

User Manual

for

Industrial Inkjet Inline Printer

Bentsai E62P/E62WP/E64P Series



Version:20250731A



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1. Important Notice

1.1 Please read the user manual carefully before use and keep it properly for future reference. The images in this manual are for reference only and the actual product shall prevail.

1.2 For optimal printing performance, always use original ink cartridges and approved accessories. The use of unauthorized items may result in malfunctions or degraded print quality, which are not covered under the warranty.

1.3 Troubleshooting: Refer to the relevant section of this manual to diagnose printer issues and record any fault details. If the issue persists after applying the recommended procedures, contact your authorized dealer for assistance.

1.4 This manual is subject to periodic updates to incorporate product enhancements, without prior notice.

2. Safety Instructions

2.1 Maintenance and Disassembly Only trained and authorized personnel should maintain or disassemble the printer to prevent accidents or damage.

2.2 For user safety and proper machine operation, grounding the equipment is required. This helps prevent electrical hazards and ensures stable functionality in industrial environments.

2.3 Ink Cartridge Storage Store ink cartridges in a cool, dry place away from direct sunlight and temperatures above 35 °C to preserve print quality and shelf life. Once opened, immediately reseal the cartridge and store it in its original packaging or an airtight container to protect it from light, dust, and air exposure. Keep cartridges horizontal and use them within the recommended time frame to maintain optimal performance.

2.4 Ink Safety If ink comes into contact with skin, rinse immediately with water. If it enters the eyes, flush thoroughly and seek medical attention if irritation or discomfort persists.



3. Technical Specification

PRINTER SYSTEM

DISPLAY	7" HD Touch Screen
OPERATION SYSTEM	Linux System
SYSTEM LANGUAGES	English/German/French/Italian/Spanish/Portuguese/Slovenian/Serbo-Croatian/Czech/Bulgarian/Romanian/Polish/Greek/Hungarian/Russian/Ukrainian/Slovak/Arabic/Persian/Turkish/Chinese/Traditional-Chinese/Japanese/Korean/Hindi/Thai/Vietnamese/Indonesian/Burmese/Hebrew (Available languages vary for different regions)
EMBEDDED MEMORY	8G
STATUS ALARM	Green: Ready Blue: Printing Red: Alarm
WORKING ENVIRONMENT	Storage : -20°C-55°C Working: 5°C-35°C Humidity: 10%-80%
APPLICATION MODE	Inline
I/O PORTS	Ethernet, USB, Sensor, Encoder, Beacon
EXTERNAL POWER ADAPTER	IN: 100-240V / OUT: DC 24V 4A
ACCESSORIES	Standard: USB Disk *1, Optical Sensor*1, Power Adapter*1, Printhead plates (varies on models, see model list below) Optional: Encoder, Beacon, Anti-shock module

PRINTING FEATURES

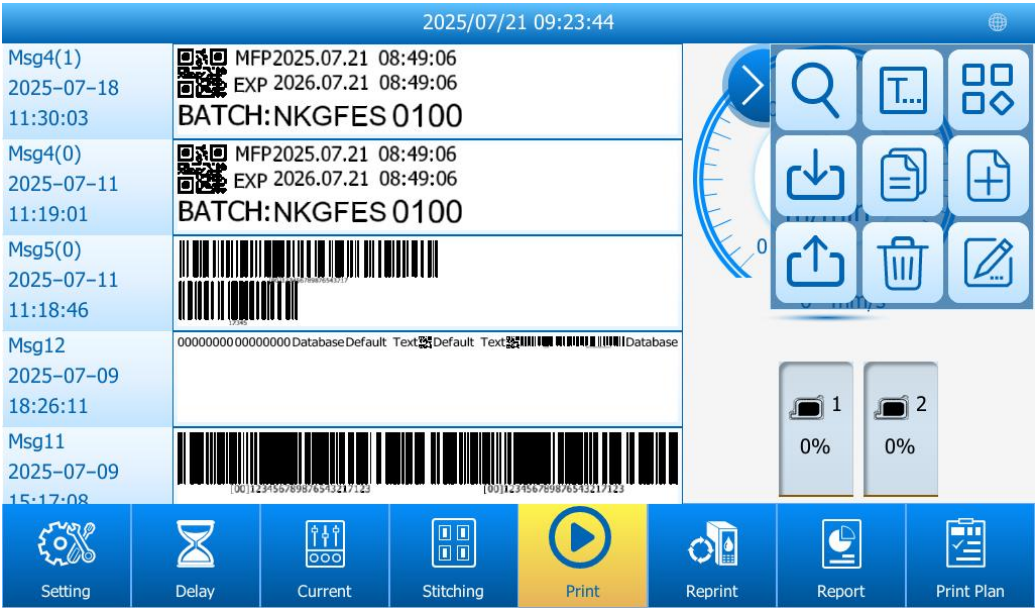
GRAY LEVEL	10 Levels: 10%-100%
MESSAGE COMPONENTS	Text, Numbers, Images, Bar codes, 2D codes, Time, Dates, Counter, Database, Dynamic Data etc.
IMAGE FORMAT	JPG, JPEG, PNG, BMP
2D CODE FORMATS	QR Code, Date Matrix, PDF417, Grid Matrix, GS1 DM, GS1 QR, Truncated PDF417, Maxi Code, MicroPDF417
BARCODE FORMATS	Code 39, Code 128, Code128-B, EAN-8, EAN-13, UPC-A, UPC-E, ITF 2 of 5, ITF-14, Code 93, GS1-128, GS1 DataBar Truncated, GS1 DataBar, GS1 DataBar Limited, GS1 DataBar Extended, GS1 DataBar Stacked, GS1 DataBar Stacked Omni, GS1 DataBar Expanded Stacked, Matrix 2 of 5, Industrial 2 of 5, IATA 2 of 5, Data Logic 2 of 5, Interleaved 2 of 5
FONTS	True type fonts, Dot-matrix fonts
PRINTABLE MATERIALS	Water-based ink for porous and semi-porous substrates: Paper/Corrugated box/ Wood Fiberboard/Textile and etc. Solvent-based ink for semi-porous and non porous substrates: Plastic/Glass/Metal plate/ Alu-foil/Cable and etc.
INK THROW DISTANCE	2mm-5mm (Distance between nozzle plate and print object)
INK CARTRIDGES	Water-based Color options: Black, Cyan, Magenta, Yellow, Green Solvent-based Color options: Black, Cyan, Magenta, Yellow, White, Green
RESOLUTION	X-direction DPI: 75/100/150/200/300/600/1200 Y-direction DPI: 300/600 (0.5" cartridges) X-direction DPI: 75/100/150/200/300/600/1200 Y-direction DPI: 300 (1" cartridges)
MAX PRINT HEIGHT	2.5mm-12.7mm (1-5 Lines) /2.5mm-25.4mm (1-10 Lines) 2.5mm-50mm (1-20 Lines) /2.5mm-100mm (1-40 Lines)
MAX PRINT LENGTH	2100mm
MAX PRINT SPEED	0.5" Printhead: 30m/minute@600dpi 60m/minute@300dpi 120m/minute@75dpi 1" Printhead: 15m/minute@300dpi 30m/minute@75dpi

PRODUCT MODELS

MODEL NAME	E62P-1	E62P-2	E64P-4
PRINthead PLATES	12.7mm Single-Plate*1 25.4mm Single-Plate*1	12.7mm Single-Plate*2 12.7mm Dual-Plate*1 25.4mm Single-Plate*2 25.4mm Dual-Plate*1	12.7mm Single-Plate*4 12.7mm Dual-Plate*2 12.7mm Quad-Plate*1 25.4mm Single-Plate*4 25.4mm Dual-Plate*2 25.4mm Quad-Plate*1
GROSS WEIGHT	5.79kg	7.85kg	12.34kg
PACKAGING SIZE	Carton 1:465mm*172mm*365mm	Carton 1:470mm*172mm*365mm Carton 2:360mm*100mm*240mm	Carton 1:470mm*172mm*365mm Carton 2/3/4: 360mm*100mm*240mm(3 cartons)



4. Main Menu

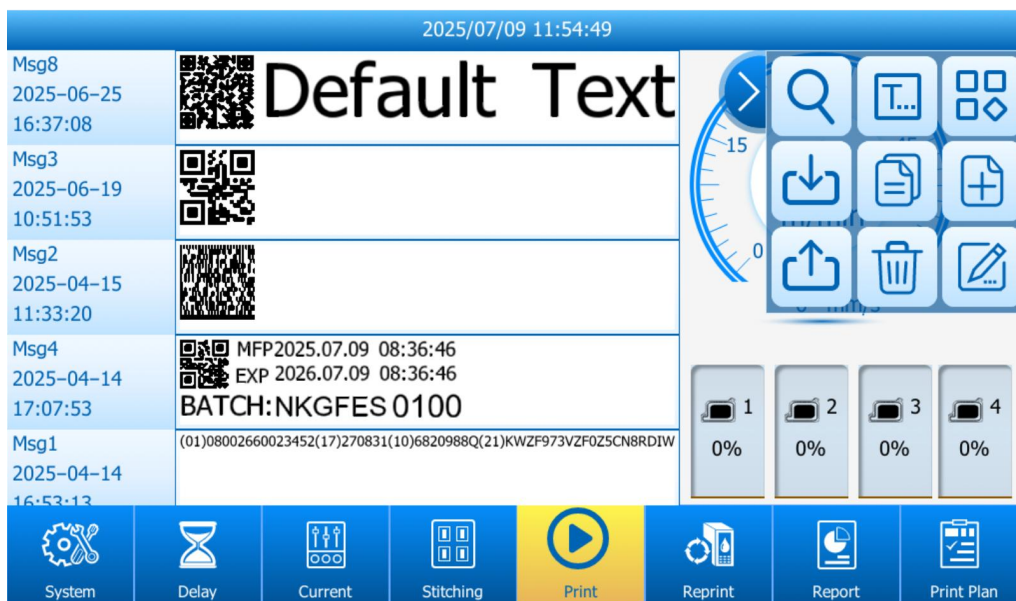




The main interface includes **Message Management**, **Print Management**, and **Status Display panels**. It supports message display, message editing, file handling, print planning, stitching, counters, speed and ink monitoring—streamlining print tasks and system oversight.




5. Message Management


5.1 Function Buttons Introduction

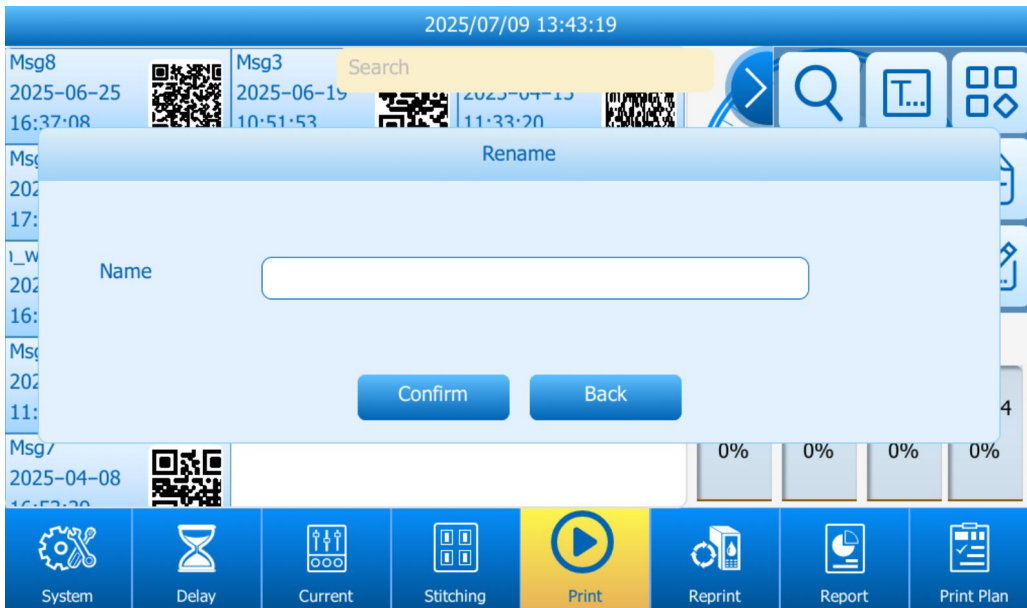


Show/Hide Function Buttons: Tap the icon  to expand the **function buttons** on the right, and tap the button  to hide it.


Search a Message: Tap the button  to open a search input box. Enter keywords to perform a matching search, and the list will display the found relevant messages. When the input box is cleared, the list will display all files.



Rename a Message: Select a message you want to rename, tap the button  to bring up the keyboard, input a new name to modify the message name, and save to apply the changes.




Message Display Switch: The saved messages are displayed in **Full Preview Mode** by default.


Tap the button  to switch to a **Compact List Preview Mode**.




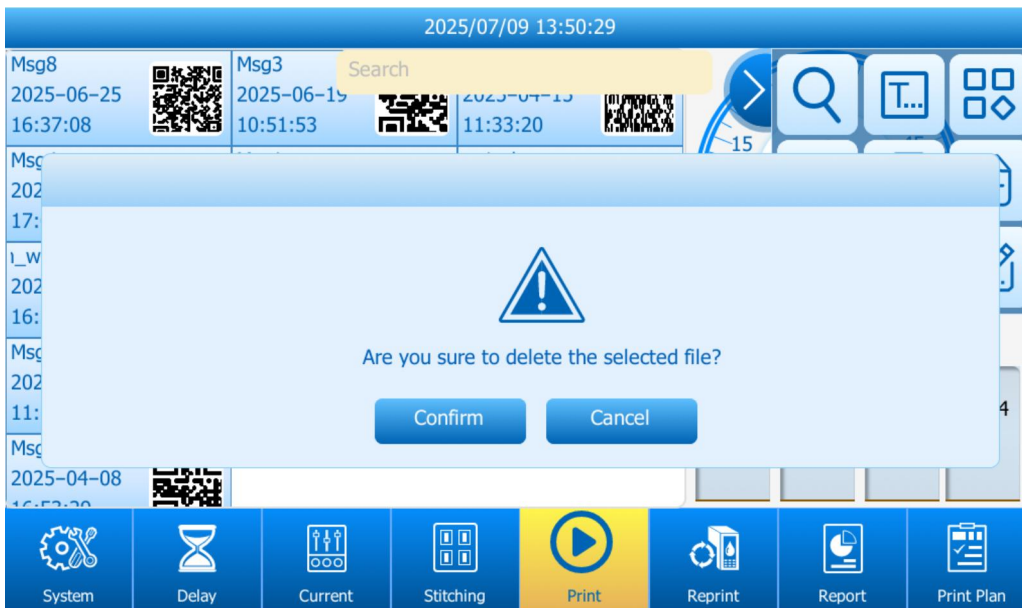
Create a Message: Tap the button  to create a new message.



Edit a Message: In the message display list interface, select a message(message name shown in yellow once selected), tap the button  to edit and modify the selected message.

Copy a Message: In the message display interface, select a file, tap the button  to copy and paste it and the duplicated message will appear at the top of the list.

Delete a Message: In the message display list interface, select a message, tap the button  to delete it .

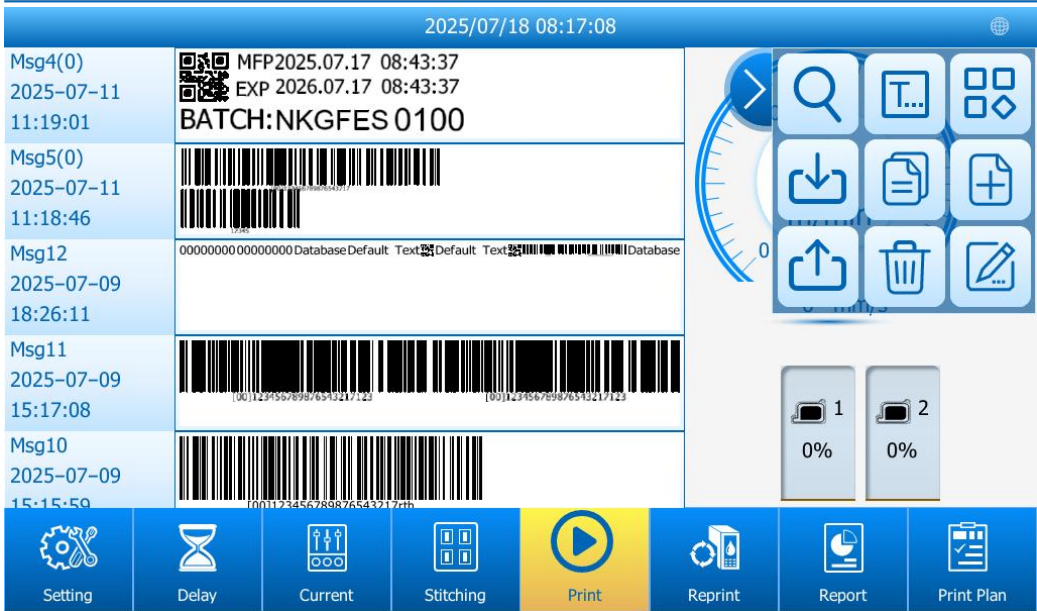


Note: Message storage is limited by available memory. When total data reaches maximum capacity, new message creation or import is disabled.

5.2 Import/Export Files

Use the import  and export  buttons to manage job files, images, databases, and fonts.



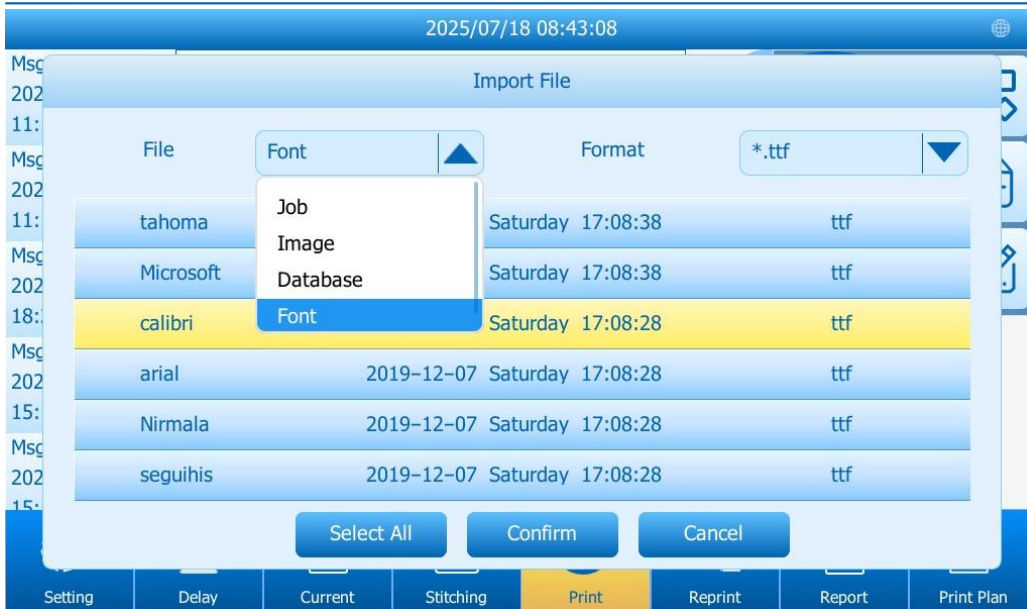


5.2.1 Fonts Import and Install

Prepare: Save the *.ttf font files in the **fonts** folder in the USB root directory. If using a third-party USB (FAT32 format), insert it into the printer first to auto-create folders.

.fseventsd	2025/3/26 14:14	文件夹
.Spotlight-V100	2025/3/26 14:14	文件夹
backup	2025/4/8 16:52	文件夹
database	2024/5/28 14:30	文件夹
fonts	2024/7/16 14:34	文件夹
icons	2024/5/28 14:30	文件夹
jobs	2024/5/28 14:30	文件夹
pictures	2024/5/28 14:30	文件夹
template	2024/5/28 14:30	文件夹
b60_fw_all_v1.1.1T22	2025/3/26 10:27	AutoCorrect List ...
b60_fw_all_v1.1.2T6	2025/4/14 13:44	AutoCorrect List ...

Connect: Insert the USB into the printer. When the import/export dialog appears, tap Import.

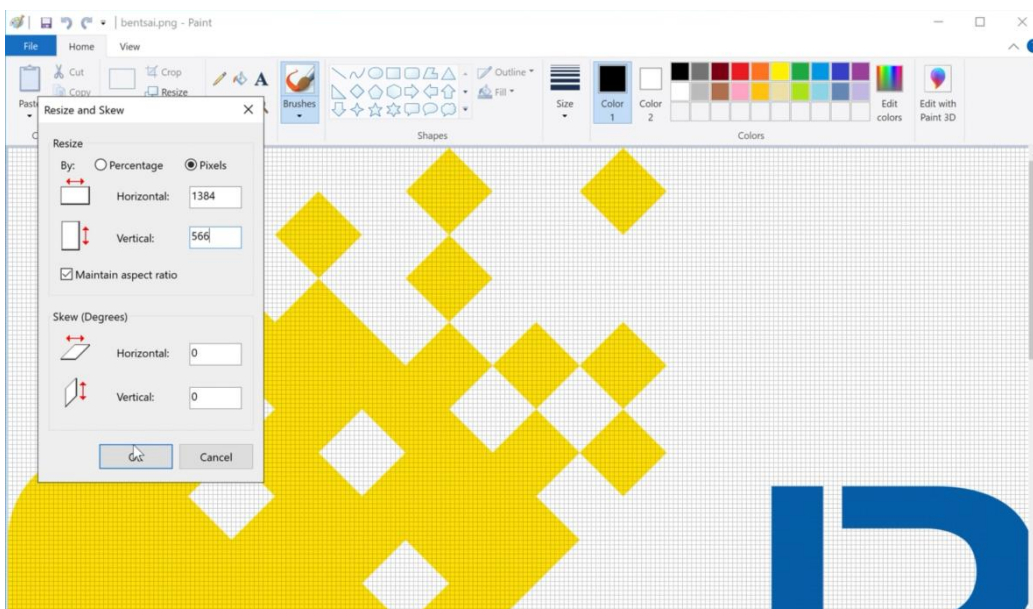


Import: Select **Font** file type, choose your fonts to be imported, and tap Confirm to import. The imported fonts will be installed automatically.

Note: Pre-installed system fonts cannot be removed. Fonts installed manually can be viewed and deleted via **Setting>System > File > Fonts**.

5.2.2 Image Import

Prepare: Supported formats: ***.bmp, *.jpg, *.png**. Maximum image size: **566 pixels** vertical × **12800 pixels** horizontal. If the vertical size exceeds the limit, use your computer's **Paint tool** to resize the vertical dimension—horizontal size will adjust automatically to maintain proportions. Save the updated image to the **pictures** folder at the USB root.



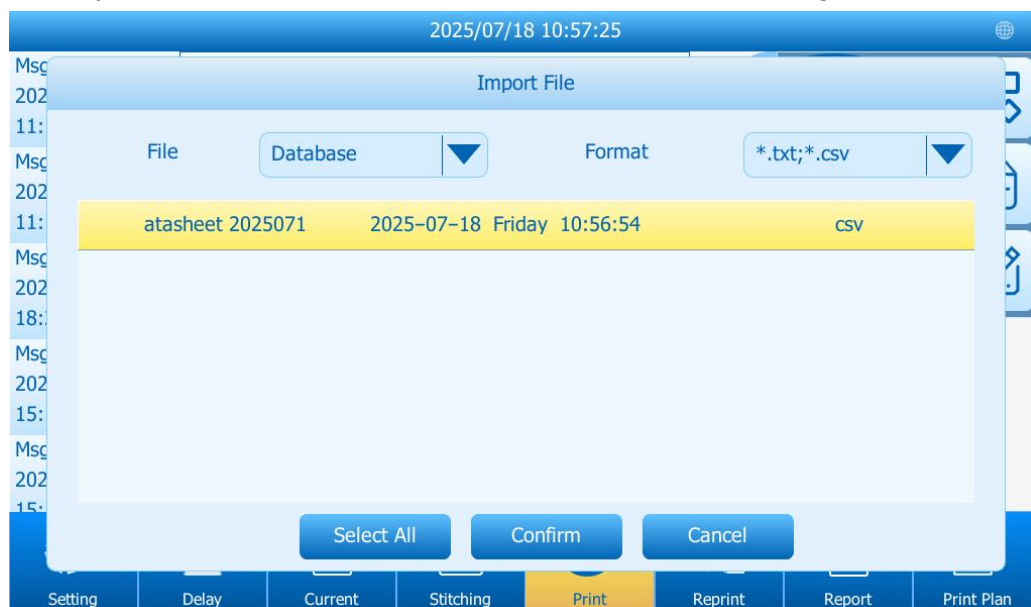
Import: Insert the USB into the printer. To import the image, follow the same procedure as outlined in **Section 5.2.1 Fonts Import**.



5.2.3 Database Import

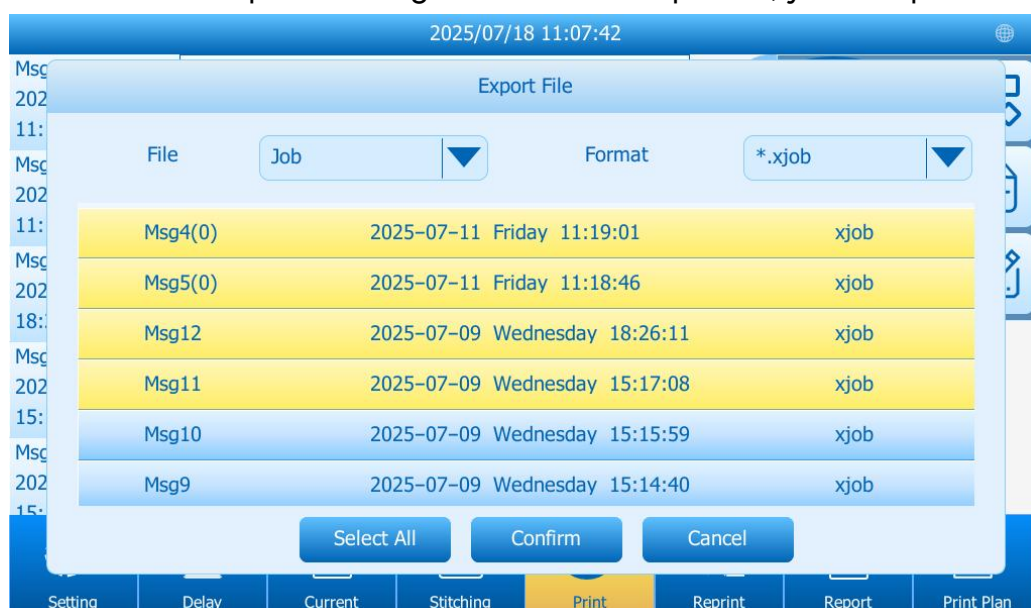
Prepare: Save your database file in either ***.TXT** format or **UTF-8 encoded *.CSV** format. Place the file in the **database** folder located in the root directory of your USB drive.

Import: Insert the USB drive into the printer and tap **Import**. Select Database as the file type, choose the file from the list, and tap **Confirm** to import. To import the database, follow the same procedure as described in **Section 5.2.1 Fonts Import**.



5.2.4 Job Import


All messages created on the printer are saved in the **.xjob** format. To export messages from this device or import messages from another printer, you can perform this operation.

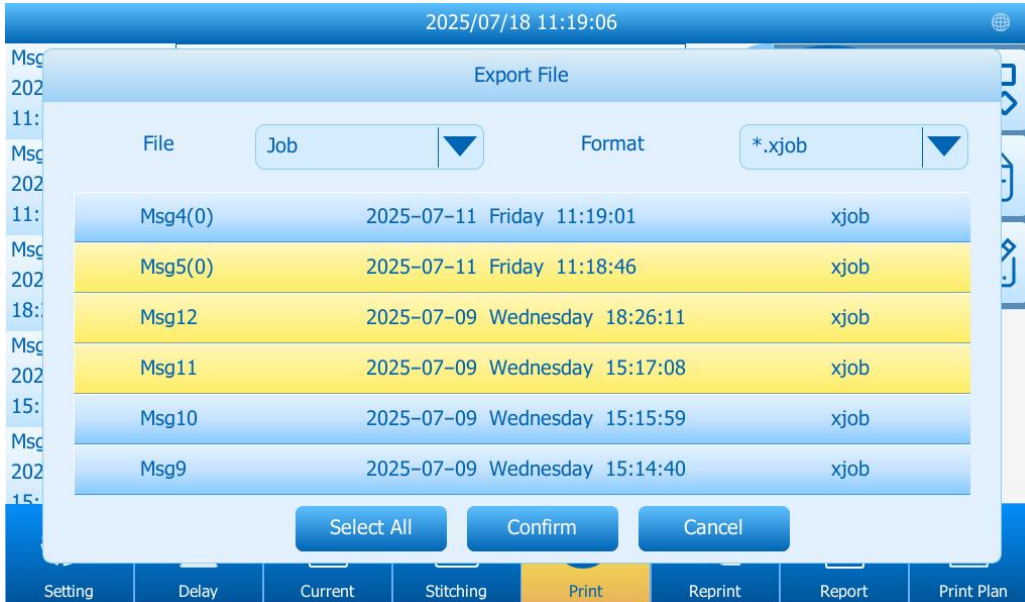


5.2.5 Export Files





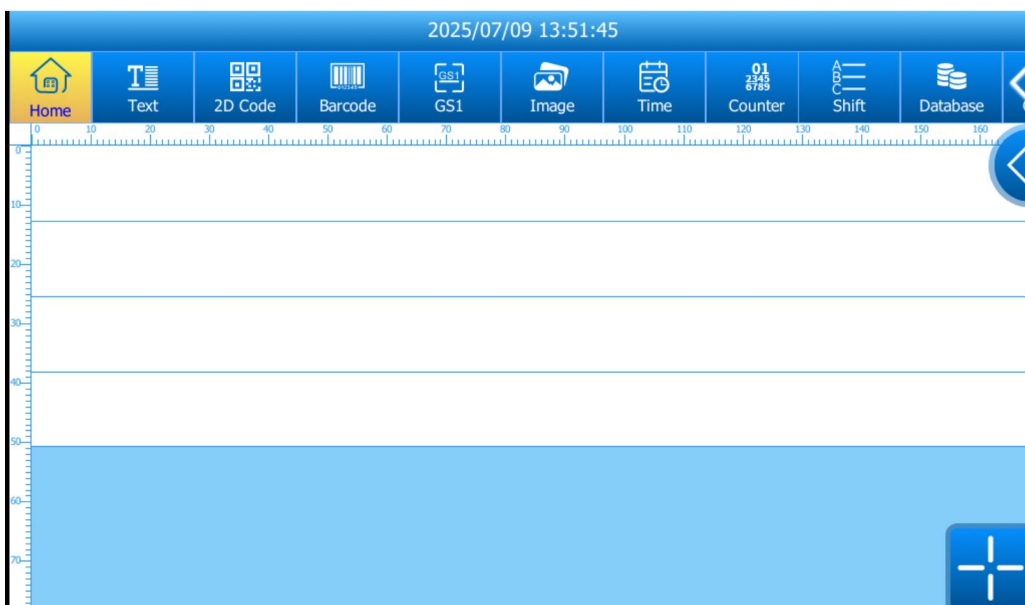
You can export files such as Xjob, Database, Image, and Fonts. Just tap the export button

 to proceed—files will be automatically saved to their corresponding folders in the USB root directory. This process works in reverse compared to file import. For details, refer to **Section 5.2.1-5.2.4**



5.3 Create / Edit a Message


On the home page, tap the  button to create a new message. To edit an existing message, select it and tap the  button.

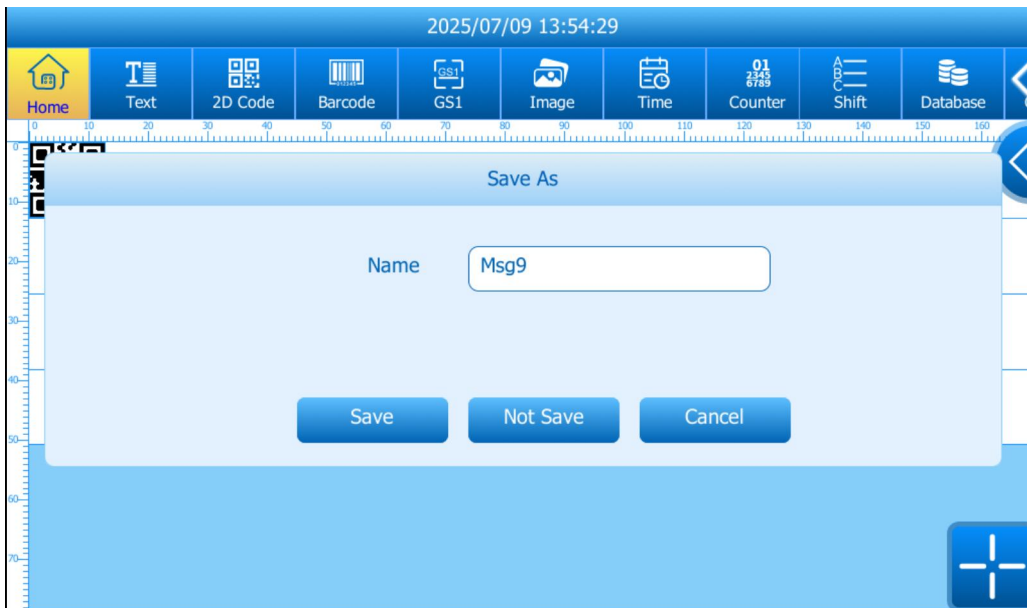


Create a new Message: You can create a message by adding Text, 2D codes, Barcodes, GS1




codes, Images, Time, Counters, Shift, Database, Graphics, Dynamic text and Strings.


After completing message creation, tap the button , and a prompt dialog will appear asking whether to save the message.




5.3.1 Add Texts

In the message creation interface, tap  to add a text object.



Text Input: The display shows a default text content ("Default Text"). Tap the Text button  to modify/input your text content. You could input texts in optional language by

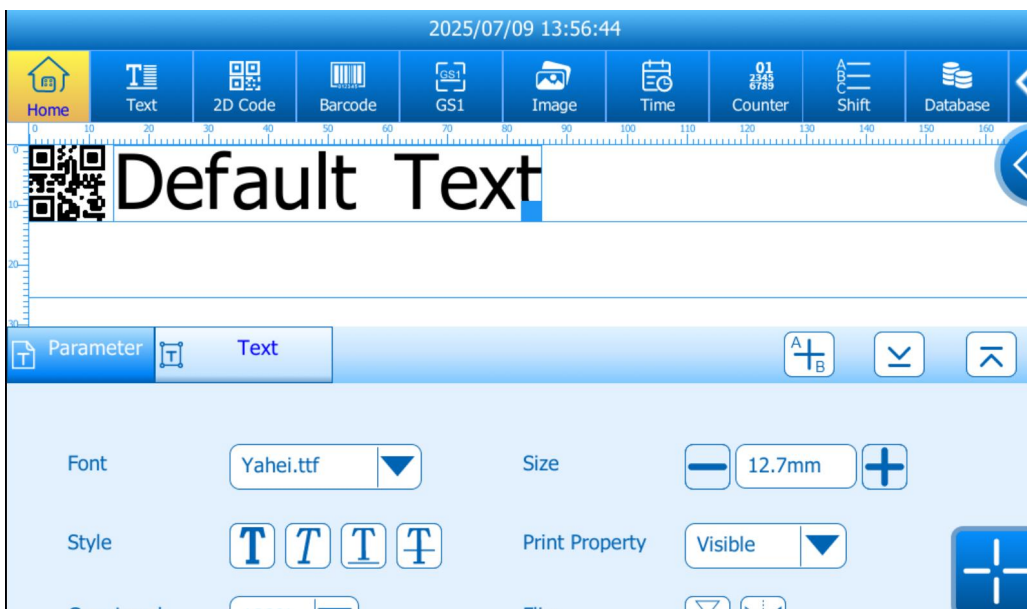


long press the  on keyboard to switch input language type. Instructions on how to add/remove new **keyboard input languages**, please refer to **Section 7.2.2** for details.



Note: Text input is capped at 100 characters, unless a different limit is explicitly defined.

Name an Object :Each object can be assigned a custom name. By default, the name reflects its function (e.g., "Text"). Names support multilingual characters, numbers, and standard symbols. Maximum length: 30 characters.



Text Parameter Settings



Font Selection Tap the drop-down menu to choose a font. The default font is **Yahei**. If you prefer fonts other than the system default, you can import and install **custom fonts** via USB. Instructions on how to **import third party fonts**, please refer to **Section 5.2.1**

Font Size: Tap the font size option to adjust character height. Use the **+ /—** buttons or enter a specific value in the input box. Valid range: 0.8 mm to 71.1 mm.

Style: Choose from the following text styles: Underline, Strike-through, Bold, or Italic.

Print Property: The drop-down menu offers three display modes: **Visible**, **Invisible**, and **Invert**.

- **Visible:** The edited content will be printed.
- **Invisible:** The edited content will be displayed on screen but not printed.
- **Invert:** The originally black text will turn white, and the blank areas will turn black.

Grey Level: can be set from 100% to 10%. Lower values produce lighter prints, reducing ink usage—especially when resolution remains constant.

Flip: Two mirroring modes are available: Horizontal Flip and Vertical Flip.

Letter Spacing: You can adjust the spacing between characters by either modifying the character spacing setting or entering a specific value in the input box. Valid range: **0 mm to 20 mm**, adjustable in **0.1 mm increments**.

Outline: Enable this feature to create hollow (outlined) text. Set the outline width to define the thickness of the effect—ranging from 0.3 mm (thin) to 3 mm (thick).

Outline Width : Set the outline width according to font height, with a center-aligned bolding effect that scales proportionally: 12.7 mm font uses 0.1–1 mm (0.1 mm steps), 25.4 mm uses 0.1–2 mm (0.2 mm steps), 50 mm uses 0.1–3 mm (0.3 mm steps), and 100 mm uses 0.1–5 mm (0.5 mm steps).


Scale X : You can adjust character width horizontally . The default setting is **100%**, with a valid range from **10% to 300%**. Enter a specific value in the input box (step size: **1**) or use the **+ /—** buttons (step size: **10**) for adjustment. Long-pressing the buttons enables rapid scaling changes.

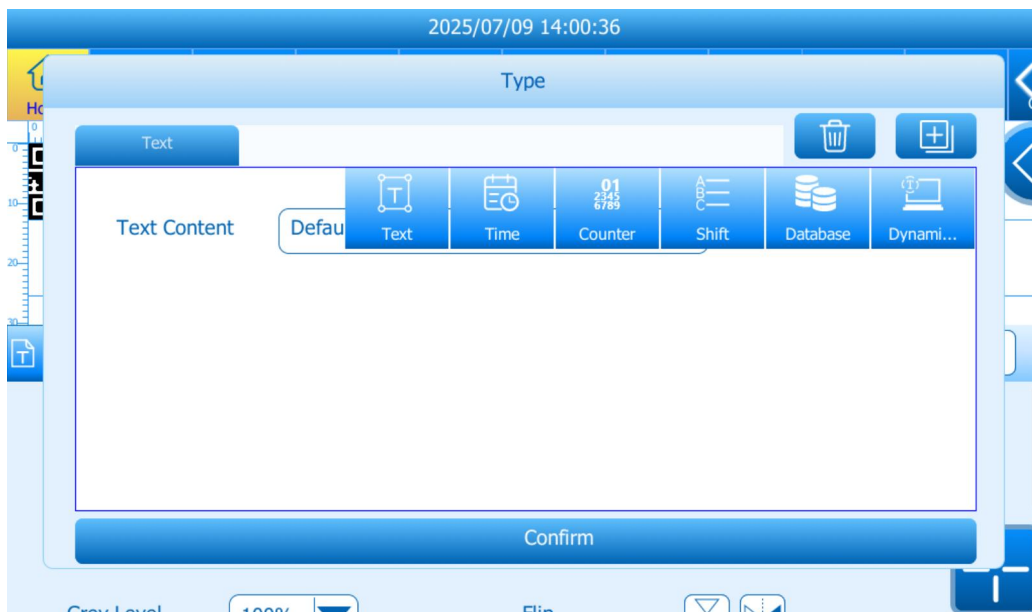
Rotation: The display angle of the object can be adjusted within a range of 0–359 degrees.





5.3.2 Object Manager Setting

The **Object Manager** allows you to combine different types of objects to create a message composed of multiple components.

Object Manager: Tap the  button to combine text objects by adding other components into the message being created. Text objects can be associated with the following components: **Text**, **GS1 code**, **Date**, **Counter**, **Shift**, **Database**, and **Dynamic Text**.

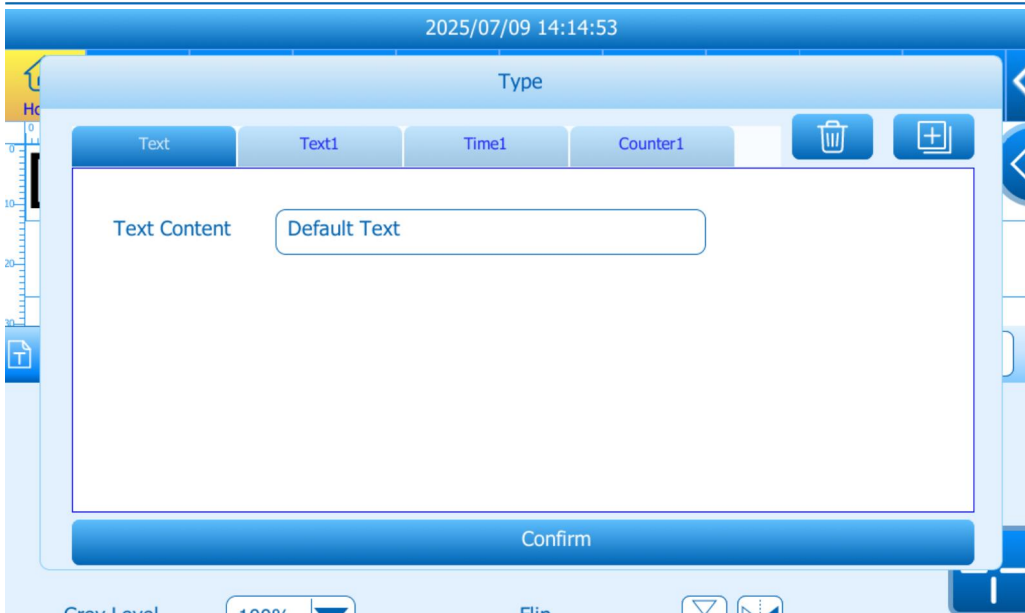


Add: Tap the  button to enter the objects adding interface. You can choose from the following types: Text, GS1, Date, Counter, Shift, Database, or Dynamic Text. After selecting a type, you'll be taken to its corresponding editing interface.

Delete: Select the type you want to delete from the added objects by tap the  button.

Confirm: After adding or editing a object, tap **Confirm** to exit the interface.






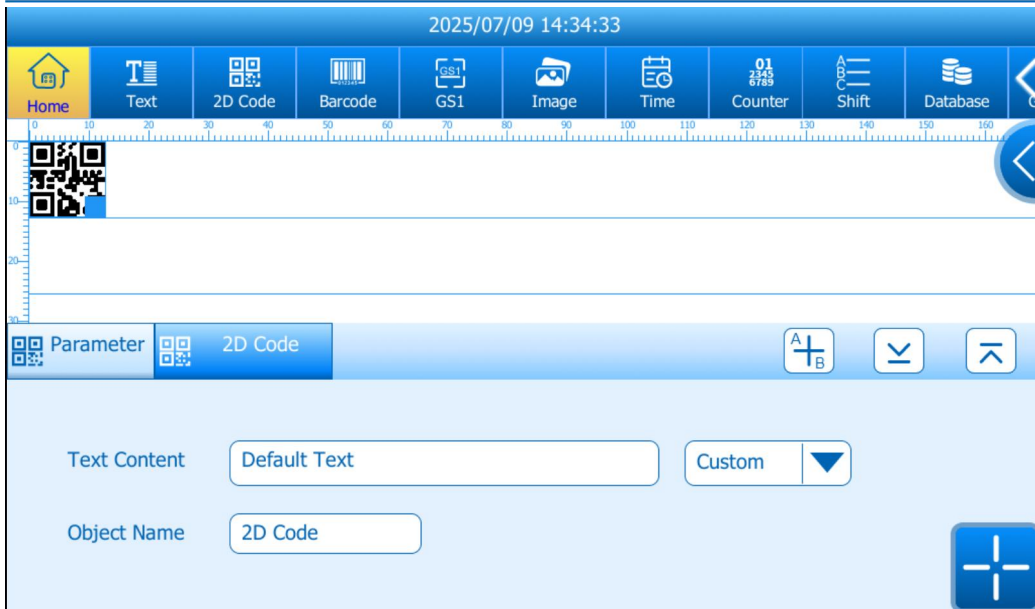
Note

1. For parameter settings related to font, size, style, greyscale, print properties, flip, rotation, outline, scale X, and object name—applied to newly added objects such as Text, QR Code, Barcode, GS1 Code, Time, Number, Shift, Picture, Database, Dynamic Text, and Graphic—refer to **Section 5.3.1: Text Parameter Settings**.
2. Parameter adjustments within Object Manager are identical to those available in each object's individual editing interface.

5.3.3 Create a 2D Code

In the data editing interface , tap  to add a 2D object.

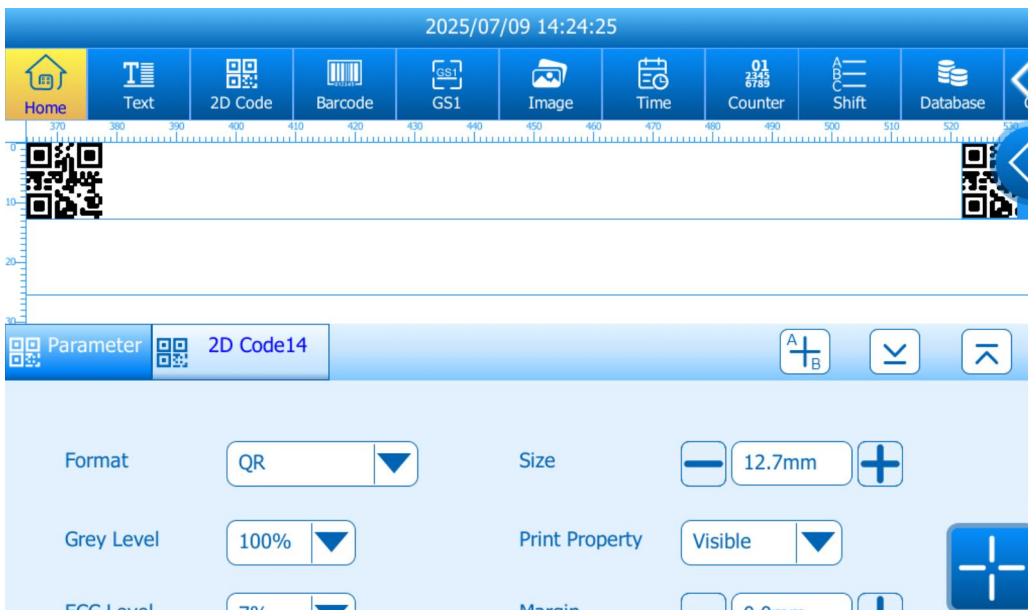




2D Code Setting

Text Content: The display shows a default text content ("Default Text"). You could input the text content here .

Format: Text content can be set to **Custom**, **Date**, or **Counter**. For Custom input, the content must follow the encoding rules of the selected 2D code type-invalid input will trigger an error.



2D Code Parameter Setting

Encoding:The default is QR Code. Tap the drop-down button to select the type of QR code you want to enter.

Size: Set the 2D code size, with a minimum of 3mm and a maximum of 71mm.

ECC Level: The **error correction level** of the QR code can be set to 7%, 15%, 25%, and 30%.




Note: The error correction level settings vary by QR code type. The following code types support error correction level configuration: **QR**, **PDF417**, **DM**, **GS1 DM**, and **GS1 QR**

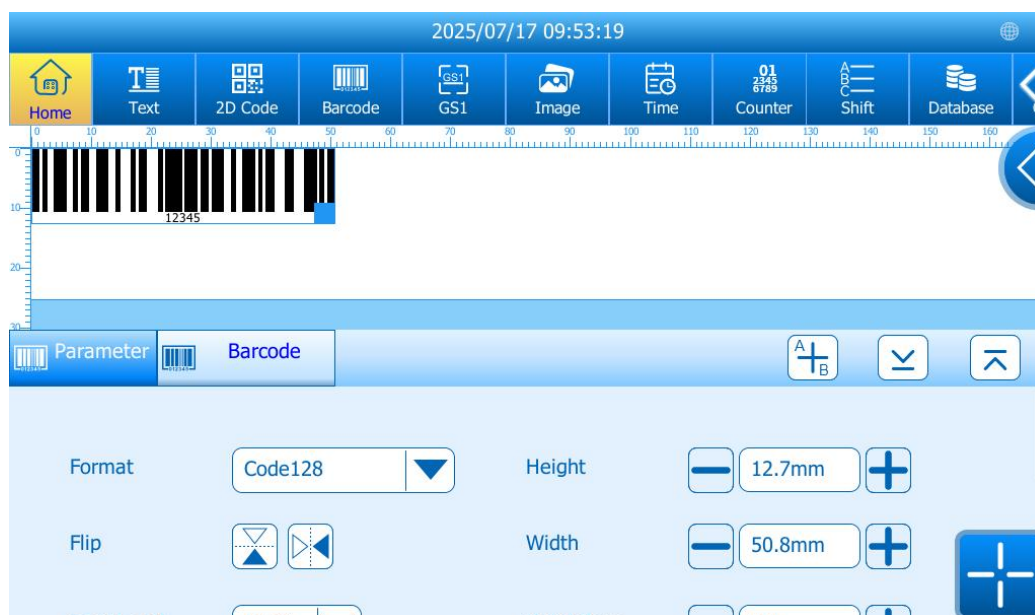
Margin: Set the distance between the text and the 2D code. The minimum can be set to 0mm, and the maximum to 3mm. (Size adjustable by ± 0.1 mm intervals).

Dot matrix: After this function is turned on, the expression form of the QR code and GS1 code changes from lines to dots. The dot size adjusts proportionally with the code size.

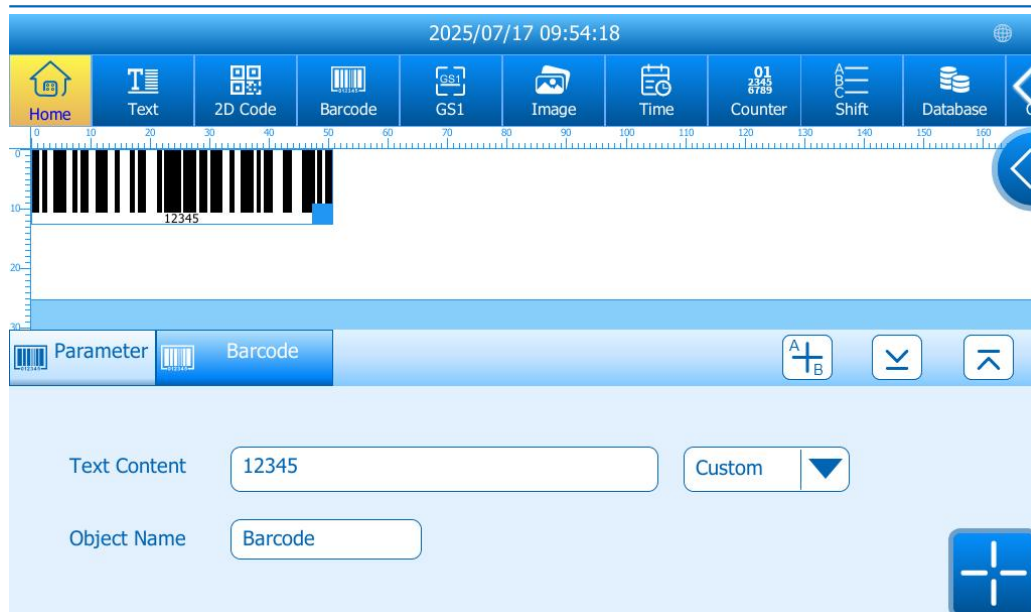
Object Manager: The QR code object can be associated with: text, date, counter, shift, database, dynamic text. For specific operations, refer to **Section 5.3.2**.

5.3.4 Creat a Barcode

In the message editing interface, tap  to create a new barcode.



Encoding: The default format is Code 128. To choose a different option, scroll down and select from the drop-down menu.



Text content: After selecting the barcode format, enter the corresponding text here. Please follow the encoding rules of the selected barcode type—invalid input will trigger an error. If Code 128 or GS1-EAN128 is selected, you may use date or counter as the encoding content.


Parameters Settings

Height: Adjust the barcode height as required—minimum is 5 mm, while the maximum depends on the height of the installed printheads.

Quiet Zone: The quiet zone at the barcode's front end is a blank margin that ensures proper scanning. It can be set from 0 mm to 5 mm, adjustable in 0.1 mm increments.

String: You can configure the string's position (above or below the barcode) and adjust its size as needed. If preferred, the string can also be set to invisible, meaning it won't be printed with the barcode.


Scale X/Y: The default value is 100%, adjustable from 10% to 300%. Use the input box or the + / — buttons—long press for faster changes.

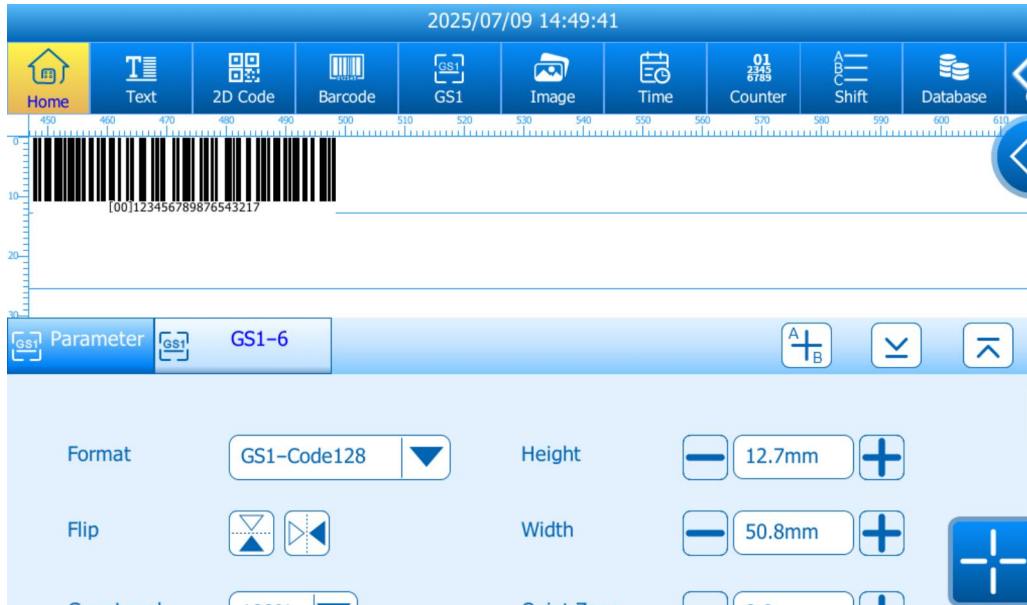
Object Manager: Barcode objects can be associated with: text, date, counter, shift, database, dynamic text. tap  to edit Objects Manager. For specific operations, refer to the **Object Manager in 5.3.2**.

Note: For the 2D code, barcode, and GS1 code objects introduced in this chapter, refer to **Section 5.3.3: 2D Code Parameter Settings for: Size, ECC Level, Margin, Dot Matrix, Format**



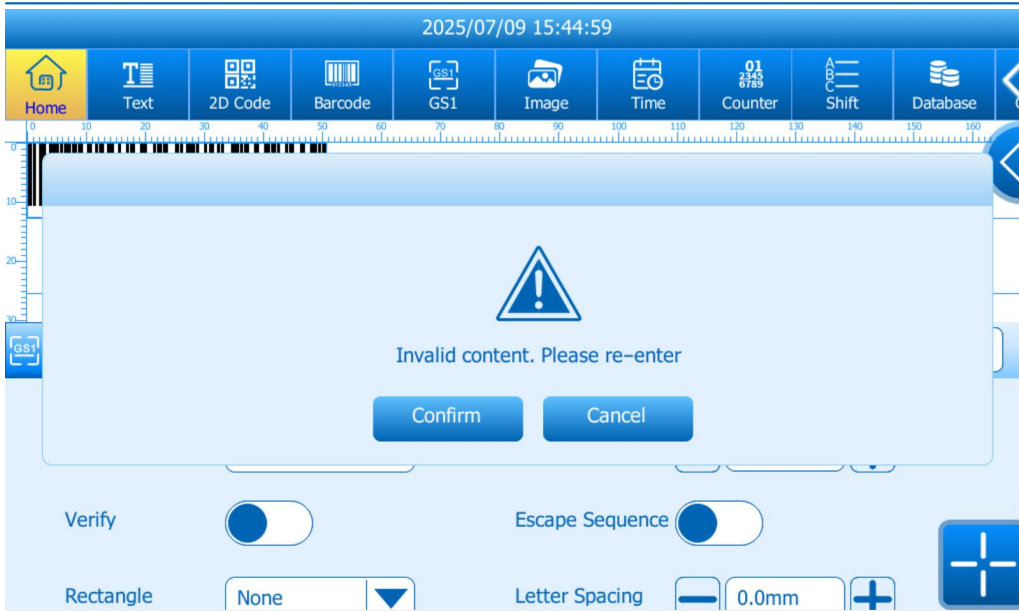
5.3.5 Create a GS1code

In the message editing interface, tap  to create a GS1 code.



Format: Tap the drop-down button to select. Please follow the encoding rules of the selected GS1 code —invalid input will trigger an error.

GS1 Data Validation: checks whether the input length matches the format required by each Application Identifier (AI). Enabled by default, it highlights errors in red if content is too short, too long, or contains invalid symbols. You can disable this check using the validation toggle—no errors will display when turned off.



GS1 Separator: Set GS as the Field Separator Toggle this option to enable or disable the **GS (Group Separator)** as the delimiter for data fields. This feature is disabled by default.

- When **GS separator is disabled**, **FNC1** is used as the field separator.
- When **GS separator is enabled**, **GS** is used as the field separator.

Note: This setting applies only to **Data Matrix codes**.

Escape Sequence: When this function is enabled, GS1 content containing the escape character **\n** will display the data **after \n** on a **new line** when scanned.

Bearer Bar: Choose whether to apply a protective frame around the GS1 code. Available options include None, Top, Bottom, and Box. When a frame is enabled, the frame width setting becomes available for adjustment.

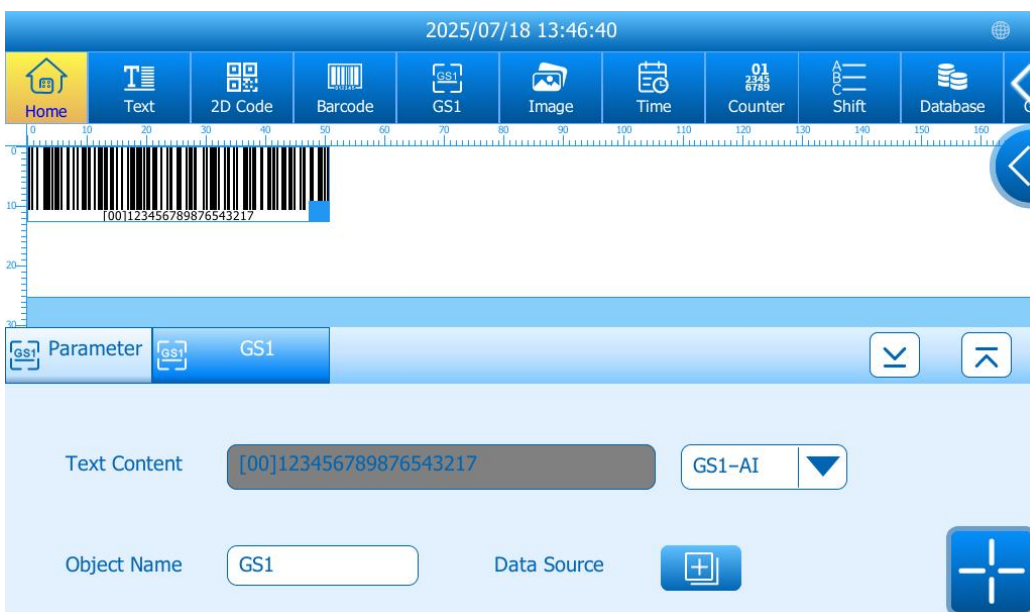
Note: Certain Settings will only be displayed after selecting format.






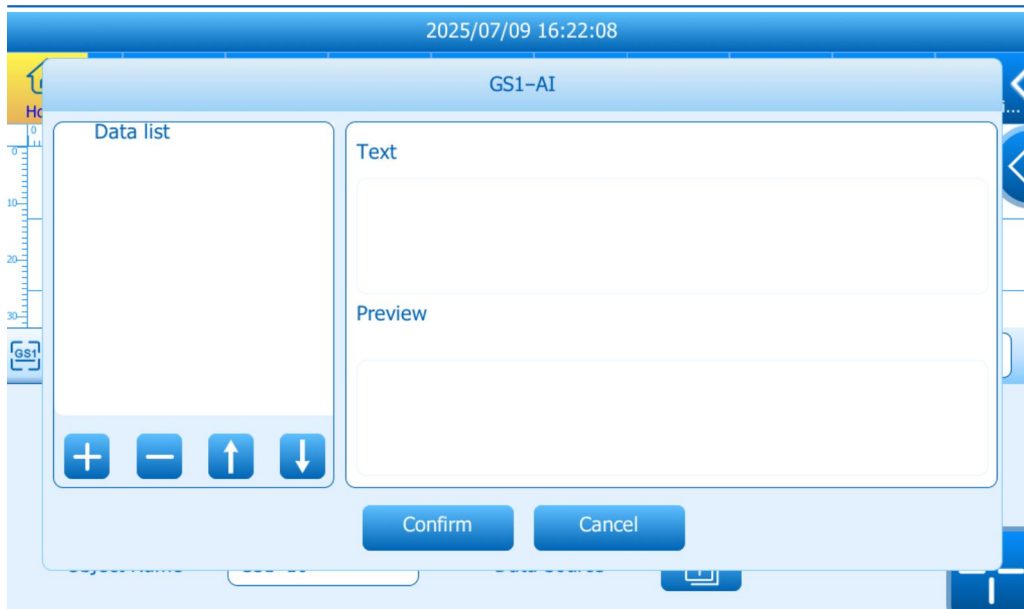
Text content: The default value is preset as [01]12345678901234. Two input modes are available:


- **Custom** – Input must follow the encoding rules of the GS1 code type selected in the **parameter** settings.
- **GS1-AI** – Input must comply with GS1 Application Identifier (AI) standards, including proper structure, data format, and length as defined by the selected AI.

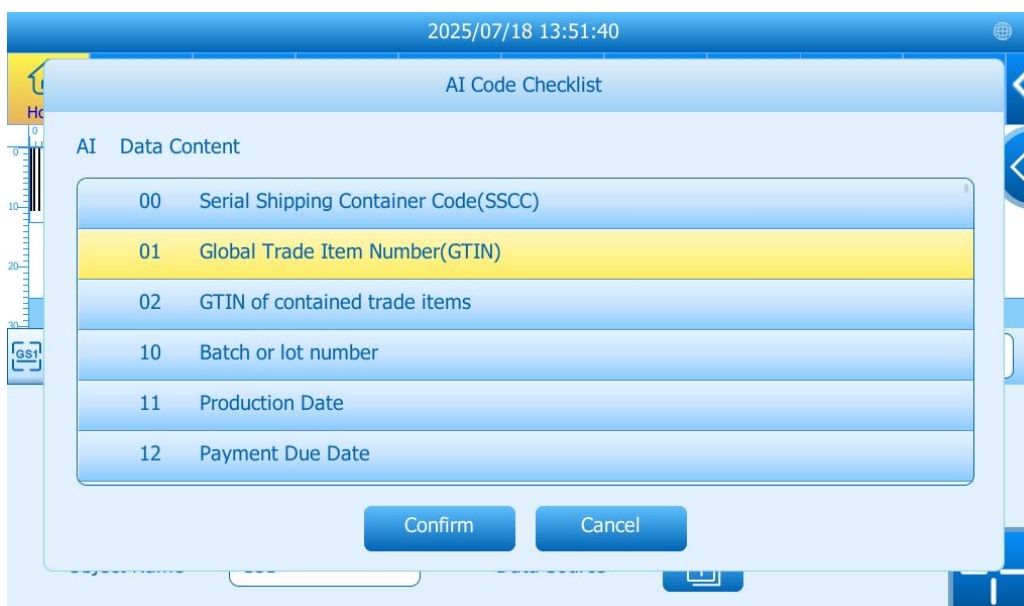


GS1-AI: Tap  to enter the GS1 AI editing interface. AI fields must be added sequentially to generate a GS1 code. Each AI must follow GS1 code formatting rules.



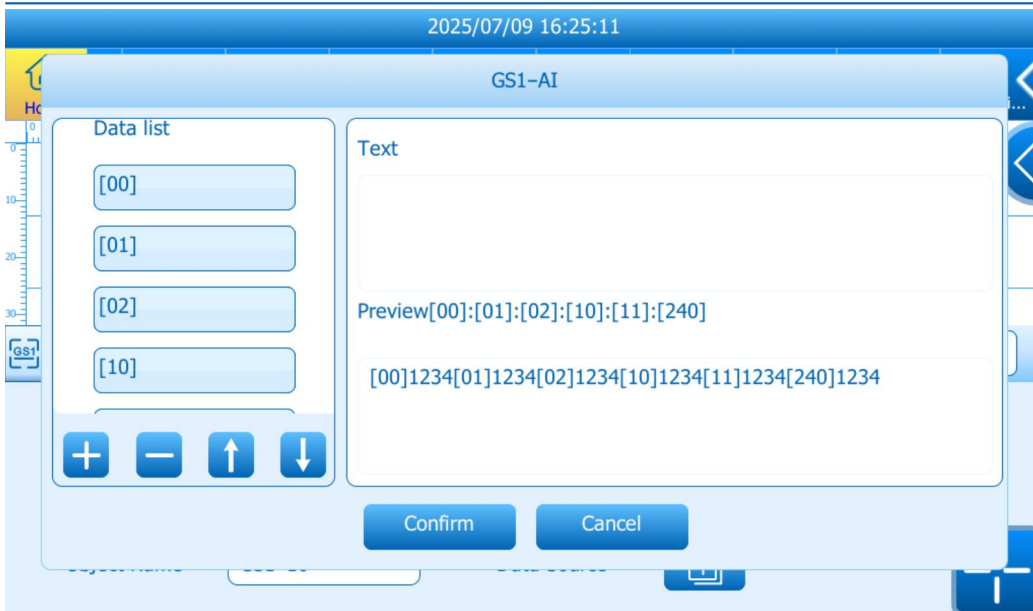


Tap  to open the GS1 AI code checklist. You can select individual GS1 Application Identifiers (AIs) and enter their corresponding data based on the their encoding rules.




AI	Data Content
00	Serial Shipping Container Code(SSCC)
01	Global Trade Item Number(GTIN)
02	GTIN of contained trade items
10	Batch or lot number
11	Production Date
12	Payment Due Date






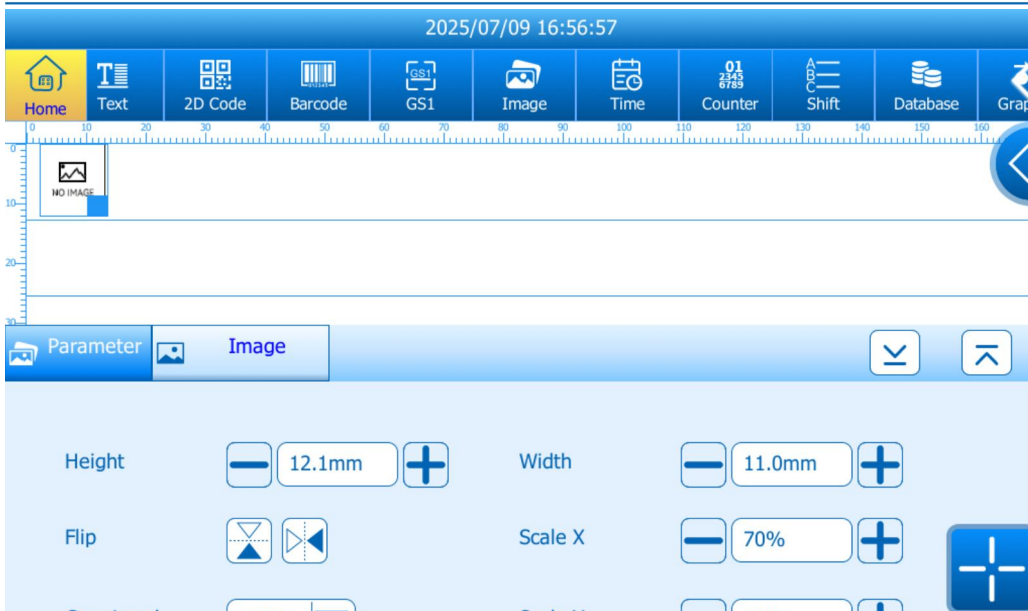
Object Manager: GS1 objects can be associated with: text, date, counter, shift, database, dynamic text. For specific operations, refer to the **Object Manager in 5.3.2**.

Note: Manually entered GS1 codes are intended for single-message use only. For batch printing, you can import GS1 codes using a **UTF-8 encoded *.csv** file via the Database  interface. Alternatively, integrate with third-party code issuance software using an API connection, which enables automated retrieval and printing of GS1 code data at scale.

5.3.6 Add an Image

Tap  in the message editing interface to insert an image. The canvas will automatically display the system's default image set





Width: Default is 15.5 mm, adjustable from 1.5 to 46.7 mm. Enter a value manually or use \pm buttons (step: 10; long press for rapid adjust).

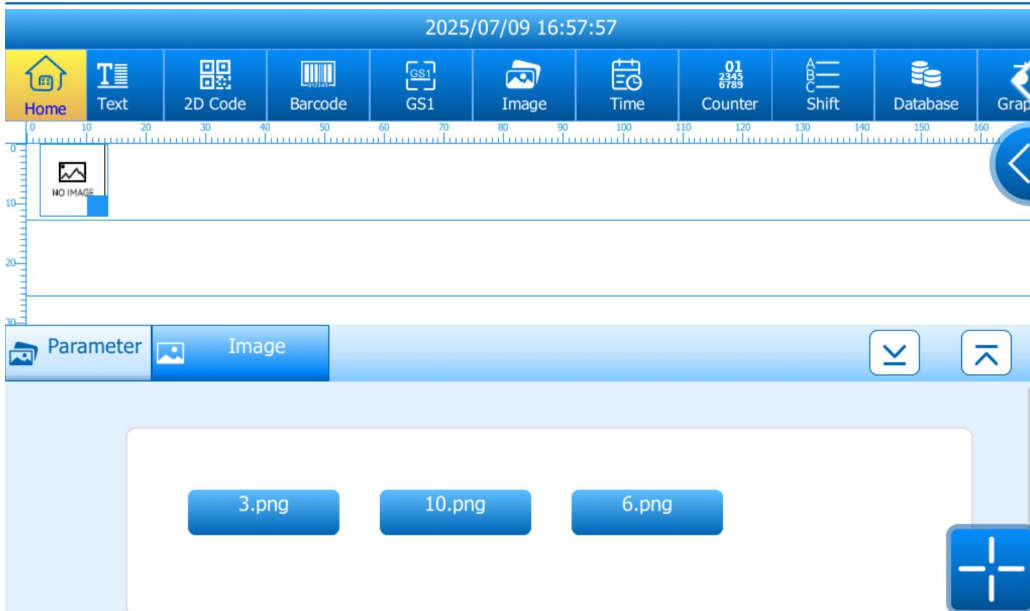
Height: Default is 15 mm, adjustable from 1.3 to 45.2 mm. Enter a value manually or use \pm buttons (step: 10; long press for rapid adjust).

Lock Aspect Ratio: Maintains the proportion between horizontal and vertical scaling. When enabled, changing one dimension auto-adjusts the other to preserve the original ratio.

Image List: Displays all imported images. Tap an image in the list to switch the image being loaded on the canvas. Select from the imported image list or use the search bar to find a specific image. Preview an image, then tap **Confirm** to add it.

Note: To import an image, use a USB drive and import files in BMP, JPG, PNG format. Supported resolution: up to V566 \times H12800 pixels. If your image is larger, resize it with a paint tool on your computer before importing. Details on how to operate please refer to **Section 5.2.2 Image Import**.




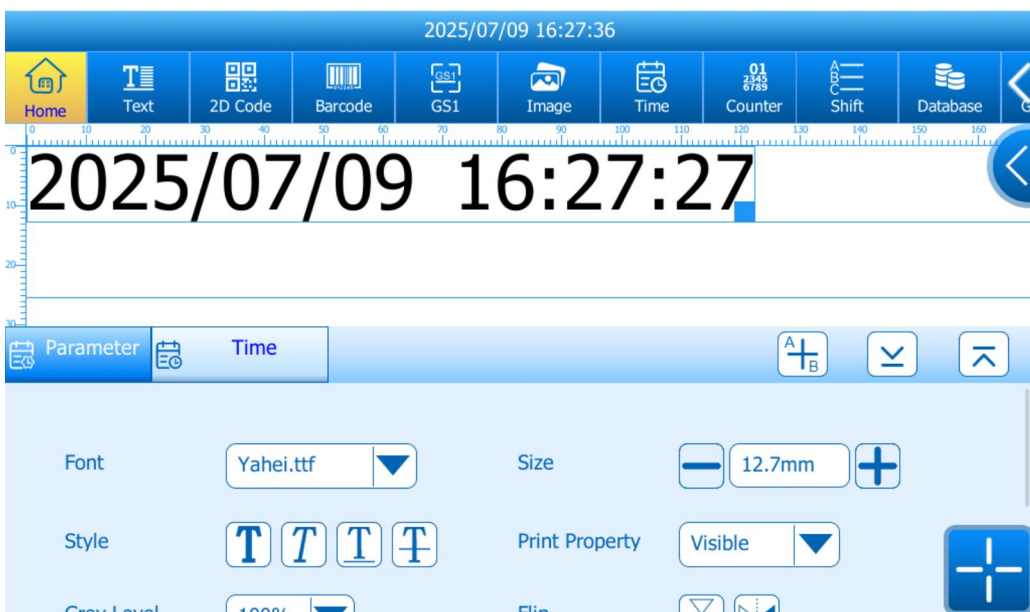


Note: Image objects are not compatible with the Object Manager function. Certain setting options will become visible only after selecting a shape.

For parameters such as Printing Property, Flip, Grey Level, and Rotation, refer to **Section 5.3.1**

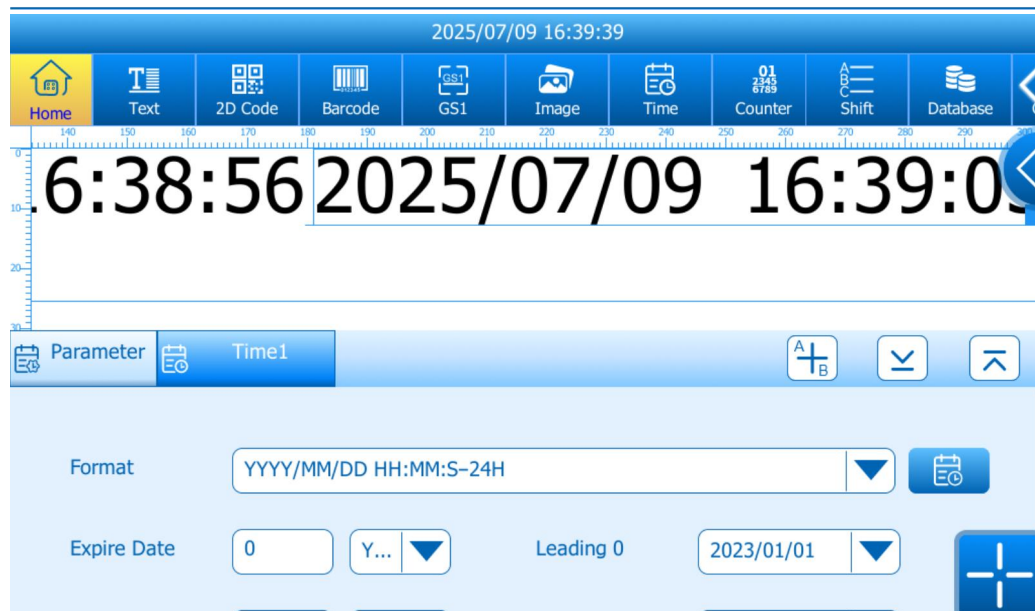
5.3.7 Add a Time

In the message editing interface, tap  to Add a Time.



Parameter setting: Same as text parameter setting, please refer to **5.3.1** for operations.





Time Object Setting

Format: Set the time format. Custom formats are supported. For date formats custom, please refer to **Section 7.4.1**.

Expire Date: Configure the year, month, day, and hour as needed. The system will increment the date values according to your settings.

Date Jump: Date Jump is a time management feature that automatically updates the printing date at a specified time. For example, if the jump time is set to 08:00, the system will print July 10 until 07:59, and then switch to July 11 starting at 08:00. This mechanism is ideal for production shifts that span midnight, ensuring that printed date codes accurately reflect the intended production day.

Leading 0: Select from four formatting modes to control leading zeros in dates:

2023/1/1 – No leading zeros

2023/01/01 – Leading zeros for both month and day

2023/_1/_1 – Underscores in place of zeros

2023/1_/1_ – Underscores after single-digit month and day


Daylight Saving Time (DST): Disabled by default. Tap the drop-down menu to select EU Standard DST or US Standard DST.

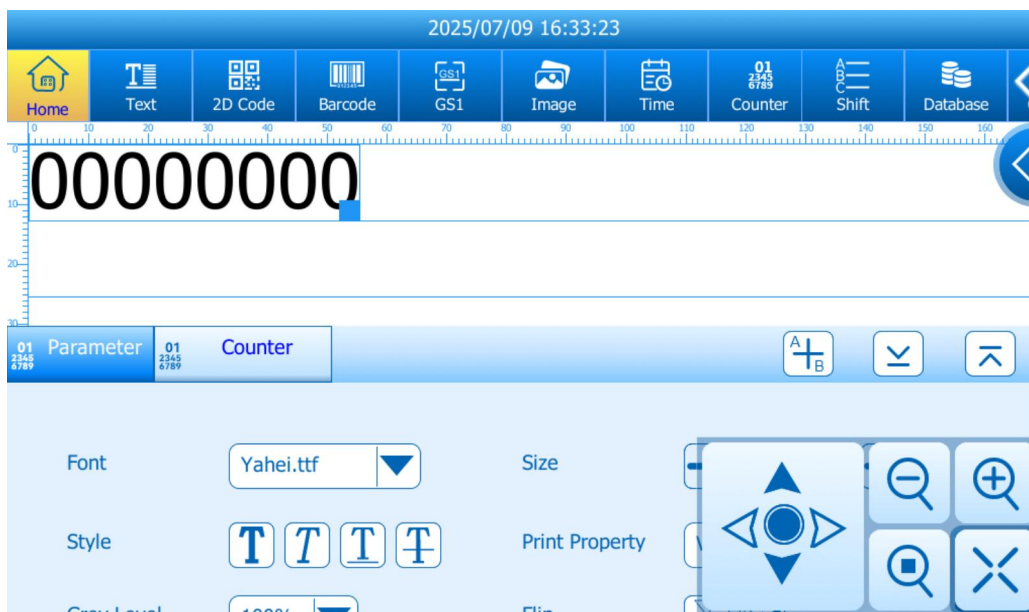


Calendar Type: Gregorian is the default. You may also choose from Hijra (Islamic), Persian, or Julian calendars.

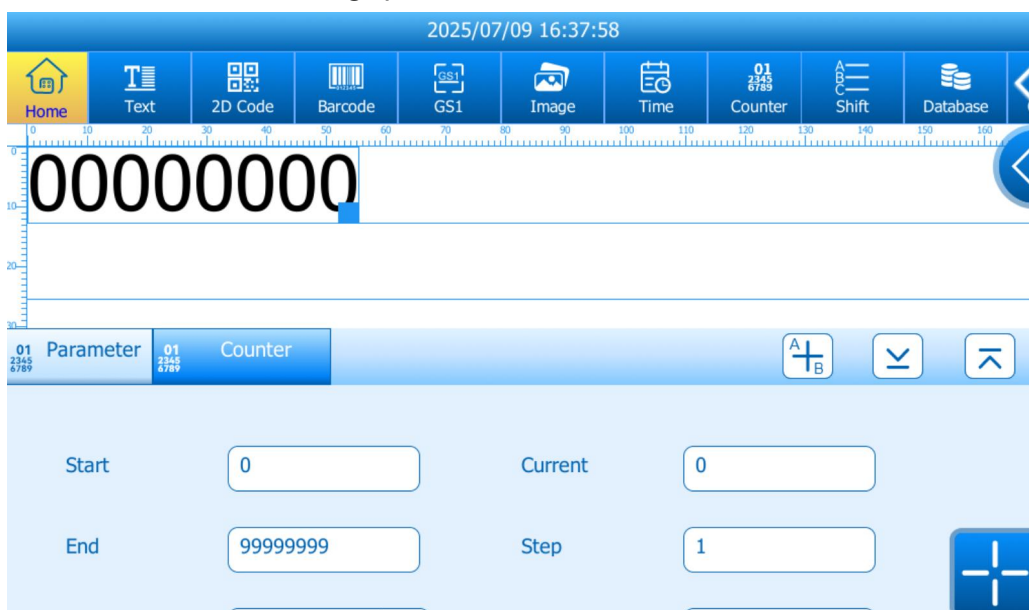
Object Manager: Time Object can be associated with the following components: Text, Date, Counter, Shift, Database, and Dynamic Text. For detailed configuration and editing operations, refer to **Section 5.3.2: Object Manager**.

5.3.8 Add a Counter

In the message editing interface, tap  to add a counter.



Text Parameter Setting: please refer to **Section 5.3.1**.



Start: Set the minimum value of the counter.

Current: Set the current value, and the setting range is between the start value and the end value.

End: Set the end value, that is, the maximum value.

Step: Set the counter step value (for example, if the step is 3, the counter counts 1, 4, 7...).

Leading 0: Setting the leading zero mode, there are four modes to choose from: 0001, 1__, __1, 1.


Repeat: defines how many times a message is printed per trigger. In continuous mode, spacing between prints remains accurate—within ± 1 mm—even across multiple copies.

Radix: Default is decimal. Optional bases include 10, 12, 16, 32, 36, or a custom radix.

Auto-decrement: Begin with the maximum value. The counter decreases by the set step size until it reaches the settlement value, at which point it stops.

Object Manager: The counter object can be associated with: text, date, counter, shift, database, dynamic text. For specific operations, refer to the **Object Manager in 5.3.2**.

5.3.9 Add a Shift

You can use the drop-down menu to select a pre-configured shift group. If no shift group has been set up, tap the button  to create a new one. For instructions on creating shift groups, refer to **Section 7.4.3: Create Shifts**.

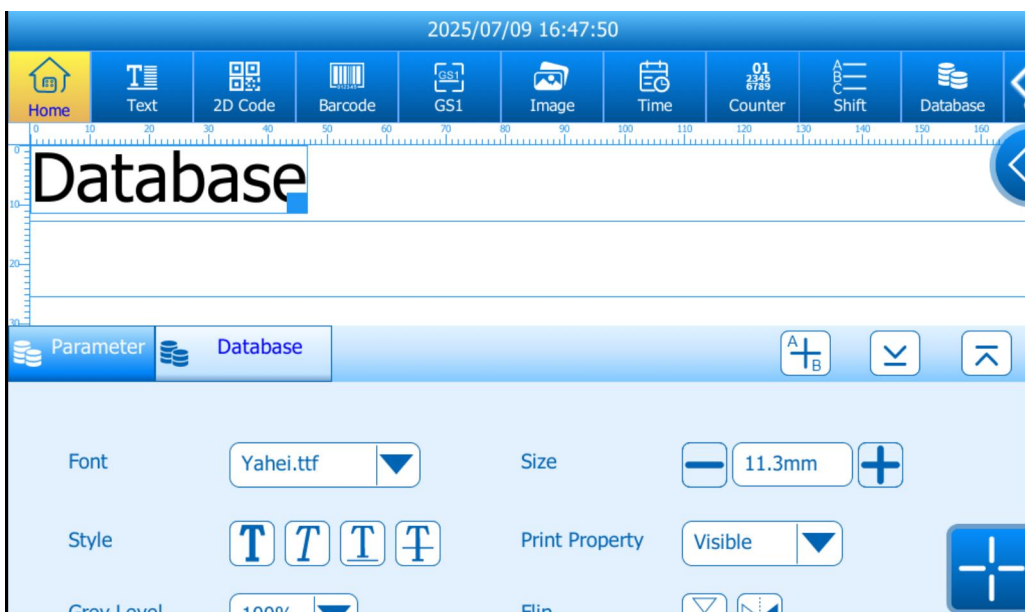




Object Manager: The Shift object can be associated with: text, date, counter, team, database, dynamic text. For specific operations, refer to the **Object Manager in 5.3.2**.

5.3.10 Add a Database

Tap  on the message editing interface, add a database.



Parameter Text Setting: please refer to **Section 5.3.1**.





Database Setting

Path: Tap to browse and choose the database file

Data Type: You can select the data type for the database. Tap the drop-down menu to choose from: **Variable Text**, **Variable 2D Code**, or **Variable Barcode**.

Start: Set the starting point in the database for printing.

End: Set the end point in the database for printing.

Current: Set the current position in the database for printing.

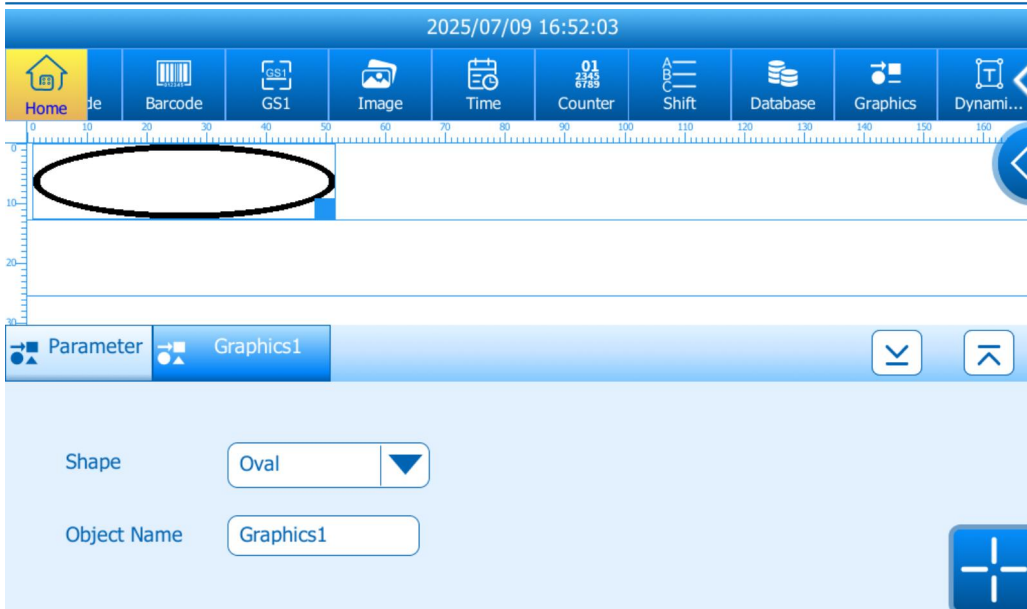
Repeat: Set the number of repeated prints for each database entry.

Object Manager: Database object can be associated with: Text, Date, Counter, Shift, Database, and Dynamic Text. For detailed operations, refer to the **Object Manager in section 5.3.2**.

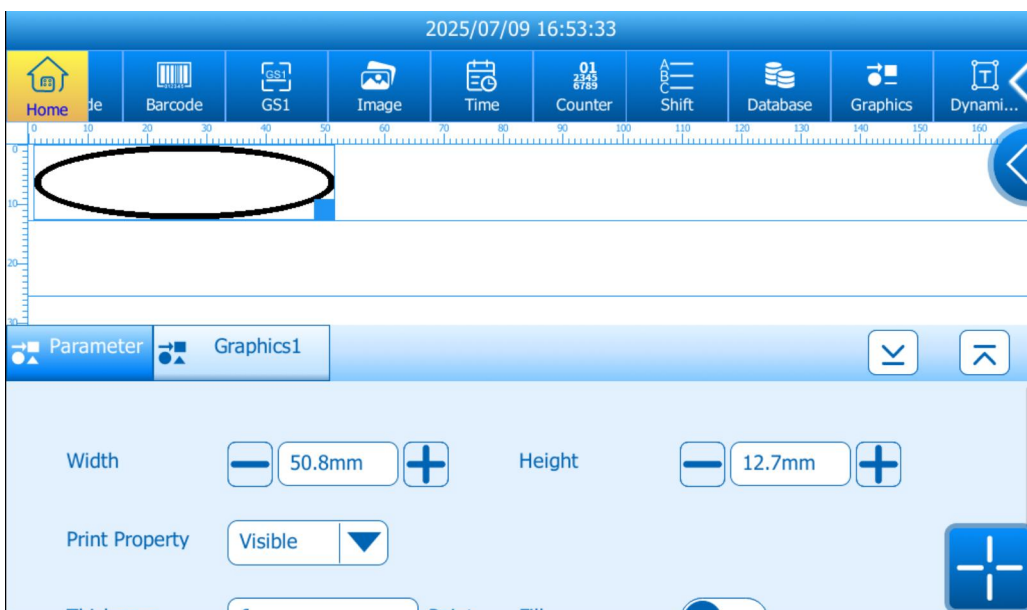
5.3.11 Add a Graphic

In the Message editing interface, tap  to Add a Graphic.





Shape: Select the style of the graphic. Tap the drop-down menu to choose from ellipse, rectangle, or straight line.



Width: The default is 50.8 mm and can be adjusted between 7 mm and 300 mm. Tap the input box to enter a value in 1 mm increments.

Height: The default is the maximum printable height. You can adjust it from 5 mm to 71.1 mm by tapping the input box and entering values in 1 mm increments.

Stroke: Minimum 1 mm, maximum 2 mm.




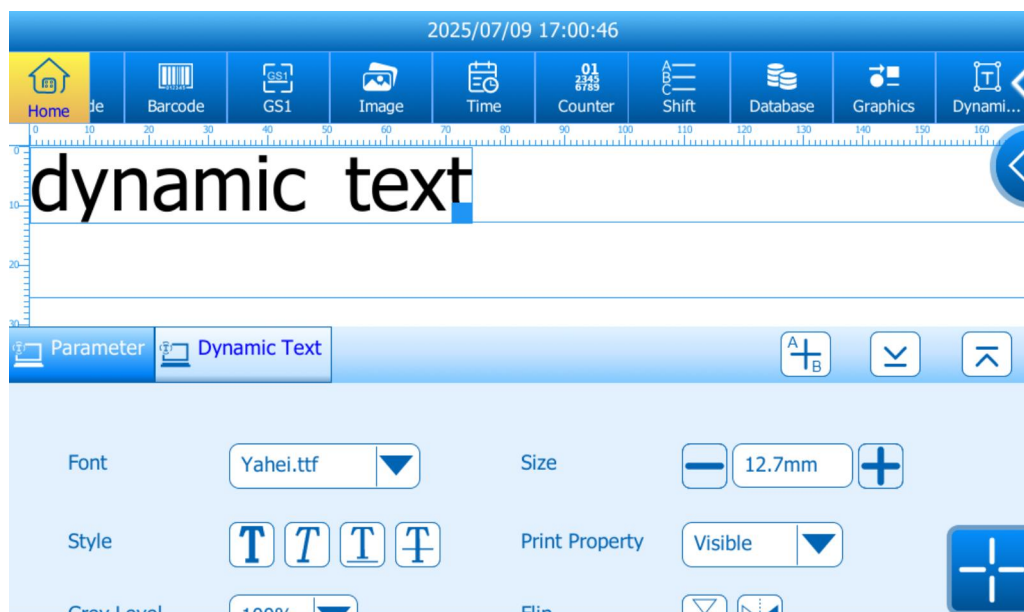
Fill: When either an ellipse or rectangle is selected, enabling the Fill button will apply a solid fill to the entire shape. **Note:** The Line shape does not support the fill option.

Thickness: Allows adjustment of the line thickness of the shape.

Note: Graphic objects are not compatible with the **Object Manager** function. Certain settings will appear only after a shape is selected. For parameters such as Printing Property, Flip, and Grey Level, refer to the text settings in **Section 5.3.1**.

5.3.12 Add a Dynamic Text

In the Message editing interface, tap  to add a dynamic Text.



Dynamic Text Parameter Setting: Same as the Text Parameter Settings. Please refer to **Section 5.3.1**.





Dynamic Text Settings

Text Source: Select the dynamic text input type: **Computer, Scanner, or Scale.**

Type: Select the type of dynamic text to generate. Tap the drop-down to choose from **Variable Text, Variable 2D Code, or Variable Barcode.**

Print Mode: Scan Once – Print Once, or Scan Once – Print Multiple. Weigh Once – Print Once, or Weigh Once – Print Multiple.

Print Times: Set the number of prints triggered by a single scan or weighing.

Buffer: The caching function can be enabled.

Unit: When the weighing scale type is selected, the unit of measurement can be entered manually.

Protocol: If computer is selected as the input type, a communication protocol must be specified. The default is HTTP, with options including HTTP and TCP.

Server Mode: This mode is enabled by default, allowing the device to receive data as a server. You can turn it on or off as needed.

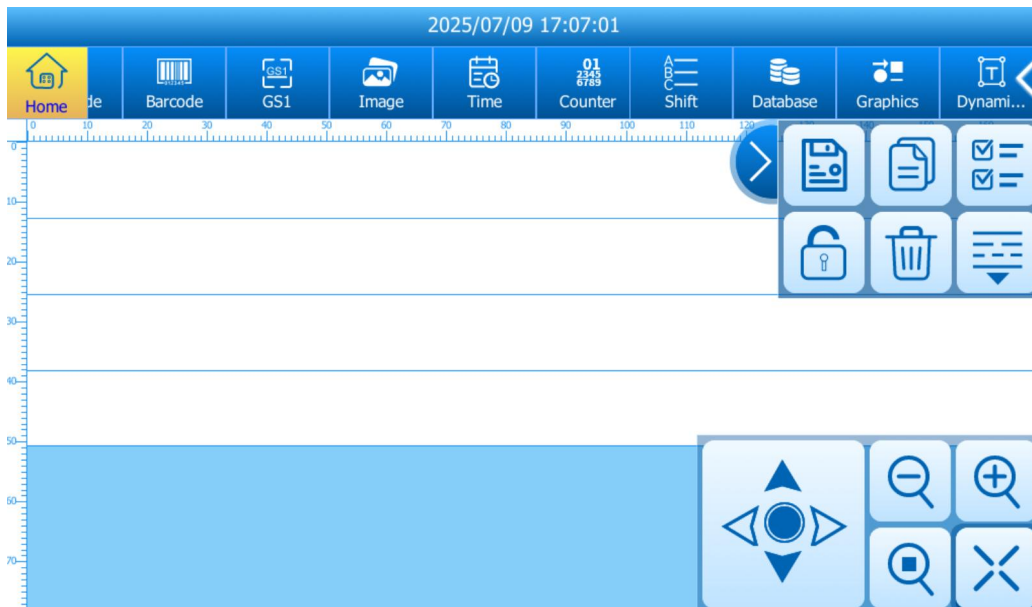
Object Manager: Dynamic text objects can be associated with Text, Date, Counter, Shift, Database, and Dynamic Text. For detailed operations, refer to the **Object Manager in section 5.3.2.**






Note: Certain setting options will only appear after a type is selected.


5.4 Message Editing Toolbar


Message Editing Toolbar allows you to customize whether the function settings for each object and source are displayed.




In the file editing Interface, tap the Button  to display Function Keys, then tap the Button .


Save: Tap the button  to save the edited content. The maximum storage capacity is 500 files. When the limit is exceeded, the earliest file will be automatically replaced, and a prompt dialog box will appear.











Copy: Tap the button , select an object on the canvas, then tap Copy. The object will be duplicated and pasted directly behind the selected object. Repeatedly tapping Copy will paste the object sequentially.

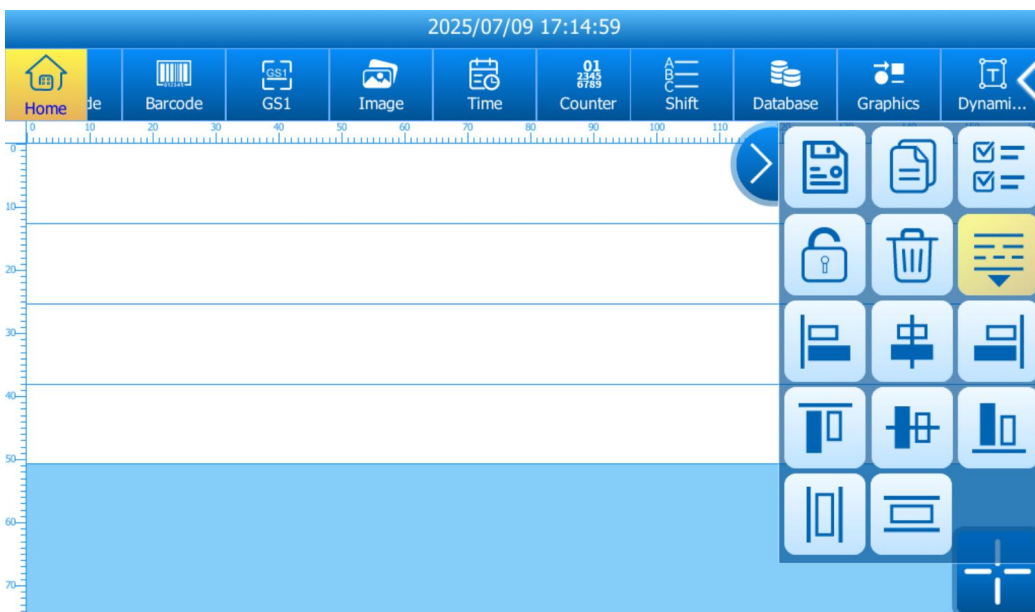
Multi-Select: Tap the Multi-Select icon  to enable or disable multi-selection. When enabled, the icon lights up, allowing multiple objects to be selected on the canvas simultaneously.






Lock: Tap the Lock Object button  to enable the locking function. Once enabled, all existing objects on the canvas will be locked and cannot be moved, but newly created objects will not be affected.


Delete: Select an object on the canvas and tap  to remove it from the canvas.


Alignment: Tap the button  to expand the Alignment panel, which supports multiple alignment options. This function requires selecting at least two objects and must be used together with the . Available options include Align Left , Align Right , H Center , Align Up , V Center , Align Down , H Average , V Average .



Tap the button  to display the object adjustment functions. tap  again to hide the right-side menu list.

Fine-Tuning: Tap the button  to adjust the object up, down, left, or right. Each tap adjusts by 0.5mm, and long-pressing allows for quick movement.

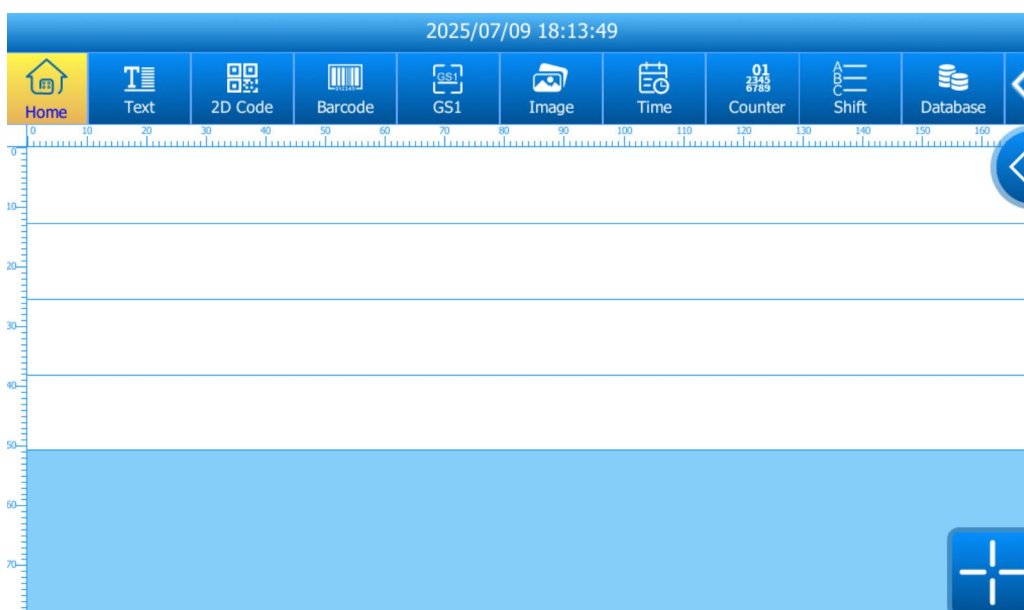
Zoom In: Tap the button  to zoom in on the canvas by 5% per tap. Long-press for continuous zooming.

Zoom Out: Tap the button  to zoom out of the canvas by 5% per tap. Long-press for continuous zooming.

Fit to Canvas: Tap the button  to automatically adjust the canvas size to fit the content.

Hide Object Parameter Box: Tap the button  to hide the object parameter box.

Expand Object Parameter Box: Tap the button  to expand the object parameter box.



6. Print Settings Toolbar

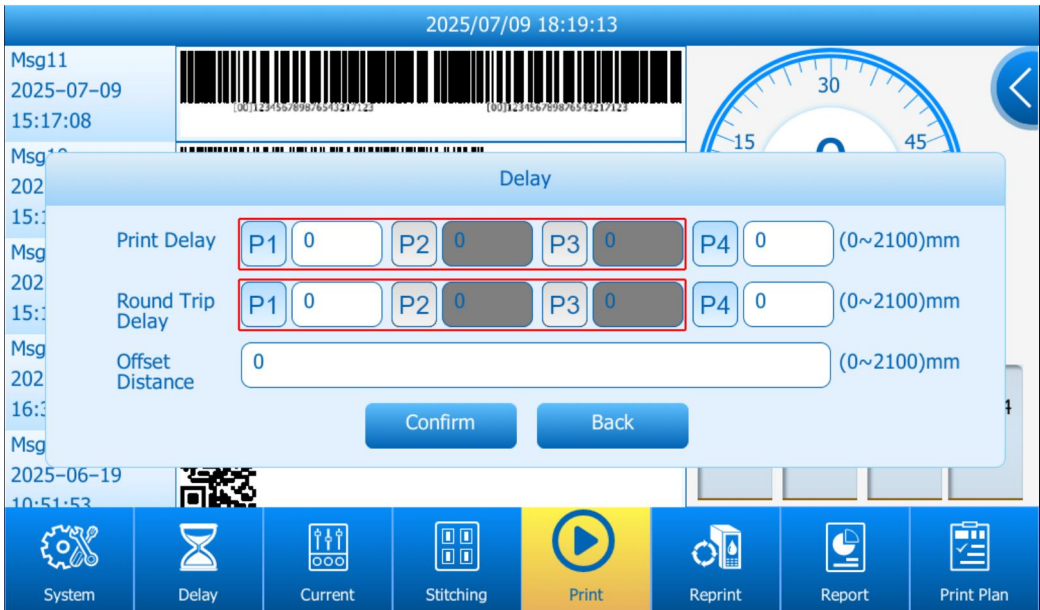
Printing Settings Bar on the Main Interface: The functional keys on this bar are related to print management. These include functions for System setting , Delay, Print Count, Stitching, Print, Reprint, Print Report, and Print Plan.



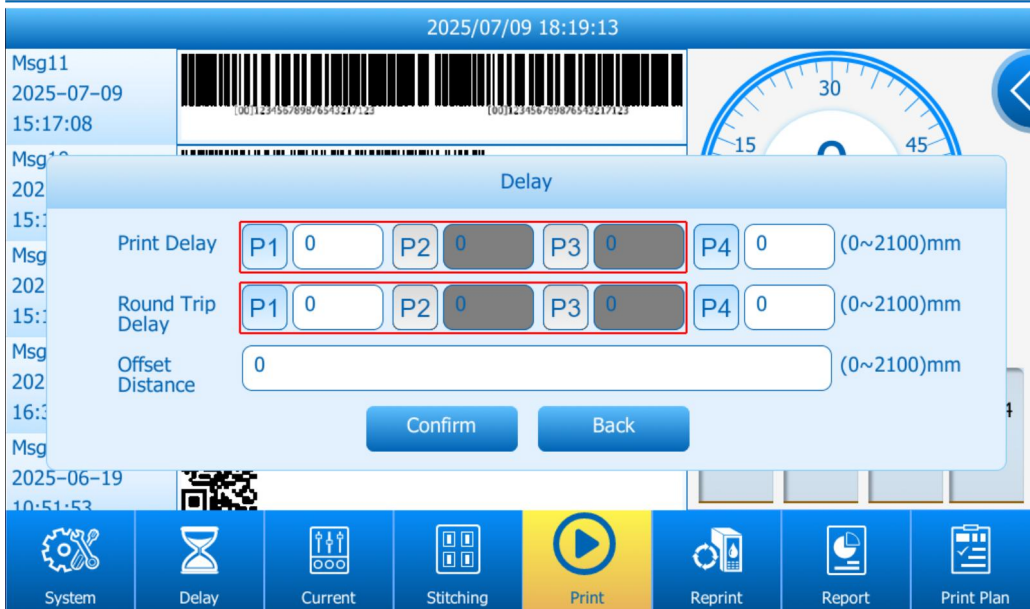


6.1 Delay

Print Delay: Print Delay refers to the distance between the trigger point and the start of printing. If multiple printheads are configured with independent delay settings, the delay distance for each printhead must be entered separately. The supported delay range is 0–2100 mm.



Independent Delay: Allows setting individual delay distances for each selected printhead.



Round trip Print: Enable this function to alternate the printhead's movement between forward and reverse directions. It prints once in the set direction, then once in the opposite direction, repeating the cycle.

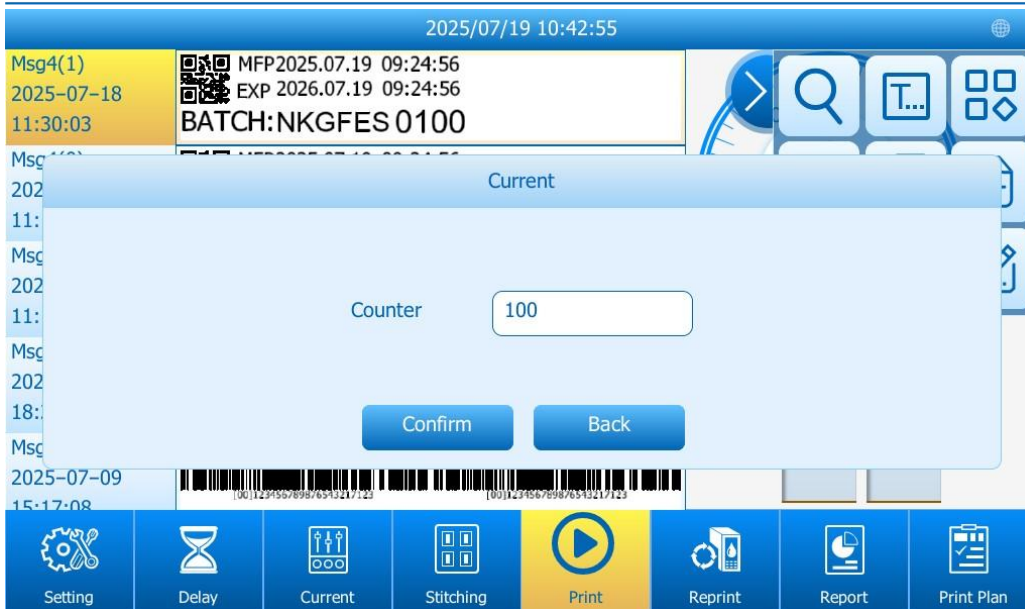
Offset Distance: This defines the blocking distance—the interval after object detection during which the sensor signal remains interrupted. It prevents repeated triggers and ensures the printer doesn't print multiple times in quick succession.

When using Independent Sensor with **Independent Delay**, the blocking range is fixed and cannot be set per sensor.

6.2 Current

Tap **Current** to view the latest count value. You can also manually enter a custom value from the counter or database to set the starting print point. The input must be within the defined start and end range in the **Counter** or **Database** settings.





Note: This function is available only when the print message includes counter or database objects. Without these elements, the feature will remain inactive.

6.3 Stitching Alignment

Stitching here corrects misalignment in multi-printhead printing. When output appears offset, adjust the X-axis for horizontal and Y-axis for vertical spacing between adjacent printheads.

For every **1mm** of misalignment in the print output, adjust the stitching value by **10 units** in the opposite direction to correct the offset between adjacent printheads.

1mm misalignment=10 Units Adjustment





6.4 Print

Print Counts: Print Counts continuously increase during printing and do not reset automatically. When you tap the Pause button, the count field becomes editable, allowing you to manually adjust the number of prints as needed.



During printing, the displayed message updates in real time to match the actual output. At the same time, the bottom function bar remains active, giving access to **System**, **Delay**, **Print Report**, and **Print Plan**—but these options are only available when the print message includes counter or database elements.

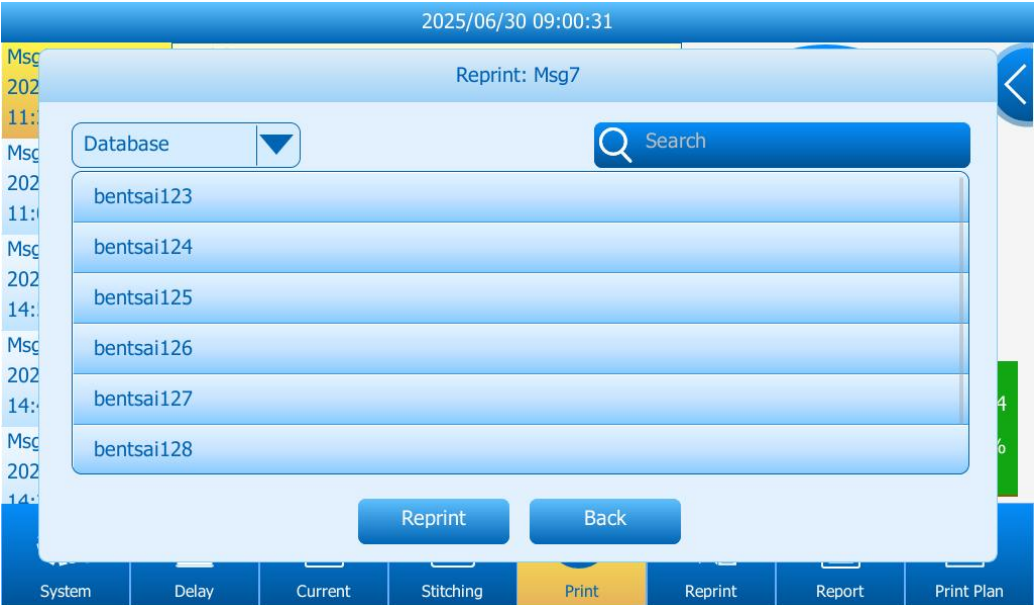


Buffer: When printing dynamic content with variable data, the Buffer button clears previously converted data and reprocesses it. This ensures the printed output stays up to date — especially useful when using counters or database fields.



6.5 Reprint


This function becomes available only after at least one print job has been completed. The system maintains a printing list of previously printed entries. Users can use the search feature to locate specific records. Once the needed entry is selected, the **Reprint** function can be triggered to reprint the selected content.

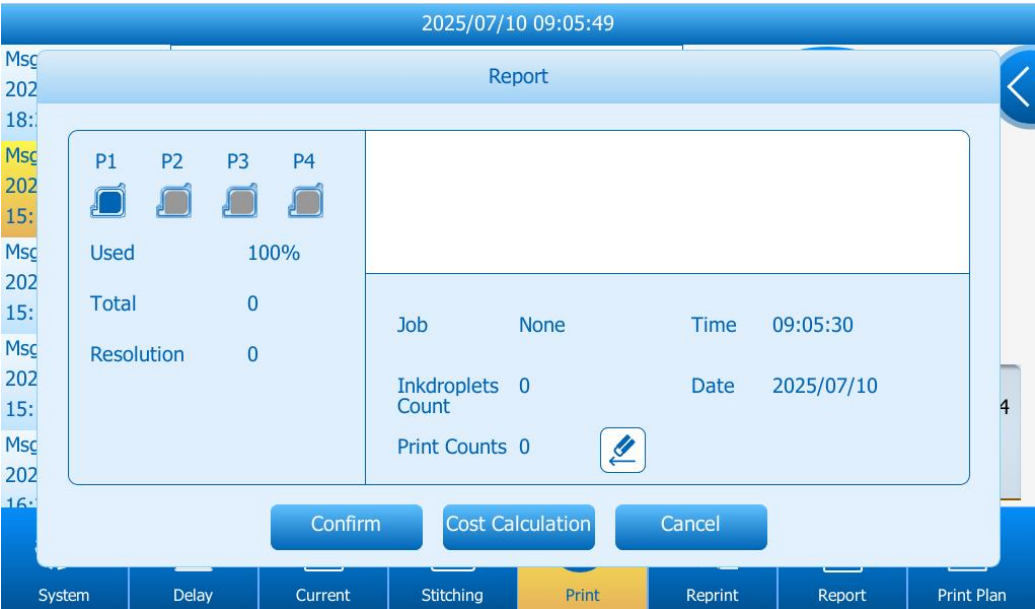


During reprint, certain function buttons—such as **Print Counts**, **Reprint**, and **Clear Buffer**—will be temporarily grayed out. These buttons will automatically return to their normal state once the reprint process is complete.

6.6 Print Report

This feature displays real-time data based on printing results. Taping the **Print Report** button hides the report interface; Taping it again restores the view.

Clear Print Count:  This function resets the accumulated print count back to zero.



6.6.1 Cost Calculation

Tap **Cost Calculation** to view printing cost details. You can estimate the print cost by selecting the resolution, entering the cartridge price, and specifying the planned print quantity.



2025/07/10 09:06:44

Cost Calculation

Resolution H*V 300 X 300

Cartridge Price 99

Prints Planned 5000

P1		P2		P3		P4	
Ink Volume	0	Ink Volume	0	Ink Volume	0	Ink Volume	0
Total Ink Droplets	0	Total Ink Droplets	0	Total Ink Droplets	0	Total Ink Droplets	0
Ink Droplets per Print	0	Ink Droplets per Print	0	Ink Droplets per Print	0	Ink Droplets per Print	0
Total Printable	0	Total Printable	0	Total Printable	0	Total Printable	0
Single Print Cost	0	Single Print Cost	0	Single Print Cost	0	Single Print Cost	0
Prints Planned	0	Prints Planned	0	Prints Planned	0	Prints Planned	0
Cost for Prints Planned	0	Cost for Prints Planned	0	Cost for Prints Planned	0	Cost for Prints Planned	0

Confirm
Cancel

System
Delay
Current
Stitching
Print
Reprint
Report
Print Plan

6.7 Print Plan


You can create and modify printing plans by adding existing messages and objects as needed. Each message in the plan can have its print count individually configured. By tapping the file name, you can delete entries or adjust their order. Once the plan is finalized, tap **Print** to begin the printing Process .

2025/07/10 09:07:50

Name

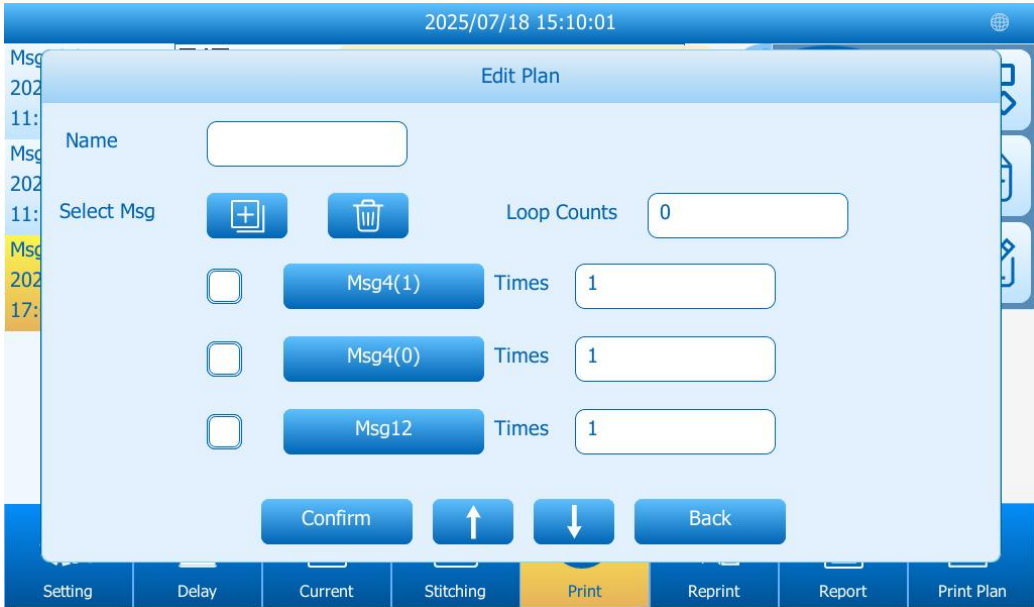
Add
Edit
Delete
Print



System
Delay
Current
Stitching
Print
Reprint
Report
Print Plan

Tap on Add and then  to create a print plan or select an existing plan or tap **Edit** to enter the editing plan interface, tap Confirm to save your changes.



Select messages to include in your print plan and specify the **print count** (Times) for each message. You can also set the **Loop Count** to define how many times the print plan should repeat the sequence.



Tap the button  and  to adjust the print order of the messages. Once finished, tap Confirm to save the plan.

Note:A maximum of 8 printing plans can be created, and each printing plan can add up to 10 objects.

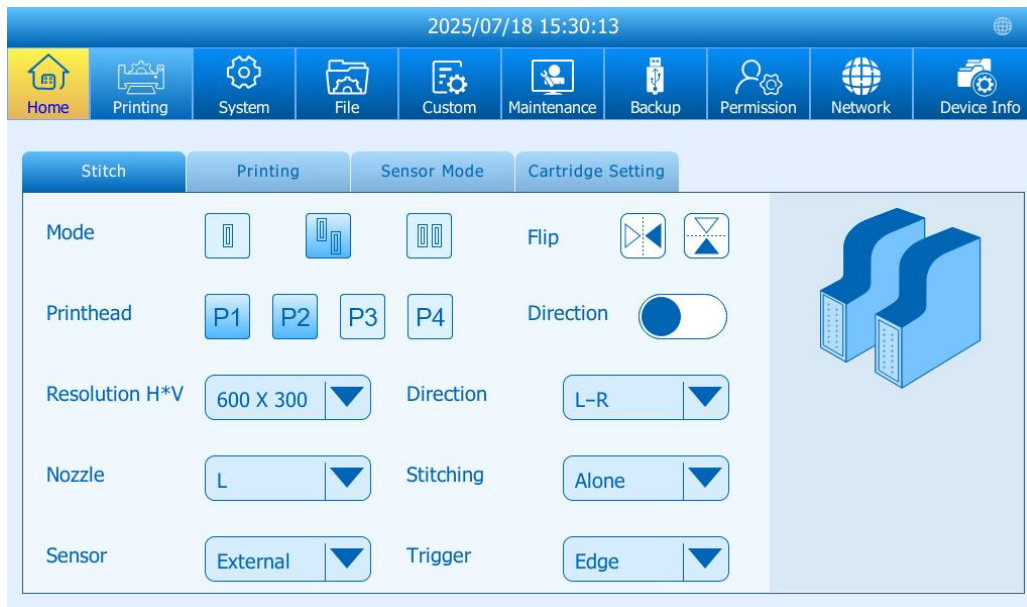
7.System Settings

In this section, you will be introduced to settings related to printing, including stitching settings, encoder settings, sensor setting, and cartridge settings.


7.1 Printing Settings


7.1.1 Printhead Working Mode Setting

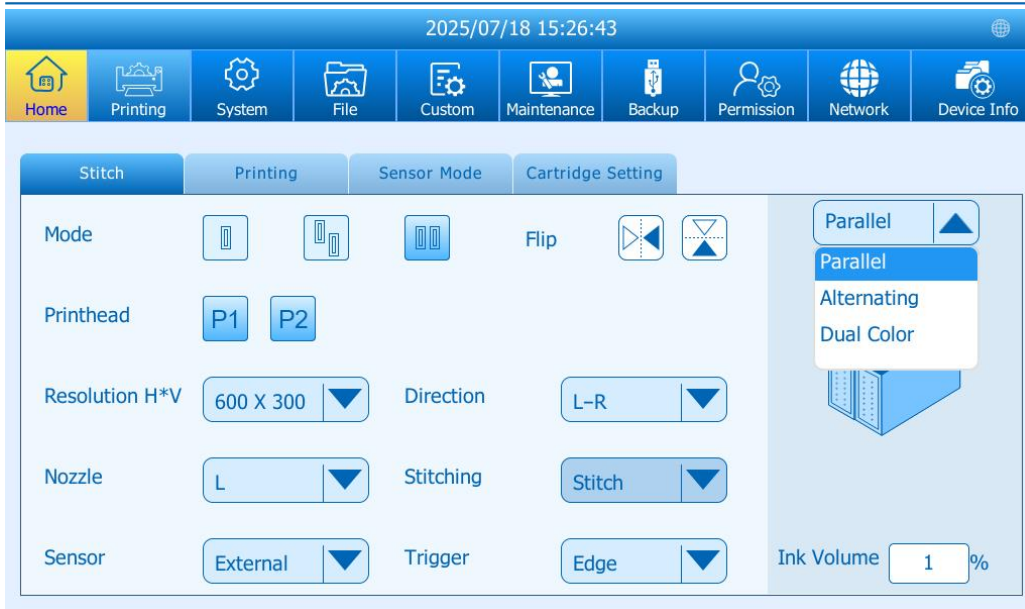
Printhead Working Mode: There are three types of printhead working modes: **Independent**, **Stitch** and **Parallel**.



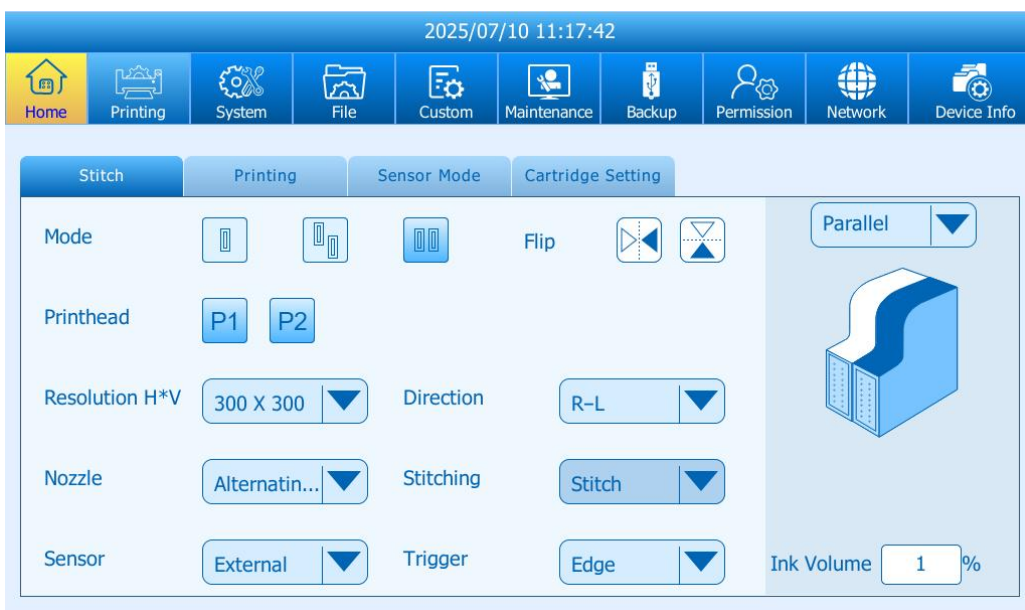
Independent Mode:  All cartridges are operating independently

Stitch Mode : In the stitch mode , multiple printheads operate together to print a single message.

Parallel Mode: Two printheads can be used in parallel  mode. The parallel working mode includes three sub- modes: **Parallel**, **Alternating** and **Dual Color**.



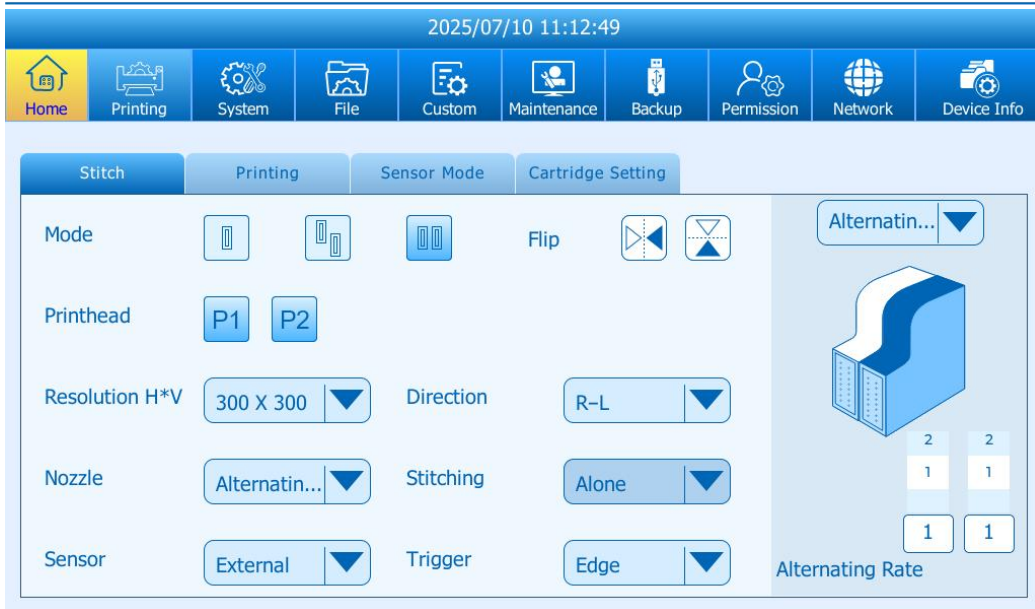
Parallel: Parallel mode ensures continuous printing during cartridge replacement. You set ink usage limits for each cartridge. When P1 reaches its limit, the system automatically switches to P2. While P2 is active, you can replace P1 without halting production. Once P2 hits its target, printing switches back to P1—keeping operations uninterrupted.



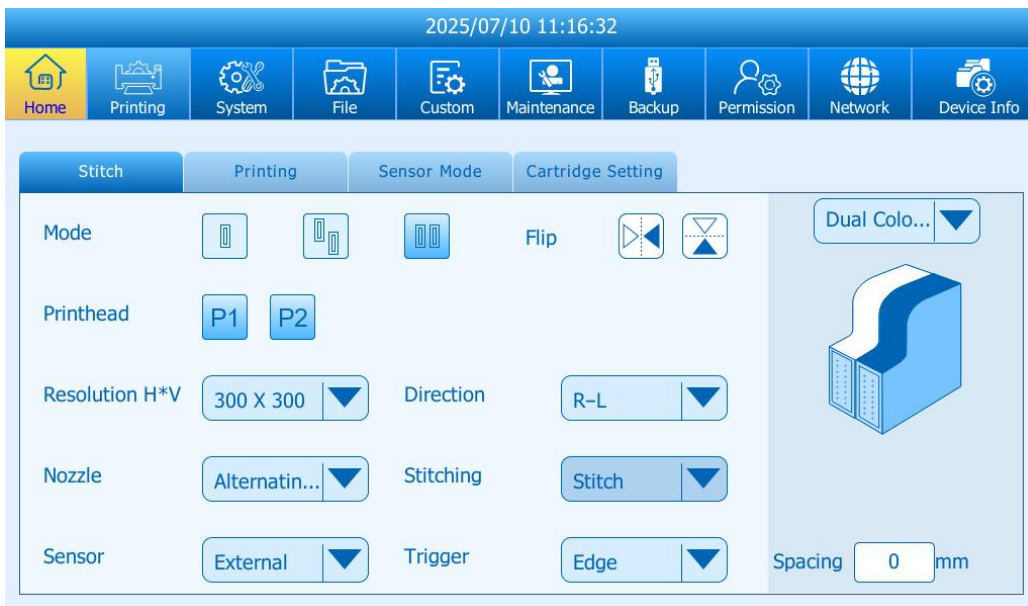
Alternating: Alternating printing allows two printheads to work alternately. You can set Printhead 1 to switch to Printhead 2 after reaching a specified usage percentage .

Alternating Rate: Alternate printing based on a set ratio (N:N).For example, if you select a 1:3 ratio, Printhead 1 will print once, followed by Printhead 2 printing three times. The printing will continue in this alternating pattern. ($1 \leq N \leq 10$)





Dual-color: Uses two printheads with different color ink to print one message in two colors. Split the content between editor windows for each printhead, set and adjust the spacing, and keep the print object position consistent for proper alignment.

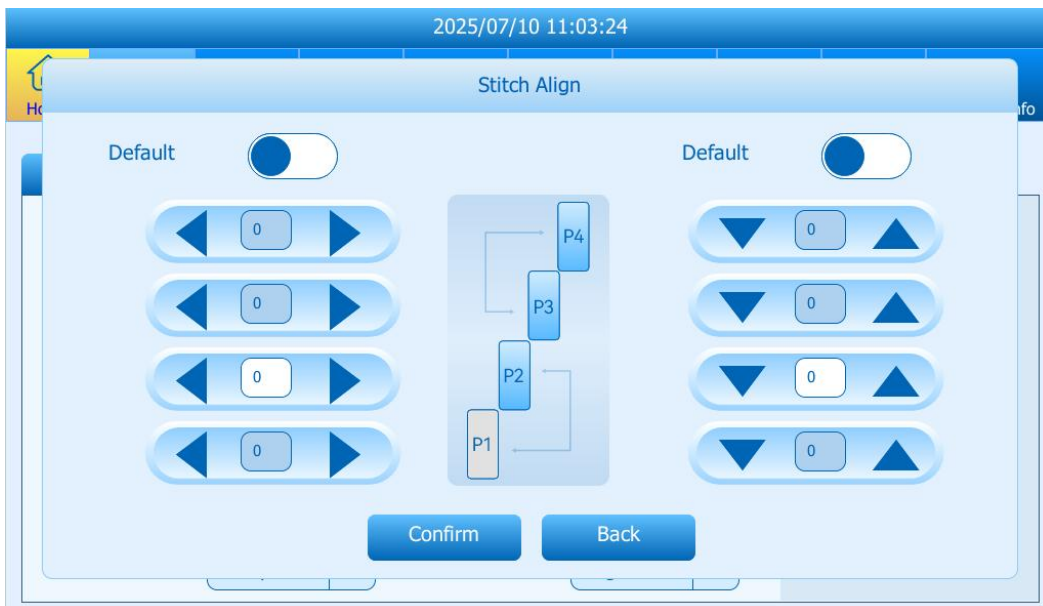


Flip: Configure the printhead's image orientation. Options include horizontal and vertical flip to adjust printing direction as needed.

Printhead: Up to four printheads can be used, depending on the actual installation.

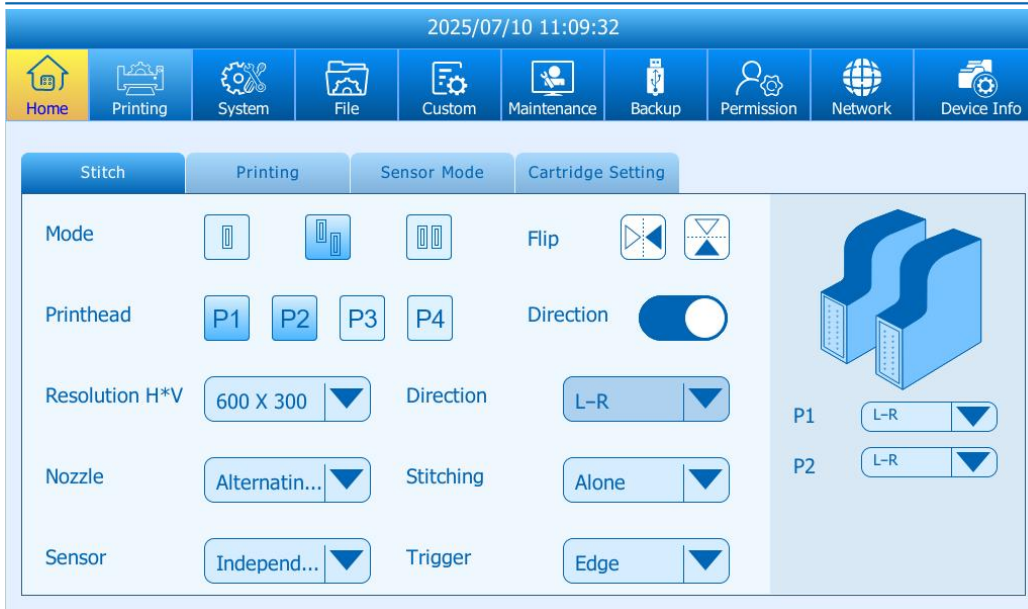


In Stitch Mode, printheads can be selected as needed and used for printing according to the existing stitch mode. Stitch parameters can also be adjusted on this interface. For instructions on stitching alignment , please refer to **Section 6.3**.



Direction: Set the movement direction of the printhead during printing. The default is **Left to Right (L-R)**. Use the drop-down menu to select **Right to Left (R-L)**, or **Auto Identification**, which adjusts the direction based on object orientation.





Resolution H*V: Set the horizontal and vertical print resolution. The default is 600 DPI (horizontal) × 300 DPI (vertical).

Nozzle Selection: Choose which printhead nozzles eject ink. By default, the left-side row is used. You can switch to right-side nozzles, enable dual-nozzle ejection at 600 DPI, or configure alternating ejection (e.g., 1:2 cycle—left ejects once, right ejects twice). Supports up to N=10. Applicable to 0.5" cartridges; Alternating mode is mainly used for high-speed printing.

Sensor: Sensor Configuration Select one or more sensors to trigger the printhead. Available options include **external sensors**, **built-in sensors 1–4**, and **independent sensors** with independent delay settings.

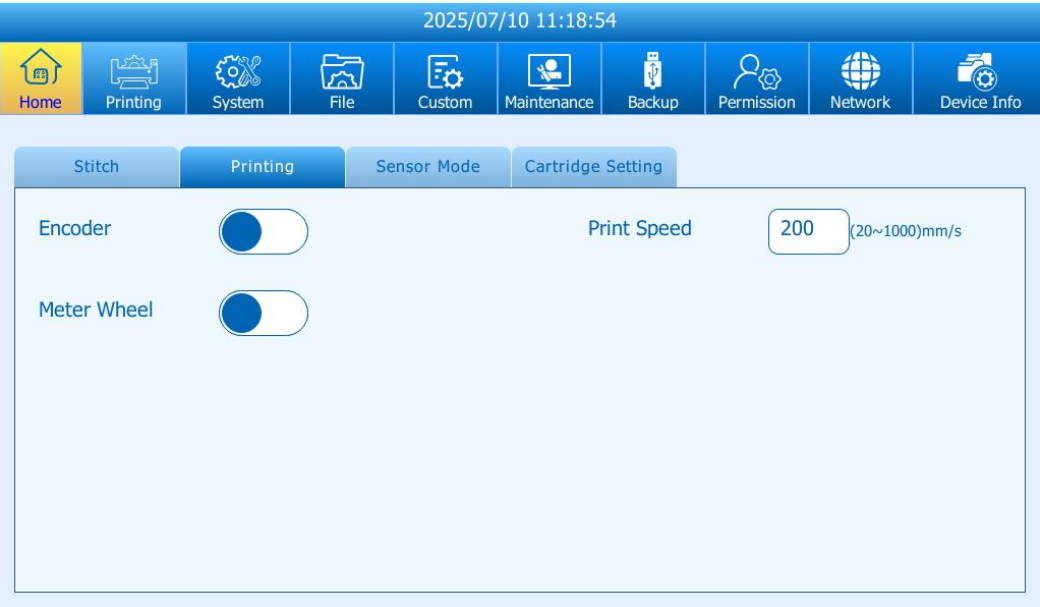
Trigger : Configure how the printhead responds to sensor signals. Two modes are available: **Edge Trigger** and **Level Trigger**.

- **Edge Trigger:** Printing is initiated once when the sensor detects a change—typically when the object first passes through.
- **Level Trigger:** Printing continues as long as the sensor remains active. Without a properly configured print interval, the printer may repeatedly mark the same position. This mode is suitable for applications where the product stays longer in the print area or requires continuous marking.

Note: Certain settings will only appear after selecting a stitch mode.



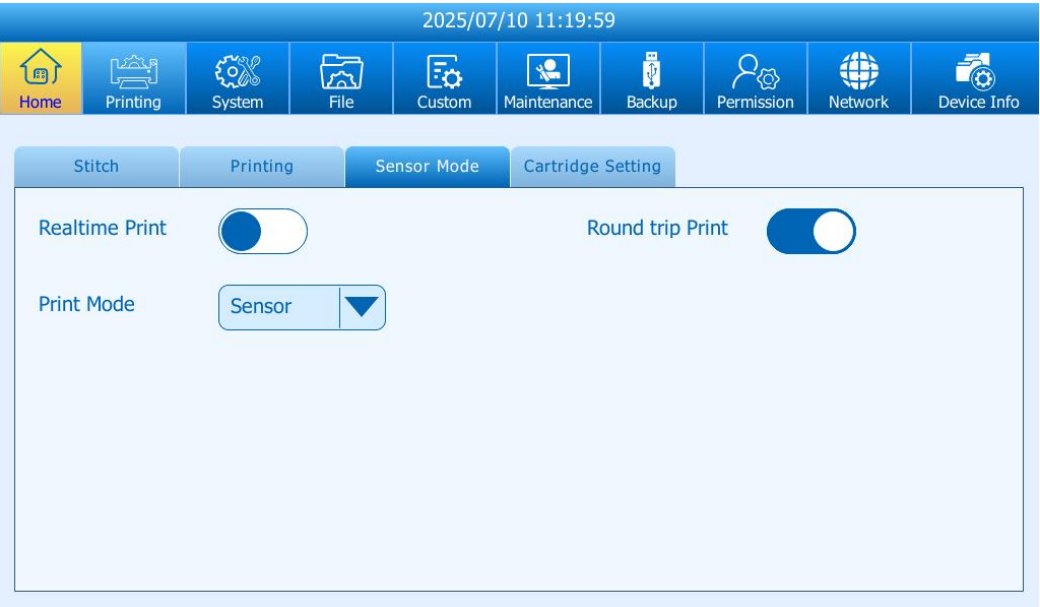
7.1.2 Encoder Setting



Encoder: Enable or disable the external encoder. By default, it is off. When enabled, the encoder automatically detects print direction and speed. When disabled, you can manually set the print speed to match the conveyor speed (20–1000 mm/s).

Meter Wheel:Enable this option when using a third-party encoder. For compatible encoder types or wiring setups, enter the meter wheel’s **pulse-per-revolution (PPR)** and the **synchronous wheel diameter** to automatically synchronize device parameters.

7.1.3 Sensor Setting



Real-time Print: Enable this feature to print the current time—such as a timestamp or production date—in sync with the sensor signal. It ensures each product receives accurate, traceable time data at the moment it passes the sensor.

Round trip Print: Enable this function to alternate the printhead's movement between forward and reverse directions. It prints once in the set direction, then once in the opposite direction, repeating the cycle.

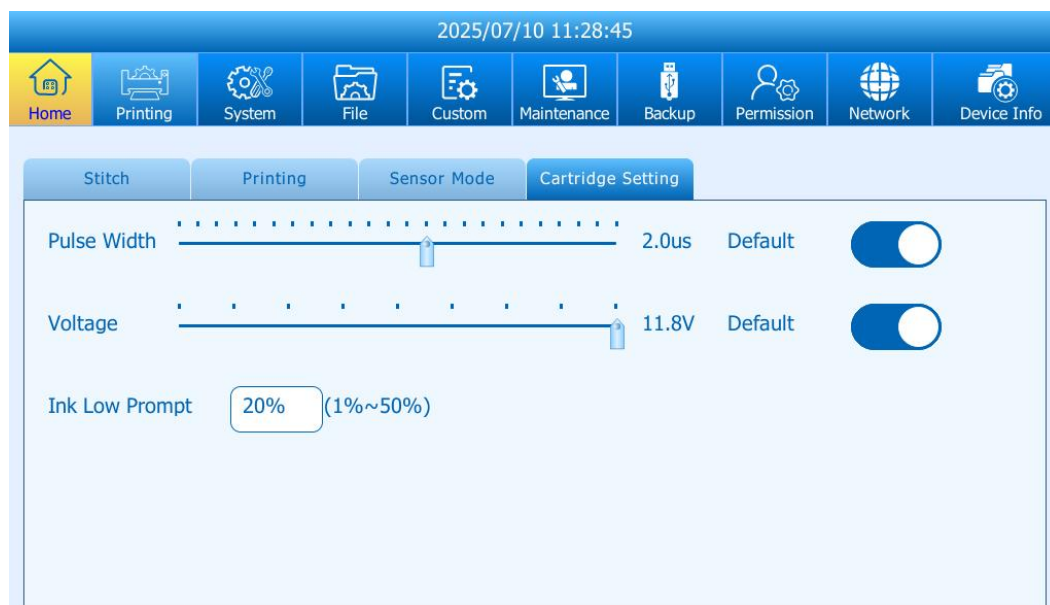
Print Mode Select the printing mode from the drop-down menu: **Sensor Mode**, **Repeat Mode**, or **Continuous Mode**.

Sensor Mode: Prints once per sensor activation. You can set a protection distance to prevent false triggers.

Repeat Mode: A single sensor trigger initiates multiple prints. Set the print interval (10–3000 mm) and the repeat count (1–1,000,000 times).

Continuous Mode: After the first trigger, printing continues automatically. Set the interval (0–10,000 mm) and the number of prints (1–1,000,000 times). Leave the count blank for unlimited printing.

7.1.4 Cartridge Setting



Pulse Width & Voltage: When using Bentsai cartridges, default settings are automatically applied based on the cartridge's chip data. For third-party cartridges or custom adjustments,



you can manually set the pulse width and firing voltage. Once configured, the pulse width remains unchanged—even after restarting the device or reinserting the cartridge.

Ink Low Prompt: Ink Level Alarm Set a threshold (0–50%, default: 20%) to trigger a low ink warning. When ink drops to or below this level, printing pauses and a “Low Ink Level – Please Replace the Cartridge” message appears. The installed beacon flashes and emits a buzzer alert. Tap Confirm to clear the warning and resume printing.

7.2 System Setting

7.2.1 Time Setting



	Year	Month	Day	Hour	Minute	Second
Current Time	2023	05	8	9	32	53
	2024	06	9	10	33	54
	2025	07	10	11	34	55
	2026	08	11	12	35	56
	2027	09	12	13	36	57

Date Format: Y/M/D

Time Format: H:M:S-24H

Setting

Current Time: Set or adjust the system time displayed on the printer by sliding up or down.

Date Format: The default format is YYYY/MM/DD. To change it, select a different format from the drop-down menu, then press the **Setting** key to apply the update.



Time Format: The default is [HH:MM:SS-24H]. To change it, select a different format from the drop-down menu, then press the **Setting** key to apply the update.



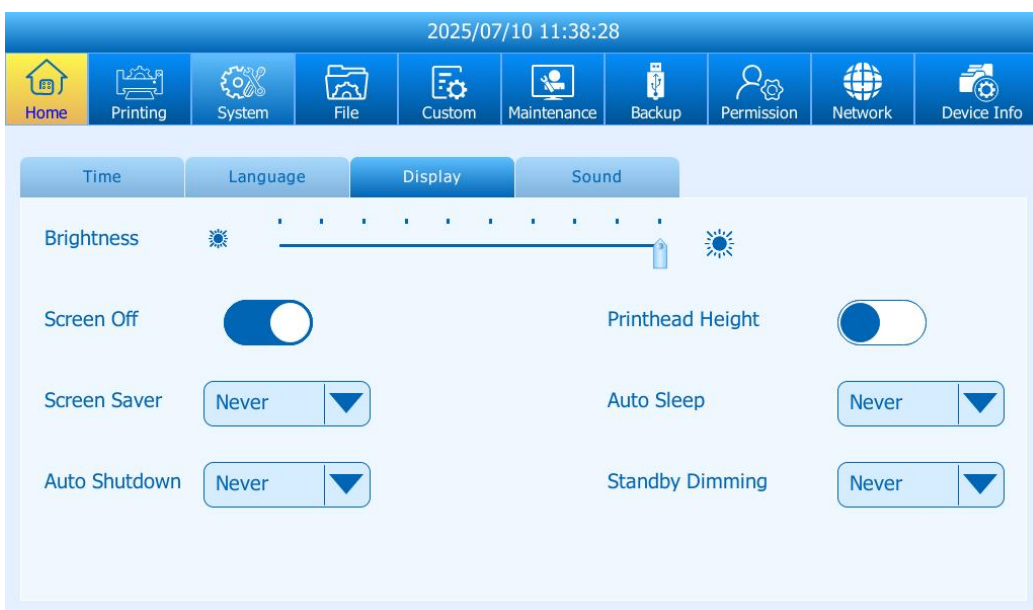
7.2.2 Language Setting



Language: You can set the system language here.

Keyboard : You can add keyboard input languages by selecting from the language library on the left and press the add button . Added languages become available for typing, and you can remove them by tapping the delete button .

7.2.3 Display Setting



Brightness : The screen brightness can be adjusted with 10 levels.

Screen Off : When enabled, the screen will automatically turn off during printing.

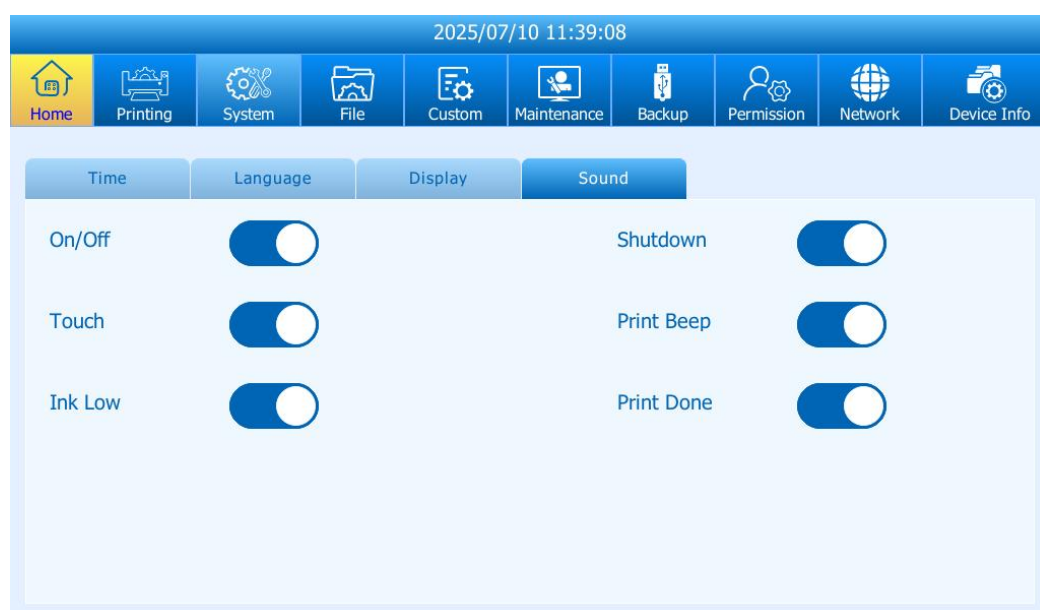
Standby Saver: Set the printer to turn off the screen after 10 min, 30 min, 1 hour, or never while in standby mode.

Auto Sleep: Set the printer to enter sleep after 10 min, 30 min, 1 hour, or never while in standby.

Auto Shutdown: You can set the printer to automatically shut down after 1 hour, 4 hours, 8 hours of standby, or never. The default is off.

Standby Dimming: You can set the machine to dim the screen after 30 seconds, 1 minute, 5 minutes, or never while in standby mode.

7.2.4 Sound Setting

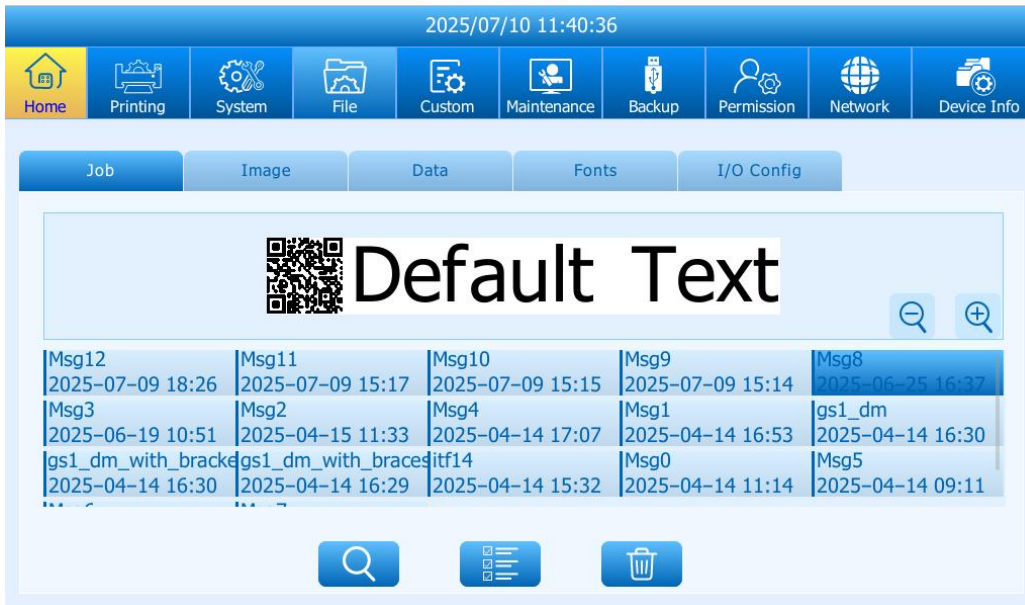


You can enable or disable sound alerts for the printer—such as shutdown tone, touch feedback, print start beep, low ink warning, and print completion beep—by toggling each option on or off in this sound alarm settings menu.

7.3 File Management

This page includes four key modules: **Job (Message) Management, Image Management, Data Management, and Fonts Management.** You can search for, preview, or delete files directly from this page.





Search:  Type in keywords, and the system will instantly find files that contain them.

Select All:  Select all files

Delete: After selecting the files, tap the  delete button.

7.4 Custom

On this page, you can customize the following three settings to suit different production workflows:

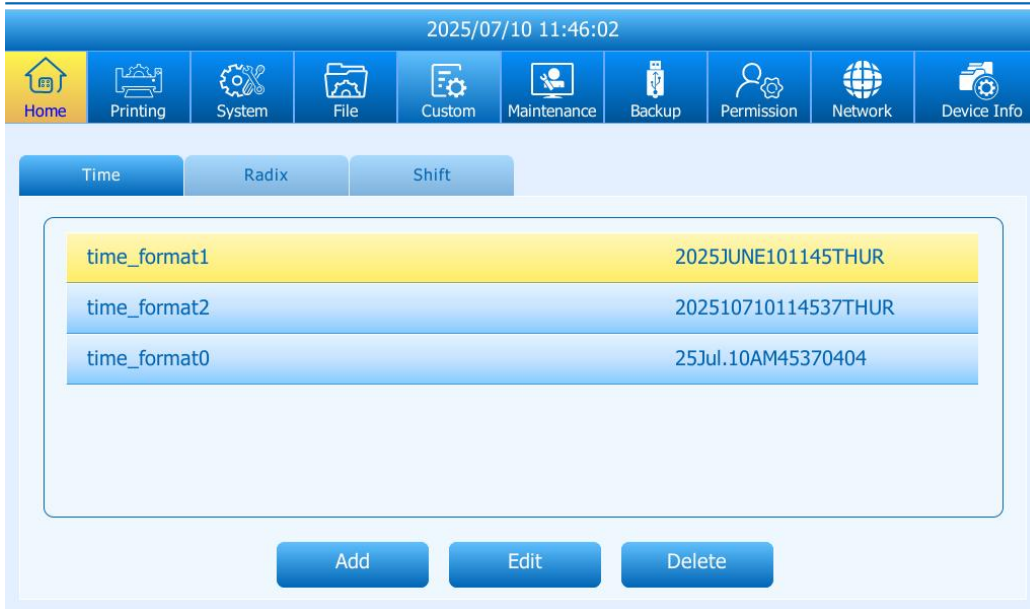
Time Format: Create or edit how dates appear, including the order of year, month, and day, and your preferred separators. Custom formats are supported.

Radix Setting: Define the numeric base used in counters or encoding—options include decimal, hexadecimal, or user-defined formats.

Shift Setup: Configure shift groups by naming each shift, setting start times, and assigning specific print content to distinguish production cycles.

7.4.1 Time





Time Format List: Displays the default date format and the formats that have been created.

Add: Tap **Add** to open the date format settings screen, where you can define a new format as needed.

Edit: Select a date format from the list and tap **Edit** to open its settings page. You can modify and save custom formats—please note, the default format cannot be changed.

Delete: Select a date format from the list and tap **Delete** to remove it. Note: the default format cannot be deleted.

Name: You could set your time format name here.

Input: Tap **Input** to enter custom text and add personalized elements to your date format.



2025/07/10 11:47:04

Date Format

>>

Year	2025	025	25	5
Month	7	07	July	Jul.
Day	10	191		
Hour	11	11	AM	
Minute	46			
Second	52			
Week	04	Thur.	THUR	Thursday

Input Name: time_format3

Confirm Back

7.4.2 Radix

2025/07/10 11:51:02

Home Printing System File Custom Maintenance Backup Permission Network Device Info

Time Radix Shift

custom 1	10
custom2	10

Add Edit Delete

List of Radix: Display default and created formats.

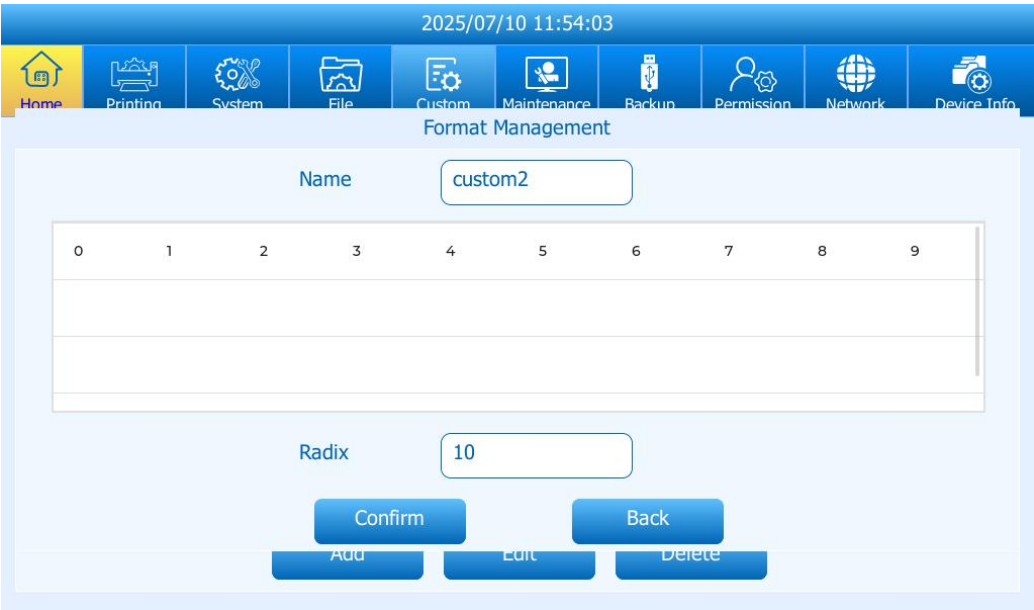
Add: Tap **Add** to enter the editing interface. Enter the radix name and content, then tap **Confirm** to save the new radix to the list.

Edit: Select radix from the list, tap **Edit** to open the editing interface for radix. Modify the radix name and content, then tap **Confirm** to save the changes (default radix cannot be edited).

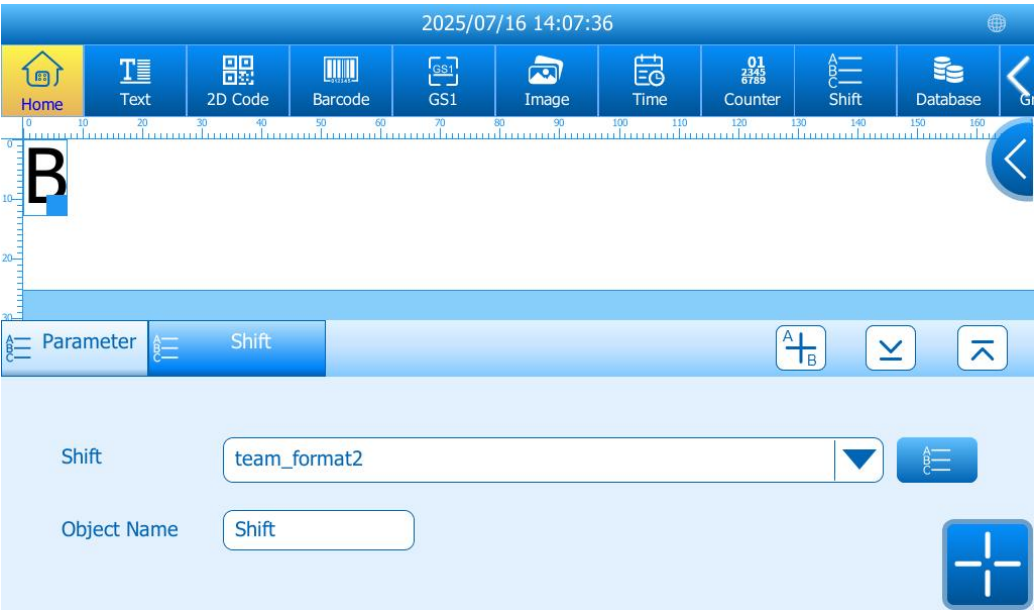
Delete: Select a radix from the list, tap **Delete**, and a deletion prompt will appear (default radix cannot be deleted).




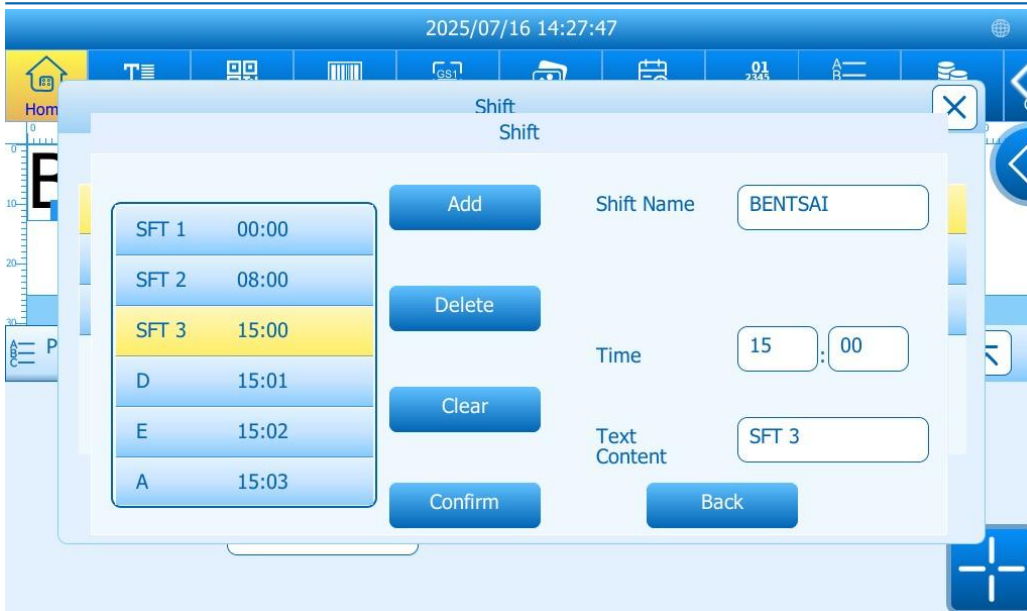
Name: The format name must not exceed 30 characters, cannot include (/), and cannot be empty; otherwise, it cannot be saved.



7.4.3 Shifts



New: Tap  to enter the shift editing interface.



Add : Tap **Add**, then enter the shift name and its start time. Next, input the message in Text Content to be printed, and tap **Confirm** to save it to the shift list.

Shift Name: You can edit the default name and enter up to 30 characters. The name must not be empty and cannot include / . Otherwise, it cannot be saved.

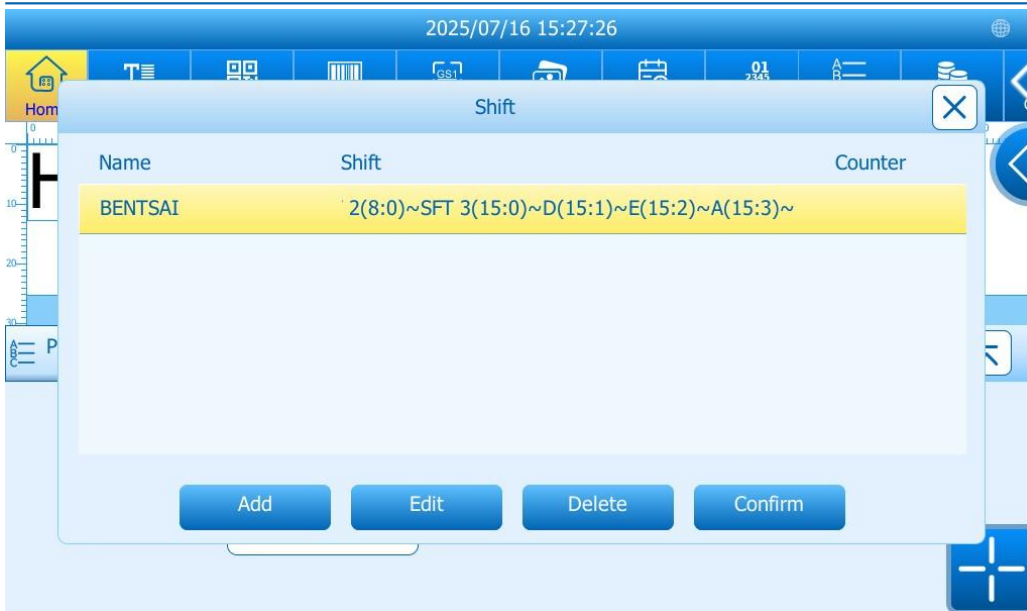
Time: Set the start time for each shift individually. Only the start time is required—no end time is needed.

Text Content: Set the shift message to be printed.

Delete: Select a shift from the list and tap **Delete** to remove it.

Clear: Tap **Clear** to empty the list. This does not delete shifts that have already been set and saved.





Edit: Select a shift from the list and tap **Edit** to open the editing interface. Make your changes and save them.

Delete: Select a shift from the list and tap **Delete** to remove it.

Confirm: Tap **Confirm** to save the edits and return to the previous screen.

7.5 Maintenance

7.5.1 Nozzle Maintain



Nozzle Cleaning: Tap to start the nozzle cleaning process.



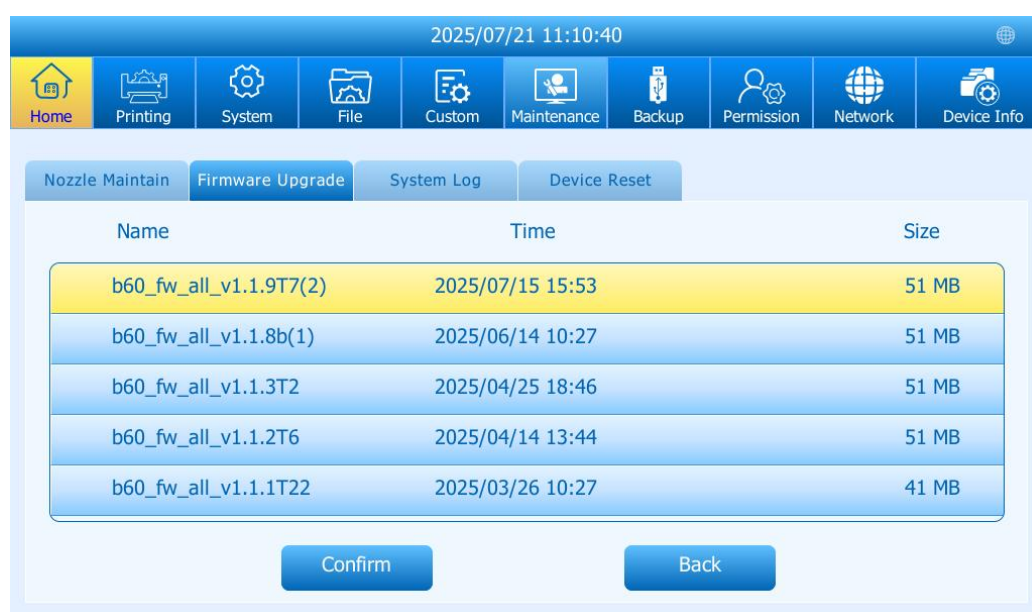
Idle Purge: Enable or disable automatic nozzle cleaning during idle periods to prevent drying and clogging. When enabled, set the cleaning interval (in minutes) and intensity level (1–1000) based on your needs.

Timed Cleaning: When enabled, nozzle cleaning can be set to occur at specified time intervals (in minutes) when the machine is not in operation.

Pre-Purge: When enabled, the printer releases a small amount of ink at startup to unclog the nozzles and ensure high-quality first prints.

7.5.2 Firmware Upgrade

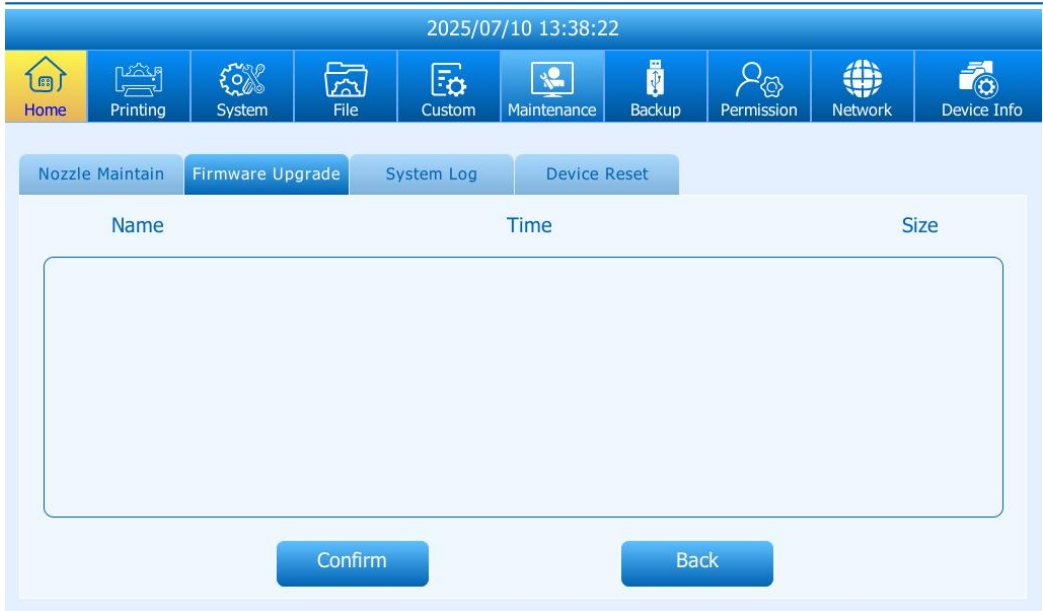
To upgrade the printer firmware, insert a USB drive containing the firmware package into the printer. Unzip the package if it's compressed. When USB drive inserted, a pop-up dialog will ask you whether to import or export files, Tap Cancel to go **Firmware Upgrade**.



If multiple files are included, install them one by one. Once the upgrade is complete, the printer will shut down automatically.

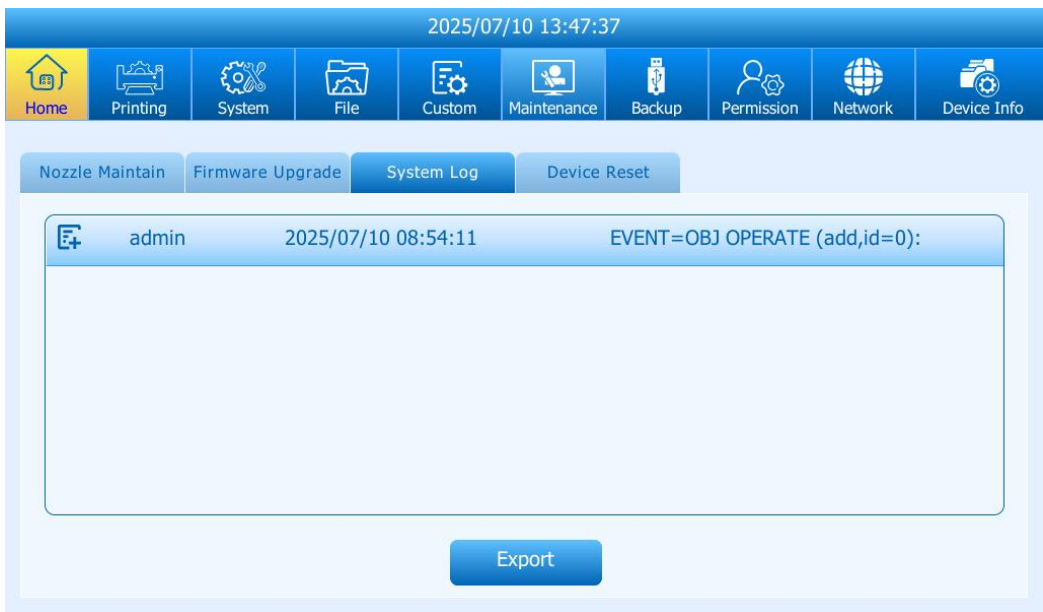
After restarting the controller, check the device information page to confirm the upgrade status.





7.5.3 System Log

The system log records device settings and operations, helping administrators review activity and troubleshoot issues. Logs can be filtered by user and exported for further inspection. A maximum of 100 log entries can be stored. Once this limit is reached, new entries automatically overwrite the oldest.



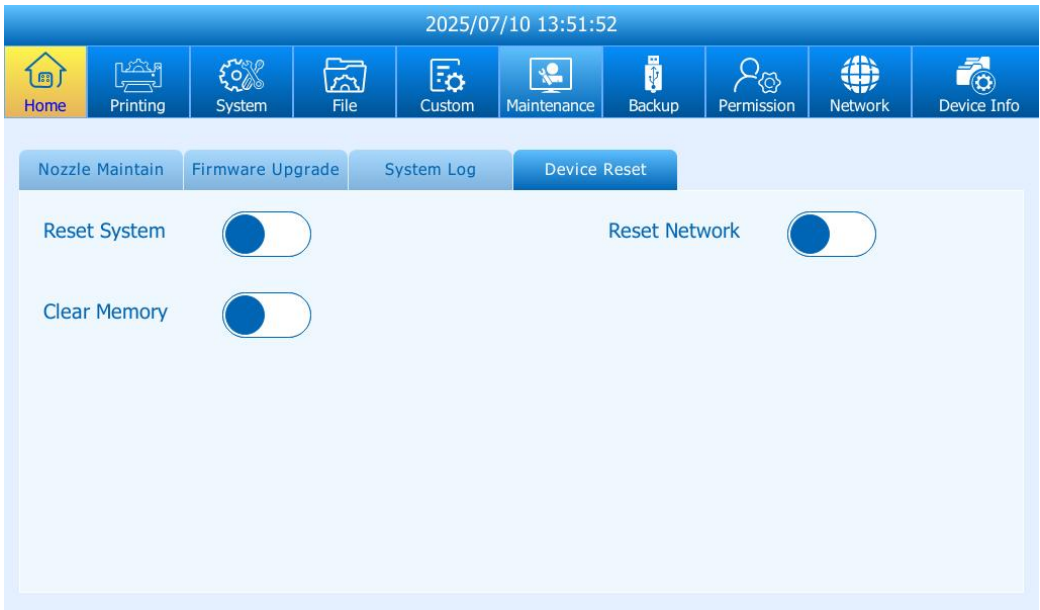
7.5.4 Device Reset

Device Reset Options You can reset the following components of the device:

- **System Settings:** Restores all system configurations to factory defaults.



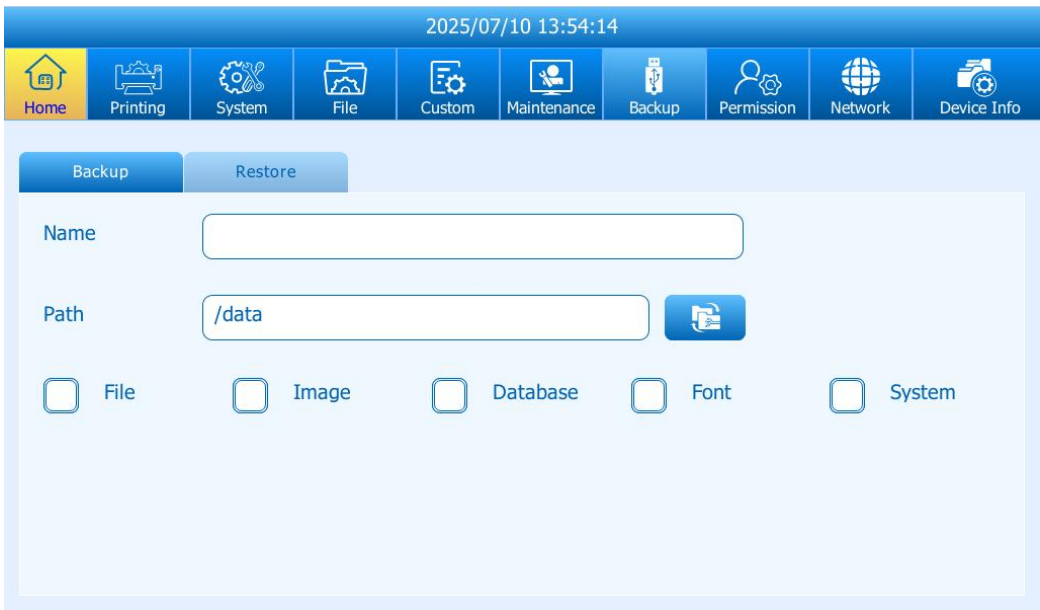
- **Network Settings:** Resets all network-related settings to factory defaults.
- **Internal Memory:** Deletes all files stored in the printer and resets related settings to factory defaults. **Use with caution!**



7.6 Data Backup& Restore

7.6.1 Data Backup

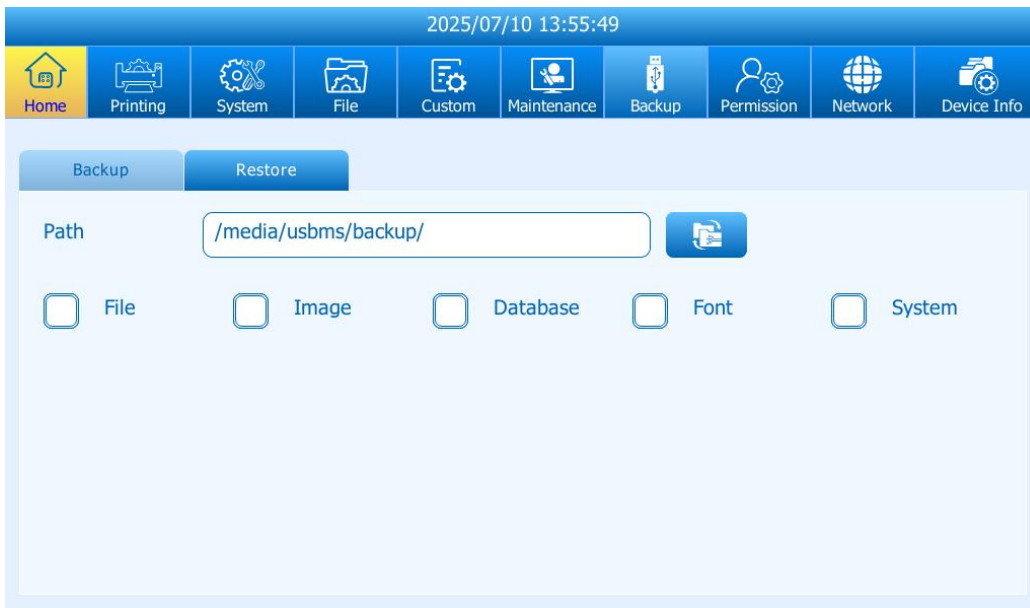
Data Backup Back up device data including files, images, databases, fonts, and system settings. Select the items to back up (multiple selections allowed). Insert a USB drive and choose a save path on it to complete the backup.



7.6.2 Date Restore



Data Restore Restore device data including files, images, databases, fonts, and system settings. Select the data types to restore (multiple selections allowed). For each type, choose one restoration method. Unselected types will not be restored.

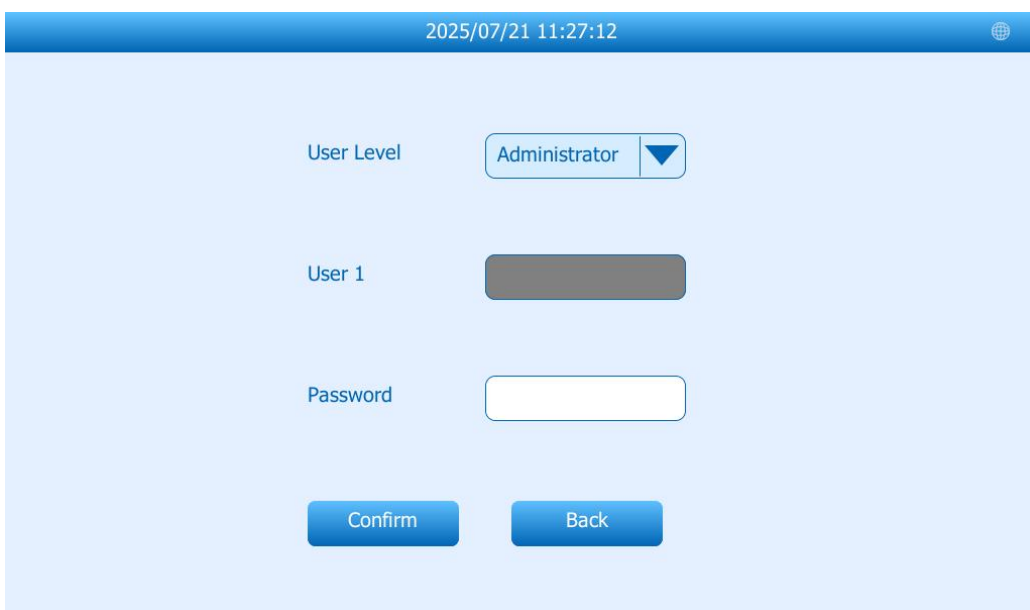


The screenshot shows the 'Data Restore' interface. At the top, a blue header bar displays the date and time '2025/07/10 13:55:49'. Below the header is a navigation bar with icons for Home, Printing, System, File, Custom, Maintenance, Backup, Permission, Network, and Device Info. The main area has two tabs: 'Backup' and 'Restore', with 'Restore' being the active tab. Under the 'Restore' tab, there is a 'Path' input field containing '/media/usbms/backup/' and a folder icon button. Below the path field are five checkboxes for selecting data types to restore: 'File', 'Image', 'Database', 'Font', and 'System'. All checkboxes are currently unchecked.

7.7 Permission Setting

Permission Settings allow the administrator to add up to 10 users and assign operational permissions for each—across Print Management, File Management, and System Settings.

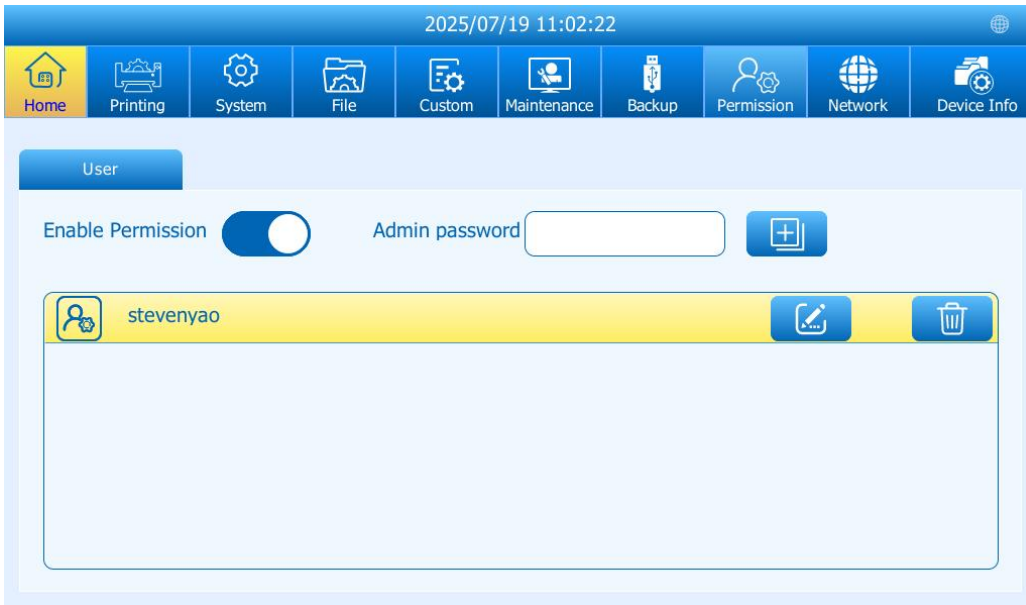
User & Permission Configuration




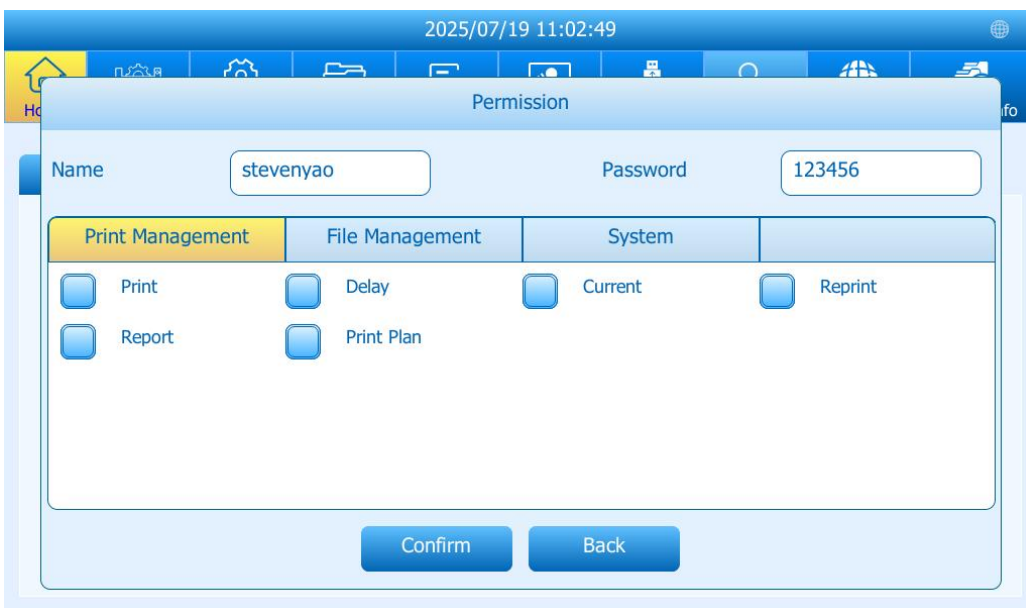
The screenshot shows the 'User & Permission Configuration' interface. At the top, a blue header bar displays the date and time '2025/07/21 11:27:12'. The main area has a light blue background. There are three input fields: 'User Level' with a dropdown menu showing 'Administrator', 'User 1' with a text input field, and 'Password' with a text input field. At the bottom, there are two buttons: 'Confirm' and 'Back'.



- The administrator has the highest authority and can manage all user passwords and permissions.
- Up to 10 users can be created, each with a configurable username, password, and permission levels.



To add a user, tap  to add, then enter a username and password to create a new profile. You can assign access permissions across **Print Management**, **File Management**, and **System Settings** as needed.



7.8 Network Setting

7.8.1 Port Setting

2025/07/10 13:59:03

Home
Printing
System
File
Custom
Maintenance
Backup
Permission
Network
Device Info

Port
Network

Device Name

Serial Port ☒

USB ☒

Port Delay (0-120)s

Baud Rate

115200
▼

Network ☒

Port Configuration: Configure the Device Name, Serial Port and Baud Rate, enable or disable USB and Ethernet connections, and set the port delay as needed.

Note: Serial communication is system-reserved with a default baud rate of 115200; configuration is typically unnecessary unless required by specific applications.

7.8.2 Network Setting

2025/07/19 11:05:05

Home
Printing
System
File
Custom
Maintenance
Backup
Permission
Network
Device Info

Port
Network

Enable Ethernet ☒

Network Mode

Static
▼

Network IP

Gateway

Net Mask



Ethernet Network Mode When Ethernet is enabled, you can set the network mode to either **Static IP** or **Dynamic IP**:

- **Static IP**: Manually configure the IP address, gateway, and subnet mask.
- **Dynamic IP**: The device automatically retrieves network settings when connected via Ethernet.

7.9 Device Info



2025/07/10 14:01:25

Home Printing System File Custom Maintenance Backup Permission Network Device Info

Device Info

Basic Info

Model	D64	Serial#	E624090001
Firmware	1.1.8b	Print Counts	20
Printhead	1(V0.0)2(V0.0)3(V0.0)4(V0.0)	Boot Version	1.0.45b

Ethernet

Status	Unconnected	MAC	aa:bb:63:19:d3:01
IP Address	0.0.0.0	Default Gateway	0.0.0.0
Net Mask	0.0.0.0		1.0.45b

Model

You can view the printer's basic info, network info, and storage status from this page.



8.Terminology

No.	Terminology	Introduction	Explanation
1	Print Delay	Specifies the distance from the sensor trigger point to the printing start point, allowing accurate alignment of content on the printed surface.	If the print delay is set to 100 mm, printing starts after the sensor detects the object and the encoder wheel moves 100 mm—ensuring accurate placement of printed content.
2	Offset Distance	This defines the blocking distance—the interval after object detection during which the sensor signal remains interrupted. It prevents repeated triggers and ensures the printer doesn't print multiple times in quick succession.	If the offset distance is set to 200 mm, the photoelectric sensor remains inactive for the next 200 mm of encoder wheel movement after detecting an object—preventing multiple triggers in rapid succession.
3	Resolution	Resolution includes horizontal and vertical settings, both affecting print speed. Higher resolution improves detail but slows printing due to increased data processing.	Lower horizontal and vertical resolution results in lighter prints and supports higher conveyor speeds. Higher resolution produces darker prints but requires slower movement for precise ink deposition.
4	Date Jump	Date Jump is a time management feature that automatically updates the printing date at a specified time.	For example, if the jump time is set to 08:00, the system will print July 10 until 07:59, and then switch to July 11 starting at 08:00. This mechanism is ideal for production shifts that span midnight, ensuring that printed date codes accurately reflect the intended production day.
5	Idle Purge	Idle Purge is a preventive feature that helps maintain nozzle readiness during printing. Certain inks—especially fast-drying or pigment-based types—can cause partial clogging when the printhead sits idle, leading to blurred or missing strokes at the start of a print.	To counter this, Idle Purge automatically sprays a small amount of ink during the printing interval using preset parameters tailored to each ink type. This brief purge keeps the nozzles warm and moist, ensuring sharp, consistent output from the very first character.
6	Nozzle Cleaning	Nozzle Cleaning is a maintenance function that ejects a controlled amount of ink from all nozzles simultaneously.	This process helps flush out dried ink or debris, keeping the nozzle channels clear and ensuring consistent print quality. It's especially useful for restoring performance after idle periods or when output shows signs of clogging.



7	Switch Nozzles	You can switch between nozzle channels based on printing needs and nozzle condition to maintain optimal output quality and ensure consistent performance.	For single-nozzle printing, if the left nozzle is clogged or damaged, you can switch to the right nozzle to maintain output. If higher print density is required, enable dual-nozzle mode, which activates both nozzles simultaneously for a darker result. Note: Nozzle switching is not supported on one-inch ink cartridges.
8	Repeat Mode	In Repeat mode, every time the sensor is triggered, the system prints the specified number of copies at the configured intervals—ensuring consistent spacing and quantity with each trigger event.	When the print count is set to 5 and the sensor is in edge trigger mode, each rising or falling edge detected by the sensor initiates a print cycle that outputs 5 prints at the defined interval—completing the entire batch in response to a single trigger.
9	Continuous Mode	In Continuous mode, printing starts at the configured interval once the sensor is triggered.	If the sensor uses edge triggering, a single activation initiates the print cycle. If it uses level triggering, printing continues as long as the sensor remains active. This setup enables uninterrupted output that adheres to the defined print timing.
10	Print Interval	Print Interval is the set distance between the end of one print and the start of the next.	For example, if set to 12 mm, each new print begins 12 mm after the previous one finishes, ensuring consistent spacing.
11	Stitch Alignment	By configuring each printhead's X and Y axis offset parameters, you can precisely align the printed output between adjacent printheads.	The stitch function is only available in Stitch mode. Before adjusting stitching, ensure the printhead combination and production line are correctly aligned in the printing direction; misalignment may lead to inconsistent output. When adjusting the X-axis offset between P1 and P2, a positive value shifts P2's print to the left, while a negative value shifts it to the right—opposite the numerical axis. Y-axis offset adjustments only take effect after buffer printing completes.



9.Troubleshooting

The following covers common issues and suggested fixes. For anything not listed, please reach out to your local dealer or our after-sales support team.

Since installation environments and operational vary, actual causes and solutions may differ. This guide is for reference only.

9.1 Cartridge-related Troubleshooting

No.	Faults	Cause Analysis	Solutions	Remarks
1	White lines in printed output	1.Nozzle blockage or physical damage 2.Poor contact between cartridge and printer	1.Clean the nozzle using a lint-free cloth dampened with alcohol 2.Remove and reinstall the cartridge to ensure proper connection	If unresolved: 1.Inspect the pin board for bent or stuck contact pins 2. Check and clean the cartridge contact points
2	Printed output begins correctly but becomes incomplete later in the print cycle	1.Insufficient ink supply 2.Air trapped inside the ink cartridge	1. Check whether the ink cartridge shows low or depleted ink status 2. Consider purging the ink delivery system to remove trapped air, or replace the cartridge to restore stable ink flow and ensure consistent print quality.	
3	The ink cartridge cannot print at all.	The ink cartridge is empty, and the nozzle is severely clogged.	Please confirm whether the ink dot information in the cartridge has been fully used.	
4	Ink cartridge not recognized by the printer	1.Poor contact between the printhead and cartridge 52-pin connectors 2.Bent or damaged printhead contact pins 3.Incorrect cartridge type or unrecognized cartridge chip	1.Reinsert the ink cartridge to ensure proper contact 2.Clean the 52-pin connectors on the cartridge 3.Repair bent pins or replace the printhead board 4.Use a compatible cartridge with correct encoding	



9.2 Printer-related Troubleshooting

No.	Faults	Cause analysis	Solutions	Remarks
1	Can't power on	1. The inkjet printer has no power input. 2. The inkjet printer power switch is not turned on. 3. The device is damaged.	1.Ensure the device is connected to a stable power source. 2.Confirm the power switch indicator is illuminated. 3.If the issue persists, contact your local dealer or after-sales support.	
2	Can't print	1. Printing did not start. 2. No printing data. 3. Printing delay is too long, causing a delayed print. 4. No ink cartridge. 5. There are ink cartridges, but it is empty or damaged. 6. No sensor signal.	1. Please first confirm if the printing status is set to Start Printing. 2.Check if the printing delay is normal. 3. Install the ink cartridge. 5. Confirm if the ink cartridge is empty or if the cartridge model /chip model matches the printer. 6. After the sensor detects the object, check the production counter in the print report interface to see if it is counting.	

10.Disclaimer

The warranty does not cover the following situations:

- 1.Damage caused by transportation, impact, fire exposure, water ingress, chemical corrosion, unauthorized disassembly, or improper maintenance
- 2.Repairs performed by unauthorized service centers or self-repair attempts
- 3.Use of non-original parts or consumables not supplied by the company
- 4.Claims made after the warranty period has expired
- 5.Damage resulting from force majeure events.

