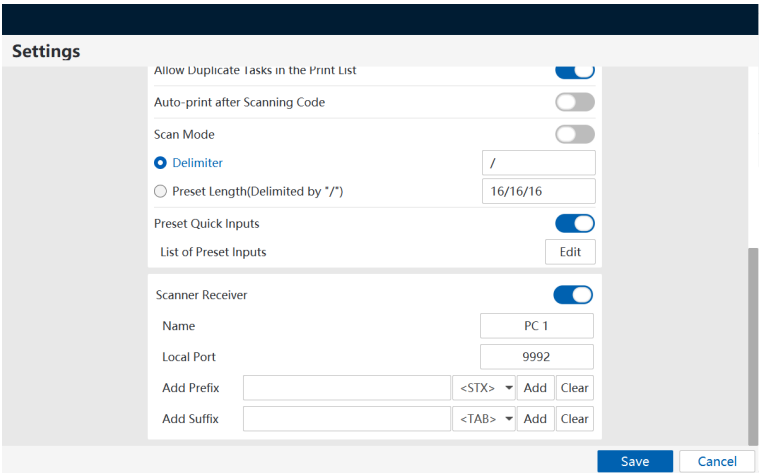


Figure 6.17

6.2.2.2 Device Management

Click [Menu] → [Device Management] to access the interface shown in Figure 6.18. After completing the configuration, click [Save] to apply the changes.

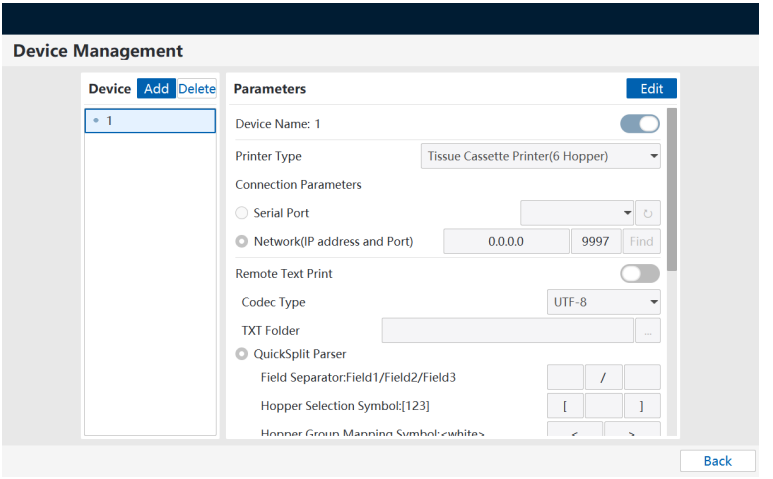


Figure 6.18

Device Name: Enter a name for the device to distinguish it from other connected devices.
Printer type: Select the connected printer from the available options: Tissue Cassette Printer (6 Hopper), Slide Printer (Single Hopper), and Slide Printer (Dual Hopper).
Serial Port: Select this option when connecting the printer via a serial port. Select the COM port used for the connection from the available port list on the right.
Network: Select this option when connecting the printer via a network. Enter the printer's IP address and port number on the right.
Once the setup is complete, confirms a successful connection between the PC and the printer by the following

1) The Blue Indicator: A blue light/icon next to the printer name confirms a successful handshake between the PC and the printer. See Figure 6.19
2)'Remote' Status: Ensure the Remote status light in the software is active/Green. This means the printer is standing by for files from your monitored folders. Figure 6.20

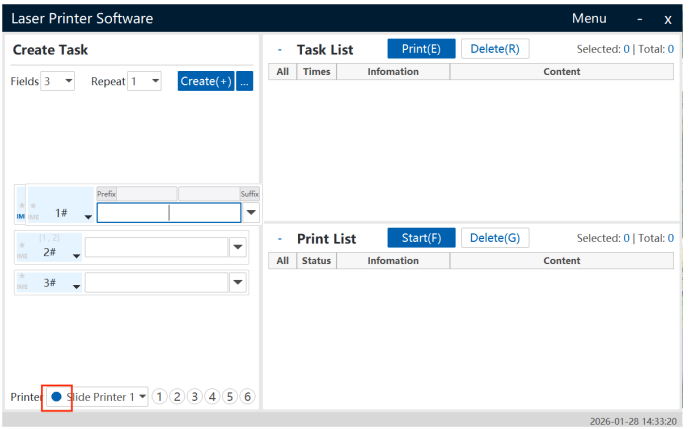


Figure 6.19



Figure 6.20

Remote Text Printing

You can enable or disable remote text printing by clicking the switch on the right.

See Figure 6.21

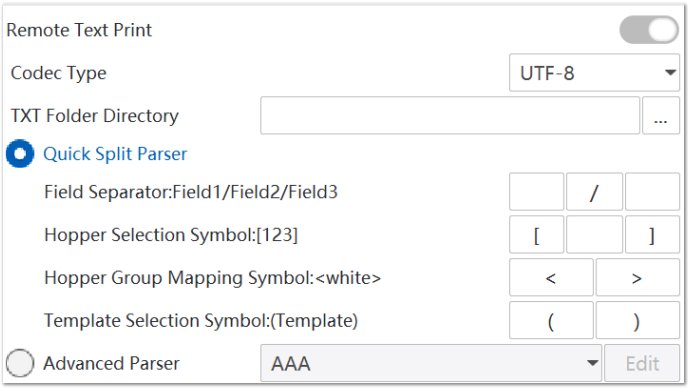


Figure 6.21

Note: Your computer's LIS pathology system will generate TXT files (UTF-8 encoded) containing the print content in a predefined format. These files are saved in a customizable "TXT Monitoring Directory," such as "D:\Print_TXT" (the path is determined by your LIS pathology system). The LIS can generate any number of TXT files with any filenames. Each time printing is needed, a new TXT file can be created. The Laser Printer Software continuously monitors the "TXT Monitoring Directory." It extracts all TXT files, reads the task content, sends it to the linked printer, and then automatically deletes the TXT file. The image monitoring directory works similarly.

- **Codec Type:** Set this to match the encoding format of your operating system and the TXT print file.
- **TXT Folder Directory:** This sets the directory the remote service software monitors. It reads TXT print files output by your pathology system from this folder on your computer.
- **Quick split Parser:** Configure the symbols the instrument uses to identify remote print content, including the leading character, separator, and ending character.
  - **Field separator**

    Example: If your pathology system outputs "1234567/A01/HE", set the leading character ending character blank, and set the separator in the middle to "/".

    Example: If your pathology system outputs "$1234567/A01/HE$", set the leading character to "$",separator to"/", and ending character to "$".
  - **Hopper selection symbol:** Set the symbols according to the remote task data string to identify remote slot/cassette information, including the leading character, separator, and ending character.

Example 1: If your pathology system outputs "1234567/A01/HE[123]", set the leading character to "[", separator to blank, and ending character to "]".

Example 2: If your pathology system outputs "1234567/A01/HE[1,2,3]", set the leading character to "[", separator to ",", and ending character to "]".

- **Hopper group mapping symbol:** Set the symbol to match the hopper mapping symbol in the remote data string.

  Example: If the data string is 12345/HE/<Yellow>, then set the leading character to "<", and ending character to ">" and leave the separator blank.

- **Template selection symbol:** Set the symbol to match the template symbol in the data string.

  Example: If the data string is 12345/HE/<Yellow>/(LIVER), then set the leading character to "(", and ending character to ")" and leave the separator blank.

• **Advanced Parser:** Select the desired parser template to parse the input text. Click the [Edit] button to enter the 'Parser Editor' interface to edit the specified parser template. Refer to Parser below for detailed instructions. See Figure 6.22.

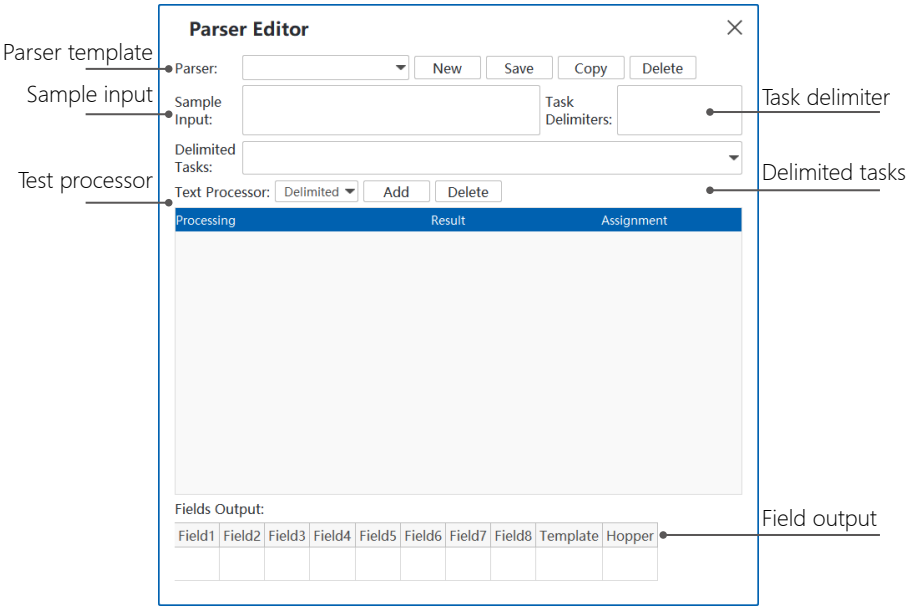


Figure 6.22

The use of parsers primarily involves four steps:

1. Creating a parser
2. Delimiting tasks
3. Parsing fields
4. Assigning fields
5. Save parser

1. Creating a parser

Click the [New] button to create a new parser, or select an existing one from the dropdown menu. You can use the [Copy] and [Delete] buttons to duplicate or remove an existing parser. Once you're done editing, click [Save] to save your current parsing rules, as shown in Figure 6.23

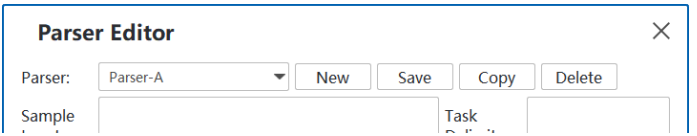


Figure 6.23

2. Delimiting tasks

1) Paste the complete text sample you need to parse into the [Input Sample] text box, as shown in Figure 6.24

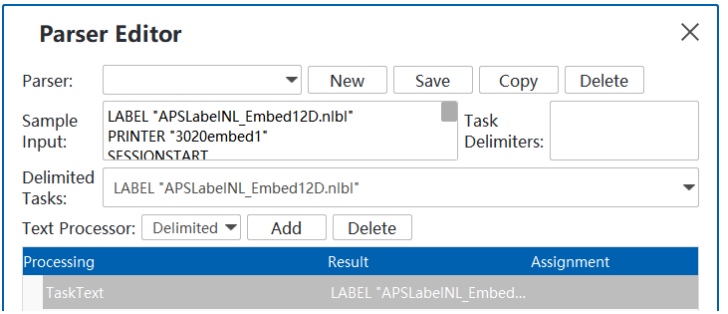


Figure 6.24

2) Based on the character structure of your input text, enter one or more task delimiters into the "Task delimiters" text box. Each delimiter should be on its own line. Blank lines will automatically use a line break as a separator, as shown in Figure 6.25 .

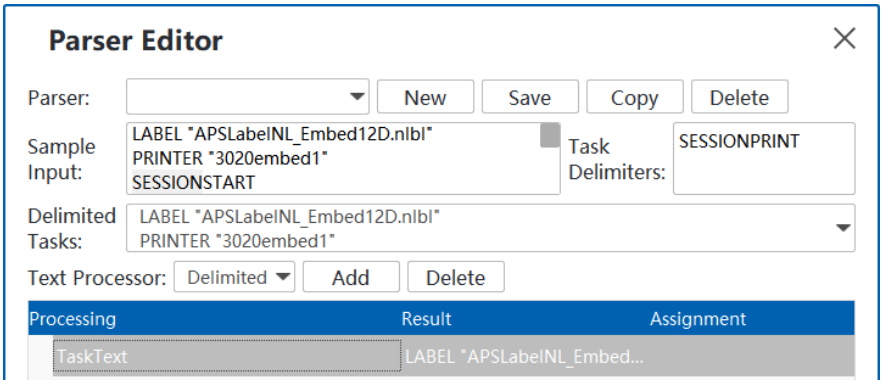


Figure 6.25

3) [Delimited tasks] Displays all task text after using the task delimiter. You can view and select each task text by pulling down, as shown in Figure 6.26

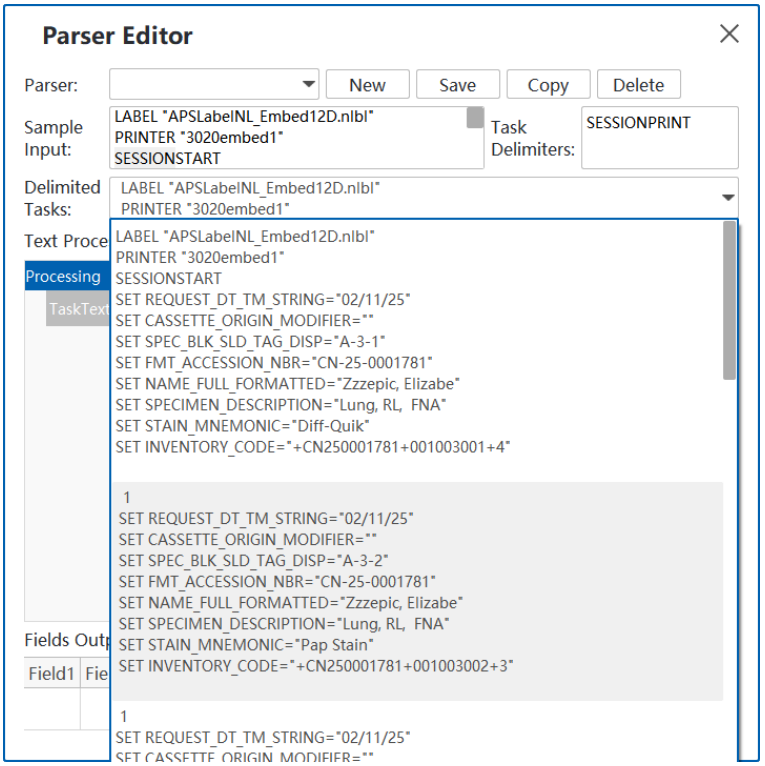


Figure 6.26

4) In the [Delimited tasks] dropdown menu, select a delimited task text to use as a sample for the field segmentation rule. See Figure 6.27

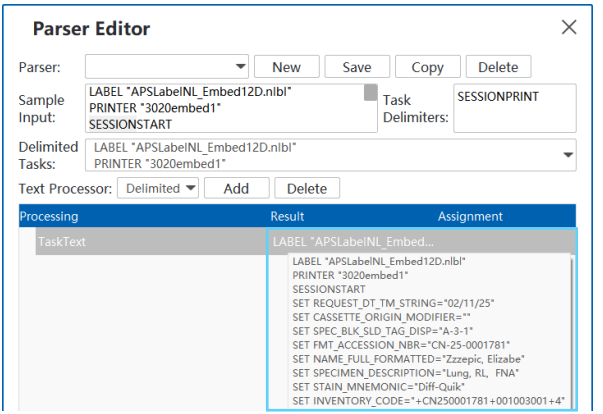


Figure 6.27

3. Parsing fields

1) Click on the "Task text"

2) In the [Text Processor] dropdown list, select the desired text processor, and follow the prompts to fill in the parameters and confirm.

Note: Text processor includes delimiter, position, add text, replace, combine. See table 1 below for the text processor instructions.

3) Processed result can be viewed in the result column, see Figure 6.28

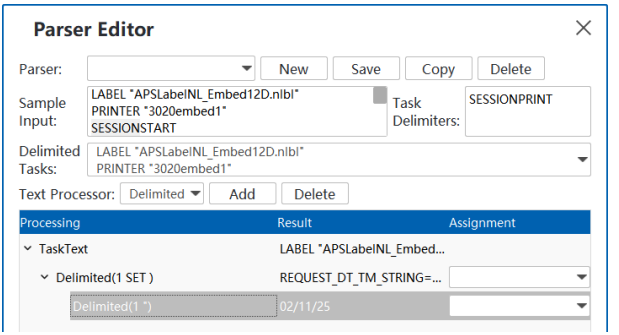
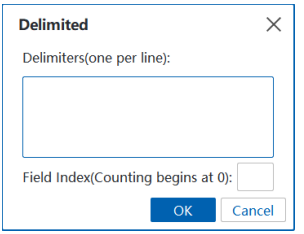
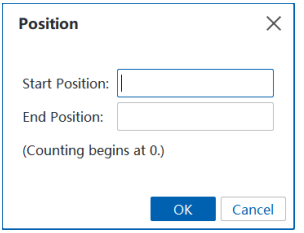
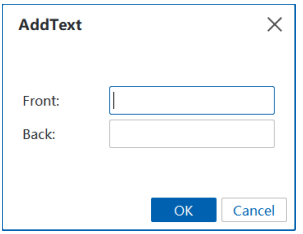
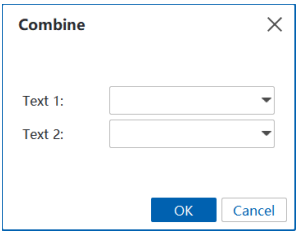


Figure 6.28

Text processor instructions.

Text processor	Instructions
Delimited	Using one or more specified delimiters, you can split the target text into several fields and extract a field by its specified index number. By default, empty lines are treated as line break  Example: Input text: #AA-12345, Ca, ID-001 Delimiter: # Field index: 1 (The content after # is field index 1, the content before # is 0) Result: AA-12345
Position	Extract text based on the specified start and end positions.  Example: Input text: #AA-12345, Ca, ID-001 Start position: 4 End position: 8 Result: 12345 Add specified text before or after the original text.

Text processor	Instructions
Add Text	Add specified text before or after the original text.  Example: Input text: 12345 Front: F- Back: -B Result: F-12345-B
Combine	Combine the content of two specified fields into a single field.  Example: Assign text "AB" to TempVal1, text "123" to TempVal2 Text 1: Select "TempVal1" in the drop-down menu Text 2: Select "TempVal2" in the drop-down menu Result: AB123

4. Assigning fields

1) On the assignment column, use the dropdown list to select the target task field. See Figure 6.29

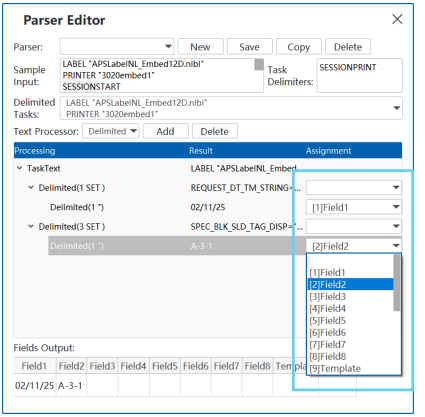


Figure 6.29

There are multiple fields available to choose from. See table 2 below

Field	Description
[1]Field1~[15]Field 15	Print content from the task text
[16]Template	Print task template name
[17]Hoppers	Print task hopper number. Separate multiple slot numbers with a comma.
[18]HopperGroup	Print job hopper group name. (The hopper group name overrides the hopper number if both are present in a data string)
[19]TempVal1~[20]TempVal10	A temporary field for the text processor to use for tasks like text merging. It is not included in the print job output.

Table 2

2) In the Fields output row, view all the fields that have been assigned, as shown in Figure 6.30

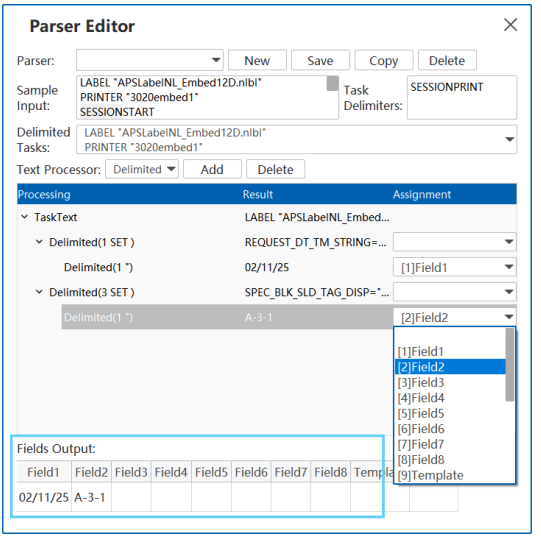


Figure 6.30

3) From the [Delimited Tasks] dropdown menu, select different delimited tasks and view the content of the Output Fields table to verify the generality of the processing rules, as shown in Figure 6.31

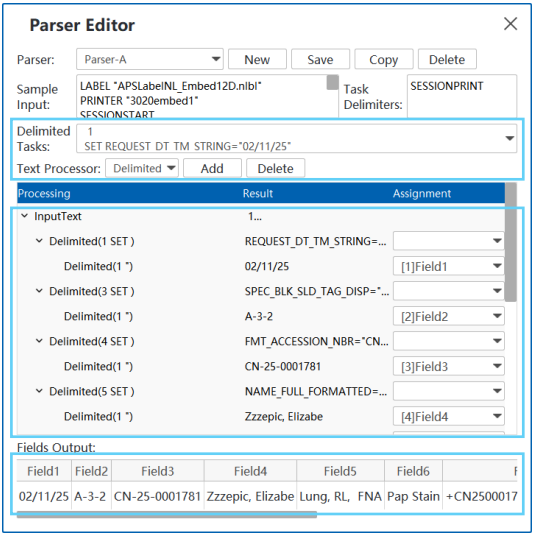


Figure 6.31

5. Save parser

1) After you finish editing the parsing rules, click the Save button to save them. Then, click the Close button to close the editor window and return to the Settings screen.

2) From the dropdown menu, select the name of the saved parser. Figure 6.32.

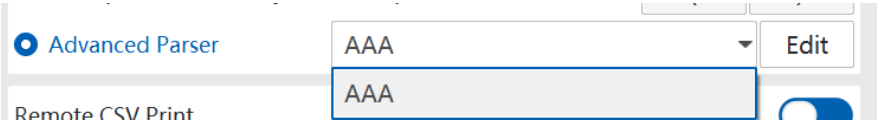


Figure 6.32

3)Then click the Save button at the bottom of the Settings interface.

Remote Spreadsheet Print:

You can enable or disable Remote spreadsheet print by clicking the switch on the right.

• **Spreadsheet(CSV,XLSX) folder:** This sets the directory the remote service software monitors. It reads spreadsheet files output by your pathology system from this folder on your computer.

Remote Image Label Print:

You can enable or disable remote image printing by clicking the switch on the right.

• **Image Monitoring Directory:** This sets the directory the remote service software monitors. It reads image print files output by your pathology system from this folder on your computer.

Remote PDF Print: You can enable or disable remote PDF printing by clicking the switch on the right.

• **PDF Monitoring Directory:** This sets the directory the remote service software monitors. It reads PDF files output by your pathology system from this folder on your computer.



Figure 6.33

• **Single-label Mode:** Select "Single-label Mode" before sending a single-label PDF to the printer.

• **Multi-label Mode:** Select "Multi-label Mode" before sending a multi-label PDF to the printer.

① Click the [Config] button to enter the parameter settings for label splitting.

② Click [Load Sample] to load the corresponding PDF file into the preview window.

③ View the splitting effect by clicking the zoom in/out (+/-) button and dragging the preview area with the mouse. See Figure 6.34 below.

④ Adjust the size, gap and margin parameters to get the best splitting result, then confirm the splitting parameters based on the splitting effect displayed in the preview window.

⑤ Click the [Save] button to save the splitting parameters.

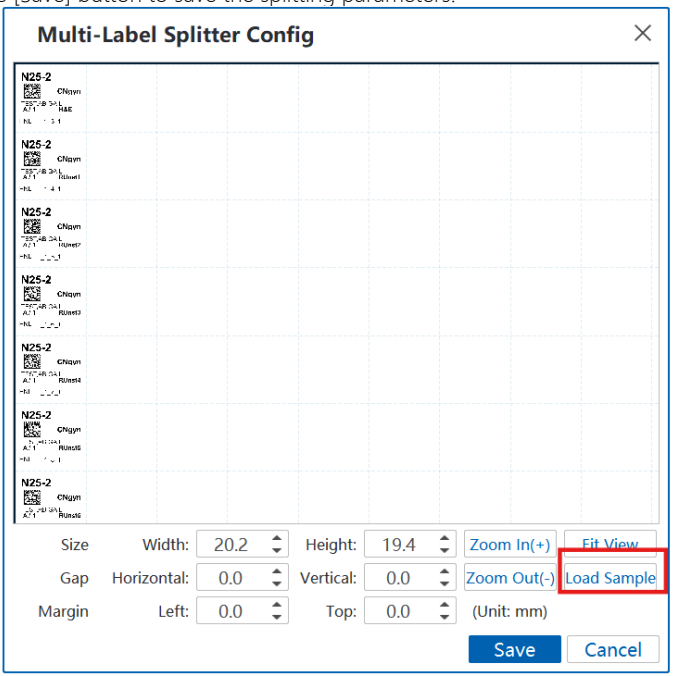


Figure 6.34

6.3 Print Test

Once the setup is complete, check the status bar at the bottom of the Laser Printer Software. If the [Connection Status] icon is displayed in blue, the Laser Printer Software has been successfully connected to the printer. (Figure 6.35)



Figure 6.35

You can initiate print jobs using either the **Automated method** for routine work or the **Manual method** for special cases.

1. Method 1: Automated Printing (Folder Drop)

This method is best for high-volume, standard tasks from your LIS system. The software detects the file and prints it automatically using your pre-saved "Device Management" settings. Simply copy or save your document directly into the Monitoring Folder assigned to your printer. See detailed steps below:

TXT Print

1. Create a Text Document: Create a new TXT document on the computer.
2. Format the Content: Edit the content of the document to follow a specific format.
   (1) This includes using certain delimiters or other "remote print symbols."
   (2) These symbols must match the ones defined in Chapter 6.1.2 TXT remote print settings.
3. Copy the file or Create task from file.
   (1) Copy the TXT file and paste in the monitory directory
      ① Copy the newly created TXT document into the folder that has been designated as the "TXT Monitoring Directory.
      ② Task generated from the selected txt file.

Note: If the Laser Printer Software is running at this point, it will monitor for the TXT document. Once it detects it, the software reads the document's content and displays it in the "Task List"

   (2) Create tasks from files: Select local TXT file from the Laser printer software on the PC or from the Printer software from the Printer.
      ① In the drop-down menu of the “Create” button, select “Create tasks from files”. See Figure 6.36
      ② Task generated from the selected txt file.

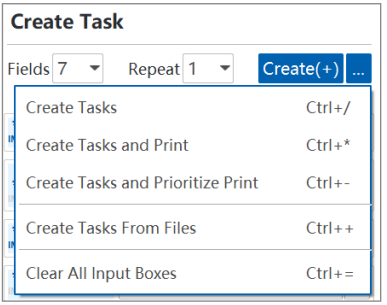


Figure 6.36

(3) Pressing the [Print] button transmits the selected task data to the configured printer.
(4) The printer then receives and executes the print job.

CSV Print

1. Copy the file: Copy the CSV file and paste in the monitory directory
   ① Copy the newly created CSV document into the folder that has been designated as the CSV Monitoring Directory.
   ② Task generated from the selected CSV file.

Note: If the Laser Printer Software is running at this point, it will monitor for the CSV document. Once it detects it, the software reads the document's content and displays it in

the "Task List".

2. Create tasks from files: Select local CSV file on the PC

① In the drop-down menu of the “Create” button, select “Create tasks from files”.

② Task generated from the selected CSV file.

3. Pressing the [Print] button transmits the selected task data to the configured printer.

4. The printer then receives and executes the print job.

Image/PDF Print

1. Copy the file:

- Copy the image file to the folder that has been designated as the "Image Monitoring Directory.
- Copy the PDF file to the folder that has been designated as the "PDF Monitoring Directory.

2.Create tasks from files:

- Select local image file (png, jpg) from the Laser printer software on the PC.
- Select local PDF file from the Laser printer software on the PC.

① In the drop-down menu of the “Create” button, select “Create tasks from files”.

② Task generated from the selected Image file.

3. Pressing the [Print] button transmits the selected task data to the configured printer. The printer then receives and executes the print job. (See Figure 6.37)

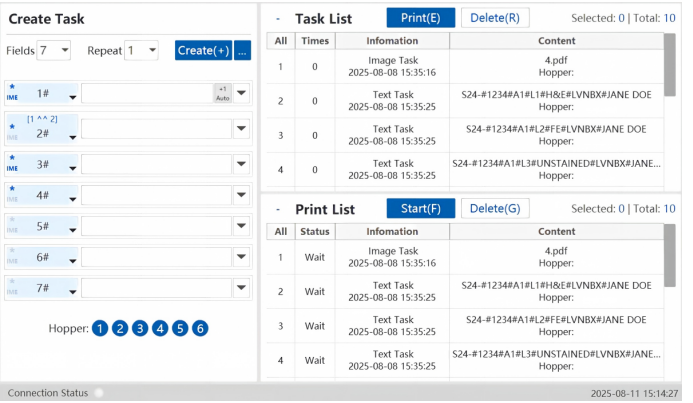


Figure 6.37

2. Method 2: Manual Import (For Unique/Temporary Files)

This method is best for files that use a different layout or encoding than your usual setup. It allows you to apply one-time settings without permanently changing your main configuration in "Device Management."

(1) Click ... to select" Create tasks from Files" from the drop-down. See Figure 6.38

(2) Auto-Popup Settings: After you select a file to import, a settings interface will automatically appear. See Figure 6.39,40,41,42,43,44.

(3) Custom Adjustments: You can instantly adjust the Quick Parser (TXT), Encoding (Spreadsheet), or Label Selection (PDF) for that specific job only.

(4) The PDF Shortcut: Use this feature when you need to print a single label quickly without changing your lab's standard settings.

- **What it does:** It forces the printer into "Single Label" mode for one specific task.
- **Why use it:** If your printer is normally set to "Multiple Labels" in Device Management, this shortcut lets you print just one label without having to go into the settings to change everything back and forth.
- **How it saves time:** It is locked to "Single Label" output and skips the "Load Sample" step, getting your label printed instantly.
- **Use this when:** You need a one-off label fast, but don't want to mess up your permanent "Multiple Label" configuration

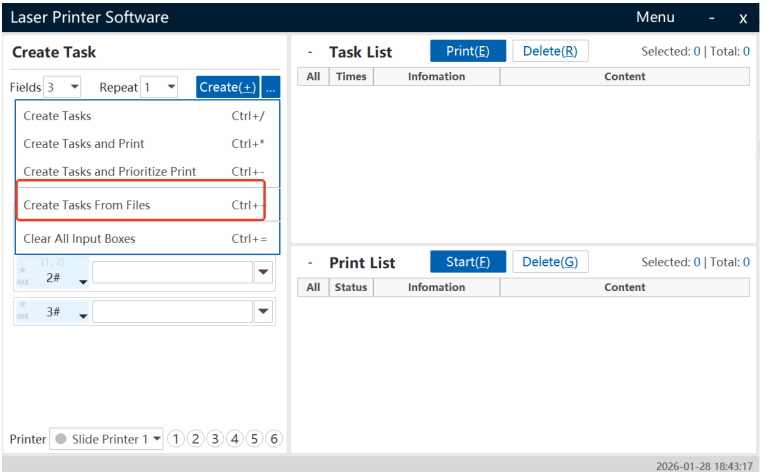


Figure 6.38

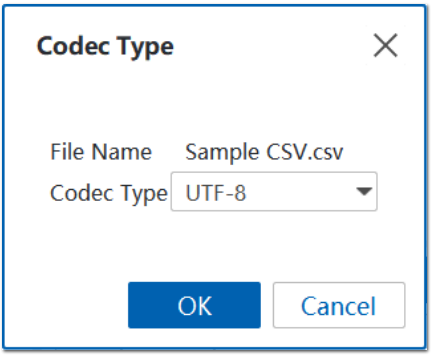


Figure 6.39 Spread sheet settings interface

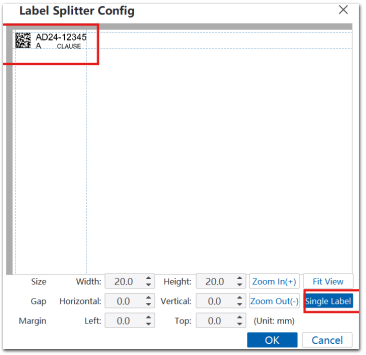


Figure 6.40 Single-label settings interface2

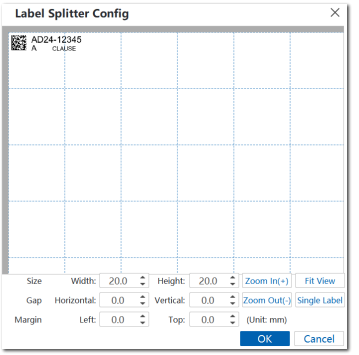


Figure 6.41 Single-label settings interface 1

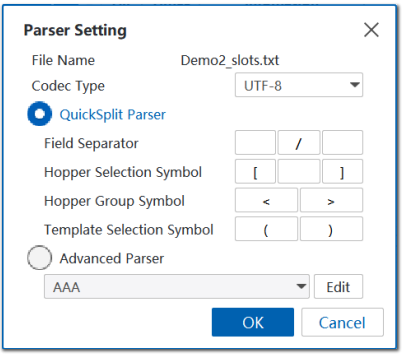


Figure 6.42 TXT settings interface

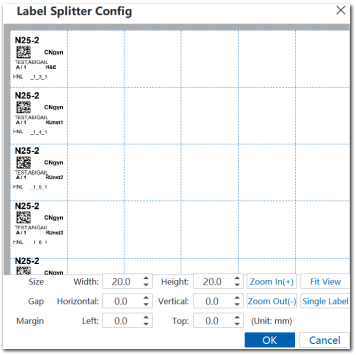


Figure 6.43 Multi-label settings interface 1

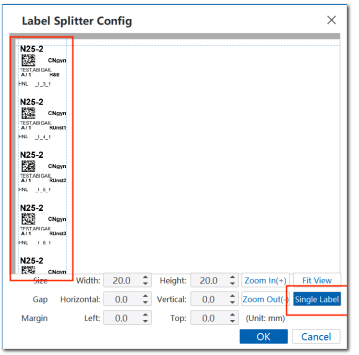


Figure 6.44 Multi-label settings interface 2

6.4 Other functions

As illustrated in Figure 6.45 the Laser Printer Software allows users to directly input print information to create tasks. These tasks can then be transmitted to the connected printer via serial port or network for printing. Refer to Chapter 5.3.1 above.

This feature also supports common input functions during task creation, including:

- Prefix And Suffix Input Box
- Dual input box
- "+1 Auto"Button
- Leave content after task creation
- Allow input method

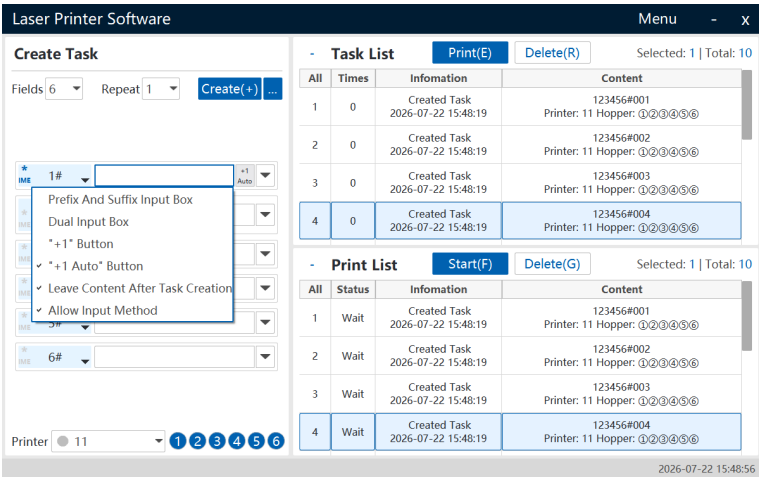


Figure 6.45

6.5 Multiple Printer Connectivity

There are 2 connecting methods. Whether to use a shared or non-shared setup depends on if your lab is using the same or different types of file layout. Use the recommended method suggested below for your lab.

- Individual Setup (Non-Shared): Use this if different PCs are sending different types of file layouts. Each PC software will parse its own data independently.
- Shared Setup: Use this if all PCs are sending the exact same file types and layouts (e.g., all LIS exports are identical). This allows for a centralized, streamlined workflow.

Note:

- Supported: 1 Printer ← Multiple Folders (Each mapping different file types, eg. Slide Printer folder - TXT file, Slide printer folder - Spreadsheet)
- Unsupported: 1 Folder → Multiple Printers. To maintain data integrity and avoid cross-device printing errors, ensure that no two printers are configured to monitor the same target directory.

6.5.1 Connecting Multiple Printers to One PC (Non-shared Setup)

This setup allows multiple printers to receive remote task from the same PC.

Before configuring the PC software parameters, make sure the Remote Test/Image Print function is toggled on for the printer to receive remote tasks from the PC.

1. Access Device Management

Open the Laser Printer Software on your server computer. Navigate to the Device Mgt. (Device Management) tab. This is your control center for all connected hardware.

See Figure 6.46,47.

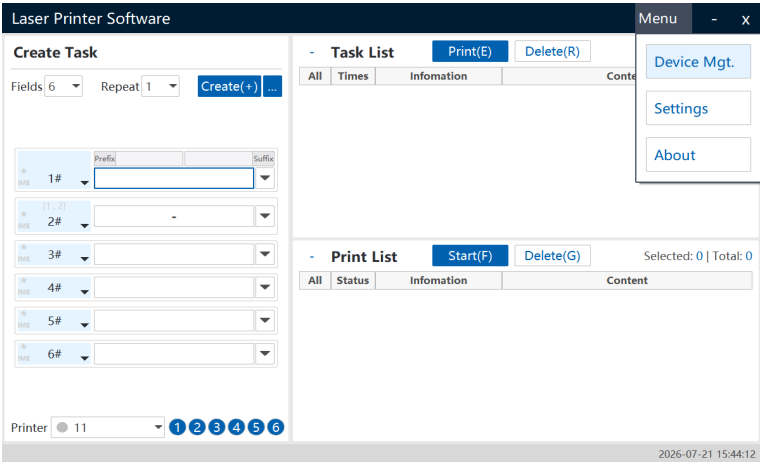


Figure 6.46

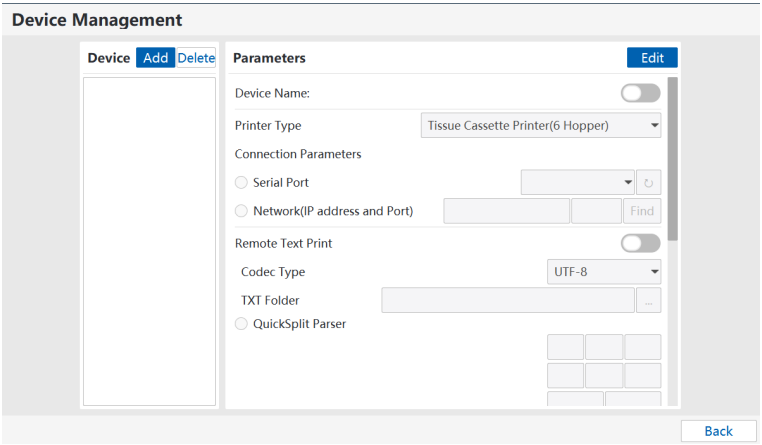


Figure 6.47 Device Management tab

2. Register New Printers

1) Click the Add button to introduce a new printer to the system.
2) Matching: When prompted for the "Device Name," you must enter the exact name configured in that specific printer's internal settings. See Figure 6.48
3) When you successfully add the device, it will appear on the device list. See Figure 6.49
4) Connect to the target Printer:
   ① Use the printer's unique IP Address and Network Name to ensure the software points to the correct physical machine in the lab.
   ② Use the "Find" button to find the target printer. See Figure 6.50 .
   ③ Select the target printer shown in the device list according to Printer name, IP and port. See Figure 6.51.
   ④ Click ok to confirm selection.

Important Note: Make sure the Remote Test/Image Print function is toggled on for the printer to be found by the PC.

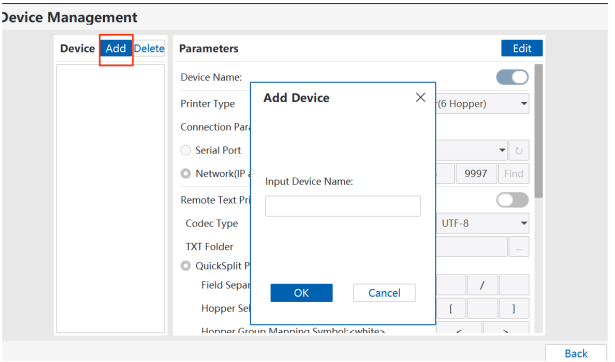


Figure 6.48 Add printer device

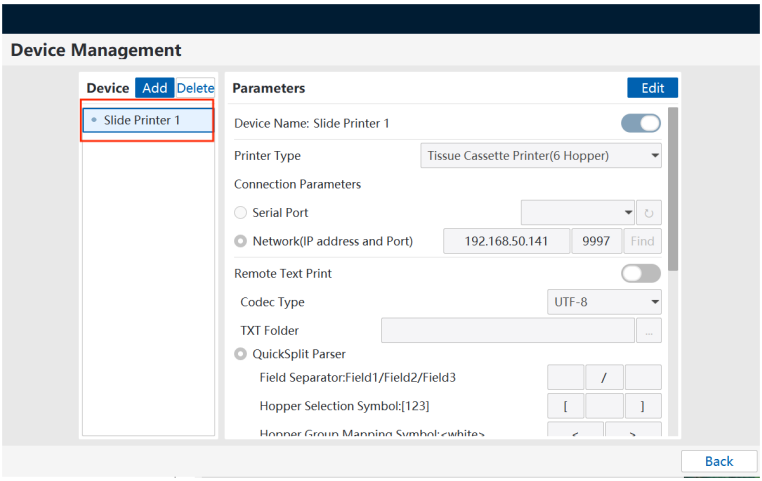


Figure 6.49 Printer device added

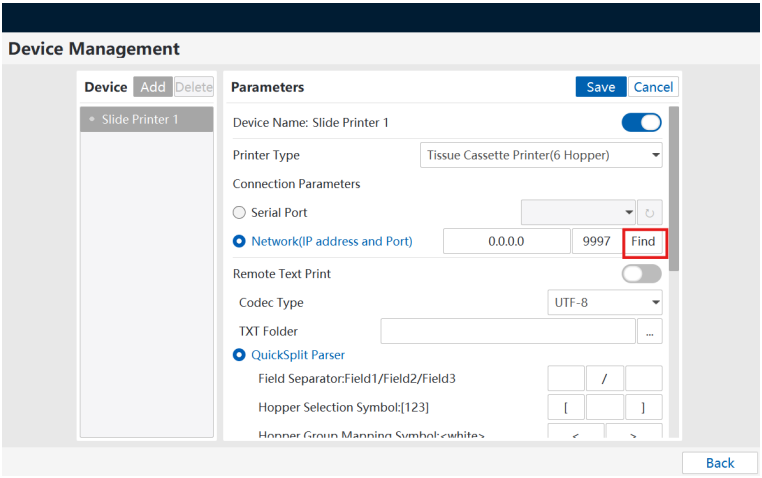


Figure 6.50 Find printer device

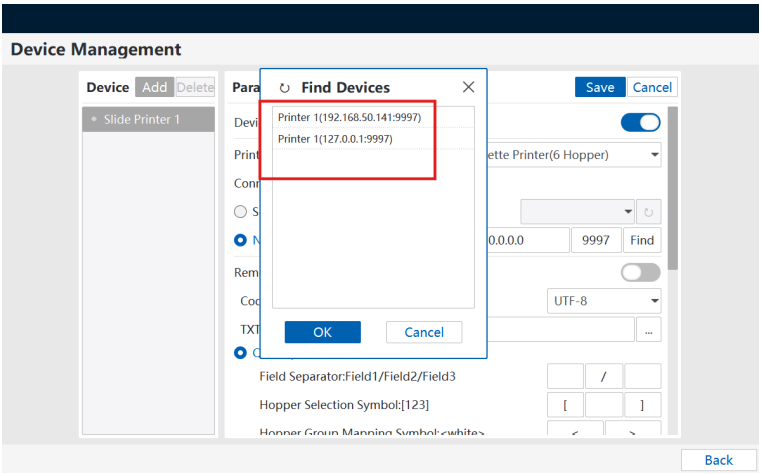


Figure 6.51 Printer device found

3. Verify the Connection

Once added, your printer will appear in the device list. To confirm it is "Live" and ready to receive tasks:

1) Check the Drop-Down: Look at the printer selection menu at the bottom of the software interface. See Figure 6.52.

2) The Blue Indicator: A blue light/icon next to the printer name confirms a successful connection between the PC and the printer. See Figure 7

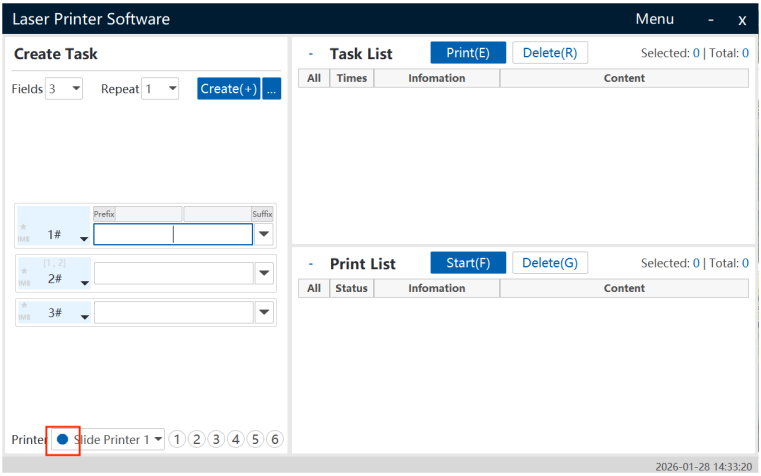


Figure 6.52 Printer Drop-down list

3) 'Remote' Status: Ensure the Remote status light in the software is active/Green. This means the printer is standing by for files from your monitored folders. See Figure 6.53



Figure 6.53 Printer Remote indicator

4) Once the software confirms a successful connection, use the drop-down menu at the bottom of the screen to switch between printers and monitor live print tasks for each device. See Figure 6.54.

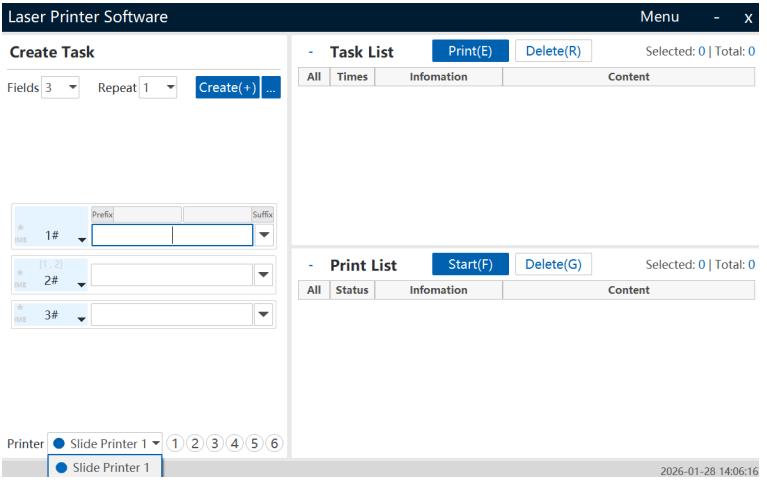


Figure 6.54 Printer Remote indicator

6.5.2 Connecting Multiple Printers on Server (Shared Setup)

This setup allows multiple PCs in the lab to print to specific machines (like Slide or Cassette printers) by simply saving files into designated "Monitoring Folders" on a central server.

1. Server Configuration (The "Monitor" Setup)

On the main server PC where the Laser Printer Software is installed:

1) Create Folders: Create a unique folder for every printer in the lab (e.g., C:\PrintJobs\Slide Printer.Eg Create one monitoring folder for “Slide Printer 1” and one for “Cassette Printer 1”.
2) Link printers: In the "Device Management" section of the printer software, link each printer to configure the folder directories for all files.
3) Toggle on the Remote task functions for TXT, PDF, Spreadsheet, and Images.
4) Assign File Types: Ensure the software is set to monitor that folder for all relevant formats: TXT, PDF, Spreadsheet, and Images. See Figure 6.55,56.

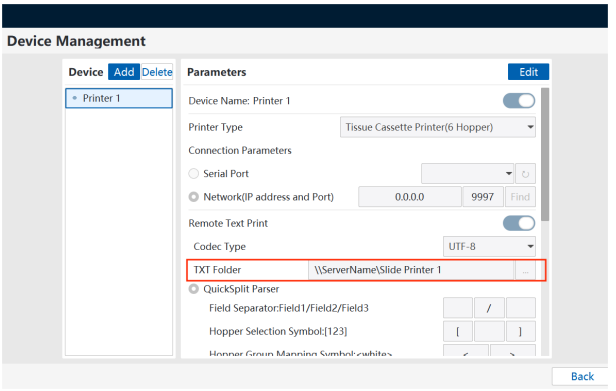


Figure 6.55

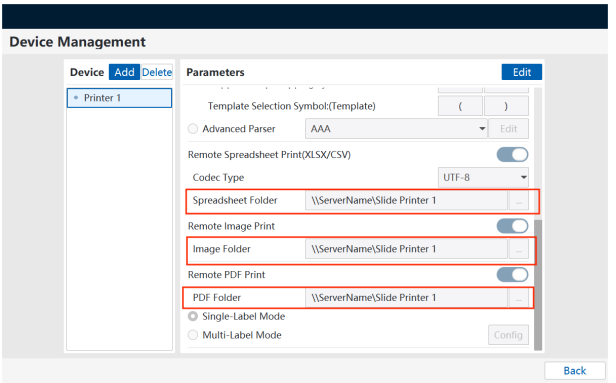


Figure 6.56

2. Network Access (The "Webmaster" Step)

To allow other lab PCs to see these folders, the Network Administrator (Webmaster) must:

1) Share the Folders: Enable network sharing for the "Slide Printer 1" and "Cassette Printer 2" folders.

2) Grant Permissions: Ensure all lab users have Read/Write access to these folders so they can "drop" their files into them.

3. How to Print

Once the setup is complete, printing from any lab PC is a simple "Drag and Drop" process:

If you want to print to...	Save/Move your file to...
Slide Printer 1	The shared network folder: \\ServerName\Slide Printer 1
Cassette Printer 2	The shared network folder: \\ServerName\Cassette Printer 2

Note: When your LIS (Pathological System) generates a report, you can configure the LIS "Export" path to point directly to these shared folders. This allows the printer to catch the file and print it the moment it's generated

Chapter 7 Synchronous Printing

The instrument can communicate with a Four E's Tissue Cassette Printer through a LAN or serial connection. Once connected, every print job created by the Tissue Cassette Printer is automatically sent to the Slide Printer, enabling synchronous pri

Note: Synchronous printing supports one-way communication only. Print jobs are sent from the Tissue Cassette Printer to the Slide Printer.

7.1 Synchronous Printing Connection Settings

7.1.1 Network Connection

The instrument can communicate with a Four E's Tissue Cassette Printer via a local area network (LAN) to enable synchronous printing. The connection and network configuration procedures are the same as those described in Section 6.1.2.

7.2 Parameter Settings

After completing the connection setup described in Section 7.1, configure the following settings on both the Tissue Cassette Printer and the Slide Printer.

7.2.1 Tissue Cassette Printer

Under the Settings menu of the Tissue Cassette Printer, enable “Synchronous Print” button and enter the IP address of the connected Slide Printer.

7.2.2 Slide Printer

Under the Settings menu of the Slide Printer, set the field separator and the hopper selection symbol to match the settings on the connected Tissue Cassette Printer.

7.3 Synchronous Print Test

After completing the settings, check the status bar at the bottom of the printing management software on both the Slide Printer and the Tissue Cassette Printer. If the [Sync] icon is displayed in green on both devices, the synchronous printing connection has been established successfully.

Select the appropriate template on both printers. Create and print a task on the Tissue Cassette Printer. If the corresponding print job is automatically received and printed by the Slide Printer, the synchronous printing function has been configured successfully.

Chapter 8 Scan from Printer to PC Application

This feature allows you to scan a code at the printer and have the data instantly "populate" into any open application on your PC (like a spreadsheet or LIS).

1. Setting Up the PC software as a Scanner Receiver

First, set up the "Laser Printer Software" on your computer to act as a receiver.

1) Open the software and go to Menu> Settings. See Figure 8.1

2) **Scanner Receiver:** Find the Scanner Receiver toggle and switch it ON. See Figure 8.2

3) **Name:** In the Name field, enter a clear ID (e.g., "PC 1"). This is how the printer will identify your computer on the network if using the "Find printer" function. See Figure 8.2

4) **Local Port:** Sync the printer Scanner sender port on the Printer to match this local port. (default is often 9992). See Figure 8.2

5) **Add prefix/Add suffix (Optional):**

- Add Prefix: Insert specific text before every scanned code.
- Add Suffix: Insert specific text after every scanned code.

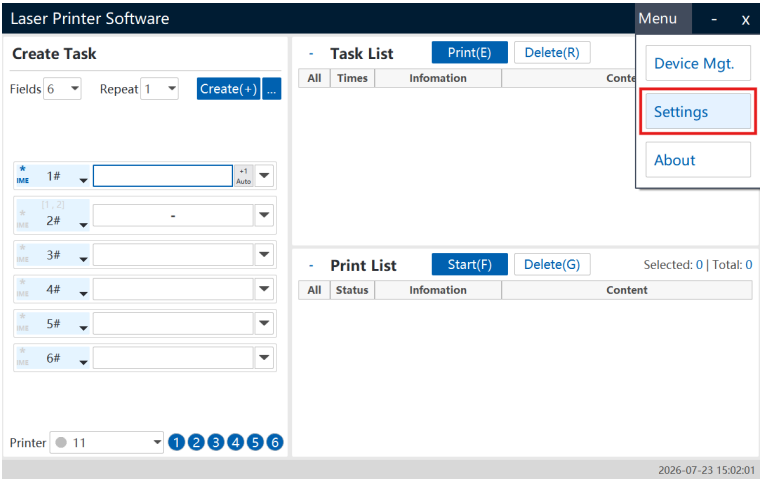


Figure 8.1



Figure 8.2 Scanner Receiver on PC software

2. Setting Up the Printer as a Remote Scanner

Once the PC software is ready, follow these steps on the printer's touchscreen to link the two devices.

1) Enable the "Scanner Sender" and "Remote Text/Image"

Open the "Tissue_Cassette_Printer " software on the printer's onboard screen.Navigate to Settings. 13.Locate "Scanner Sender" and "Remote Text/Image" to toggle the switch on. See Figure 8.3

2) Link the Printer to your PC

To send data to the correct computer, you must "pair" the printer with your PC on the network:

① Search for PC Devices: Click the icon to scan the network for active PCs. See Figure 8.3.

② Identify your PC: Look for the name you assigned in the PC software (e.g., "PC 1"). See Figure 8.4.

③ Manual Entry (Alternative): If the PC name does not appear, you can manually type in the IP Address of the target computer. See Figure 8.3

④ Confirm Selection: Select the correct PC from the list to establish the connection.

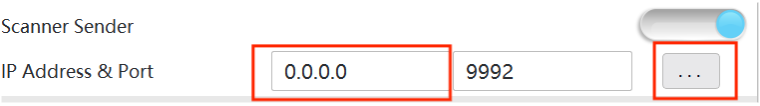


Figure 8.3 Scanner Sender on the Printer

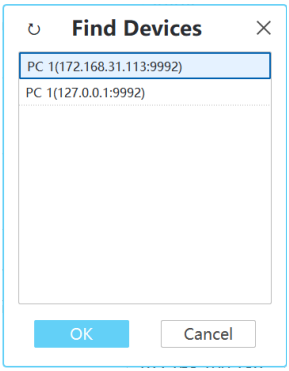


Figure 8.4 Find PC devices

3. Scanning Data to your PC

Once connected, the printer's scanner acts like a wireless keyboard for your computer.

1) Prepare the PC: Open any application (LIS, Excel, or Notepad) where you want the data to go.

2) Focus the Cursor: Click your mouse inside the specific text box or cell where the code should be entered.

3) Scan the Code: Use the printer's scanner to read the barcode.

4) Auto-Populate: The scanned content will instantly appear wherever your cursor is blinking on the PC screen.

Troubleshooting Checklist

- Network Check: Ensure both the printer and the PC are connected to the same local network.
- Active Cursor: The data will only "land" if a text field is active on your PC. Always click the mouse in the target box before scanning.
- Port Match: If the data doesn't appear, double-check that the Local Port on the PC matches the port number on the printer settings (e.g., 9992).

Chapter 9 Cleaning and Maintenance

This instrument uses UV laser printing technology and is designed for operation in demanding laboratory environments. To ensure reliable performance and extend the service life of the instrument, perform routine maintenance as follows:

- Power off the instrument regularly and remove any broken slide fragments from inside the instrument and the slide input hopper and collection tray.
- Replace the air filter every 3 months.
- Periodically verify that the software settings have not been changed to prevent unauthorized parameter modifications.
- Check the print position regularly and re-calibrate it if any offset is detected.
- Do not place or stack objects on top of the instrument, as this may obstruct heat dissipation.
- Inspect the cooling fans regularly. If a fan is not operating properly, contact your service representative for replacement.
- Avoid operating the instrument continuously at maximum workload for extended periods, as this may reduce the service life of the laser module.
- Operate the instrument only under the recommended environmental conditions. Do not use the instrument in harsh environments.
- After use, always follow the correct shutdown procedure to prevent damage to the hardware or software.
- Do not move the instrument while it is operating.
- The laser module is a critical component of the instrument. Handle the instrument carefully during transportation to avoid damage.
- Periodically check that all components and fasteners are securely installed.

Chapter 10 Troubleshooting

Issues	Causes	Solutions
Instrument Does Not Power On	No power is supplied from the electrical outlet.	Check whether the power outlet is functioning properly, or measure the output voltage using a multimeter.
	The main power switch is turned off.	Turn on the main power switch.
	The fuse has blown.	Replace the fuse (3A, 250V, 5 × 20 mm).
	The power supply unit is not providing output voltage.	Replace the power supply unit.
Software Issues	The software fails to start.	Uninstall and reinstall the software.
	No response during network printing.	Check if the network cable is properly connected and verify that the network settings have been configured as described in **Section 6.1.2**.
Display Does Not Function Properly	The FPC cable or LVDS cable is loose, or the LVDS driver board is faulty.	Check whether the LVDS driver board is receiving the correct supply voltage. If not, replace the LVDS driver board. Then verify that the FPC cable and LVDS cable are securely connected. If the connections are correct, replace the cables.
	The CMOS battery on the industrial PC (IPC) board is depleted, causing the display parameters to be lost.	Check the CMOS battery and replace it if necessary. Then reconfigure the display parameters.
	The IPC board is faulty.	Connect an external monitor to the instrument. If the external monitor does not display properly, replace the IPC board. If the external monitor functions normally, the IPC board is operating correctly.

Issues	Causes	Solutions
	The display is faulty.	If the external monitor functions normally and the LVDS driver board has beenconfirmed to be operating correctly, replace the display.
Instrument Does Not Print Slides	The laser control cable or galvanometer control cable is loose, or the laser cable is bent or damaged.	Check the routing and connections of all related cables, and ensure they are securely connected.
	The ambient temperature is too high, causing the laser protection function to activate.	Reduce the ambient temperature (for example, by turning on the air conditioner).
	The laser module is faulty.	Replace the laser module.
Serial Communication Failure	Communication data was lost during software startup.	Restart the instrument following the normal startup procedure.
	The serial communication cable is loose or disconnected.	Reconnect the serial communication cable and ensure that it is securely connected.
	The main control board is faulty.	Replace the main control board.
Unable to Read the Laser Controller ID	The communication cable to the laser controller is loose or disconnected.	Reconnect the laser controller communication cable and ensure that it is securely connected.
	The laser controller is faulty.	Replace the laser controller.
Transport Motor Stall	Glass debris on the transport platform is obstructing movement.	Remove any glass debris from the transport platform.
	The photoelectric sensor for the transport platform is faulty.	Replace the photoelectric sensor.
Unloading Motor Stall	A slide is jammed in the unloading platform.	Remove the jammed slide from the unloading platform.
	The photoelectric sensor is faulty.	Replace the photoelectric sensor.

Chapter 11 Alarm Message

Error code	Descriptions	Solutions
101	Local serial port sending failed	Contact after-sales
102	The Local serial sent command, but no response (MCU did not receive/local protocol parsing error/local reception exception)	Contact after-sales
103	MCU initialization timeout	Contact after-sales
104	MCU upgrade error	Contact after-sales
201	Unable to read laser control board, please check USB connection	Contact after-sales
202	The laser module has not completed initialization	Contact after-sales
203	Laser printing failed, please check the BslModule.rog file for the specific failure reasons	Contact after-sales
205	Laser control board power supply voltage error	Contact after-sales
301	MCU global motor reset timeout	Contact after-sales
302	Hopper position check error	Contact after-sales
303	Hopper motor failed to reset	Contact after-sales
304	Carrier motor failed to reset	Contact after-sales
306	Unloading motor failed to reset	Contact after-sales
308	Carrier path blocked. Clear any jammed cassettes.	Check the obstructed area and clear it
310	Unloading path blocked. Clear any jammed cassettes.	Check the obstructed area and clear it
312	Unloading cassette error	Check the obstructed area and clear it
	The front panel is not closed!	Close the front panel
	Collection tray is full	Clear the tray

Chapter 12 Warranty

We guarantee that our scientific instruments adhere to the most rigorous engineering and quality standards. This instrument is warranted to be free from defects in materials and workmanship under normal use and service, for a period of 24 months from the date of dispatch. The warranty is extended only to the original purchaser. For claims under the warranty, please contact your local supplier. After the warranty period expires, the manufacturer retains the right to invoice the cost price for the repair or maintenance of a faulty device, along with any associated service fees.

Scope of Warranty

The following conditions are not covered under the warranty.

- Faults or damage caused by negligence, improper installation, improper operation, or failure to use and maintain the machine in accordance with the instructions in this operating manual.
- Issues caused by unauthorized disassembly or modification.



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