



# X1 User Manual

## Thermal Inkjet Technology

Version 1.7, June 29, 2022

Copyright 2022 ANSER Coding Inc. The information contained herein is subject to change without notice. Reproduction, adaptation or translation without prior written permission is prohibited, except as allowed under the copyright laws.

## Table of Contents

Table of Contents.....	i
List of Figures.....	v
List of Tables.....	ix
Revision History .....	x
<b>1 X1 User Interface .....</b>	<b>1</b>
1.1 Getting Started with X1 User Interface .....	2
1.2 X1 Wizard Setup .....	3
1.2.1 Create a Production Line .....	5
1.2.2 Assign a Print Station .....	7
1.2.3 Print Station Settings.....	11
1.3 Getting to Know the Homepage.....	13
1.4 Getting to Know the Message Editor .....	17
1.4.1 Adding Message Objects .....	20
1.4.1.1 Add Object: Text.....	21
1.4.1.1.1 Adjust Size and Position .....	24
1.4.1.2 Add Object: Date/Time .....	27
1.4.1.2.1 Add a Time Template .....	29
1.4.1.3 Add Object: Barcode .....	31
1.4.1.4 Add Object: Variables.....	33
1.4.1.5 Add Object: Counter, Image, Shape, and Shift .....	35
1.4.2 Message Related Settings .....	37
1.4.3 Printing a Message .....	38
1.5 Getting to Know the Device Configuration Page.....	40

1.5.1	Production Line Page.....	40
1.5.2	Print Station .....	43
1.5.2.1	Single Print Station Mode .....	43
1.5.2.1.1	Print Station Delay.....	44
1.5.2.2	Stitch Print Station Mode.....	45
1.5.2.3	Parallel Print Station Mode .....	46
1.5.3	Printhead Settings .....	48
1.5.4	External Devices .....	50
1.5.4.1	Wi-Fi .....	50
1.5.4.2	Ethernet .....	51
1.5.4.3	USB .....	51
1.5.4.4	RS-232 .....	52
1.5.4.5	Scan Selector .....	52
1.5.4.6	Scan & Print.....	53
1.5.4.7	Scan & Select.....	55
1.6	Getting to Know the Settings Page.....	57
1.6.1	System Settings .....	57
1.6.2	Template Management.....	59
1.6.3	File Management .....	60
1.6.4	User Management.....	61
1.6.5	About Printer.....	63
<b>2</b>	<b>X1 Printing Setup .....</b>	<b>64</b>
2.1	Production Line Setup .....	64
2.2	Print Station Setup.....	65
2.3	Printhead Settings .....	66

2.3.1	Stitching Alignment .....	67
2.3.2	Repeat Print Settings.....	68
2.3.3	Pre-Purge Settings.....	69
2.4	Quick Edit.....	70
<b>3</b>	<b>X1 Operation .....</b>	<b>73</b>
3.1	Usage of the Variable Object.....	73
3.1.1	Internal Variable Table .....	74
3.1.2	Excel Files or Database.....	74
3.1.3	Data Update Using Communication Protocol (0xCA).....	75
3.1.4	Data Stream Using Communication Protocol (0xCF) .....	75
3.1.5	Data from USB.....	75
3.2	Format Preferences .....	76
3.2.1	Customized Month.....	76
3.3	Export and Import Data .....	77
3.3.1	About Printer.....	77
3.3.2	File Management .....	77
3.4	File and System Backup .....	80
3.5	I/O Management .....	81
3.5.1	I/O Assign .....	81
3.5.2	I/O Edit .....	82
3.5.3	Advanced Action Settings.....	86
<b>4</b>	<b>Troubleshooting .....</b>	<b>87</b>
4.1	Fault Messages and Warnings .....	87
4.1.1	Ink Cartridge Fault.....	87
4.2	Status Definition .....	88

ANSER

---

4.2.1	UI Icon Status .....	88
4.2.2	UI and Warning Light.....	88
4.2.3	Printhead LED Status .....	89
<b>Appendix .....</b>		<b>90</b>

## List of Figures

Figure 1-1. X1 Controller Manu Tree .....	1
Figure 1-2. X1 System Login Page.....	3
Figure 1-3. Set a Password for the Admin Account.....	4
Figure 1-4. X1 System Initial Setup – System Time .....	4
Figure 1-5. X1 Printing Setup Diagram .....	5
Figure 1-6. X1 System Initial Setup – Production Line Settings .....	5
Figure 1-7. X1 System Initial Setup – Production Line Speed .....	6
Figure 1-8. X1 System Initial Setup – Print Station Settings, Printhead Arrangement (Single) .....	8
Figure 1-9. X1 System Initial Setup – Print Station Settings, Printhead Arrangement (Stitch).....	8
Figure 1-10. X1 System Initial Setup – Print Station Settings, Printhead Arrangement (Parallel I) .....	9
Figure 1-11. X1 System Initial Setup – Print Station Settings, Printhead Arrangement (Parallel II) .....	10
Figure 1-12. X1 System Initial Setup – Print Station Settings, Print Direction and Delay .....	11
Figure 1-13. Complete X1 System Initial Setup .....	12
Figure 1-14. Create a Message after X1 System Initial Setup .....	12
Figure 1-15. X1 System Homepage.....	13
Figure 1-16. X1 System Homepage – A Menu for More Settings.....	16
Figure 1-17. X1 Message Editor Page .....	17
Figure 1-18. To Add Eight Types of Object.....	20
Figure 1-19. Add Object – Select a Text Template .....	21
Figure 1-20. Add Object – Edit a Text .....	22
Figure 1-21. Add Object – Format a Text.....	22
Figure 1-22. Add Object – Adjust Text Styles: Density, Stretching and Spacing .....	23
Figure 1-23. Add Object – Adjust Text Size .....	24
Figure 1-24. Add Object – Adjust Message Height.....	24

Figure 1-25. Add Object – Hold to Adjust Message Position .....	25
Figure 1-26. Add Object – Date/Time .....	27
Figure 1-27. Add Object – Select Date/Time Template .....	27
Figure 1-28. Add Object – Date/Time Format Preference .....	28
Figure 1-29. Add Object – Date/Time Settings .....	28
Figure 1-30. Add Object – Date/Time Template Management .....	29
Figure 1-31. Add Object – Add Time Template .....	29
Figure 1-32. Add Object – Add Time Digit .....	30
Figure 1-33. Add Object – Select Time Template .....	30
Figure 1-34. Add Object – Barcode.....	31
Figure 1-35. Add Object – Barcode Type .....	31
Figure 1-36. Add Object – Barcode Content .....	32
Figure 1-37. Add Object – Barcode Message .....	32
Figure 1-38. Add Object – Variables .....	33
Figure 1-39. Add Object – Variables Page.....	33
Figure 1-40. Add Object – Variables Message .....	34
Figure 1-41. Add Object – Counter, Image, Shape and Shift .....	35
Figure 1-42. Add Object – Templates in Counter, Image, Shape and Shift.....	35
Figure 1-43. Add Object – Settings in Counter, Image, Shape and Shift .....	36
Figure 1-44. Message Delay .....	37
Figure 1-45. Homepage (Production Line Page).....	38
Figure 1-46. Select Message Page .....	38
Figure 1-47. Print Station Page .....	39
Figure 1-48. Message Printing Page .....	39
Figure 1-49. Production Line & Print Station Page.....	40
Figure 1-50. Add a Production Line .....	41

Figure 1-51. Add a Print Station .....	41
Figure 1-52. Add a New Print Station – Single Mode, Top Half of the Page .....	43
Figure 1-53. Add a New Print Station – Single Mode, Bottom Half of the Page .....	43
Figure 1-54. Print Station Delay .....	44
Figure 1-55. Add a New Print Station – Stitch Mode.....	45
Figure 1-56. Add a Parallel Print Station – Alternative Printing Mode .....	46
Figure 1-57. Add a Parallel Print Station – Dual Color Printing Mode.....	47
Figure 1-58. Printhead Settings Overview Page.....	48
Figure 1-59. Printhead Settings Page .....	48
Figure 1-60. Repeat Print – Initial Delay .....	49
Figure 1-61. X1 System Settings Page.....	57
Figure 1-62. The Template Management Page .....	59
Figure 1-63. The File Management Page .....	60
Figure 1-64. The User Management Page.....	61
Figure 1-65. The About Printer Page .....	63
Figure 2-1. Stitching Alignment.....	67
Figure 2-2. The Repeat Print Settings Page.....	68
Figure 2-3. Quick Edit Page – General and Counter .....	70
Figure 2-4. Quick Edit Page – Variable Input and Database .....	71
Figure 3-1. Variable Message Sources .....	73
Figure 3-2. Variable Input Sources .....	74
Figure 3-3. The Scan and Print Page .....	75
Figure 3-4. Add Format Preference Template Page .....	76
Figure 3-5. To Import from USB (1) .....	78
Figure 3-6. To Import from USB (2) .....	78
Figure 3-7. To Import from USB (3) .....	79



Figure 3-8. The Restore & Backup Page.....

80

Figure 3-9. External Devices Page .....

81

Figure 3-10. I/O Management Page .....

81

Figure 3-11. I/O Edit Settings Page.....

82

Figure 3-12. I/O Edit Settings Page – Event List (1) .....

82

Figure 3-13. I/O Edit Settings Page – Event List (2) .....

83

Figure 3-14. Action Settings – Digital Output .....

85

## List of Tables

Table 1-1. Print Station and Printhead Combinations.....	7
Table 1-2. Related Options in Print Settings .....	11
Table 1-3. X1 System Homepage Settings .....	14
Table 1-4. X1 Message Editor Settings .....	18
Table 1-5. X1 Fonts Supported .....	25
Table 1-6. X1 System Languages and Virtual Keyboards Supported .....	26
Table 1-7. Message Related Settings.....	37
Table 1-8. Production Line and Print Station Settings.....	42
Table 1-9. Alternative Print Ratio.....	46
Table 1-10. Detailed Printhead Settings Descriptions .....	49
Table 1-11. X1 System Settings Description .....	58
Table 1-12. Detailed Descriptions in Template Manage Settings .....	59
Table 1-13. X1 User Accounts Management Table .....	62
Table 2-1. The Example of Repeat Print Settings .....	68
Table 3-1. Variable Input Methods .....	74
Table 3-2. Customized Inputs.....	76
Table 3-3. I/O Edit Settings – Event List Definition .....	83
Table 3-4. I/O Edit Settings – Logical Operand Definition .....	84
Table 3-5. I/O Edit Settings – Action List .....	84
Table 4-1. Ink Cartridge Fault and Description .....	87
Table 4-2. UI Icon Status Definition.....	88
Table 4-3. UI and Warning Light Definition .....	88
Table 4-4. Printhead LED Status and Definition .....	89

## Revision History

Version	Date	Modification
1.6	2021/11/24	Extracted from X1 Product Manual V1.6 Added Figure 1-1
1.7	2022/5/30	Updated date in cover page Updated description in Section 1.2, 1.2.1 Added Section 1.2.1, 1.2.2, 1.2.3, 1.4.1, 1.4.1.1~1.4.1.5, 1.4.3, 1.5.2.1.1, 1.5.4, and 3.5 Updated description in Section 1.4.2 Updated Figure 1-2, 1-4, 1-5, 1-7, 1-11, 1-14, 1-15, 1-16, and 3-3 Added Figure 1.3, 1.6, 1-8, 1-9, and 1-10 Updated Table 1-1, 1-2, 1-3, 1-4 and 1-5 Added Table 1-9 Moved Figure 1-5 from Section 2 to 1.2.1 Moved Sec 2.4 into 1.4.3 Updated descriptions and figures in Appendix Updated format of notes

# 1 X1 User Interface

This document describes setting and configuration of ANSER X1 Thermal Inkjet controller. How to set printing message, how to set printhead combination mode, how to setup production line, and how to troubleshoot are all included. Please see the following figure for menu tree and main functions of X1 controller.

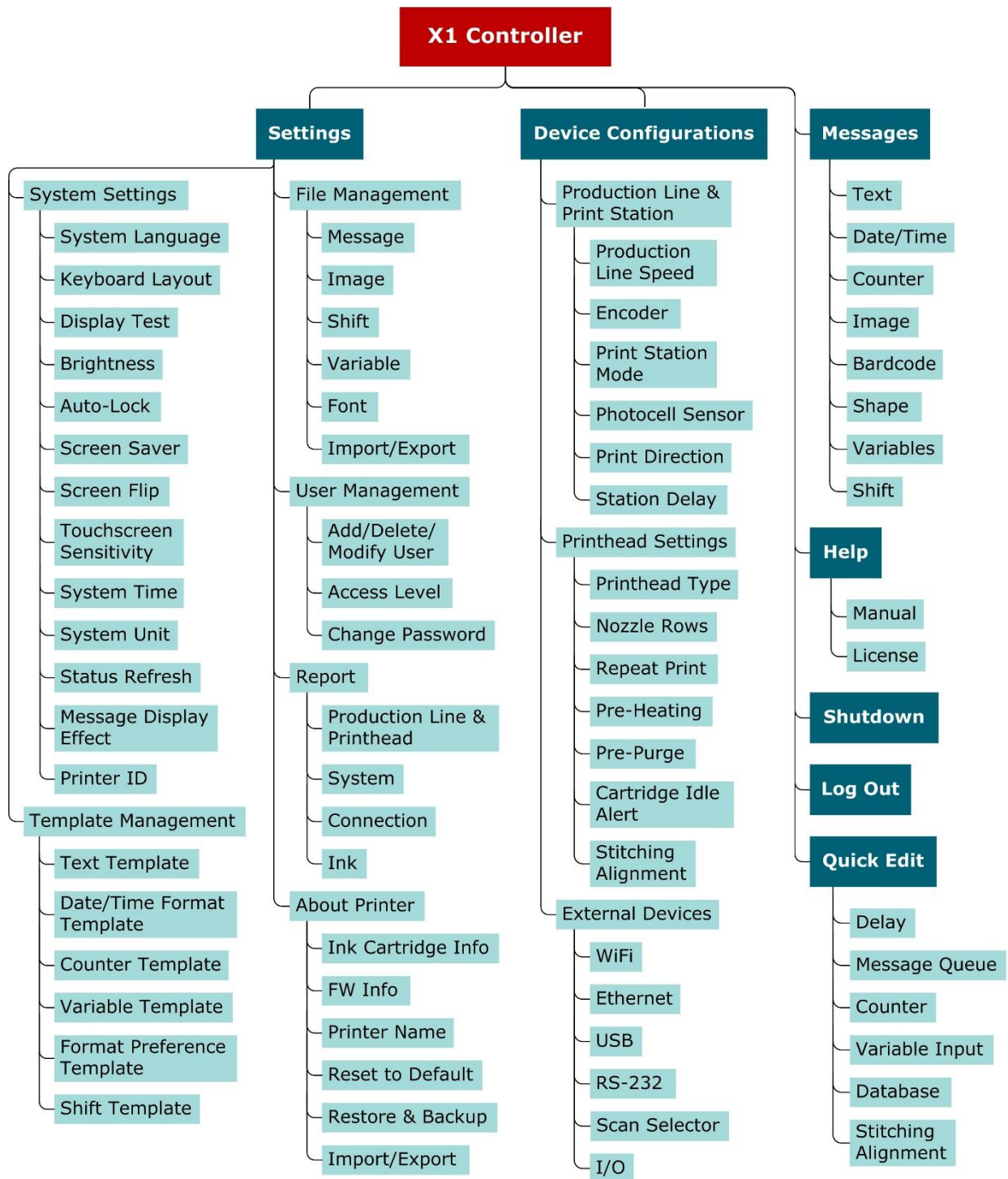


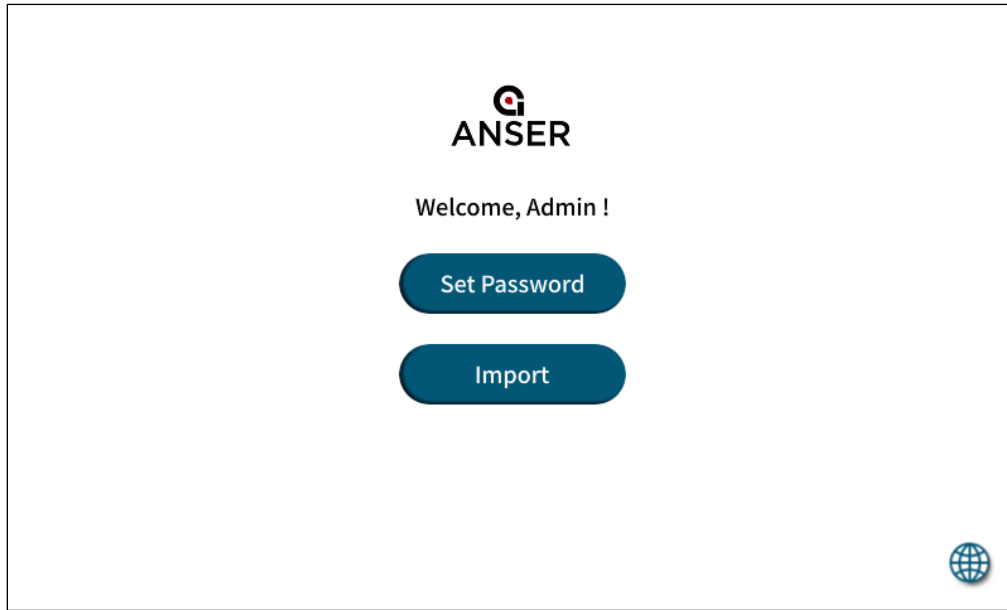

Figure 1-1. X1 Controller Manu Tree

## **1.1 Getting Started with X1 User Interface**

The following information is described:

- Initial Setup.
- Getting to know the homepage.
- Getting to know the message editor.
- Getting to know the device settings.
- Getting to know the settings page.

## 1.2 X1 Wizard Setup

Upon powering up X1 for the first time, the system will prompt a login page (see **Figure 1-2** below) where users can set up an administrator account. Users can also import the settings directly from another X1 controller using a USB drive. Press **Set Password** to create the admin account; press **Import** and connect a USB drive with backup files to restore X1 controller settings; press the globe icon in the lower right corner “The image shows the X1 System Login Page. At the top center is the ANSER logo, which consists of a stylized 'G' icon followed by the word 'ANSER'. Below the logo, the text 'Welcome, Admin !' is displayed. Underneath this text are two large, rounded rectangular buttons: 'Set Password' and 'Import'. In the bottom right corner of the page, there is a small globe icon.

**Figure 1-2. X1 System Login Page**



**Caution:** If you want to start printing right after setting up X1 controller, please install the printhead(s) before powering up X1 controller to avoid damaging the controller and the printhead(s). For printhead installation, please refer to *X1 Installation Guide V1.7*.

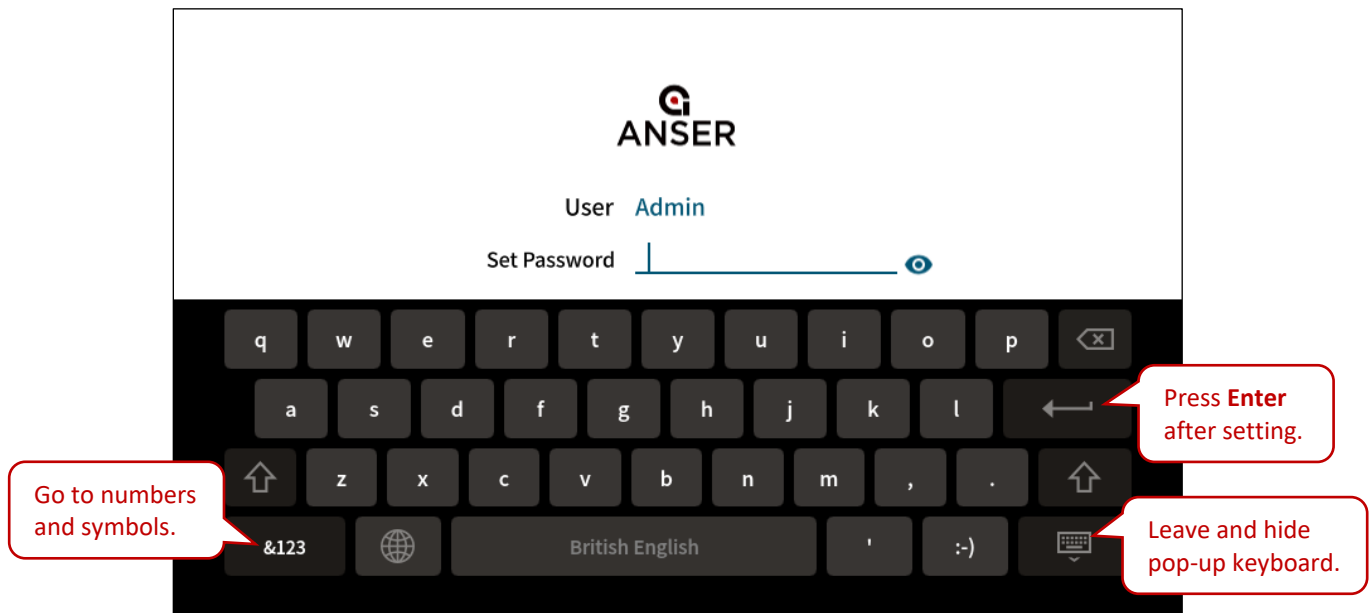


Figure 1-3. Set a Password for the Admin Account

After creating the admin account, the X1 wizard will guide users to configure the system date time and the necessary settings to start X1, as seen in the following image. Press the drop-down button “▾” in the field of “Time zone” to select which area and city you are at.

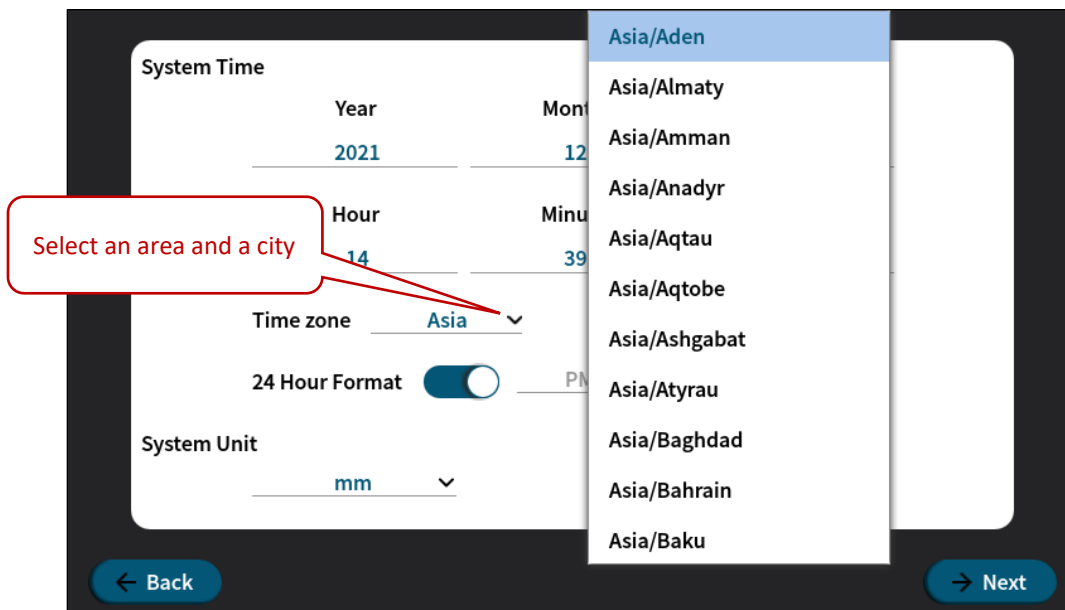


Figure 1-4. X1 System Initial Setup – System Time

Click **Next** and **OK** to complete more initial settings following X1 Wizard.

### 1.2.1 Create a Production Line

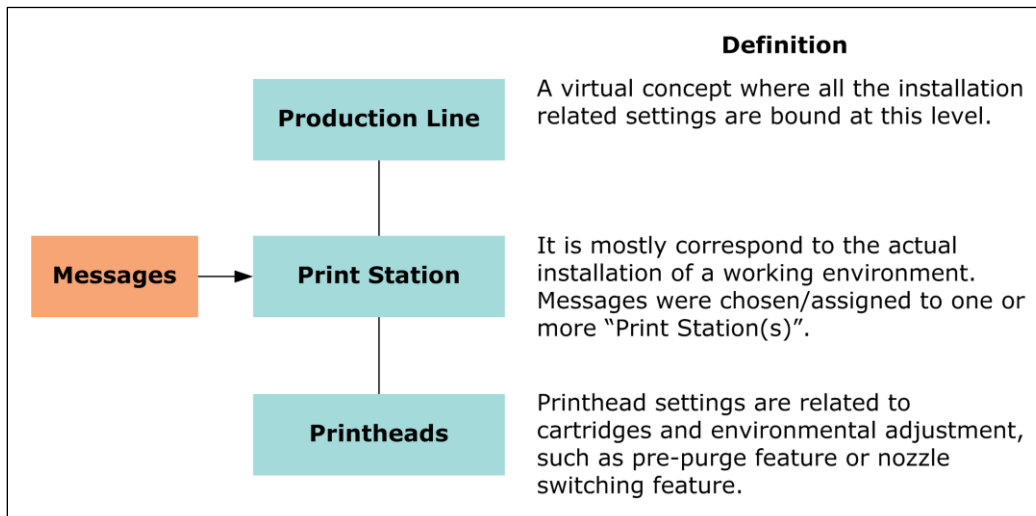


Figure 1-5. X1 Printing Setup Diagram

One or multiple print stations can be installed for printing on different products. Please refer to **Section 1.5.1** for detailed settings.

**Production Line Settings**

Name your Production Line and set the production line speed for the encoder

Name

Encoder ☒

Encoder Source

Encoder DPI

Output DPI

Meter Wheel ☐

Press to enter a name with pop-up keyboard.

Press to select.

Adjust the size and density of the messages to be printed.

Back Next

Figure 1-6. X1 System Initial Setup – Production Line Settings



Turn off **Encoder** to set **Production Line Speed**. Input speed value when a conveyor moves at a constant speed.

1 2 3 Skip All

### Production Line Settings

Name your Production Line and set the production line speed for the encoder.

Name Production Line

Encoder ☐

Production Line Speed 9.29 meters/min

Output DPI 300

← Back → Next

Figure 1-7. X1 System Initial Setup – Production Line Speed




### 1.2.2 Assign a Print Station

After setting up a production line, the next step is to assign a print station which may be a single or union of two printheads installed in a production line. Set this print station according to the physical installation and combination of printhead(s). Please refer to the following table, figures and **Section 1.5.2** for more details.

**Table 1-1. Print Station and Printhead Combinations**

Item	Description
<b>Single Mode</b>	A print station containing single ½" or 1" printhead.
<b>Stitch Mode</b>	A print station composed of two ½" or two 1" printheads stitching together to achieve a larger message printing.
<b>Parallel Mode</b>	A print station composed of two ½" or two 1" printheads installed parallelly for non-stop printing.

**Note:** If the printhead(s) is not properly connected, neither the production line nor printing can be started.

Press the buttons “”, “”, or “” to select Single, Stitch, or Parallel printing modes that you are using. Press the circle “○” to select the installed printhead(s).

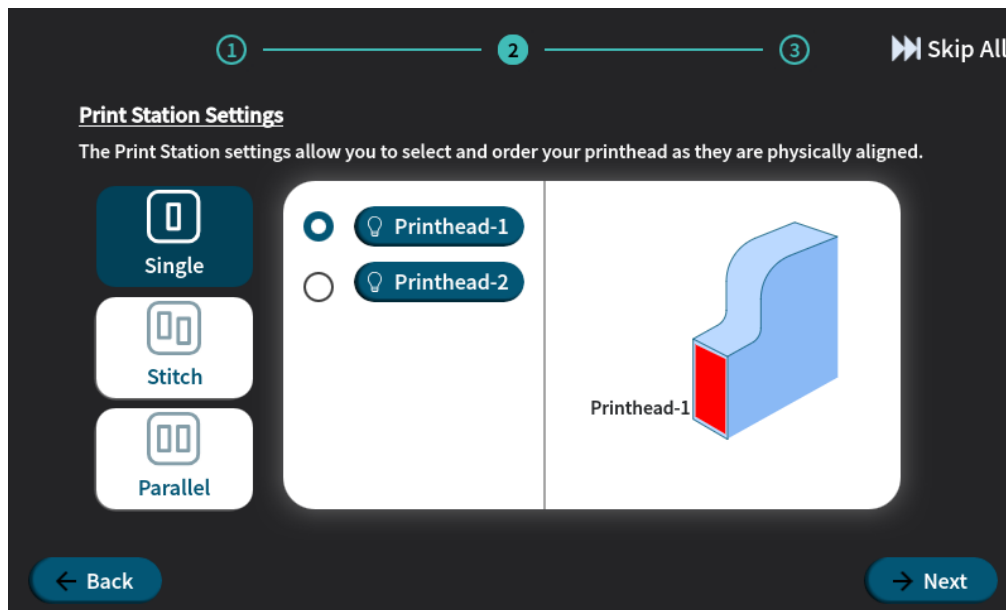


Figure 1-8. X1 System Initial Setup – Print Station Settings, Printhead Arrangement (Single)

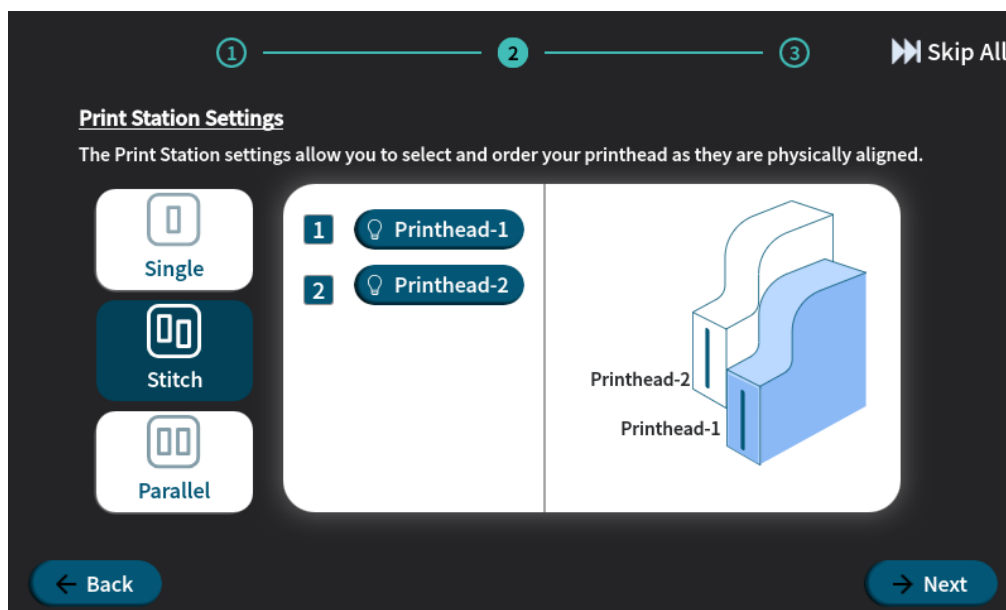


Figure 1-9. X1 System Initial Setup – Print Station Settings, Printhead Arrangement (Stitch)

**Note:** Printhead-1 is always the printhead at the bottom when using stitch printheads.

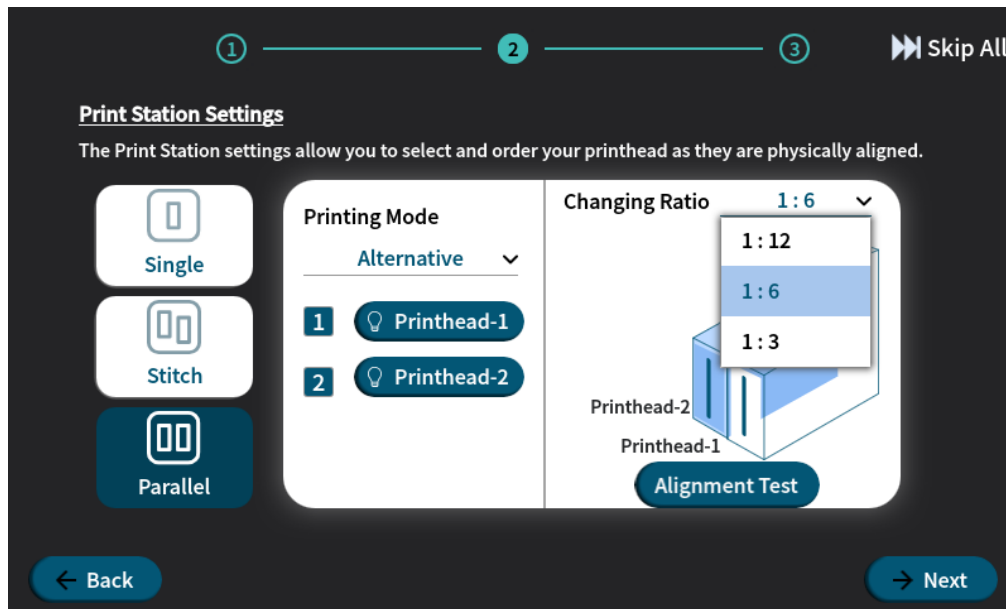


Figure 1-10. X1 System Initial Setup – Print Station Settings, Printhead Arrangement (Parallel I)

In Parallel mode, two printing modes are available – **Alternative** and **Dual Color**. Alternative printing allows printheads to print alternatively in a ratio of 1:3, 1:6, or 1:12. For example, when ratio 1:3 is selected, printhead-1 will first print one time/item and then printhead-2 prints three, and printing goes on by repeating this 1 to 3 ratio. So 1:6 and 1:12 ratio means printhead-2 prints six times/items or 12 times/items after printhead-1 printing one. Please see **Section 1.5.2.3** for more information.

**Note:** When the high-ratio cartridge is empty and a new one is inserted, the high ratio will be applied to the cartridge with less ink.

In Dual Color printing mode, one larger message can be printed in two colors with two printheads printing one right after the other. Use the pop-up keyboard to enter the actual distance between printhead-1 and printhead-2.

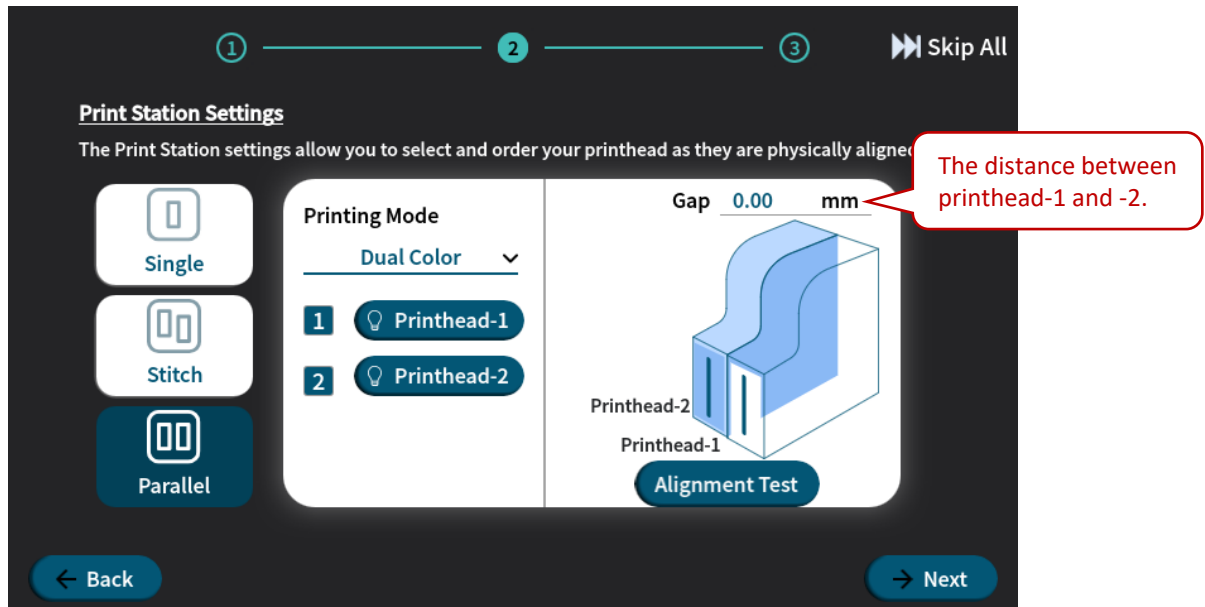


Figure 1-11. X1 System Initial Setup – Print Station Settings, Printhead Arrangement (Parallel II)

**Note:** In order to ensure the printing effect of a dual-color message, please set the gap according to the actual distance between printheads. Otherwise, the message may be distorted.

### 1.2.3 Print Station Settings

The last step in the initial setup wizard is to configure the settings related to photocell sensor, print direction and station delay of the print station.

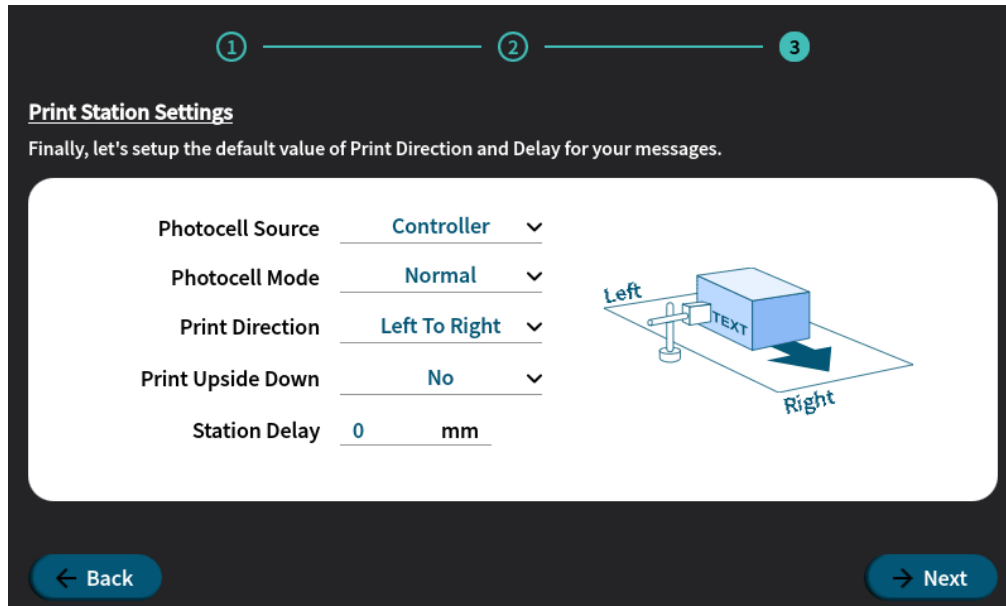
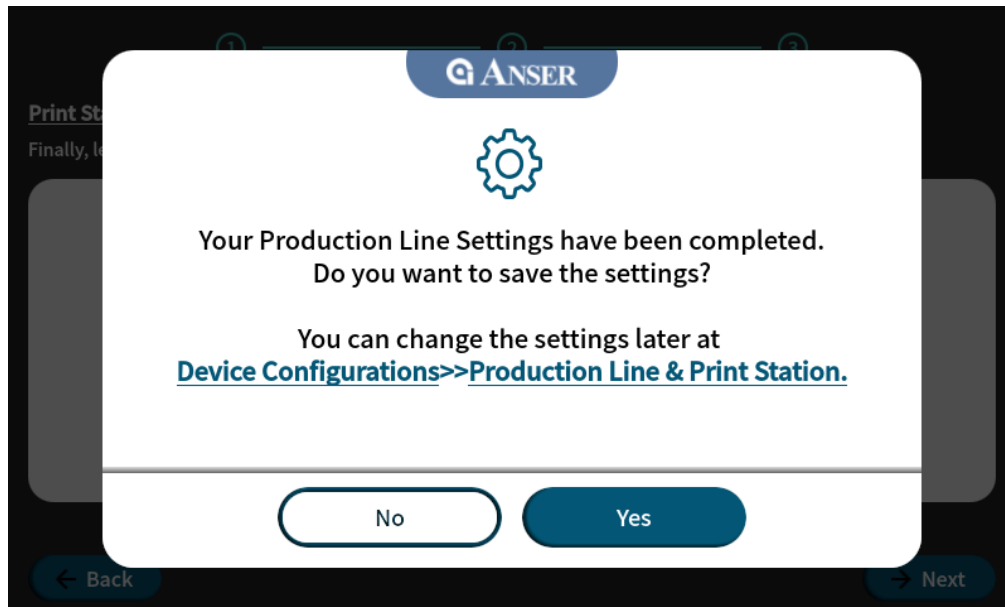


Figure 1-12. X1 System Initial Setup – Print Station Settings, Print Direction and Delay

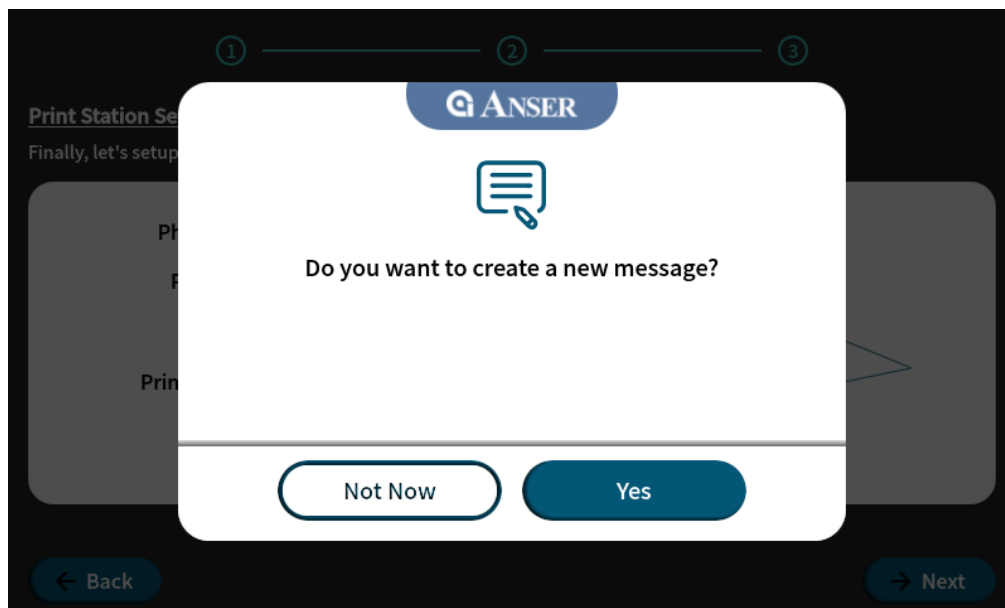
Table 1-2. Related Options in Print Settings

Option	Description
<b>Photocell Source</b>	Set the sensor signal coming from the <b>Controller</b> or the <b>Printhead</b> .
<b>Photocell Mode</b>	To select <b>Normal</b> or <b>Inverted</b> mode of a photocell. Normal Mode: Trigger photocell when the sensor detects an object (High-to-Low signals). Inverted Mode: Trigger photocell when the sensor detects no object (Low-to-High signals).
<b>Print Direction</b>	Set according to the moving direction of the object when passing in front of the print station.
<b>Print Upside Down</b>	All messages are printed in upside down orientation.
<b>Station Delay</b>	The distance (unit: mm or inch) from the sensor trigger to the location on the product where the print starts. Please refer to <b>Figure 1-54</b> for more details.

Save the initial setup and confirm whether you want to proceed to the message editor or homepage. Please see the following **Figure 1-15**.



**Figure 1-13. Complete X1 System Initial Setup**



**Figure 1-14. Create a Message after X1 System Initial Setup**

**Note:** 1. If no production line is built and no related settings are saved, neither message editing nor printing can be done. And X1 Wizard will lead you to complete the setting after reboot.  
2. If no message is assigned, neither the production line nor printing can be started.

1.3 Getting to Know the Homepage

The X1 system homepage provides essential information about the status of the production line, print station, and printheads, where users can quickly know what is happening through all these components. Each part of X1 system homepage is marked by a red number in the following Figure 1-15 and is described in the following **Table 1-3**.

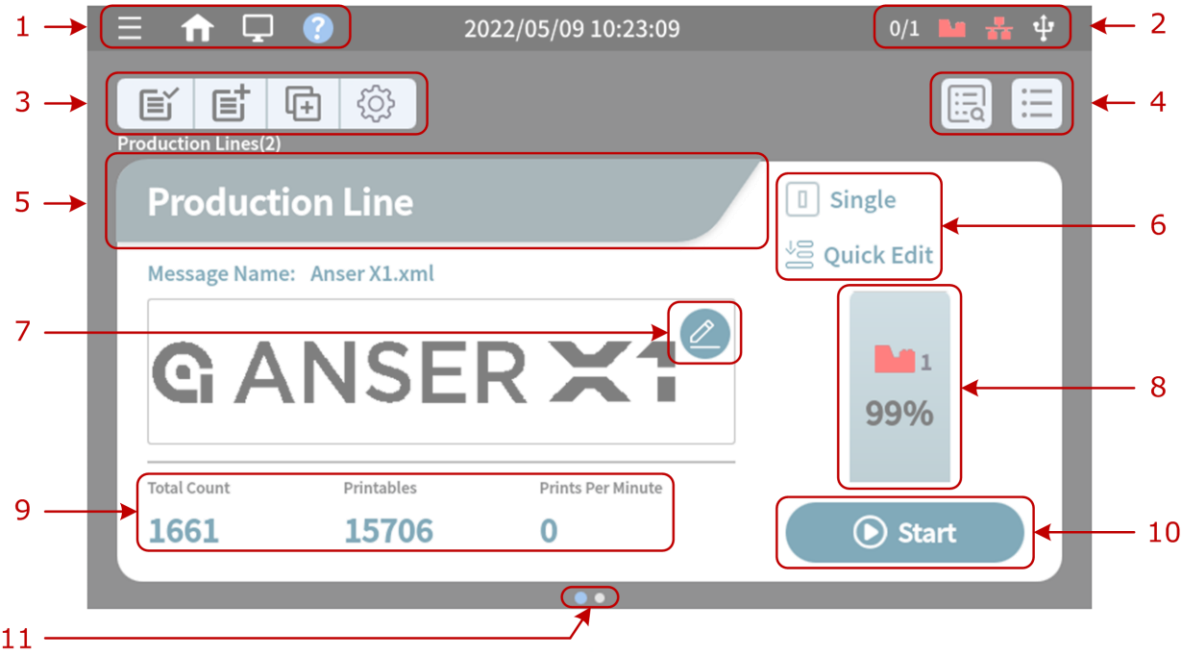



















Figure 1-15. X1 System Homepage



Table 1-3. X1 System Homepage Settings

Item	Icon	Description
1		<b>Menu Tree Button:</b> Access system main menus.
		 <b>Shutdown:</b> Perform a soft shutdown of the system before directly pressing power off button of X1 controller. Please see <b>Figure 1-16</b> .
		 <b>Log Out:</b> Log out from current user account, and back to log-in page.
		<b>Home Button:</b> Return to the homepage as shown in <b>Figure 1-15</b> .
		<b>Simplified Button:</b> Display homepage in a simplified view.
	<b>Help Button:</b> Introduce main functions and their quick access buttons in the main page.	
2		<b>Scan &amp; Print:</b> Display the Number of Scan for Scan & Print. Press the button and see the content of the number of scans done and stored in the variable fields.
		<b>Cartridge Info / Button:</b> Show ink cartridge status. Red icon means not all cartridges are connected, white means both cartridges connected. Press the icon to see more setting and information.
		<b>WiFi Status / Button:</b> Show WiFi connection status. A USB-to-WiFi dongle is required. Red icon means no connection, white means connected. Press the icon to see more setting and information.
		<b>Ethernet Status / Button:</b> Show Ethernet connection status. Red icon means no connection, white means connected. Press the icon to see more setting and information.
		<b>USB Status / Button:</b> Show USB connection status. Red icon means no connection, white means connected.
3		<b>Message List:</b> Press this button to view all messages in list view, where editing message and putting message(s) into a print station are allowed.
		<b>Add Message Button:</b> Open X1 on-board message editor.
		<b>Wizard Button:</b> Access wizard for production line and print station setup.
		<b>Settings Button:</b> The quick access button leads to <b>System Settings</b> , where users can manage templates, files, and user accounts. Information about X1 controller is also provided.
4		<b>Information Display Button:</b> It leads to the information display page to select the type of parameters of printer and cartridge to be displayed on the main page.
		<b>List View Button:</b> It displays information of a production line in an arrangement of a list. It is handy when working with more than one production lines.

Item	Icon	Description						
5		<b>Production Line Settings Button:</b> Press it to access the current production line settings page.						
6		<b>Print Station Single Mode:</b> Press it to access the print station settings page.						
		<b>Print Station Stitch Mode:</b> Press it to access the print station settings page.						
		<b>Print Station Parallel Mode:</b> Press it to access the print station settings page.						
		<b>Quick Edit Button:</b> It allows quick adjustments to parameters while the printer is printing.						
7		<b>Edit Message:</b> Press it to enter X1 Message Editor. Please refer to <b>Figure 1-17</b> and <b>Table 1-4</b> .						
8	<div></div> <div></div>	<p><b>Ink Cartridge Information:</b> It shows information on the cartridge status. If a printhead is installed or connected, this icon will be colored, otherwise, it is black and white. Press it to go to <b>Printhead Settings</b> page, where advanced settings can be made: Repeat Print, Pre-Heating, Pre-Purge, and Cartridge Idle Alert.</p> <p>Press the <b>Information Display Button</b> “” to select which cartridge info is showing in this main page: 1. Remaining printable counts, 2. Ink level percentages and 3. Remaining printable time. If <b>Auto changeover</b> is selected, the above mentioned 3 info will be shown in turn.</p> <table><tr><td></td><td><b>Printables:</b> The number shows remaining printable counts.</td></tr><tr><td></td><td><b>Percentage:</b> It shows the percentage of remaining ink levels.</td></tr><tr><td></td><td><b>Remaining Time:</b> It shows printable time left.</td></tr></table>		<b>Printables:</b> The number shows remaining printable counts.		<b>Percentage:</b> It shows the percentage of remaining ink levels.		<b>Remaining Time:</b> It shows printable time left.
	<b>Printables:</b> The number shows remaining printable counts.							
	<b>Percentage:</b> It shows the percentage of remaining ink levels.							
	<b>Remaining Time:</b> It shows printable time left.							
9		<p><b>Information Display Area:</b> Display information about printing statistics, performance, configurations and messages. Statistics includes Count, Total Count, Printables, and Time Elapsed. Please press the information display button “” to see more parameters that can be shown in this area. At most 3 parameters can be selected and shown. If users want to select another parameter when there are already 3 selected, please unselect first.</p> <p>Also, by pressing this area, more information about production line can be obtained.</p>						
10	<div></div> <div></div>	<b>Print Start/Stop Button:</b> To start or stop printing. When a cartridge is installed, this icon will be blue. When no cartridge is installed, the icon will be hidden in gray.						
11		<b>Production Line Page Select:</b> It shows the total number of production line (4) and the current page users are at (the second page). Press on the dot to go to a particular production line page.						

Besides main page shortcuts, press **Menu** button in the most upper-left corner to go to more settings of X1 controller.

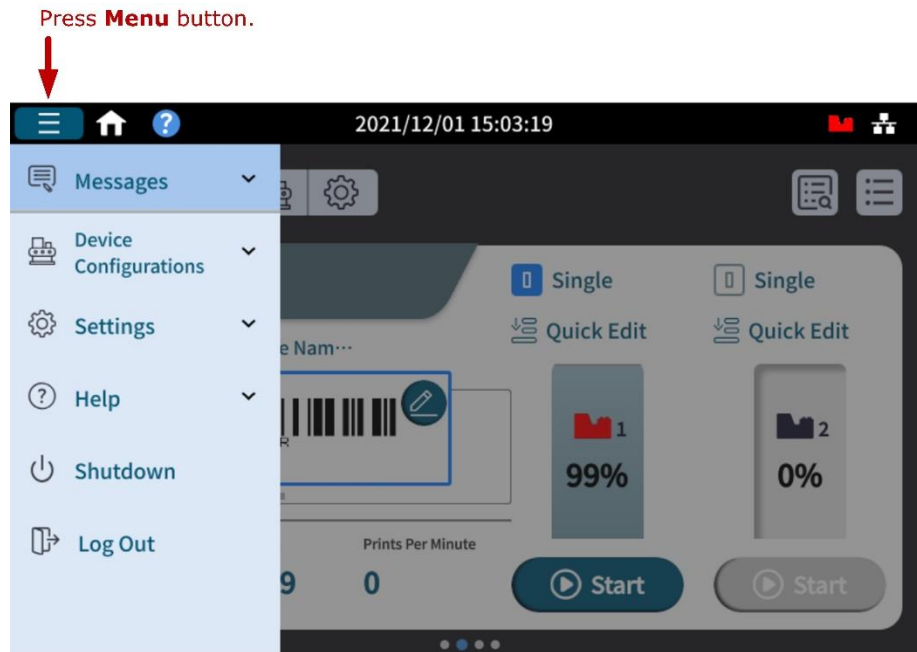



Figure 1-16. X1 System Homepage – A Menu for More Settings

## 1.4 Getting to Know the Message Editor

X1 offers the possibility to create and edit messages directly in the controller. The X1 editor offers the necessary tools to make message editing a more straightforward process. In X1 homepage, press “” to go to X1 message editor. Each part of the message editor is marked by a red number in the following **Figure 1-17** and is described in the following **Table 1-4**.

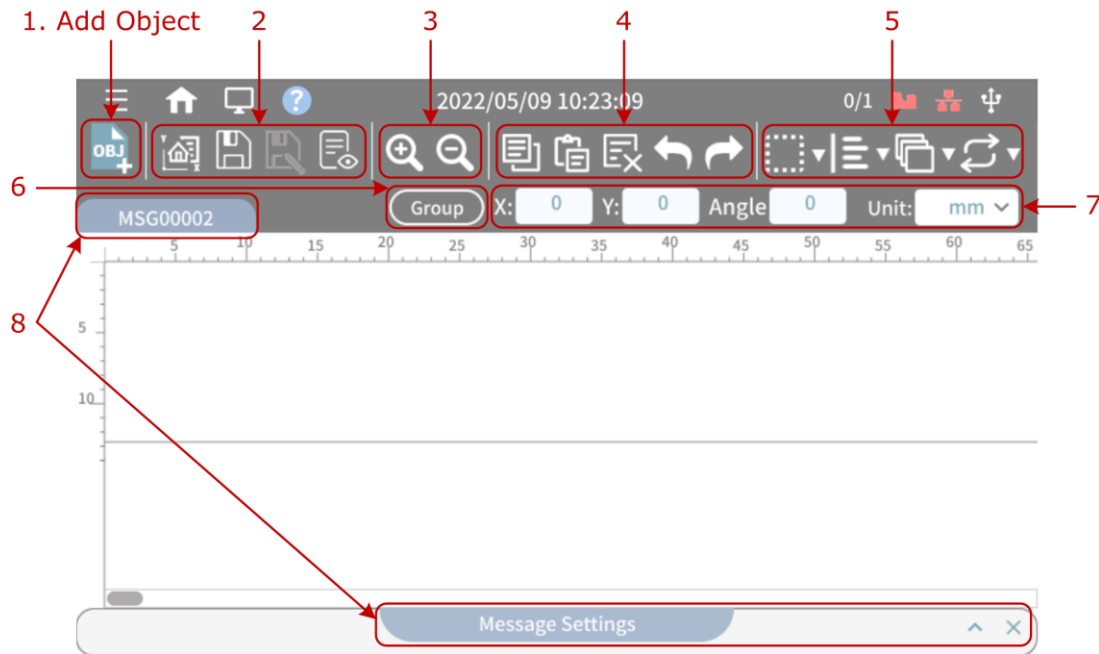

















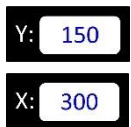


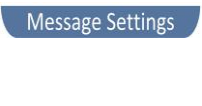








Figure 1-17. X1 Message Editor Page

Table 1-4. X1 Message Editor Settings

Item	Icon	Description
1		<b>Add Object Button:</b> Using it to create a message is highly recommended. It contains the most commonly used objects: Text, Date/Time, Counter, Image, Barcode, Shape, Variables, and Shift. Press each object to go to further settings.
2		<b>Home Button:</b> Press to 1. Go back to 0, 0 (x, y) where a message starts, and 2. Bring back the Message Settings Page.
		<b>Save Button:</b> Once the message editing is finished or arrangements are done, press it to store the edited messages.
		<b>Save As Button:</b> When editing the existing messages, in order to keep the original ones, press this button to save it as another message with a different name.
		<b>Print Preview:</b> Display a preview of the messages.
3		<b>Zoom In:</b> It allows users to view the editing area in a closer and bigger look.
		<b>Zoom Out:</b> It allows users to view the editing area in a smaller and farther away look.
4		<b>Copy:</b> It creates a duplicate of the selected object.
		<b>Paste:</b> To stick the copied object to a certain position.
		<b>Delete:</b> To remove or erase a certain object.
		<b>Undo:</b> To cancel or reverse the last action.
		<b>Redo:</b> To restore and repeat the action that has just been undone.
5		<b>Select:</b> To single select, select all, unselect all, or multiple select objects.
		<b>Alignment:</b> To align objects in different directions and distributions.
		<b>Order:</b> Send a selected object to the back or the bottom and bring an object to the front or the top.
		<b>Rotate:</b> It allows users to set the orientation of objects: Mirrored, Upside down, or Reverse color.
6		<b>Group:</b> Print objects within one message by assigning them to any of two groups, which later the group can be assigned to one print station. If color ink cartridges are used, select the colors of the cartridge used to print the group.

Item	Icon	Description
7		<b>Object Positioning:</b> Display the position of the selected object on the editor. Press the number to enter desired values, and the selected object will be in the exact position.
		<b>Angle:</b> It shows the angle of a selected object. Press the number to enter desired value, and the selected object will be in the exact angle.
		<b>Canvas Measurement Unit:</b> It allows users to change the measurement unit of the canvas to millimeter, inch, or pixel.
8		<b>Message Settings Page:</b> Display settings of messages being edited. After entering X1 Message Editor, this page is shown closed at the bottom. Press Toggle Buttons listed below to see the page.
		<b>Toggle Buttons:</b> Press “  ” to toggle up the Message Settings page. Press “  ” to close and “  ” to hide the page. To reopen Message Settings Page after hiding it, press Message Name Tab listed below.
		<b>Message Name Tab:</b> It shows message name and brings Message Settings page to the front.

### 1.4.1 Adding Message Objects

In X1 Message Editor, use **Add Object**  button is highly recommended to start message editing. Press it and the Add Object page appears as the figure below shows. Here you can see the most often-used objects are all included. Please refer to the following sections for step-by-step instructions of adding objects into a message.

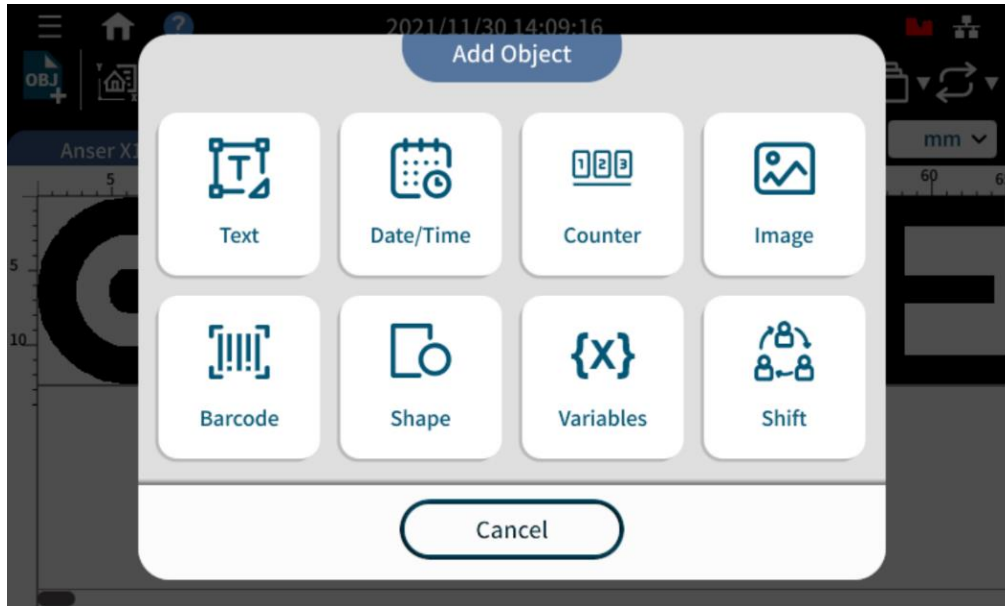


Figure 1-18. To Add Eight Types of Object



### 1.4.1.1 Add Object: Text

**STEP 1:** In X1 Message Editor, Press “Text” in the Add Object page, and the following page will show. Select a template and press **OK**.



Figure 1-19. Add Object – Select a Text Template

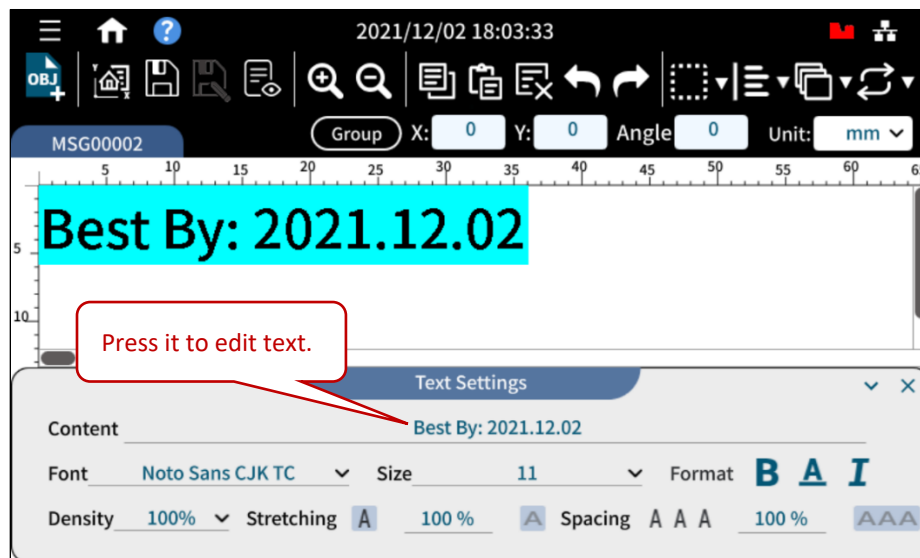


**STEP 2:** Key in the text with a pop-up keyboard, press Enter “” or “” to save it, and the text template is now being entered to message editor as the following **Figure 1-20** shows.



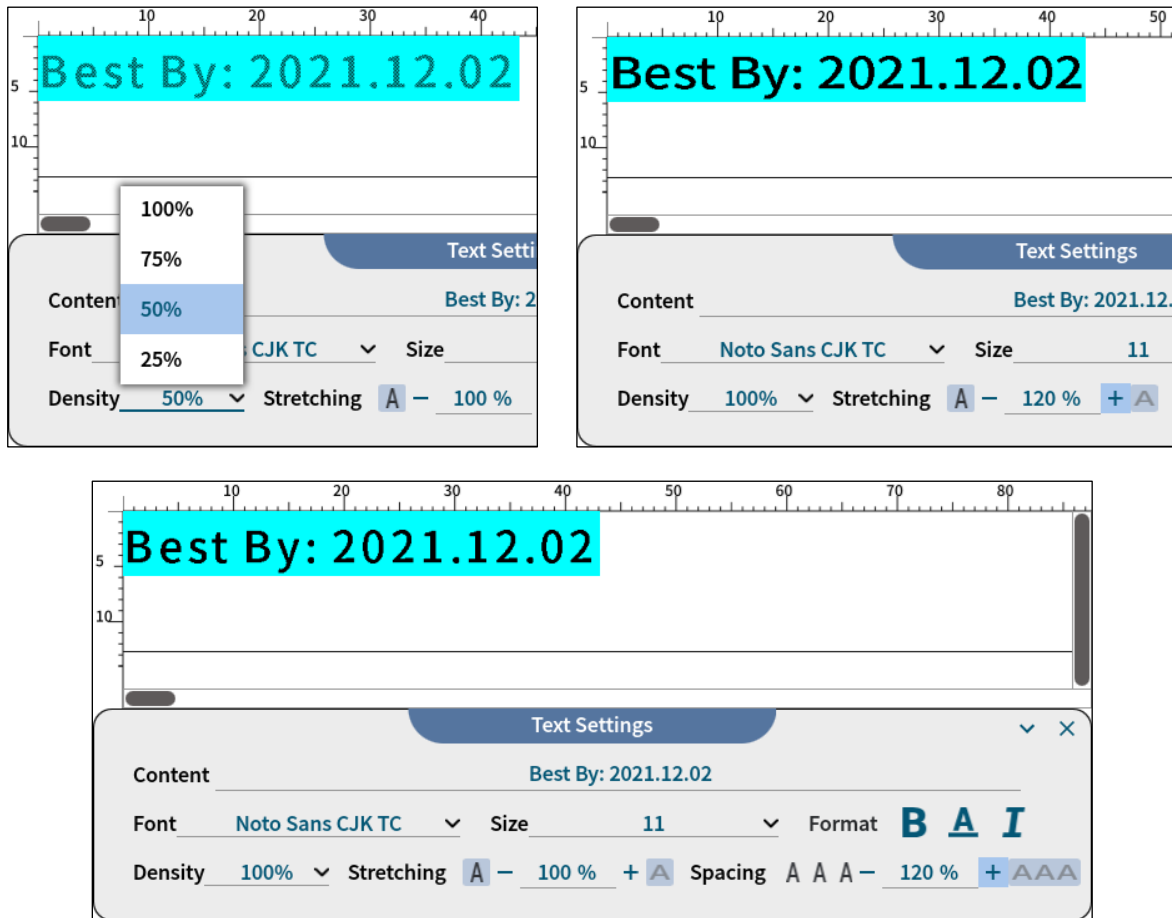
**Figure 1-20. Add Object – Edit a Text**

**STEP 3:** Use the items in Text Settings page to change format and style. Press the text to select it (and mark it in bright blue), and then it can be edited, copied, or deleted. If the text or an object is not selected, it cannot be edited.



**Figure 1-21. Add Object – Format a Text**

**STEP 4:** In the Text Settings page, different styles are provided. Also, text **Density** can be changed to adjust the level of ink used. Adjusting **Stretching** to customize the desired total length of the text. **Spacing** allows users to change the spaces between each letter within a text. Please refer to the following figure for illustration.



**Figure 1-22. Add Object – Adjust Text Styles: Density, Stretching and Spacing**

- Note:**
1. The direction of stretching is the same as reading direction. Thus, in a 90-degree angled English text, stretching over 100% will go down vertically instead of up.
  2. Press the field **Angle** in the upper right corner of message editing page to key in the desired angle of a selected text.

#### 1.4.1.1.1 Adjust Size and Position

If the size of a text or an object is too big that it goes across the print area, a red warning sign “!” appears to remind you that a part of the message may not be printed out. A printable message height is based on the type of printhead used in a print station. For a ½” printhead in a single print station, the maximum message height will be half inch. Use the **Size** field in the Text Settings page or go to Message Settings page by pressing Message Name Tab “MSG00002” to select a printable message **Height**, as the following **Figure 1-24** shows.

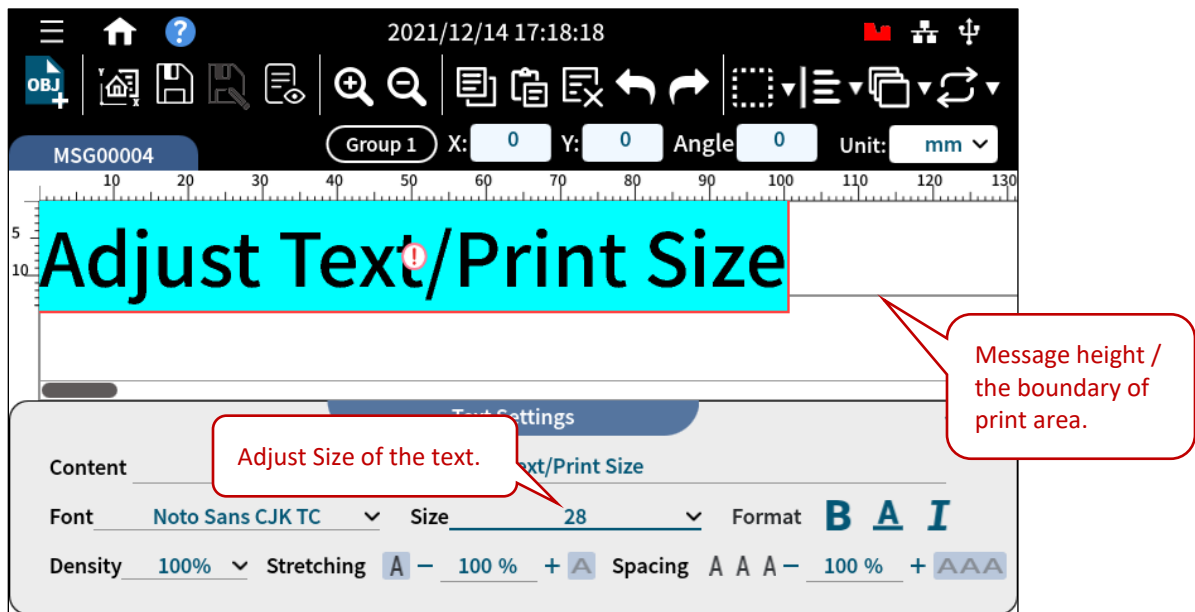
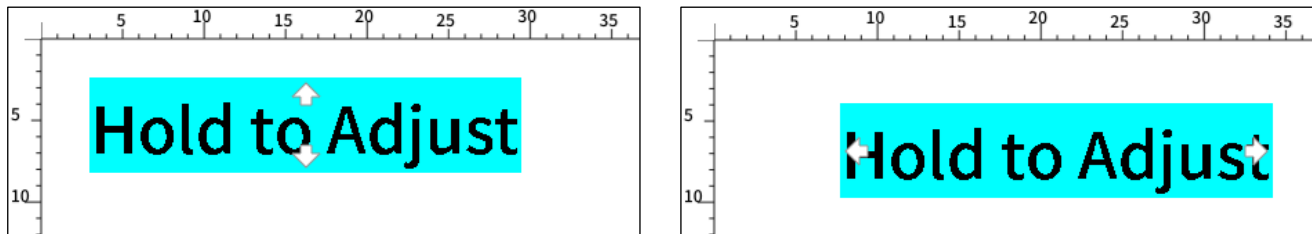


Figure 1-23. Add Object – Adjust Text Size



Figure 1-24. Add Object – Adjust Message Height

If you press and hold on a text, a pair of arrows appear horizontally or vertically. Move your finger and drag the text along the horizontal or the vertical direction to a desired position. You can also change the position of a text or an object by entering numbers in X-axis and Y-axis fields.



**Figure 1-25. Add Object – Hold to Adjust Message Position**

X1 Message Editor provides eleven fonts and thirty-three system languages. Please see the following tables for details.

**Table 1-5. X1 Fonts Supported**

Font Type	Example
Amiri-Regular	ANSER 1234567890
Arimo-Regular	ANSER 1234567890
DejaVuSans	ANSER 1234567890
NotoSansCJKtc-Medium (Default)	ANSER 1234567890
NotoSansJP-Regular	ANSER 1234567890
NotoSansKR-Regular	ANSER 1234567890
NotoSans-Regular	ANSER 1234567890
NotoSansTC-Regular	ANSER 1234567890
OCR-B	ANSER 1234567890
OpenSans-Regular	ANSER 1234567890
Sarabun-Regular	ANSER 1234567890

**Table 1-6. X1 System Languages and Virtual Keyboards Supported**

Language	English Translation	System Language	Virtual Keyboard
لُغَرِيَّة	Arabic	✓	✓
Български	Bulgarian	✓	✓
Српски	Serbian	✓	✓
Čeština	Czech	✓	✓
Dansk	Danish	-	✓
Deutsch	German	✓	✓
Eesti	Estonia	-	✓
Ελληνικά	Greek	-	✓
English	-	✓	✓
Español	Spanish	✓	✓
فارسی	Persian	-	✓
Français	French	✓	✓
한국어	Korean	✓	✓
हिन्दी	Hindi	-	✓
Hrvatski	Croatian	-	✓
Italiano	Italian	✓	✓
עברית	Hebrew	-	✓
Magyar	Hungarian	✓	✓
Nederlands	Dutch	✓	✓
日本語	Japanese	✓	✓
Norsk bokmål	Norwegian	-	✓
Polski	Polish	✓	✓
Português	Portuguese	✓	✓
Русский	Russian	✓	✓
Română	Romanian	✓	✓
Slovenčina	Slovak	✓	-
Suomi	Finnish	-	✓
Svenska	Swedish	✓	✓
ไทย	Thai	✓	✓
Tiếng Việt	Vietnamese	✓	-
Türkçe	Turkish	✓	-
繁體中文	Chinese Traditional	✓	✓
简体中文	Chinese Simplified	✓	✓

### 1.4.1.2 Add Object: Date/Time

In Date/Time object adding page, users can select existing template that can be used as a production or expiration date.

**STEP 1:** In Add Object page, select **Date/Time**.

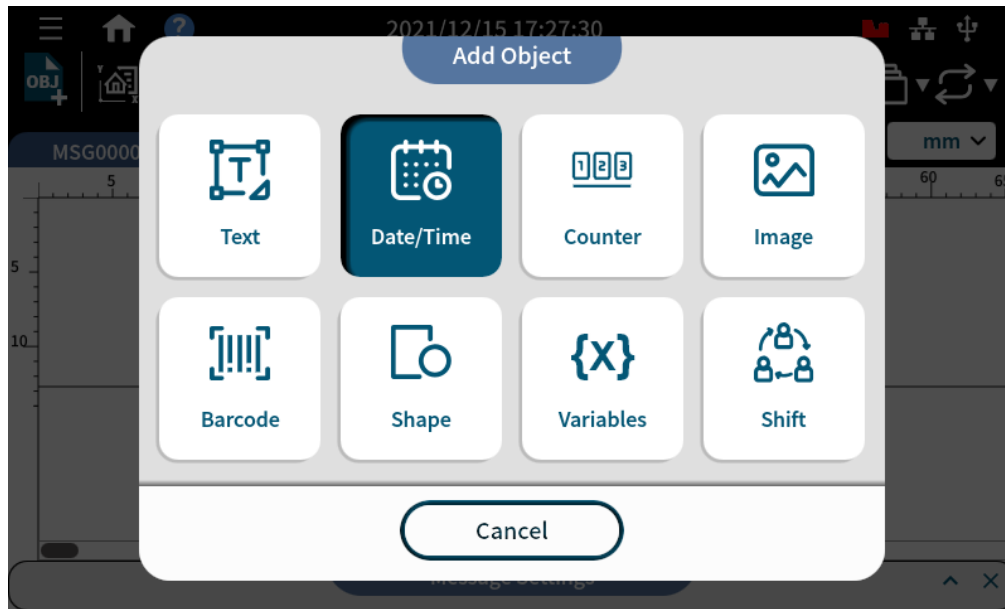


Figure 1-26. Add Object – Date/Time

**STEP 2:** Key in expiration day and select a template. Press **OK**. Expiration day greater than 0 means the selected format becomes an expiry date code. If it's zero then it's a production date.

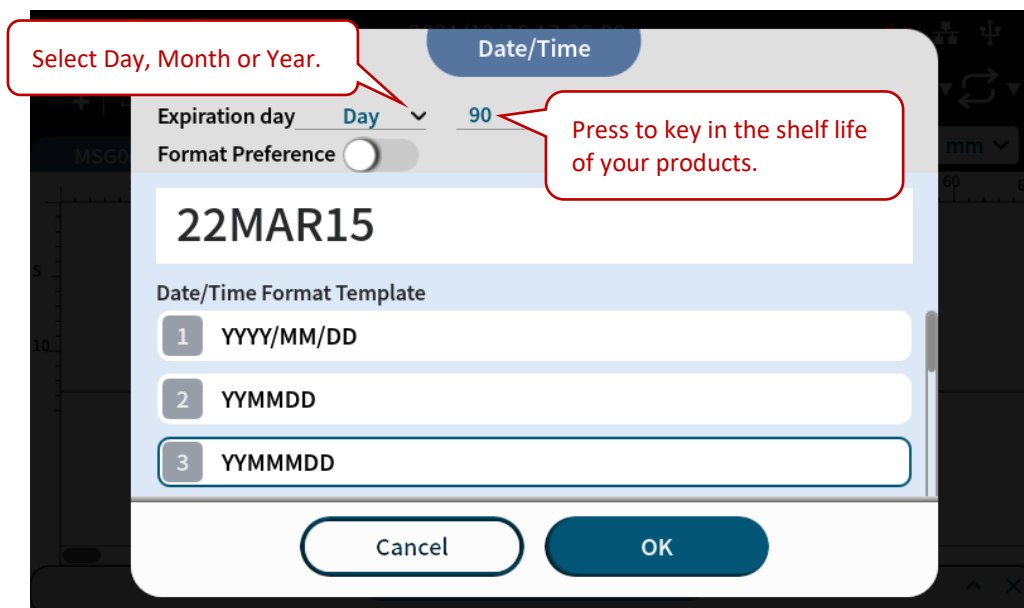
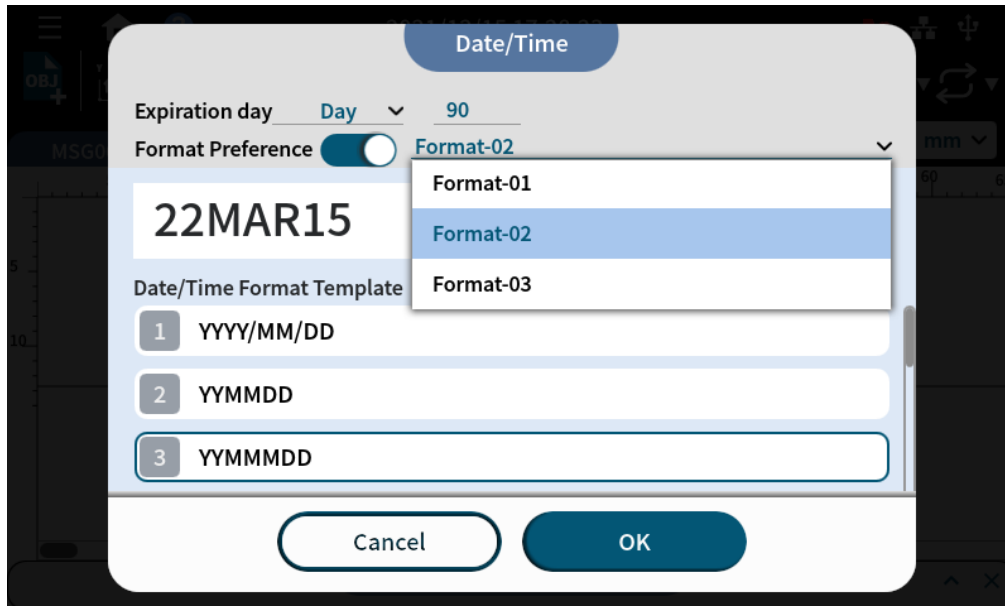


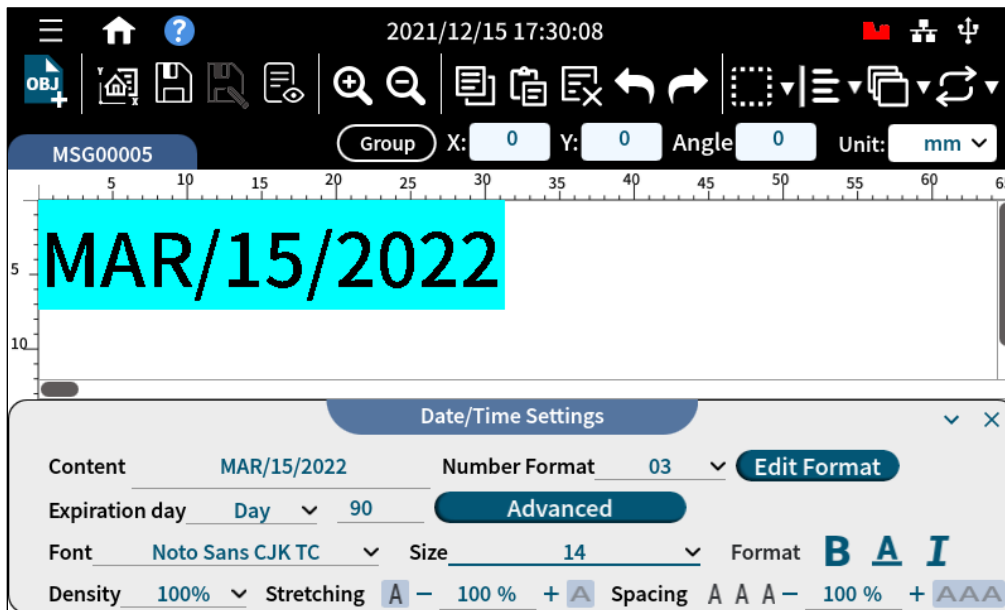
Figure 1-27. Add Object – Select Date/Time Template

**STEP 3:** If there is a Format Preference button, press it to select more format options of Date/Time.



**Figure 1-28. Add Object – Date/Time Format Preference**

**STEP 4:** Use the below Date/Time Settings page to arrange format and style of your date.



**Figure 1-29. Add Object – Date/Time Settings**

#### 1.4.1.2.1 Add a Time Template

If a Time object needs to be added, please go to Template Management to create a Time template.

**STEP 1:** Go to Menu “☰” > Settings “⚙️” > **Template Management**. Press **Date/Time Format Template**.

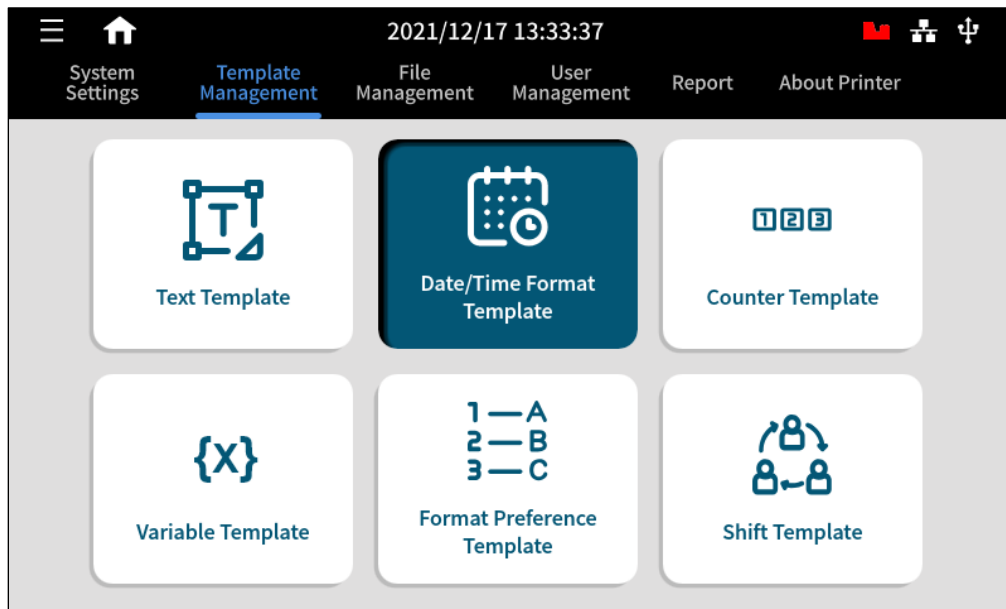


Figure 1-30. Add Object – Date/Time Template Management

**STEP 2:** Press **Add Template**.

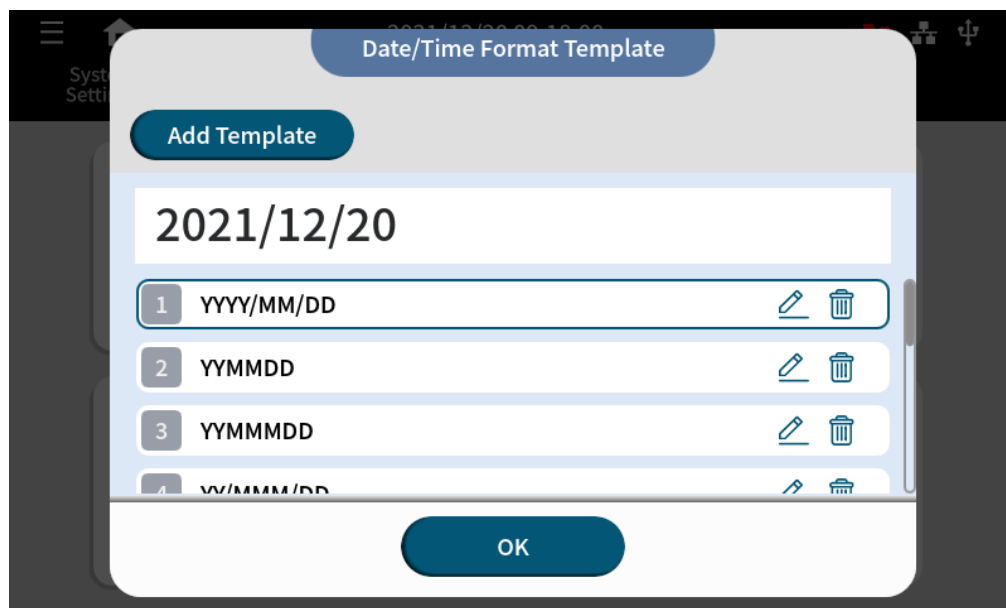


Figure 1-31. Add Object – Add Time Template



**STEP 3:** Press **Time** and the buttons “**h**”, “**m**”, and “**s**” to add desired digit into the template. And press **Save**.

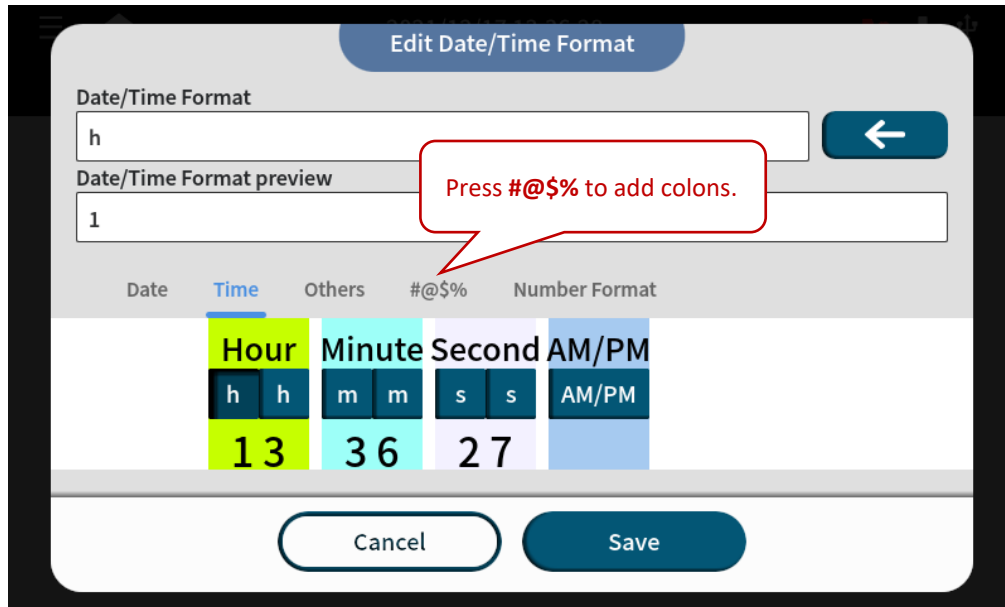


Figure 1-32. Add Object – Add Time Digit

**STEP 4:** Now you can select the Time template just created.

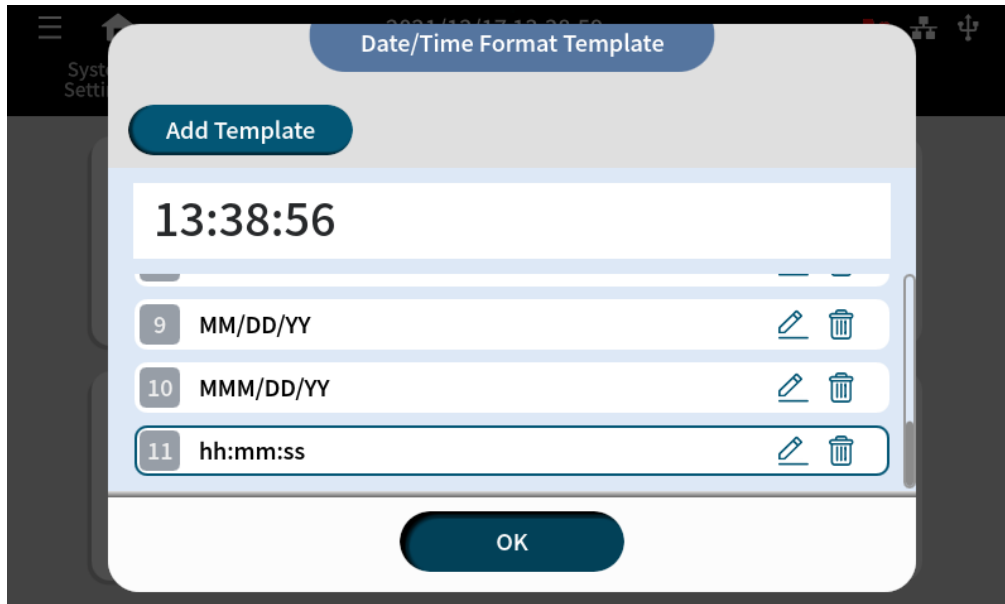





Figure 1-33. Add Object – Select Time Template

### 1.4.1.3 Add Object: Barcode

**STEP 1:** If you are at homepage, press Add Message “” > Add Object “” > **Barcode**. If you are at X1 Message Editor, press Add Object “” > **Barcode** to select Barcode Type.

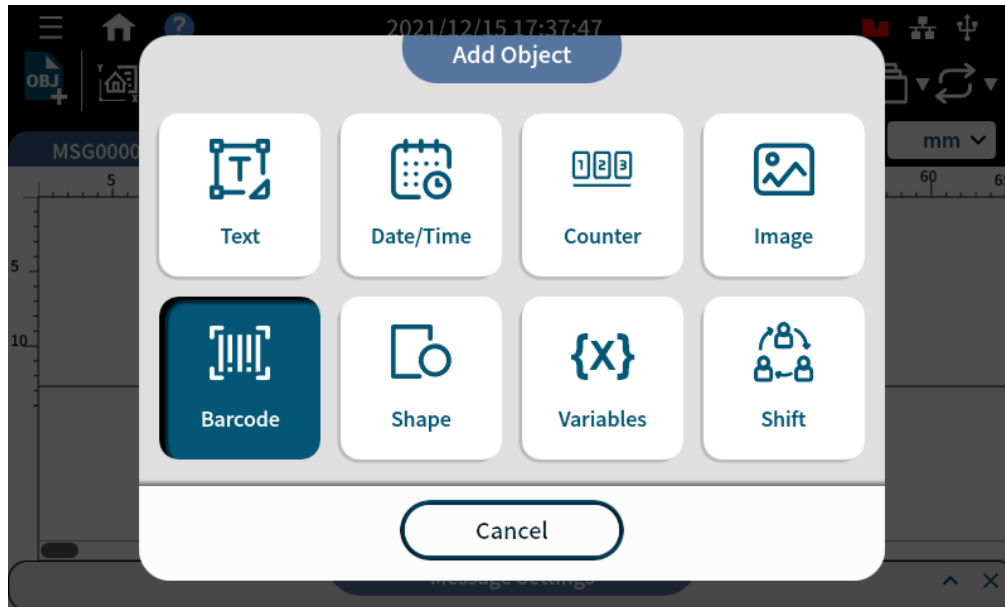


Figure 1-34. Add Object – Barcode

**STEP 2:** In Barcode Type page, select UPCA and related settings. Press **Next**.

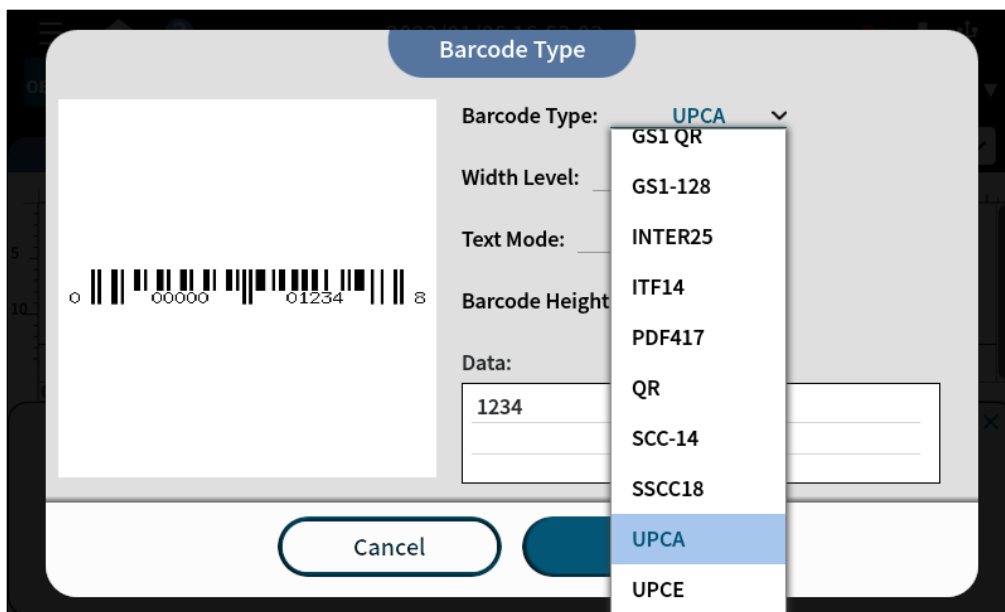



Figure 1-35. Add Object – Barcode Type

**STEP 3:** Tap on the content to key in your barcode. Press “” to add items in a barcode. Press the item you want to edit and use the drop-down menu to select the type of barcode content. After setting, press **OK**.

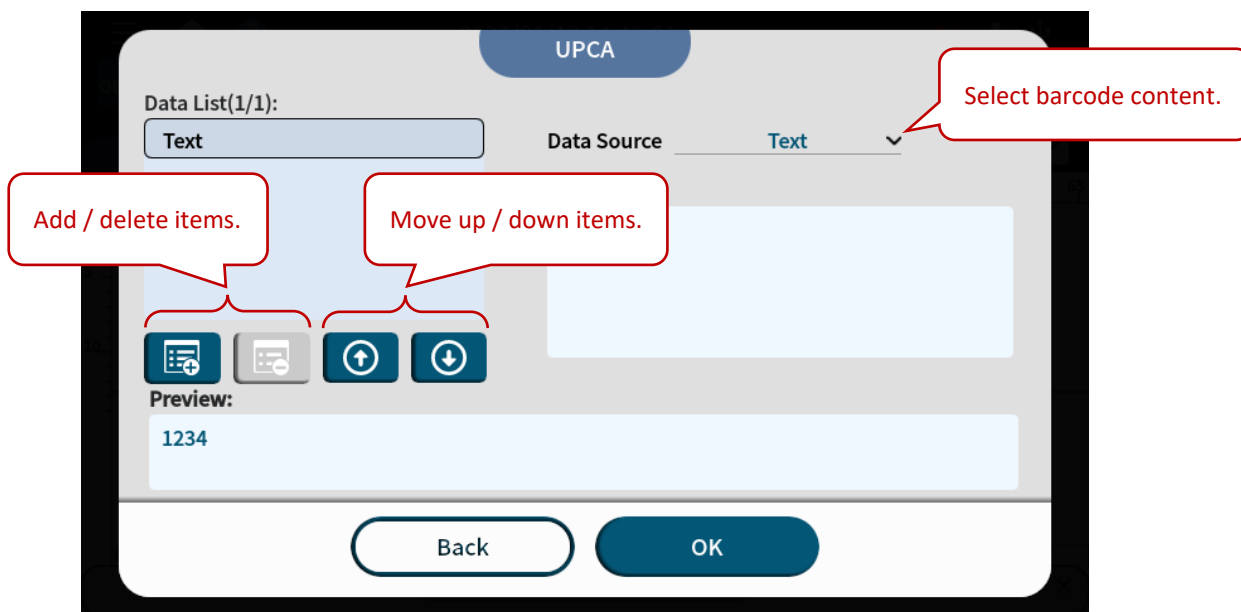


Figure 1-36. Add Object – Barcode Content

**STEP 4:** And the barcode is inserted. Select the barcode to adjust more settings. Press message name tab to change settings of this message.

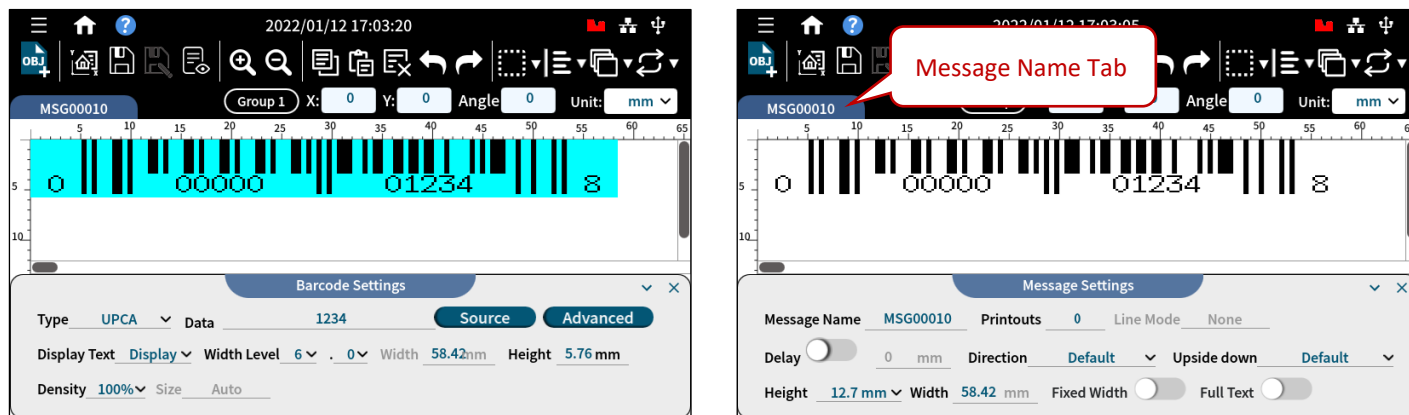


Figure 1-37. Add Object – Barcode Message

#### 1.4.1.4 Add Object: Variables

**STEP 1:** In Add Object page, press **Variables**.

**Note:** Please refer to **Section 3.1 Usage of the Variable Object** for more details. Sources of Variables can be Internal, External, or Database (when importing an Excel file).

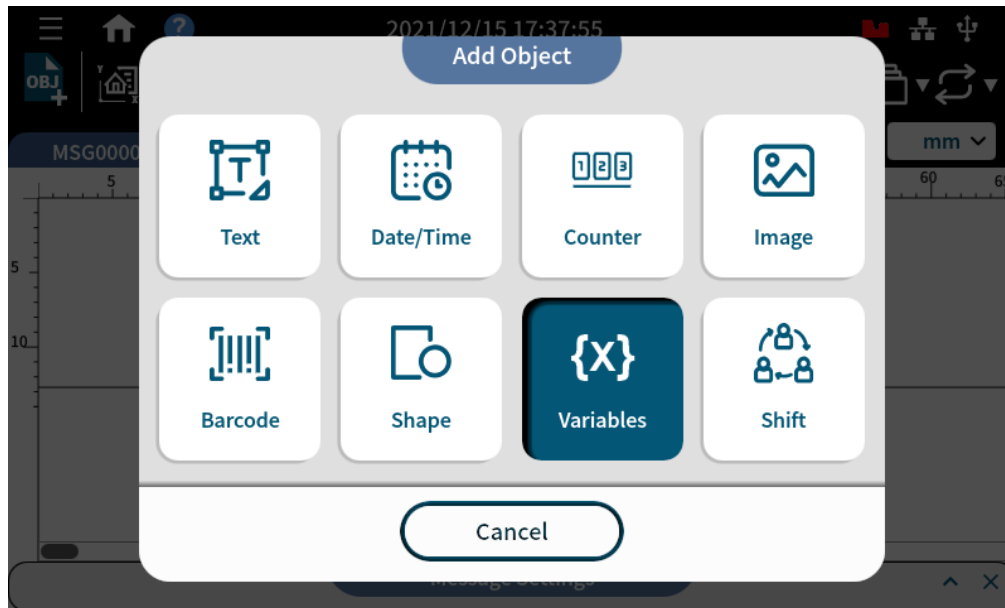


Figure 1-38. Add Object – Variables

**STEP 2:** In the Variable page, select a template on the right-hand side and press **OK**.

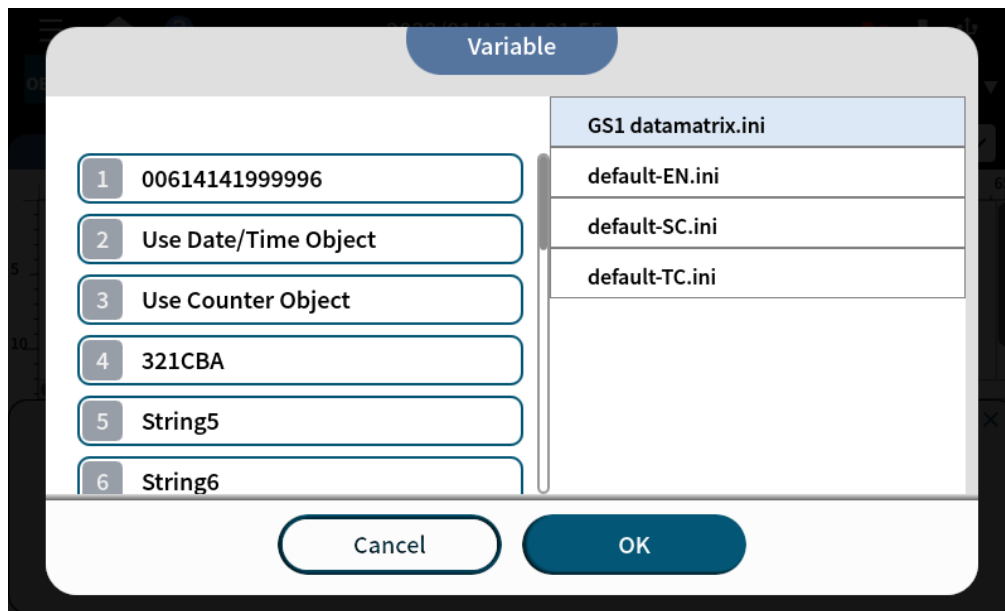
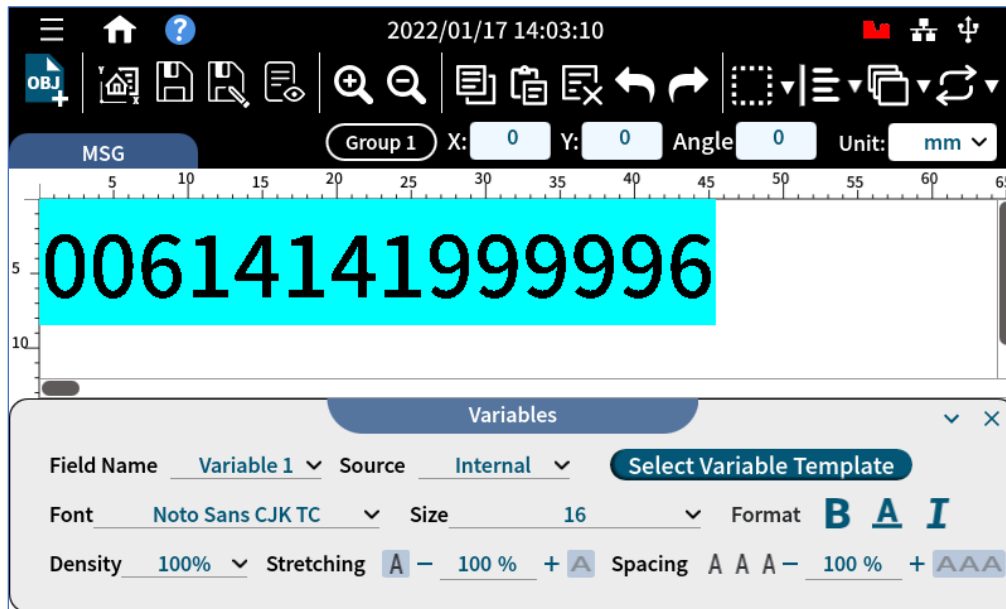


Figure 1-39. Add Object – Variables Page

**STEP 3:** Adjust format and style in the Variables tab below and the GS1 data matrix variable is ready.



**Figure 1-40. Add Object – Variables Message**

### 1.4.1.5 Add Object: Counter, Image, Shape, and Shift

**STEP 1:** Use ADD Object to insert Counter, Image, Shape or Shift.



Figure 1-41. Add Object – Counter, Image, Shape and Shift

**STEP 2:** Select a template.

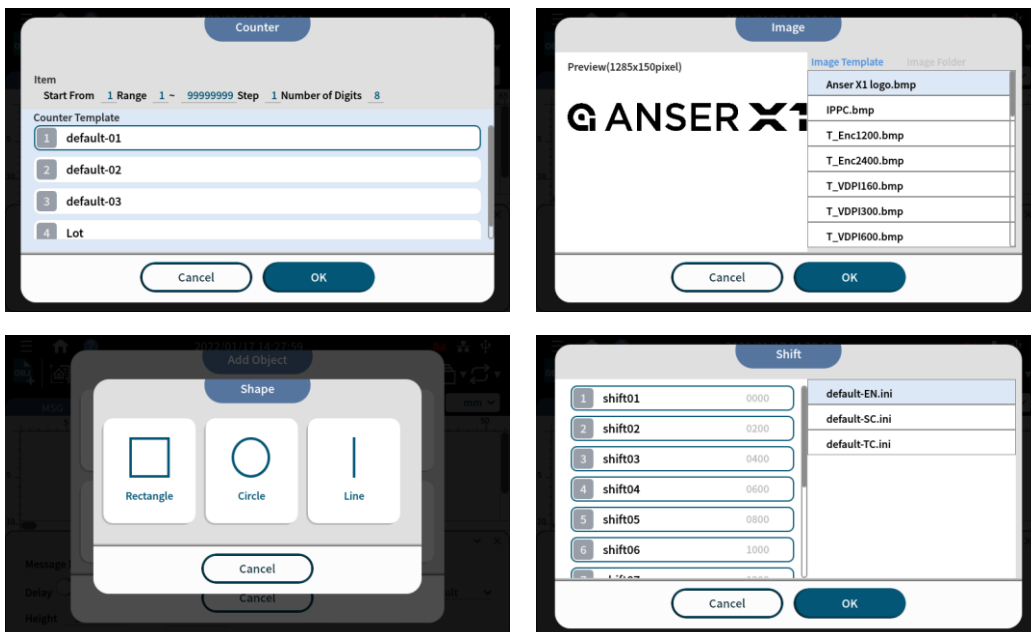


Figure 1-42. Add Object – Templates in Counter, Image, Shape and Shift

**STEP 3:** Template Inserted. Make detailed adjustment in each of their settings pages.



**Figure 1-43. Add Object – Settings in Counter, Image, Shape and Shift**

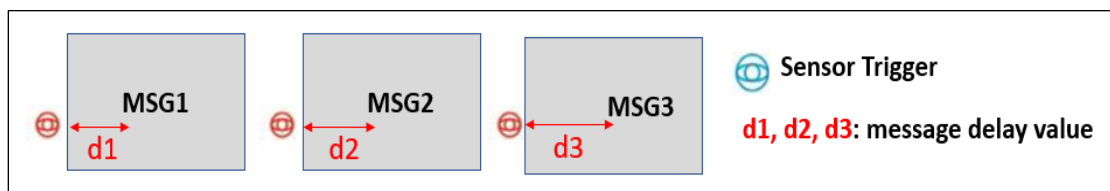
**STEP 4:** Press **Save** button “” after adding objects and editing messages to go back to homepage.

**STEP 5:** In homepage, select a message and production line and get ready to print.

### 1.4.2 Message Related Settings

**Table 1-7. Message Related Settings**


Option	Description
<b>Message Name</b>	Default system message or custom input by the users.
<b>Printouts</b>	Set a maximum number of prints for the message. The value zero means no limit.
<b>Repeat</b>	Enable repeat print settings for the message. Repeat print settings can be found in printhead settings.
<b>Line Mode</b>	Add editing guidelines to message editor. It is useful when creating a message with content spread in multiple lines.
<b>Delay</b>	It represents the distance (unit: mm or inch) from the sensor to the printhead cartridge nozzle, i.e., the distance between product detected by the sensor and the desired spot of a message. Each individual message can have its own delay value. Please refer to <b>Figure 1-44</b> . When it is enabled, it overwrites <b>Print Station Delay</b> (see <b>Figure 1-54</b> ).
<b>Direction</b>	Message printing direction, as a default, follows print station <b>Print Direction</b> .
<b>Upside Down</b>	<b>Default:</b> Follow the print station setting. <b>Normal:</b> Overwrite the upside-down printing settings in the print station. <b>Upside Down:</b> Print the message upside down.
<b>Height</b>	Message height based on the printhead height.
<b>Width</b>	Display the total width of the current message.



**Figure 1-44. Message Delay**




1.4.3 Printing a Message

STEP 1: In homepage, press Message List “

The screenshot shows the 'Production Line' page in the application. At the top, there's a status bar with the date and time '2022/05/18 10:52:01'. Below it, a navigation bar contains icons for home, list, and settings. The main content area is titled 'Production Line' and shows the 'Message Name: Anser X1.xml'. A large graphic of the 'ANSER X1' logo is displayed. To the right, there's a 'Single' button and a 'Quick Edit' button. Below the logo, a progress bar shows '99%' completion. At the bottom, there are three statistics: 'Total Count: 1661', 'Printables: 15706', and 'Prints Per Minute: 0'. A 'Start' button is located at the bottom right.

Figure 1-45. Homepage (Production Line Page)

STEP 2: Scroll down or use Search “

The screenshot shows the 'Select Message' page. It features a search bar at the top with the text 'Search'. Below the search bar, there's a list of messages. The first message is 'Anser X1.xml' with a timestamp of '2021.12.08 10:07:35'. It includes a barcode and the text 'GS1 128.xml'. The second message is 'Date + Text.xml' with a timestamp of '2021.12.08 10:07:35'. It includes a QR code and the text 'GS1 datamatrix 2.xml'. At the bottom, there are 'Cancel' and 'Next' buttons.

Figure 1-46. Select Message Page

**STEP 3:** Assign production line and print station to print the selected message. And press **OK**.

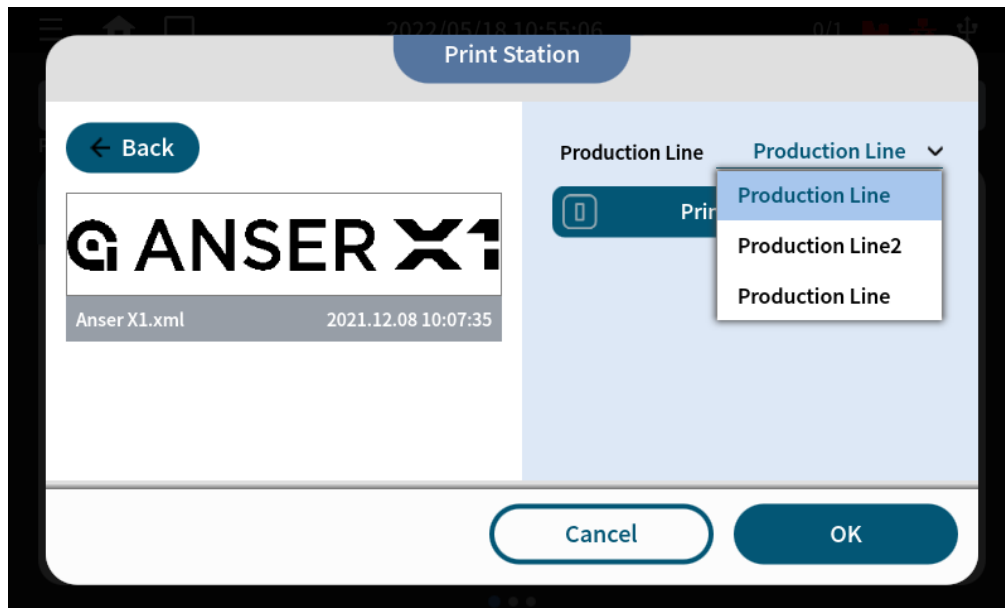



Figure 1-47. Print Station Page

Or, you can press the button “” and switch to simplified view which gives option to quickly select a message for the working production line.

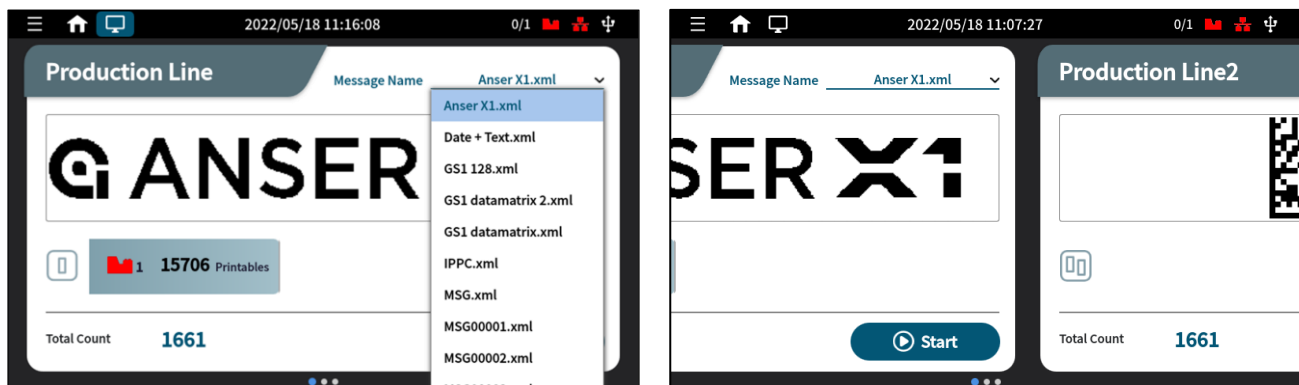


Figure 1-48. Message Printing Page

**STEP 4:** Finally, press **Start** to print the message.

## 1.5 Getting to Know the Device Configuration Page

The device configuration menu is where users find settings related to the production line, print stations, printheads, and external devices. If initially no setup has been done, users can access this page to set up both of the controller and printheads. Additionally, settings for serial communication capable devices can be found on the **External Devices** page.

### 1.5.1 Production Line Page

It displays an overview of the production line and allows users to create, edit, and remove production lines and print stations.

One production line setup can support up to two print stations in single mode, and only one print station in stitch or parallel mode. Same printheads can exist within multiple production lines set up, but two production lines can't use the same printhead simultaneously.

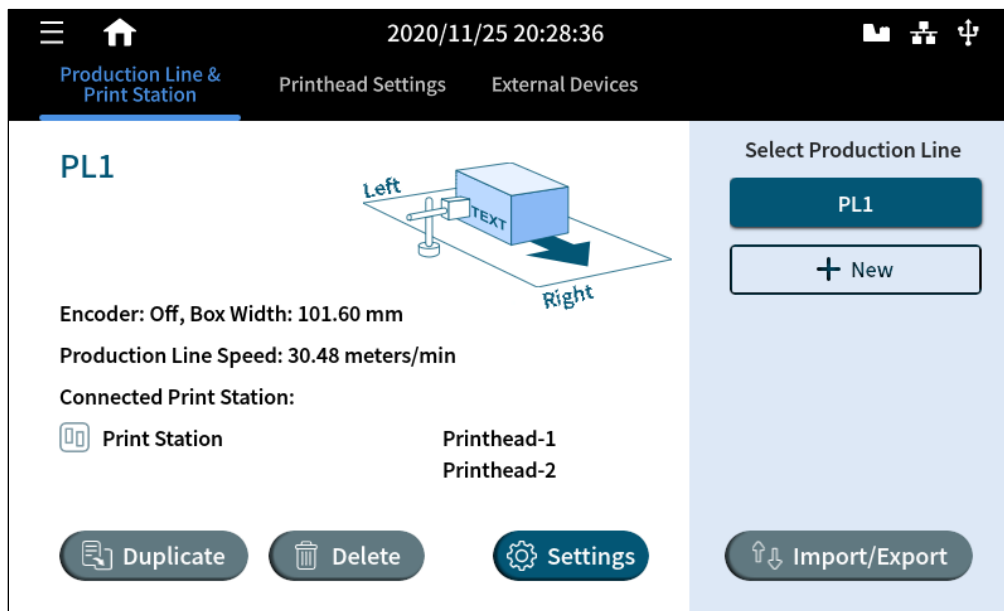


Figure 1-49. Production Line & Print Station Page

The production line and print station page allow users to perform the following:

- Create a production line.
- Access production line settings.
- Delete or duplicate a production line.
- Import or export production line.

The **Production Line & Print Station** setting page displays parameters related to the production line on the left side of the panel. On the right, options of adding a **Print Station** are listed, as it shown in **Figure 1-50** below.

2021/01/18 17:49:01

Production Line & Print Station    Printhead Settings    External Devices

Name PL1

Encoder ☒ Box Width 101.60 mm

Encoder Source Controller ▼

Encoder DPI 300 ▼

Output DPI 300 ▼

Meter Wheel ☐

Select Print Station

☐ Print Station1

Figure 1-50. Add a Production Line

2021/01/18 17:49:19

Production Line & Print Station    Printhead Settings    External Devices

Encoder Source Controller ▼

Encoder DPI 300

Output DPI 300

Meter Wheel ☒

Diameter 67.49 mm

Pulse Per Revolution (PPR) 2500

DPI Converter 1 ▼

Calculated Output 300 DPI

Select Print Station

☐ Print Station1

Figure 1-51. Add a Print Station

**Table 1-8. Production Line and Print Station Settings**

Option	Description
<b>Encoder Source</b>	Encoder is connected to controller or printhead. If encoder option is switched off, i.e., not connecting encoder, printer will generate the signal with a constant speed by itself. Refer to <b>Section 2.1</b> .
<b>Encoder DPI</b>	Resolution (DPI) of the encoder.
<b>Output DPI</b>	Actual printout DPI. Users can divide encoder DPI into the smaller value.
<b>Meter Wheel</b>	Enable the option to use your own encoder. Users can manually input the diameter and PPR.
<b>DPI Converter</b>	Divide encoder DPI by 1 to 8.
<b>Calculated Output</b>	<p>Show actual printout DPI calculated by diameter, PPR and DPI converter.</p> $DPI = \frac{PPR * 25.4}{D * \pi * converter}$

### 1.5.2 Print Station

Adding a new print station automatically displays the print station page where the users can assign different print station modes (Single, Stitch, and Parallel Mode). Swipe up to find settings related to the photocell sensor, print direction, and print delay.

#### 1.5.2.1 Single Print Station Mode

Some applications require to print content on two sides of a product that is running on one production line. X1 supports up to two single printheads which means users have the flexibility to set up two single head print stations within the same production line setup.

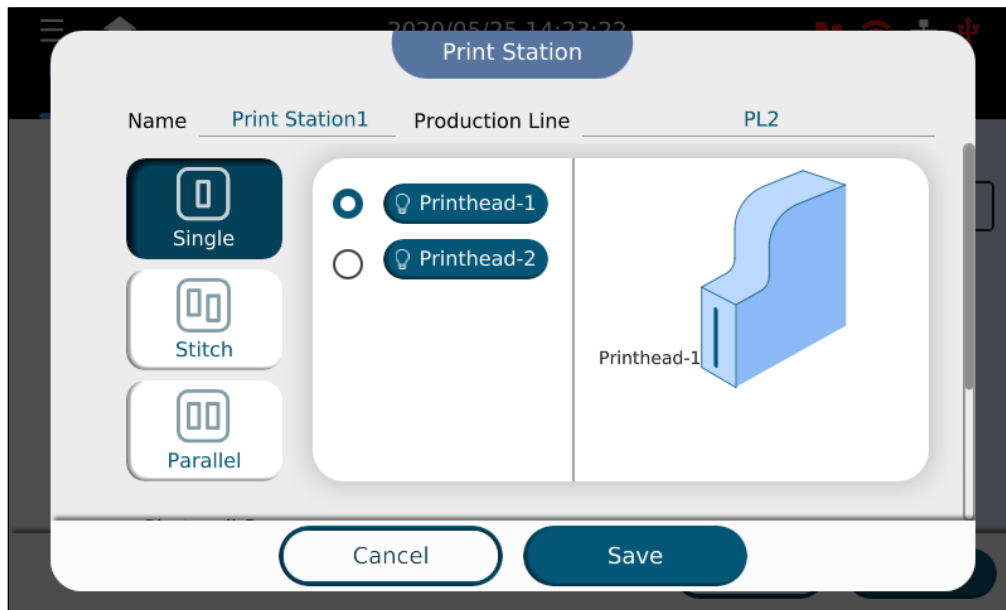


Figure 1-52. Add a New Print Station – Single Mode, Top Half of the Page



Figure 1-53. Add a New Print Station – Single Mode, Bottom Half of the Page

### 1.5.2.1.1 Print Station Delay

Users must measure the distance from the sensor trigger point to the location of the product where message printing starts, and the measurement should include the distance from sensor installation to the cartridge nozzle. The definition of print station delay is the same as message delay, and the differences are: 1. Print station delay is set for all messages with a default value while message delay is set for individual message with higher priority; 2. When no message delay is set, X1 will use print station delay as message delay.

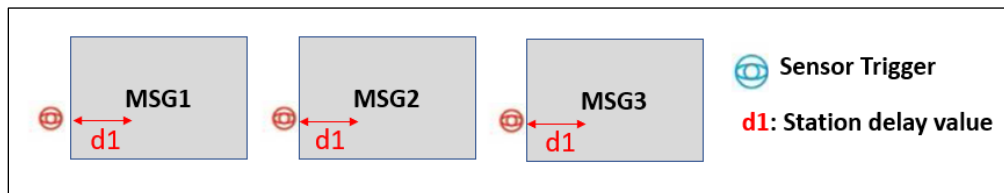


Figure 1-54. Print Station Delay

**Note:** The same delay value applies to all printing messages.

### 1.5.2.2 Stitch Print Station Mode

The stitch mode printing station allows users to combine two half-inch or one-inch printheads, thus achieving prints with a height of up to two inches. A production line can only have one print station in stitch mode since both of printheads are occupied.

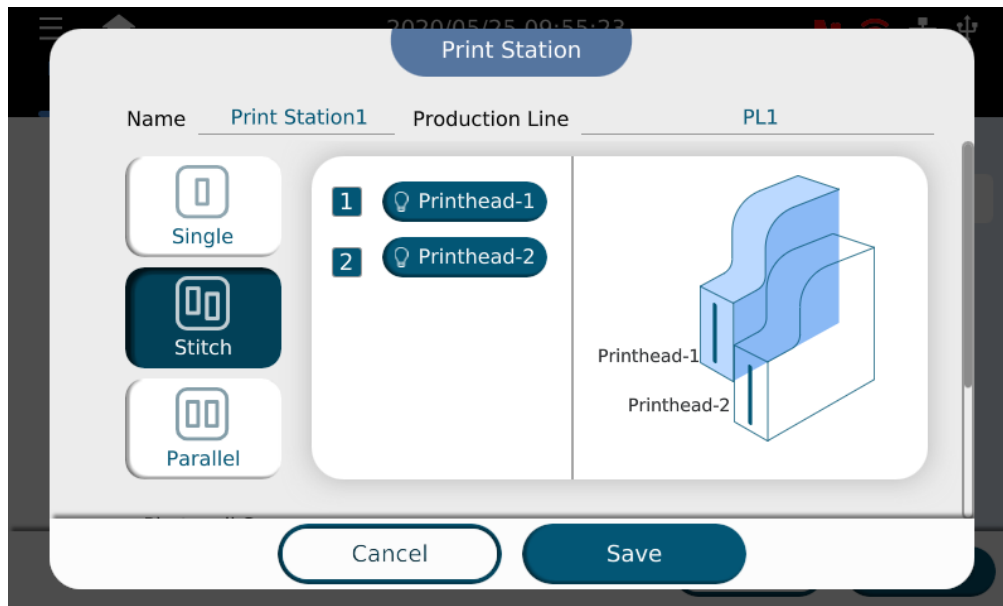


Figure 1-55. Add a New Print Station – Stitch Mode



### 1.5.2.3 Parallel Print Station Mode

X1 parallel print station mode gives users a production without downtime. Two cartridges printing alternatively based on different ratios configured by the users. Software monitors cartridge levels and automatically switches to the second cartridge allowing the operator to replace the empty cartridge without needing to stop the production line.

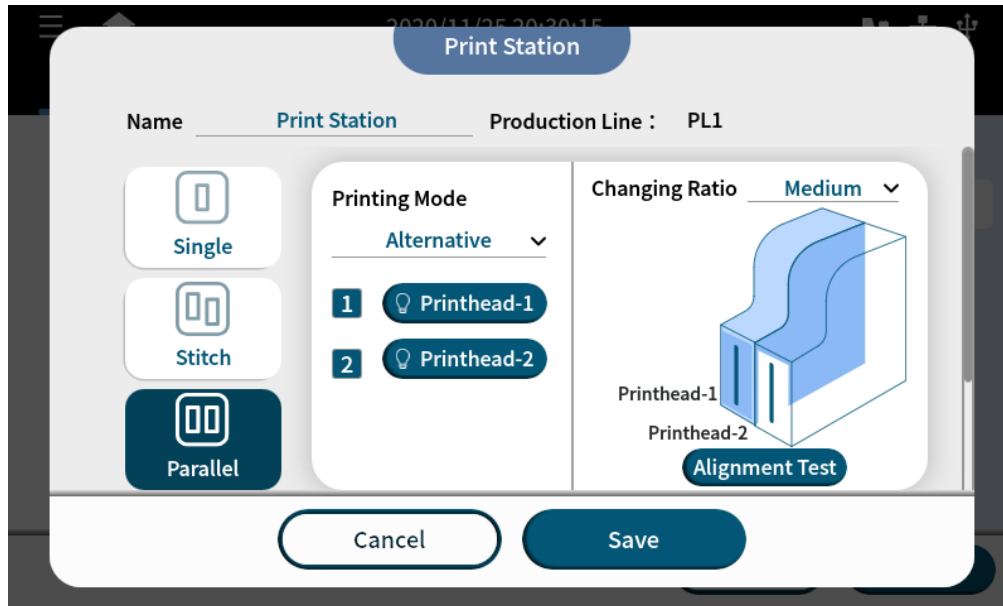


Figure 1-56. Add a Parallel Print Station – Alternative Printing Mode

Table 1-9. Alternative Print Ratio

Ratio	Printhead-1 : Printhead-2
High	1:12
Medium	1:6
Low	1:3

Additionally, a parallel print station allows users to set “Dual Color” mode. In this mode, two ink color cartridges can be used to achieve the effect of printing one message with two different colors. In X1 message editor, you can put different parts of a message in different groups and each representing one color cartridge.

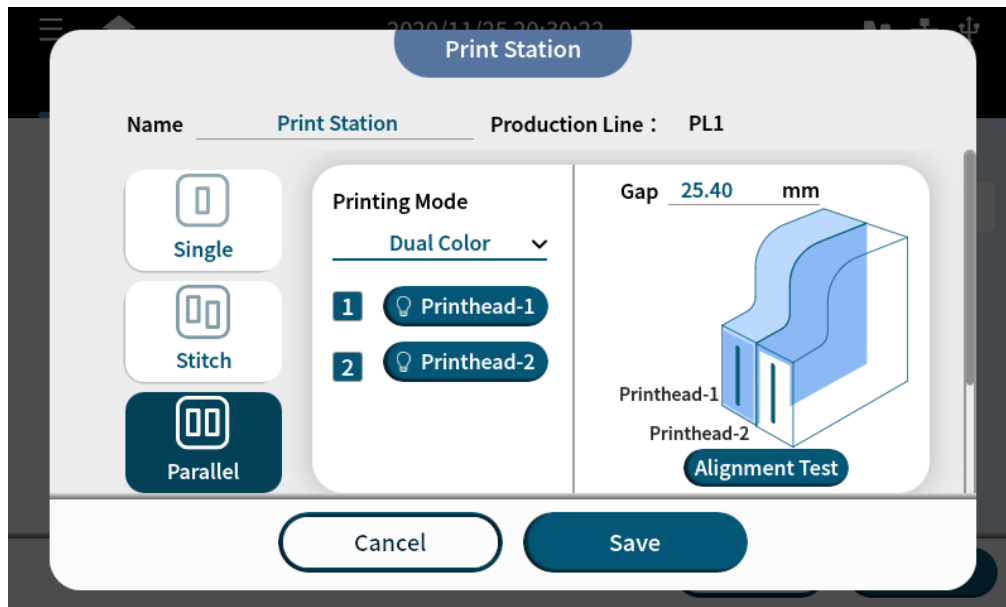


Figure 1-57. Add a Parallel Print Station – Dual Color Printing Mode

### 1.5.3 Printhead Settings

After one print station is created, users can configure parameters related to the printheads bind to the print station.

On the right side of the settings page, listed all the printhead setup related to existing print stations, and on the left side, an overview of the parameters related to the selected print station. Press the **Settings** button to open the printhead settings page, as shown in **Figure 1-58**.

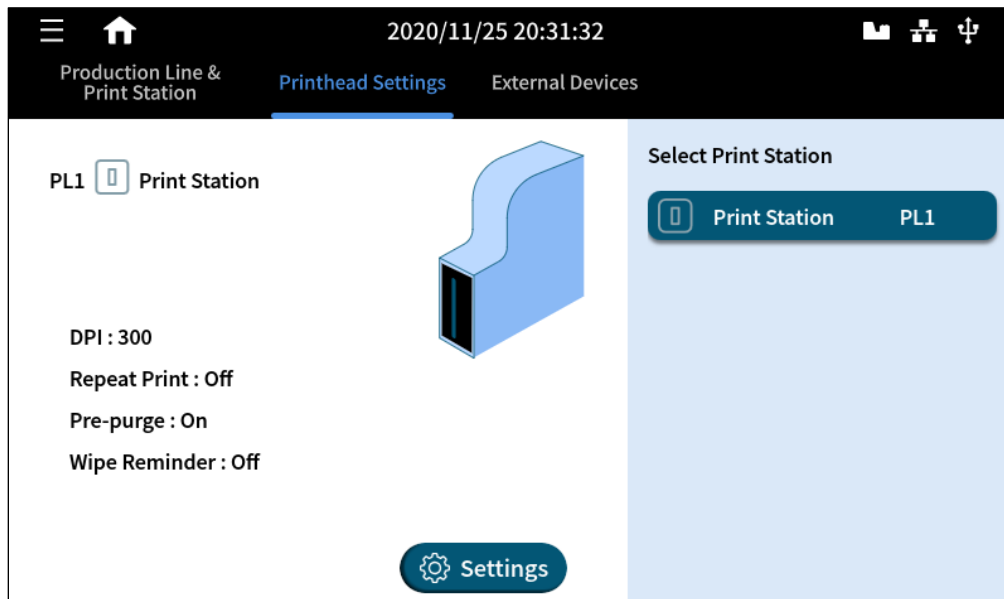


Figure 1-58. Printhead Settings Overview Page

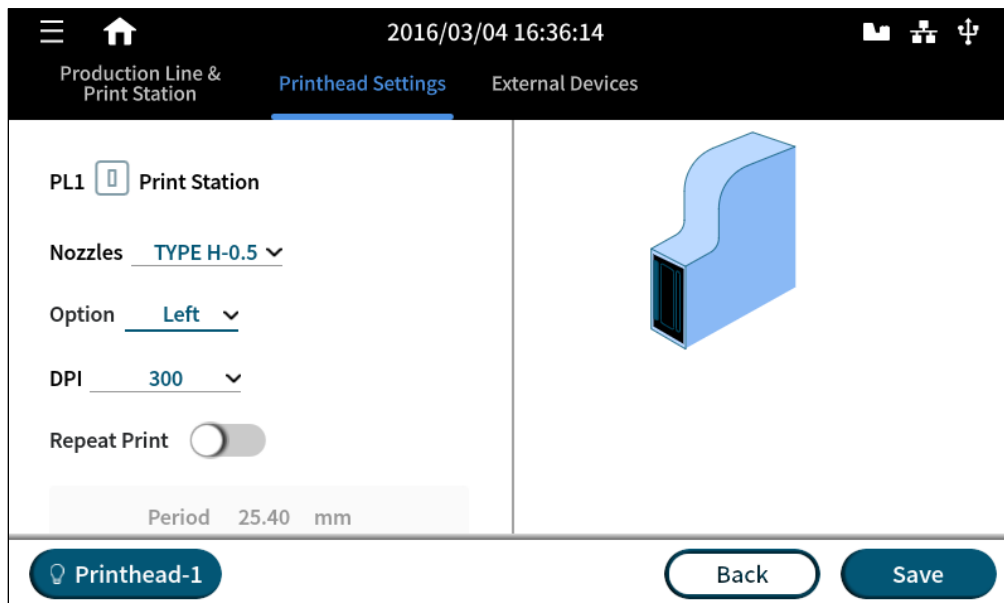


Figure 1-59. Printhead Settings Page

Table 1-10. Detailed Printhead Settings Descriptions

Option	Description
Nozzles	The type of cartridge print engine. Switch between options to change printhead type. Please refer to <b>Section 2.3</b> .
Option	<ul style="list-style-type: none"> <li>Select left or right nozzle row</li> <li>One-inch printhead only one row available.</li> <li>All options alternate between rows while printing.</li> </ul>
DPI	Vertical resolution. 600 DPI, print HD mode while the horizontal DPI matches the connected encoder.
Repeat Print	<p>Allow the users to configure the printhead to print in continuous mode.</p> <p><b>Trigger:</b> Enable to trigger by a photocell sensor or disable to trigger while the encoder is rotating.</p> <p><b>Initial Delay:</b> Set a delay value to the beginning of the first print in the repetitions after sensor is triggered. Please refer to <b>Figure 1-60</b>.</p> <p><b>Period:</b> Message length plus the gap between each repetition.</p> <p><b>Infinite:</b> Switch on to enable infinite repetitions.</p> <p><b>Count:</b> When infinite mode switches off, set a finite number of repetitions.</p>
Stitching Alignment	Allows the users to perform vertical and horizontal alignment adjustments when using <b>Stitch</b> mode.
Pre-purge	<p>Firing ink drops to avoid nozzles dry out from the result of cartridge short-decap, when printing in dry environments.</p> <p><b>Auto:</b> Automatically determine parameters for the ink cartridge inserted.</p> <p><b>Custom:</b> Manually set the time and level parameters to purge the nozzles.</p> <ul style="list-style-type: none"> <li><b>Interval:</b> The time in seconds to start a purge cycle.</li> <li><b>Level:</b> Refer to the frequency of pre-purge cycle. The higher the level, the shorter time for each purge cycle.</li> </ul>

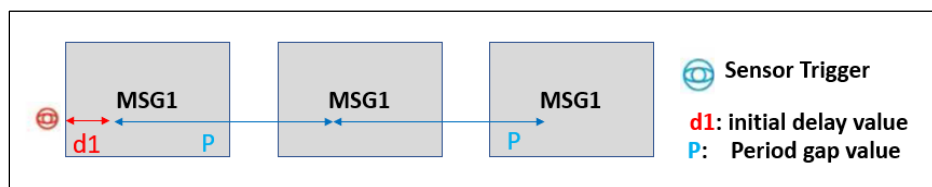


Figure 1-60. Repeat Print – Initial Delay

- Note:** 1. Initial Delay has top priority over message and print station delays.
2. Period value must be greater than the printing content total width.

## 1.5.4 External Devices

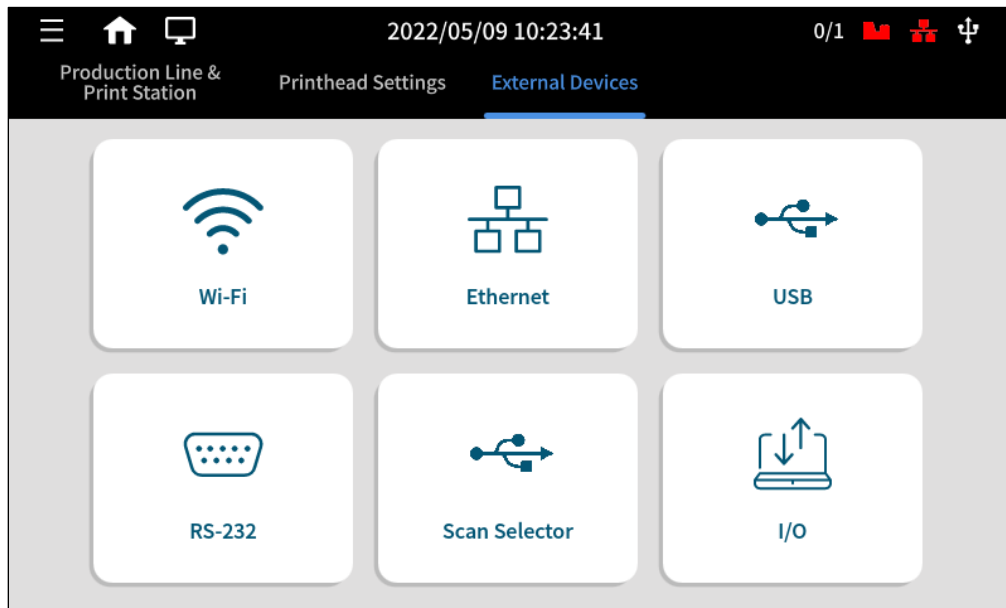


Figure 1-57. External Devices Page

### 1.5.4.1 Wi-Fi

Wi-Fi menu displays options to connect the X1 controller to Wi-Fi hotspot. Please note that a USB-to-WiFi dongle is required. Supported model: TP Link TL-WN823N.

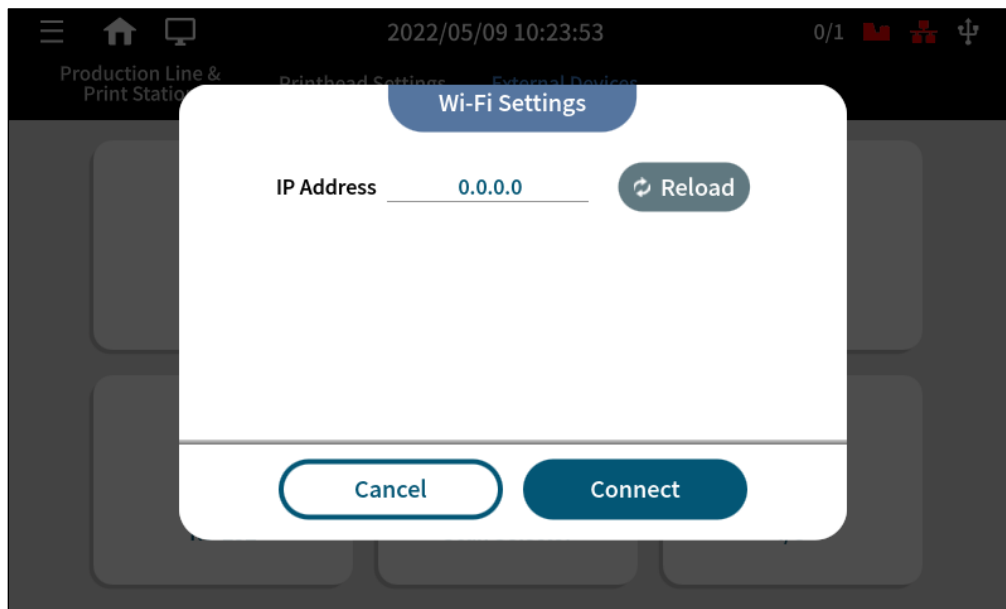
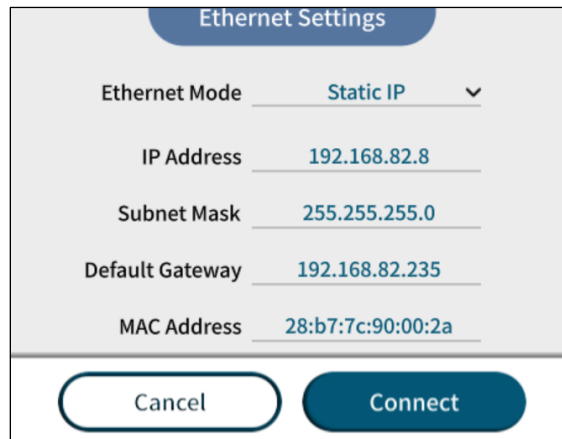


Figure 1-58. Wi-Fi Settings Page

#### 1.5.4.2 Ethernet



Ethernet Settings	
Ethernet Mode	Static IP ▼
IP Address	192.168.82.8
Subnet Mask	255.255.255.0
Default Gateway	192.168.82.235
MAC Address	28:b7:7c:90:00:2a
<div>Cancel Connect</div>	

Figure 1-59. Ethernet Settings Page

Ethernet menu displays Ethernet port connection settings. DHCP or static IP mode is supported. X1 default IP is displayed in the above figure. Connect an RJ-45 Ethernet cable to X1's Ethernet port to remotely control and monitor using X1 Modbus TCP/IP communication protocol.

#### 1.5.4.3 USB

USB page displays the port settings for USB devices such as barcode scanners. X1 uses the USB interface as a serial virtual COM port to communicate with serial devices. Virtual COM port enables X1 to access a USB device as if it were a built-in serial port.

When connecting barcode scanners, please make sure that the scanner is setup as virtual COM port and not as a Human Interface Device (HID). Some barcode scanners might not have a virtual COM port option, instead, setup the scanner as USB communication device class (CDC) which also works in X1.

**Note:** If you are using USB virtual COM for the first time, please connect the scanner to the PC, and install the driver before connecting to X1.

#### 1.5.4.4 RS-232



Figure 1-60. RS-232 Page

RS-232 menu displays the settings for configuring the RS-232 port interface. Enable this setting when working with serial devices that communicate via RS-232 interface.

Please refer to *X1 Technical Specifications V1.7* for X1 M8 8-pin RS-232 pinout and definitions.

#### 1.5.4.5 Scan Selector

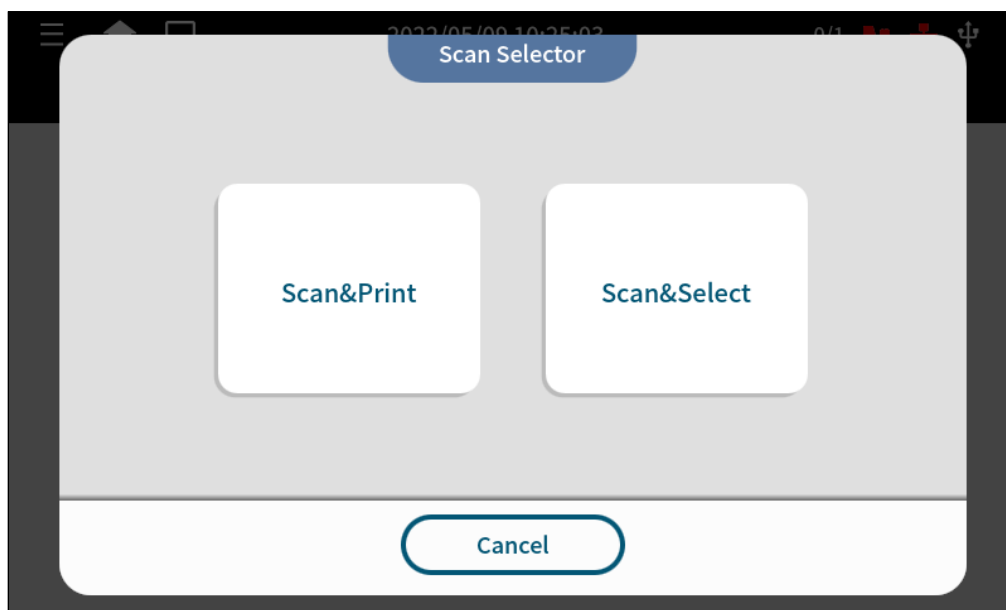


Figure 1-61. Scan Selector Page

1.5.4.6 Scan & Print

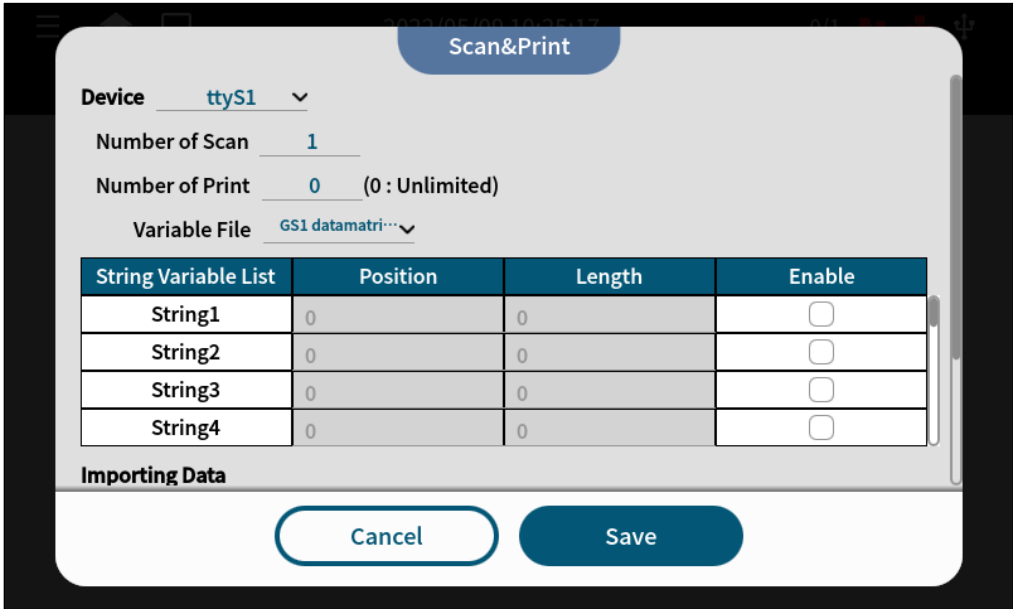



Figure 1-62. Scan & Print Page

Scan & Print menu allows users to manage the serial data when using the USB (virtual COM) or RS-232 interfaces.

The data is contained into the variable objects which later can be used when creating a message. Scan & Print also permits to split the data into parts according to position and length of the serial data.



**Table 1-11. Scan & Print Settings Definition**

Parameter	Definition
<b>Device</b>	<ul style="list-style-type: none"> <li>- <b>ttyS01</b> stands for RS-232 and <b>ttyS04</b> for RS-485 when no device is connected or the scanner is not setup as virtual COM or CDC.</li> <li>- <b>ttyACM0</b> or <b>ttyUSB0</b> will appear when X1 detects the serial device.</li> </ul>
<b>Number of Scan</b>	<ul style="list-style-type: none"> <li>- Perform multiple scans, data is stored to variable1, variable2, up to 20.</li> <li>- In the upper right corner of the home page, Information Display Button “” will show "Current Scan Number / Number of Scan". Press it to see the scan data.</li> </ul> <p>Note: If there’s more than 1 scan, position and length for serial data is not supported.</p>
<b>Number of Print</b>	<p>Set a count for how many times to print the scan data.</p> <p><b>0:</b> Unlimited number of prints.</p> <p><b>1-50:</b> Limited number of prints.</p>
<b>Variable File</b>	<p><b>Off:</b> Doesn’t save to internal variable table. Works as a buffer.</p> <p><b>Variable table list:</b> Select one table to save the data.</p>
<b>Position</b>	Set the starting position from where to start capturing part of data stream.
<b>Length</b>	Set the size of how many characters the system wants to capture from the data stream.
<b>Importing Data</b>	A preview of the scan data before setting position and length.
<b>Formatting Data</b>	View data after it is split into multiple variables according to position and length.

#### 1.5.4.7 Scan & Select

Scan & Select module allows users to set a message to print mode by scanning a barcode.

Users define a rule that contains data key and the message to print. X1 compares whether the input data key is presented in the scan data or not. If the key matches, then X1 will assign the linked message to the production line.

**Note:** A maximum of 1000 individual users' rules can be created.

Data Key	Position	Length	Enable
Key	4	5	<input checked="" type="checkbox"/>

Figure 1-62. Scan & Select Page – Enable Data Key

Please refer to Section 1.5.4.6 Scan & Print to learn how to setup position and length for incoming scan data.

Scan&Select

Data Key **Message**

Production Line **Production Line1** ▼

Rule	Message Name	Data Key	Assigned Station	Enable
1	▼		<input type="radio"/> 1 <input type="radio"/> 2	<input checked="" type="checkbox"/>

+ Add

Cancel Save

Figure 1-63. Scan &amp; Select Page – Enable Rule

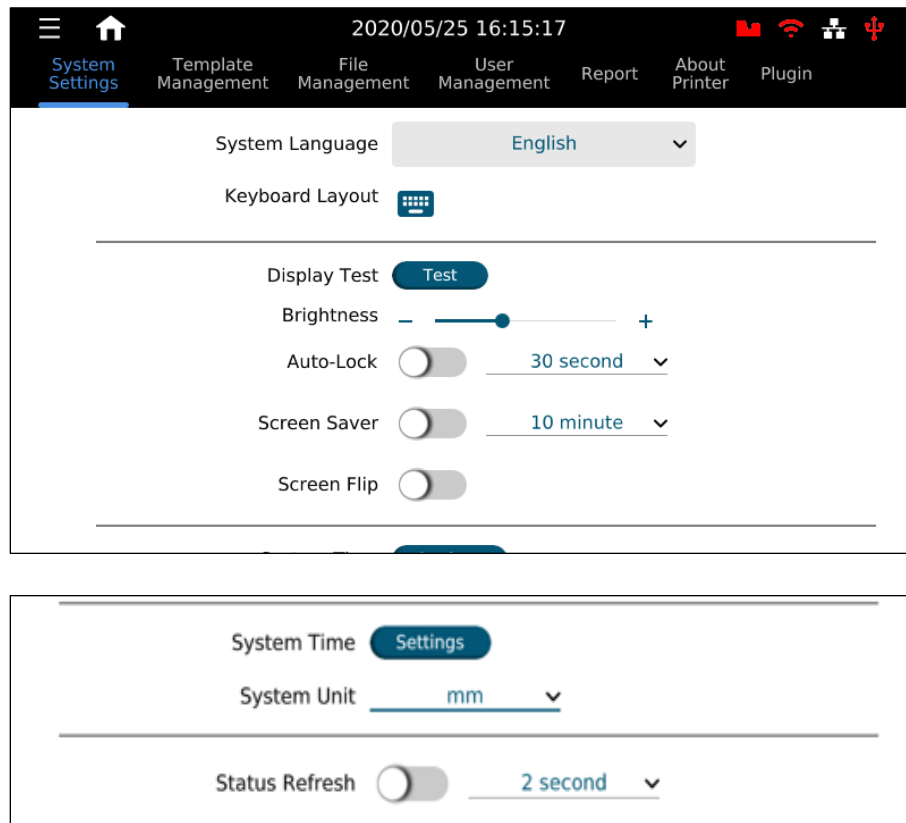
Table 1-12. Scan &amp; Select Settings Definition

Parameter	Definition
<b>Rule</b>	Index for the scan and select conditions.
<b>Production Line</b>	Select the production line where users want to assign the selected message. Note: Only one production line can be selected.
<b>Message Name</b>	Select the message that will be selected if the Data Key matches the scan data.
<b>Data Key</b>	The data that is expected to be contained in the scan stream.
<b>Assigned Station</b>	Select one or two stations where users assign the message.
<b>Enable</b>	Check to enable the rule conditions.

## 1.6 Getting to Know the Settings Page

Access **System Settings** page through main menu “☰” > **Settings** “⚙️”, or use the quick access button “⚙️” on the homepage. (Please see **Figure 1-61.**)

### 1.6.1 System Settings



**Figure 1-61. X1 System Settings Page**

Table 1-11. X1 System Settings Description

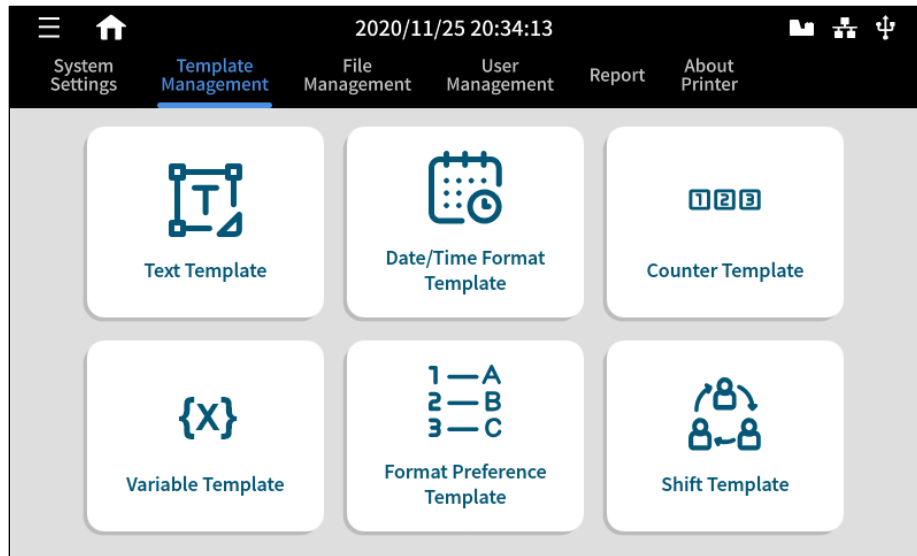
Option	Description
<b>System Language and Keyboard Layout</b>	It allows users to change system language and add multiple languages to the keyboard.
<b>Screen Settings</b>	<p>It allows users to configure the following items:</p> <p><b>Display Test:</b> Perform a test on the LCD panel.</p> <p><b>Brightness:</b> Adjust the brightness of the screen.</p> <p><b>Auto-Lock:</b> Log users out of the system. Note: A password is required to log in again.</p> <p><b>Screen Saver:</b> It blanks the screen when the controller has been idle for a specified time.</p> <p><b>Screen Flip:</b> It allows users to rotate the screen 180 degrees when the controller is installed up-side-down.</p> <p><b>Touchscreen Sensitivity:</b> Turn it down to prevent any accidental touch in dusty environment.</p>
<b>System</b>	<p><b>System Time:</b> It allows to set the system time.</p> <p><b>System Unit:</b> It allows to set the measurement unit.</p>
<b>Status Refresh</b>	The time interval to update the information displayed on the homepage.

### 1.6.2 Template Management

Navigate to **System > Template Management** (Please see **Figure 1-62**) from the menu tree.

Using templates is a good way to facilitate message creation for users. One or multiple templates for a specific object can be defined and used throughout all messages.

When a template is imported into a message, a copy is created of that template. Even if the template were deleted, it won't affect the copy contained within the messages.



**Figure 1-62. The Template Management Page**

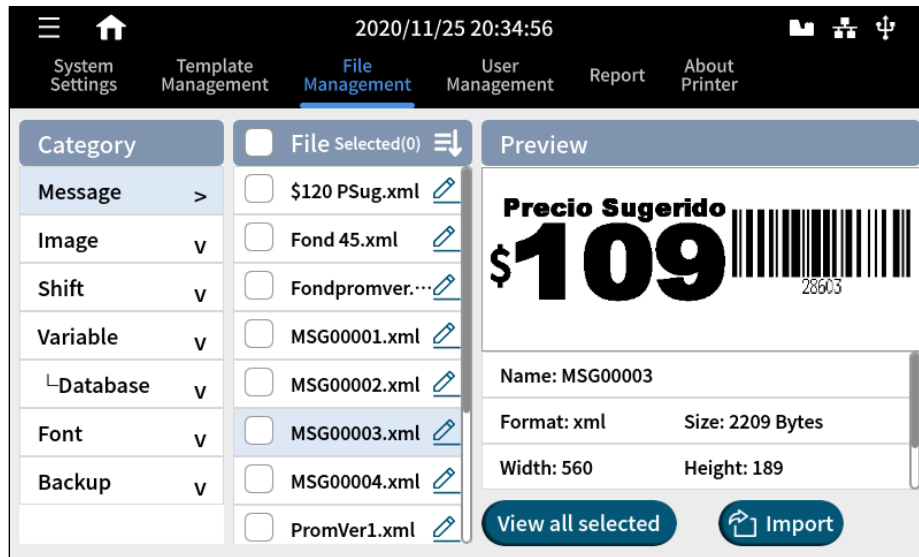
**Table 1-12. Detailed Descriptions in Template Manage Settings**

Option	Description
<b>Text Template</b>	Allows users to create text objects that contained pre-fixed content.
<b>Date / Time Format Template</b>	Allows users to create custom template formats for date and time objects.
<b>Counter Template</b>	Allows users to create templates for counter objects.
<b>Variable Template</b>	Allows users to create a table of variable objects containing pre-defined content. Can be used to store data sent by external devices.
<b>Format Preference Template</b>	Customize the name of the months used in production and expiry date objects.
<b>Shift Template</b>	Allow users to create a table of work shifts for different operators and hourly periods.

### 1.6.3 File Management

Navigate to **System > File Management** (Please see **Figure 1-63.**) from the menu tree.

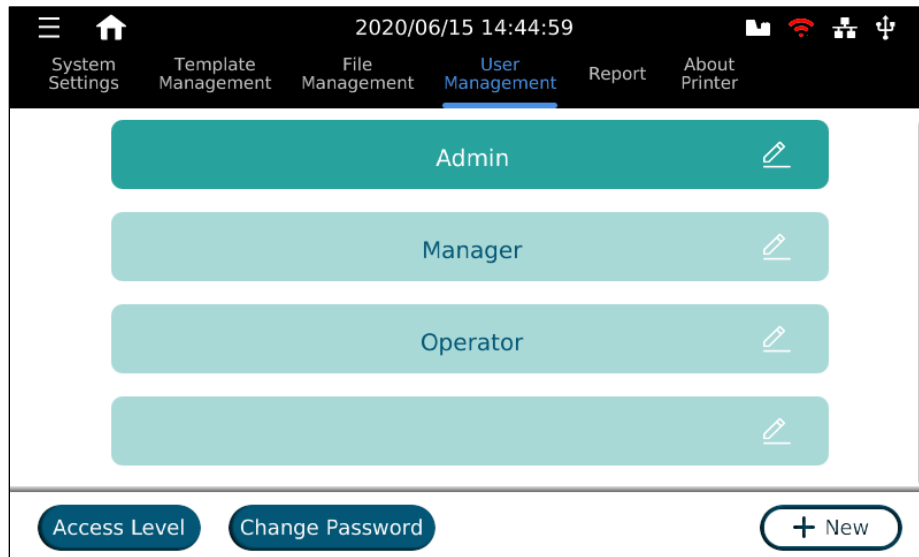
The file management page is a file center where users can manage all different types of files used throughout the systems. Here, users can import and export one or more files. The import and export process are done using USB.



**Figure 1-63. The File Management Page**

#### 1.6.4 User Management

Navigate to **System > User Management** (Please see **Figure 1-64.**) from the menu tree.



**Figure 1-64. The User Management Page**

The X1 system provides three default accounts (Admin, Manager, and Operator), and each has their respective access levels. (Please see **Table 1-13.**) Admin can edit options for each account, delete existing accounts, and add new ones.

The user management page allows users to create 13 additional user accounts. Each user can have different access levels for message creating, print jobs settings, and system configurations.



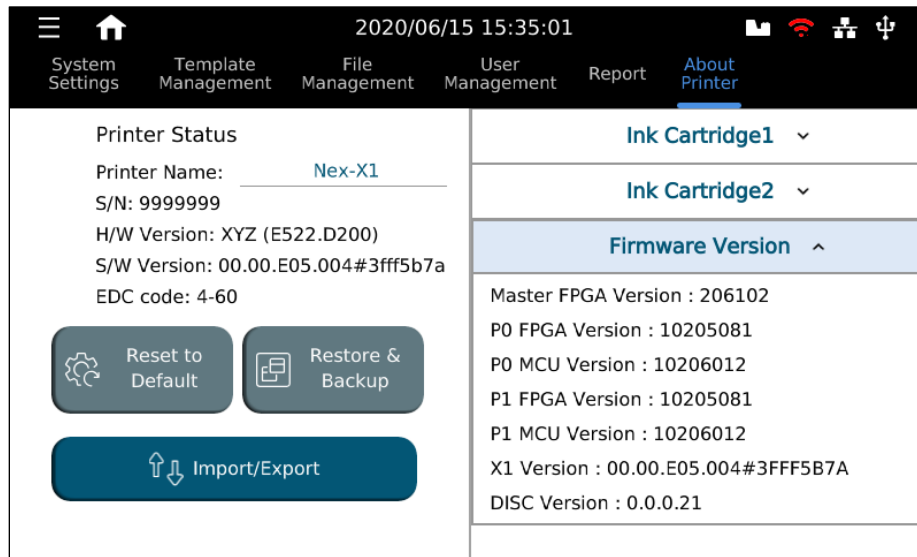
**Table 1-13. X1 User Accounts Management Table**

Access Level	Admin	Manager	Operator
Start / Stop / Select Message	✓	✓	✓
Create Message	✓	✓	-
Delete Message	✓	✓	-
Message Settings	✓	✓	-
Edit Message	✓	✓	-
Production Line and Print Station	✓	✓	-
Printhead Settings	✓	✓	-
External Devices	✓	✓	-
Quick Edit	✓	✓	-
Information Display	✓	✓	✓
System Settings	✓	✓	-
Template Management	✓	✓	-
File Management	✓	✓	-
User Management	✓	-	-
Report	✓	✓	✓
Restore / Backup / Reset	✓	✓	-
About Printer	✓	✓	✓
Import / Export / Printer Settings	✓	✓	-

**Note:** The default password for Admin is **Admin**, Manager is **Manager** and Operator is **0000**.

### 1.6.5 About Printer

Navigate to **System > About Printer** (Please see **Figure 1-65.**) from the menu tree.




**Figure 1-65. The About Printer Page**


The **About Printer** page provides information about software and hardware version of the controller as well as information about the printheads and ink cartridges. (They can also be seen by pressing the cartridge icon).

Options to reset the system to factory default, to restore the system from a backup, and to import/export can all be found in this page.



## 2 X1 Printing Setup

### 2.1 Production Line Setup

Production line settings are the top layer of the X1 function structure (Please see **Figure 1-61.**), and they encapsulate print stations and messages. It is required for having a production line created before setting up print stations and selecting messages. Users can access directly from the homepage by pressing the quick access button “”.

Users have the options to create a production line either by pressing the “” button or import one from the other controller’s backup settings.


To create a production line:

- a. Press the “” button.
- b. Press the “” button to access production line configuration parameters.
- c. Name the production line.
- d. Production Line speed settings.
  - i. **With Encoder:** To enable encoder and to specify whether it is connected to controller or printhead.
  - ii. **No Encoder:** Input conveyor speed or use test option to detect current object speed by using a photocell sensor and width of the object.
- e. Select encoder DPI value according to encoder or input wheel pulse and diameter to calculate.
- f. Press the **Save** button before proceeding to print station setup.

## 2.2 Print Station Setup

Print stations can contain one or two printheads combined in different modes according to their physical setup.

While in the production line settings page,

- a. Press “” to add a print station.
- b. Select print station mode (single, stitch, or parallel), and add a name or use the default name.
- c. Move down by swiping up to select settings related to photocell sensor source, print direction, print upside down, and station delay settings.
- d. Press **Save**.


Repeat the same steps when an additional single print station is needed. Once it is ready, press **Save** and proceed to printhead settings.

**Note:** In Stitch mode, the photocell sensor source should be set to the controller.

## 2.3 Printhead Settings

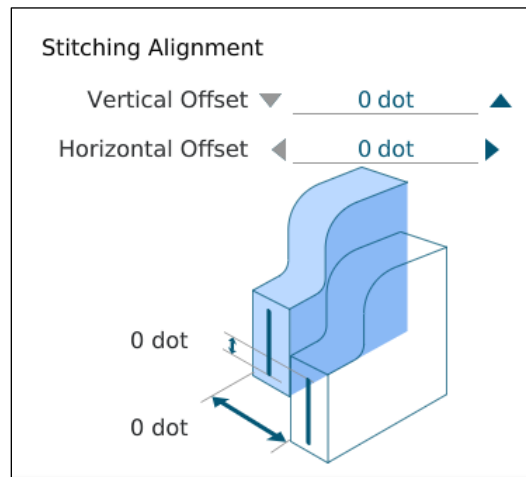
In the printhead, settings to define the type of cartridge to use in the station, vertical resolution, and options for repeat printing can all be found. Likewise, pre-purge options can be configured to keep the nozzles moist when working in hot and dry environments.

Access printhead Settings overview page,

- a. Select the print station to configure the printhead settings.
- b. Press the “” button to access the selected printhead settings page.
- c. Set resolution, repeat settings and pre-purge.
- d. Press the Save button to save printhead settings.

**Note:** When using a half-inch printhead, select one of the nozzle rows or both for nozzle switching.

### 2.3.1 Stitching Alignment



**Figure 2-1. Stitching Alignment**

When working with print stations in stitch mode, a full-height message is printed by dividing the content into two parts and assigning them to each of the printheads forming the stitch print station. It is during the initial setup that there could be issues with a message not being properly aligned.

To align the printheads and print a complete message, the operator can perform physical adjustments to printhead installation, as well as, changing the stitch alignment settings directly in the X1 software.

- a. Perform an initial test print to confirm stitch alignment status.
- b. If there is a separation between the content, first do physical adjustments to the printhead installation, and then perform another test print.
- c. If no improvements are observed, access to printhead settings and adjust the vertical or horizontal offset from the stitching alignment setup page.

### 2.3.2 Repeat Print Settings

Repeat print settings are applicable for applications where it is required to print the same content repeatedly a finite number of times or to continue printing while encoder motion is detected.

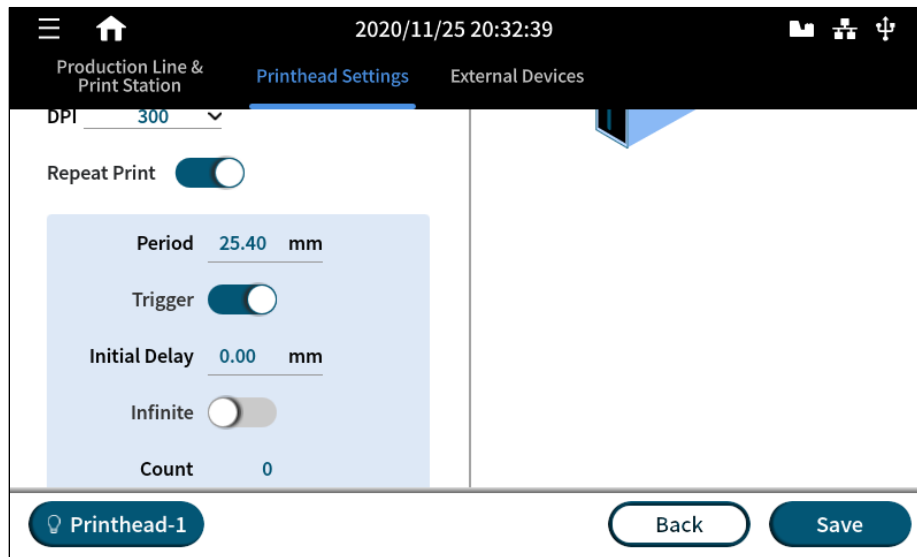


Figure 2-2. The Repeat Print Settings Page

For example, printing ten times, 10mm after triggering the photocell sensor, and leave a gap of 20mm between each repetition:

Table 2-1. The Example of Repeat Print Settings

Parameter	Value
Trigger	ON
Initial Delay	10mm
Period	20mm
Infinite	OFF
Count	10


### 2.3.3 Pre-Purge Settings

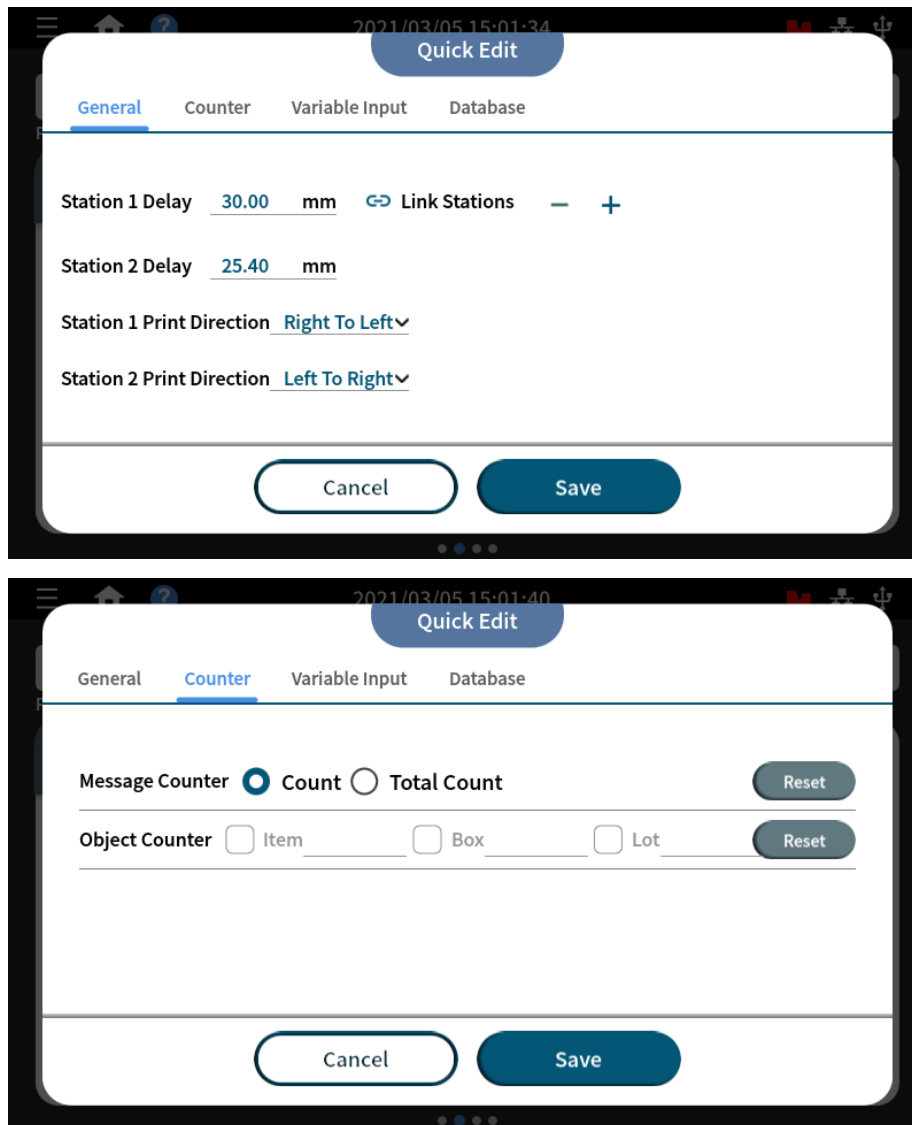
These settings enable pre-purge when print quality declines after printing for a period of time. The print quality starts to deteriorate when working in a hot and dry environment. In such an environment, the cartridge nozzles tend to dry out much faster than in normal environment conditions.

Pre-purge releases drop of ink from time to time keeping nozzles moist when cartridge is idle (in printing mode but no printing). Users can define the time cycle (when) to purge the nozzles as well as the level (amount of ink drops) used per each purge. Please refer to **Table 1-10**.



## 2.4 Quick Edit

It is possible to make adjustments to printing related settings while a print station is in operation. Press the “” button on the homepage to access the **Quick Edit** settings page.



The figure consists of two screenshots of the 'Quick Edit' settings page on a mobile device. The top screenshot shows the 'General' tab, which includes settings for 'Station 1 Delay' (30.00 mm), 'Station 2 Delay' (25.40 mm), 'Station 1 Print Direction' (Right To Left), and 'Station 2 Print Direction' (Left To Right). There is a 'Link Stations' button with minus and plus icons. The bottom screenshot shows the 'Counter' tab, which includes a 'Message Counter' section with 'Count' (selected) and 'Total Count' radio buttons, and an 'Object Counter' section with checkboxes for 'Item', 'Box', and 'Lot'. Both screenshots have 'Cancel' and 'Save' buttons at the bottom.

Figure 2-3. Quick Edit Page – General and Counter

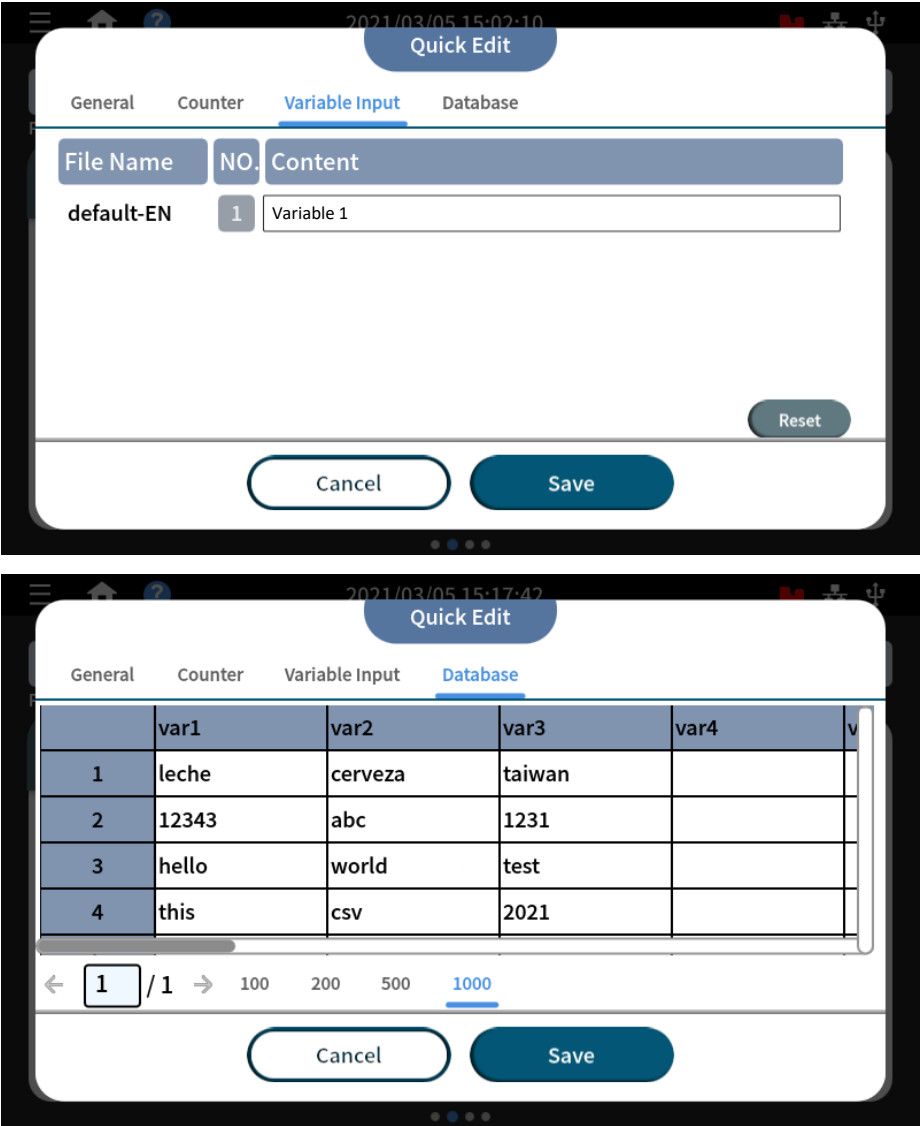



Figure 2-4. Quick Edit Page – Variable Input and Database

**A. General**

- **Station Delay:**
  - When having two print stations (single stations) within the same production line, use the “” button to enable link station delay. Both station delay can be adjusted simultaneously.
  - The delay is applied in the next print.
- **Print Direction:** Set print direction in the print station. Setting is applied after two prints.

**B. Counter:** All the options found in this tab are applied after two prints.

- **Message Counter:** Reset to zero information display count and total count parameters.
- **Object Counter:** Reset to zero in the start value for the counter objects within a message.

**C. Variable Input:** Update one or multiple variable objects contained within the printing message. It is used when users are only allowed to change parts of a message. Use together with changing the access level to achieve this purpose.**D. Database:** After an excel file (.csv) is imported, select the row from which to start printing. This setting will be applied after two prints.

## 3 X1 Operation

### 3.1 Usage of the Variable Object

X1 printer system enables users to set their own variables, such as company names, addresses, URL, product numbers, etc. For application required to quickly replace specific content of the message without modifying the whole message layout, “Variable” is the right object to be used. Variable objects can also become the content source to a barcode object, please see the below figure to understand the structure.

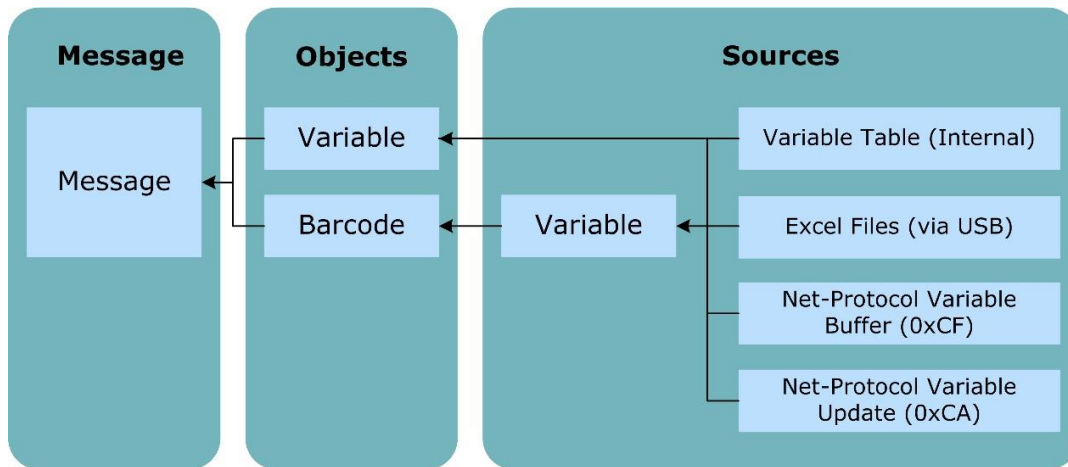


Figure 3-1. Variable Message Sources

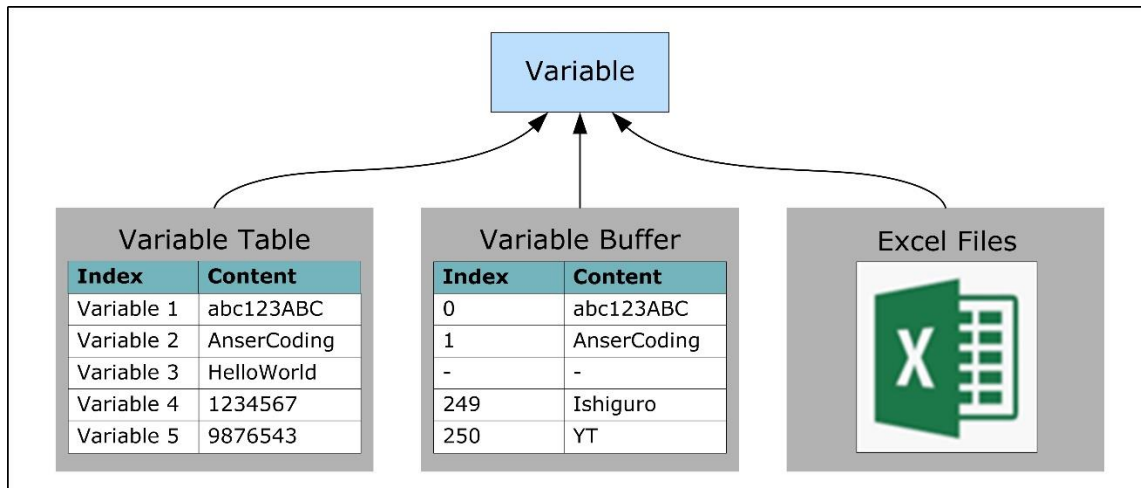


Figure 3-2. Variable Input Sources

Table 3-1. Variable Input Methods

	Variable Table	Variable Buffer	Excel Files
Methods to Edit	1. PC Software (Message Pro X) 2. Controller UI 3. Net Protocol over Ethernet (0xCA) 4. USB	1. Net Protocol over Ethernet (0xCF, 0xCB, 0xCC)	1. PC Software (Message Pro X)
Note	Variable source setup as "Default".	Variable source setup as "External".	Variable source setup as "Database".

### 3.1.1 Internal Variable Table

There is a total of 100 variables that can be defined and kept in an X1 controller. Each of the variables can hold up to 100 alphabets (100 bytes). Message editor is full Unicode supported in UTF-8 format.

### 3.1.2 Excel Files or Database

Variable objects are able to take imported .csv file extensions as a source. When a print job starts, users have the option to preview and choose which entry or row they would like to start.

### 3.1.3 Data Update Using Communication Protocol (0xCA)

The CA command updates the internal **Variable** table. The data updated by the CA command can be printed as many times as customers want before the next CA command are received.

### 3.1.4 Data Stream Using Communication Protocol (0xCF)

Unlike the CA command, the CF command uses a variable First in First Out (FIFO) buffer. Therefore, the variable data by CF command can only be printed once and will be removed from the buffer after printing is completed.

The size limitation of a single variable is also 100 bytes long, and the size of the buffer is 250 bytes.

### 3.1.5 Data from USB

The option of “Save to the internal table” will make the data written to the variable table and can be printed as many times as users want before the next overwrite.

It supports to connect devices such as USB barcode scanners. With the USB settings, users can manage the data coming from this USB COM port. For a set of stream data, set the position and the length of the data needed for printing.

Navigate to **Device Configurations > External Devices**:

String Variable List	Position	Length	Selected
String1	0	0	<input type="checkbox"/>
String2	0	0	<input type="checkbox"/>
String3	0	0	<input type="checkbox"/>
String4	0	0	<input type="checkbox"/>

Figure 3-3. The Scan and Print Page

## 3.2 Format Preferences

Navigate to **Settings > Template Management > Format Preference Template**. To create custom inputs for each month of the year, please refer to **Table 3-2**.

### 3.2.1 Customized Month

Figure 3-4. Add Format Preference Template Page

Table 3-2. Customized Inputs

Month	Letters	Arabic	Spanish
January	AA	كانون الثاني	Enero
February	BB	شباط	Febrero
March	CC	آذار	Marzo
April	DD	نيسان	Abril
May	EE	أيار	Mayo
June	FF	حزيران	Junio
July	GG	تموز	Julio
August	HH	آب	Agosto
September	II	أيلول	Septiembre
October	JJ	تشرين الأول	Octubre
November	KK	تشرين الثاني	Noviembre
December	LL	كانون الأول	Diciembre

### 3.3 Export and Import Data

There are two ways to export and import data from the X1 system, and it can be done either in the **About Printer** menu or in the **File Management** menu.

#### 3.3.1 About Printer

- Insert the memory into USB port.
- Press the **Import / Export** button.
- Choose the action to import or export and select the USB.
- Exporting creates a backup copy of all the information contained in the controller.

**Note:** When exporting, the system creates a main directory as “Backup\_XXXX” containing folders for all types of files found in the system.

#### 3.3.2 File Management

File Management can export and import one or multiple types of files such as messages, images, fonts, etc.

##### To Export:

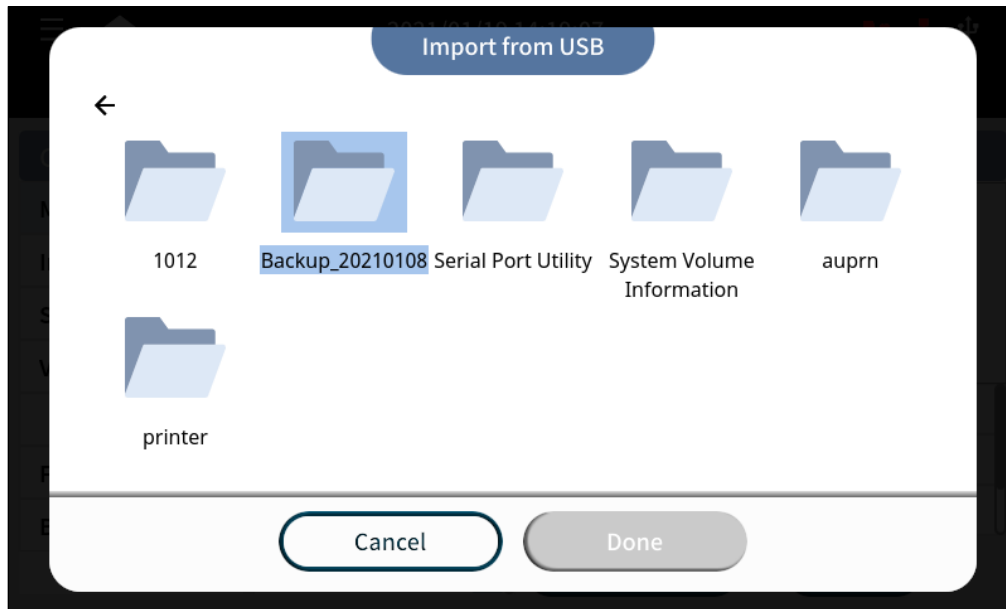
- Select the files to export from the file manager.
- Press the **Export** button, and select the USB directory to export.

**Note:** When exporting, files are exported to the directory “File\_Management\_XXXX”.



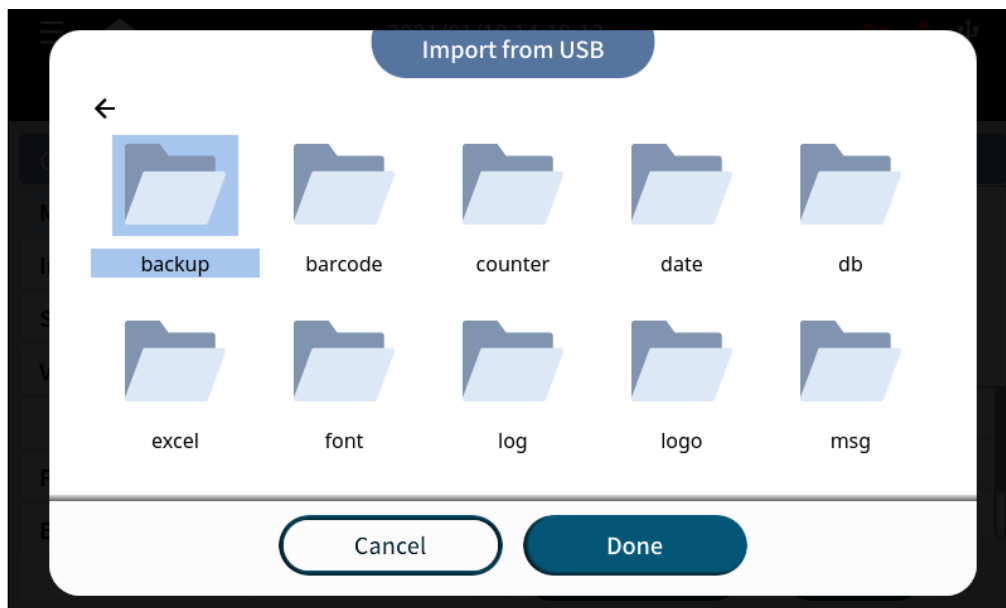
**To Import:**

1. You will need a system file directory that can be generated through the **Export** operation mentioned previously. After exporting, put one or multiple files under the corresponding subfolder, e.g., excel, font, logo....
2. Insert USB into the USB port, click **Import**, and access the directory of the USB to locate the files to be imported, such as “Backup\_XXXX” or “File\_Management\_XXXX”.



**Figure 3-5. To Import from USB (1)**

3. Dig into the file folder and press **Done**, and the directory tree will show up.



**Figure 3-6. To Import from USB (2)**

4. Select the files you want to import and press **Done**.

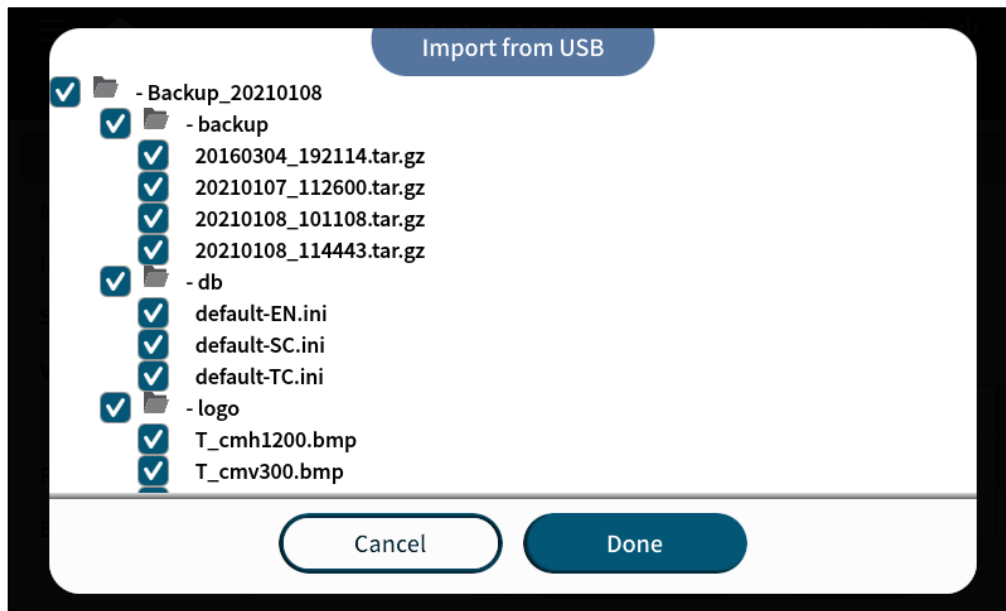


Figure 3-7. To Import from USB (3)

### 3.4 File and System Backup

To back up all system information on X1, be sure to insert a FAT32 format USB before starting the backup.

Access **About Printer > Restore & Backup** by pressing the quick access button “⚙️” on the homepage and go to the **About Printer** menu. Also, the users can access directly from the drop-down main menus located in the upper left corner.

Press the **Restore & Backup** button to enter the list of available backup copies. To back up the system, press the “📄” button. And to restore from existing copy, press the **Restore** button.

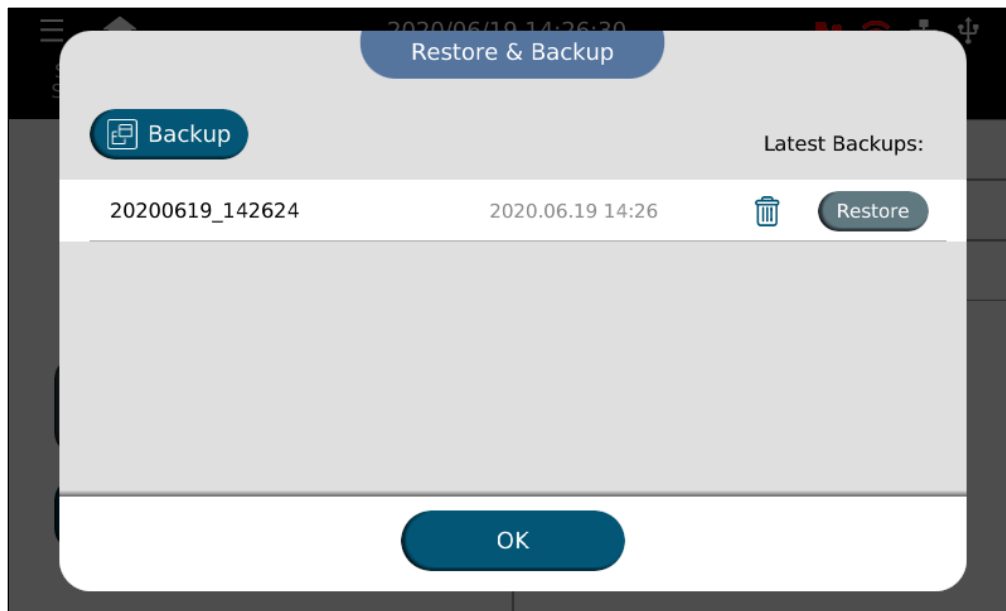


Figure 3-8. The Restore & Backup Page

### 3.5 I/O Management

I/O Management is a module to manage and perform automation and integration with external systems such as PLC. The module allows the creation of events based on an available list of monitorable events. Execution of events can be linked to actions that will be automatically triggered upon the event being true.

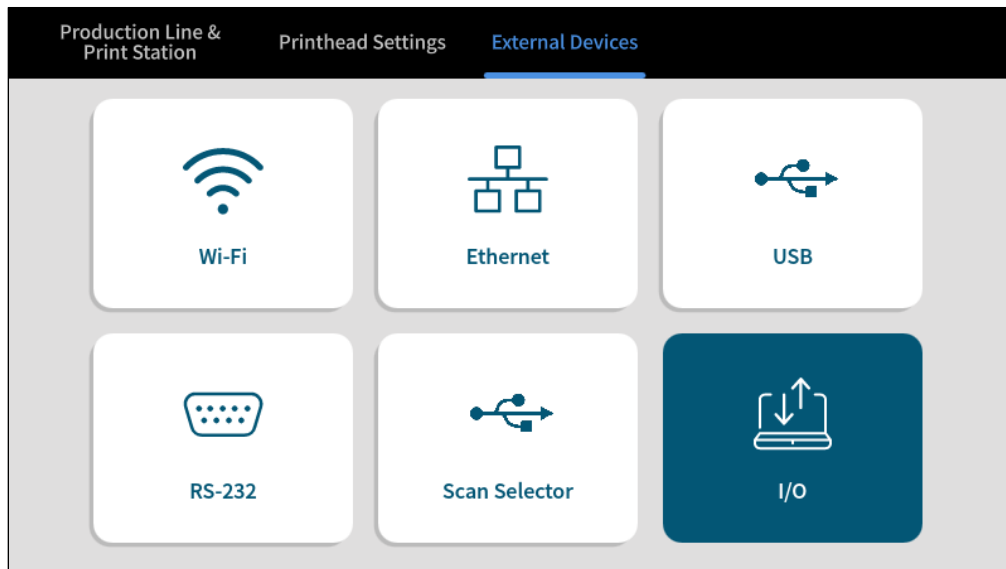


Figure 3-9. External Devices Page

#### 3.5.1 I/O Assign

In I/O Assign, users can find all the events / actions that have been created. Here users can execute the following I/O functions.

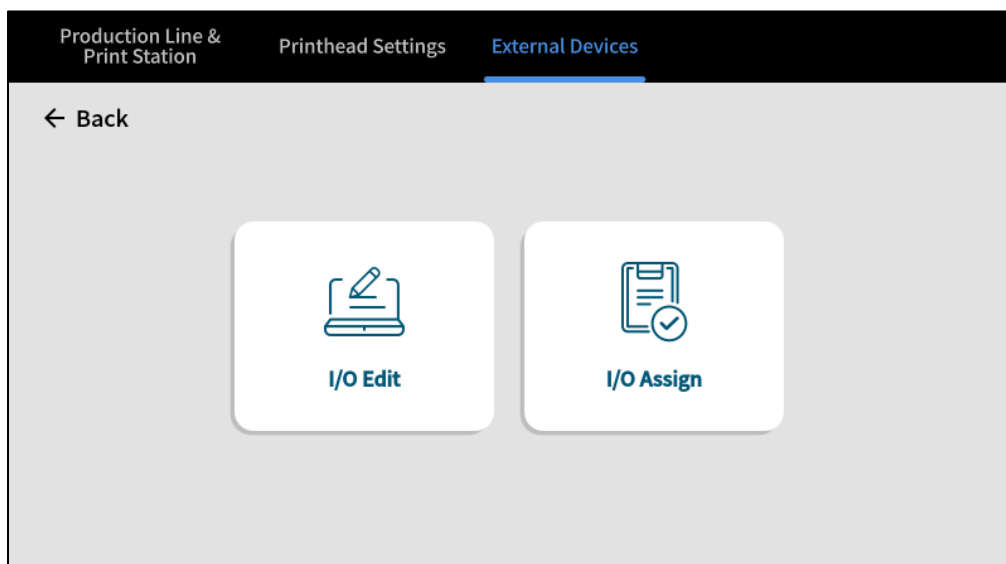


Figure 3-10. I/O Management Page

### 3.5.2 I/O Edit

In main menu, go to **Device Configurations > External Devices** to see I/O Edit settings page as the following figure shows.

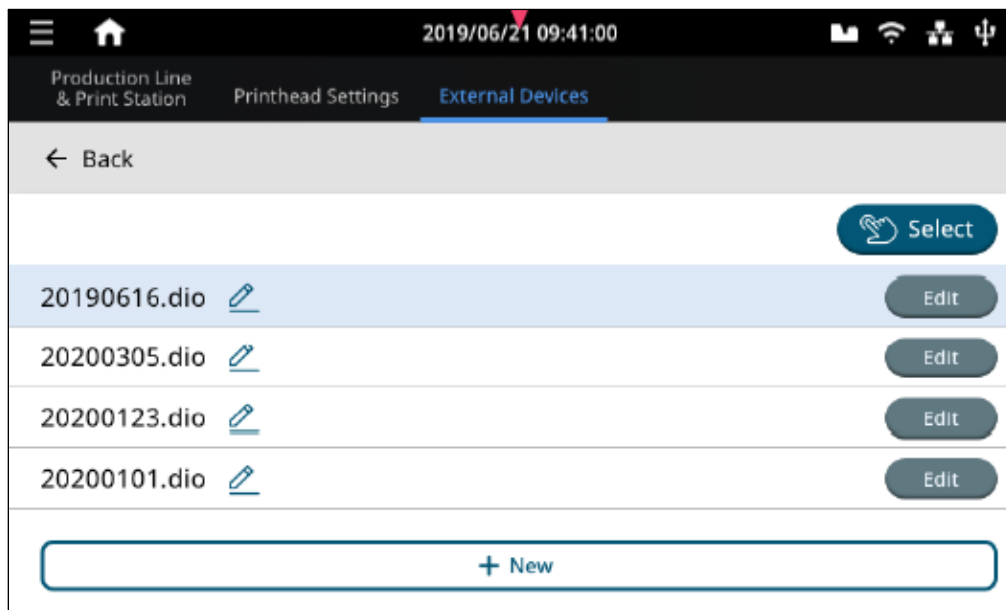


Figure 3-11. I/O Edit Settings Page

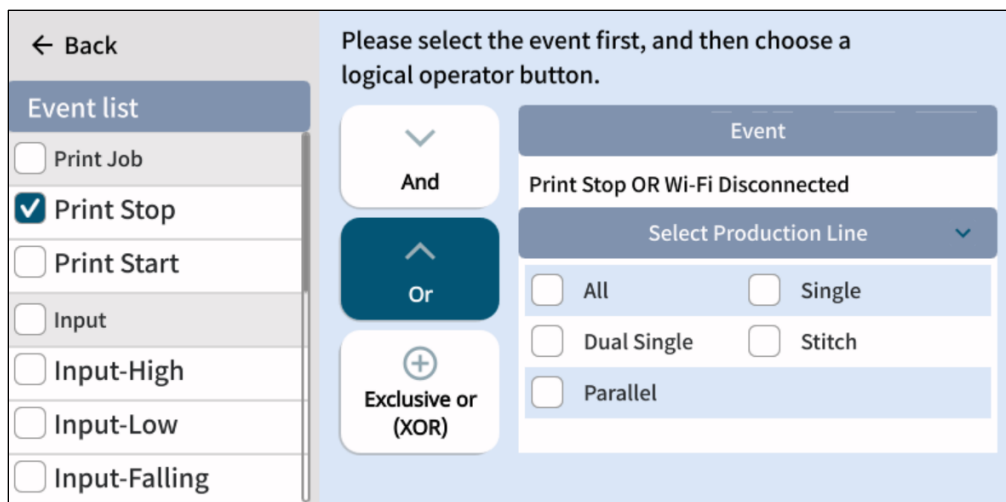


Figure 3-12. I/O Edit Settings Page – Event List (1)

An event is a condition or status that will trigger certain action. In I/O management, events include digital signal input, warnings and status alarms. Events can be logically combined in “AND”, “OR”, or “XOR” logic.

**Figure 3-13. I/O Edit Settings Page – Event List (2)**

**Table 3-3. I/O Edit Settings – Event List Definition**

Event	Definition
<b>Print Job</b>	<ul style="list-style-type: none"> <li>- <b>Print Stop:</b> To monitor if printing has stopped. E.g., pressing <b>Stop</b> button.</li> <li>- <b>Print Start:</b> To monitor if printing started. E.g., pressing <b>Start</b> button.</li> </ul>
<b>Input</b>	<p>X1 M8 8-pin port, pin #8 (DIN). Please refer to <i>X1 Technical Specifications V1.7</i>.</p> <ul style="list-style-type: none"> <li>- <b>Input High:</b> To monitor if input signal is high level.</li> <li>- <b>Input Low:</b> To monitor if input signal is low level.</li> <li>- <b>Input Falling:</b> To monitor input signal transition from high to low.</li> <li>- <b>Input Rising:</b> To monitor input signal transition from low to high.</li> </ul>
<b>Alarm</b>	<p><b>Low Ink:</b> Monitor if a cartridge has reached low ink level.</p>
<b>Warning</b>	<ul style="list-style-type: none"> <li>- <b>WiFi Disconnected:</b> To monitor if WiFi connection is lost.</li> <li>- <b>USB Disconnected:</b> To monitor if USB is unplugged.</li> <li>- <b>LAN Disconnected:</b> To monitor if LAN cable is unplugged.</li> <li>- <b>Ink Cartridge Error:</b> To monitor if a cartridge is in one of the following status – <ul style="list-style-type: none"> <li>▶ Disc chip errors.</li> <li>▶ Gate not closed.</li> <li>▶ No cartridge inserted.</li> <li>▶ Wipe alert.</li> </ul> </li> <li>- <b>No Ink:</b> To monitor if a cartridge is empty.</li> </ul>

**Table 3-4. I/O Edit Settings – Logical Operand Definition**

Parameter	Definition
<b>AND</b>	AND is a logical operand where an A event and a B event both become “TRUE”; In other words, it is the logical conjunction of the selected events.
<b>OR</b>	OR is a logical operand where either an A event or of a B event become “TRUE”; In other words, it is the logical (inclusive) disjunction of the selected events.
<b>XOR</b>	XOR is a logical operand where an A event is “TRUE” and a B event is “FALSE” or an A event is “FALSE” and a B event is “TRUE”; In other words, it is the logical exclusiveness of the selected events. (Exclusive disjunction.)

Please refer to the following table for the action that is triggered when events are true.

**Table 3-5. I/O Edit Settings – Action List**

Action	Definition
<b>Print Job</b>	<ul style="list-style-type: none"> <li>- <b>Print Stop:</b> Stop production line.</li> <li>- <b>Print Start:</b> Start production line.</li> <li>- <b>Purge:</b> Enables pre-purge printhead settings.</li> <li>- <b>Reset Counter:</b> Reset object message counters (item, box and lot).</li> </ul>
<b>Output</b>	<p>X1 alarm port (M8 6-pin). Please refer to <i>X1 Technical Specifications V1.7</i>.</p> <ul style="list-style-type: none"> <li>- <b>Alarm Green:</b> Set the output pin #6 signal status.</li> <li>- <b>Alarm Yellow:</b> Set the output pin #4 signal status.</li> <li>- <b>Alarm Red:</b> Set the output pin #2 signal status.</li> <li>- <b>Alarm Buzzer:</b> Set the output pin #5 signal status.</li> </ul>

Action Settings

Alarm - Green ^

Digital Out

Behavior 

Level high

 Delay 

0

 ms

Graphical Preview

Event

Output

Cancel

Save

Figure 3-14. Action Settings – Digital Output



### 3.5.3 Advanced Action Settings

It is possible to set different behavior for each digital output signal.

- **Level High:** Set the output signal to high. It will remain high until another action changes the status.
- **Level Low:** Set the output signal to low. It will remain low until another action changes the status.
- **Pulse Positive:** Increase the output signal.
- **Pulse Negative:** Decrease the output signal.
  - **Delay:** Set a delay in milliseconds before executing the digital output behavior.
  - **Pulse Duration:** Set a time duration for the positive or the negative pulse options.

## 4 Troubleshooting

### 4.1 Fault Messages and Warnings

#### 4.1.1 Ink Cartridge Fault









**Table 4-1. Ink Cartridge Fault and Description**

Fault	Description
<b>No Cartridge</b>	It normally happens when no cartridge is detected in the printhead. Additionally, this could happen when chip failure or abnormal printhead latch happens.
<b>Ink Type Not Supported</b>	The ink type is not supported in the current software version or printer model.
<b>Ink Capacity Not Supported</b>	Ink cartridge volume is not supported in the current software version or printer model.
<b>Ink Color Not Supported</b>	The ink color is not supported in the current software version.
<b>Ink Empty</b>	Ink cartridge is empty. Please change a new cartridge.
<b>Ink Low</b>	The ink level is low (with 5% left) or lower than the custom trigger value.
<b>EDC Not Match</b>	Either the country code, area code or both codes don't match controller EDC.

## 4.2 Status Definition

### 4.2.1 UI Icon Status

Table 4-2. UI Icon Status Definition

Device	Connected	Error	Error Event
Wi-Fi			Click the icon to show error message dialog. Click <b>See More</b> to open Wi-Fi setting page.
Ethernet			Click the icon to show error message dialog. Click <b>See More</b> to open Ethernet setting page.
Cartridge			Click the icon to show error message dialog, to see cartridge information and error codes.
USB			Click the icon to show error message dialog.

### 4.2.2 UI and Warning Light

Table 4-3. UI and Warning Light Definition

PL Status	UI Display	Light	Buzzer	Trigger Condition	To Exit Status Condition
Idle	Gray	Off	Off	Not Printing / Stop Printing	Start Printing
Printing	Green	Green	Off	Start Printing	Stop Printing Error Ink Low or Empty
Ink Low	Yellow	Yellow & Green	Beep 3s	1. Reach threshold. 2. Start with a low ink cartridge. 3. Insert the low ink cartridge.	Insert cartridge ink level over the threshold.
Ink Empty	Red	Yellow & Red	-	Printed all available ink dots.	Insert the cartridge with enough ink to print.
Error	Red	Red	-	DISC related: 1. Can't read DISC. 2. EDC error. 3. Can't recognize DISC. 4. No legal DISC. 5. Ink type not supported. 6. Cartridge latch is not closed. 7. Printhead is disconnected. 8. Wiping reminder time up.	When the trigger condition is released.

### 4.2.3 Printhead LED Status

**Table 4-4. Printhead LED Status and Definition**

Fault	White LED	Red LED	Note
Cartridge Inserted	ON	OFF	Stand by
Printing Mode	Flashing	OFF	-
Cartridge Removal	OFF	ON	No cartridges are inserted or detected.
Cartridge Error / Ink Empty	ON	ON	-
Ink Low	ON	Flashing	-
No Power	OFF	OFF	-
Discovery Mode	Flashing	Flashing	Alternately flash 0.2s ON > 0.2s OFF > 0.2s ON > 1s OFF then repeat 10 times.

## Appendix

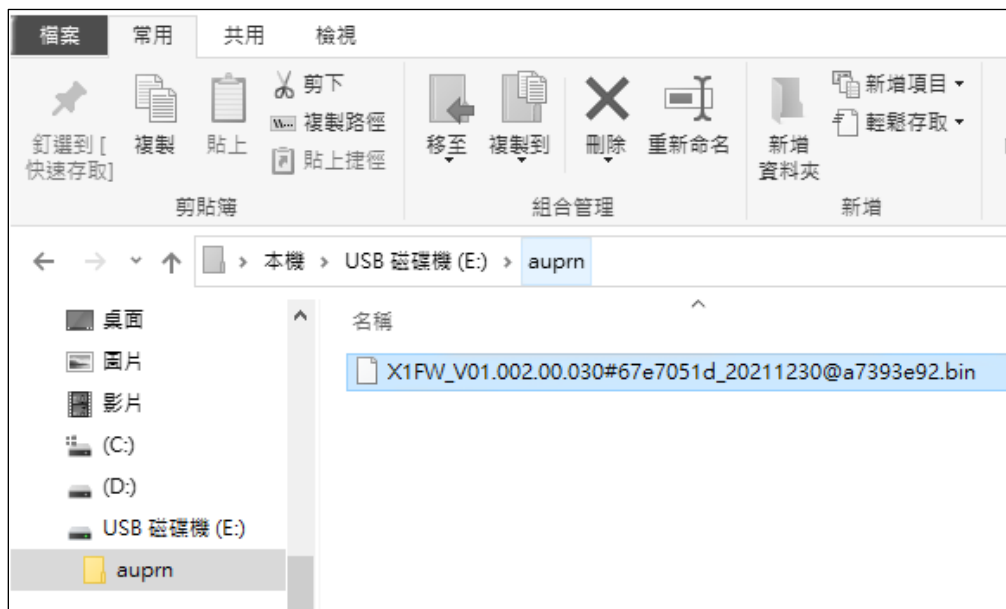
### Printhead Maintenance

- Before powering up, make sure all the components are connected.
- Before shutting down, please remove the cartridge, and shutdown system from UI shutdown button, and then press the power switch in the controller prior to disconnecting any of the printheads.

### Controller Firmware Upgrade

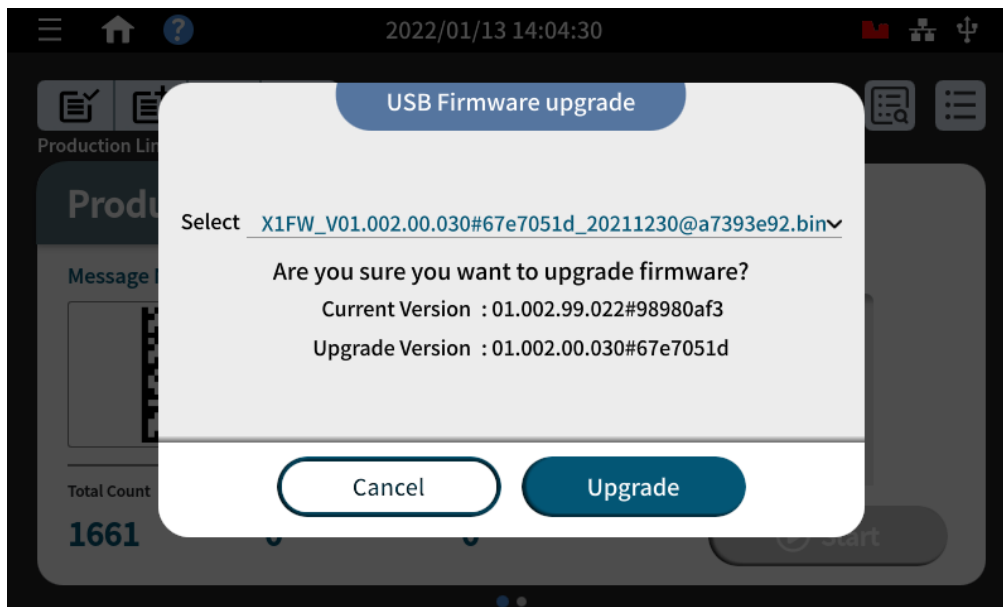
X1 software can be upgraded by USB.

1. Before it starts, please make sure that the USB is formatted as FAT32 and the size of the partition is under 32GB.
2. Create a new folder within the USB and name it as **auprn**.
3. Copy the software upgrade file into the USB://auprn folder.

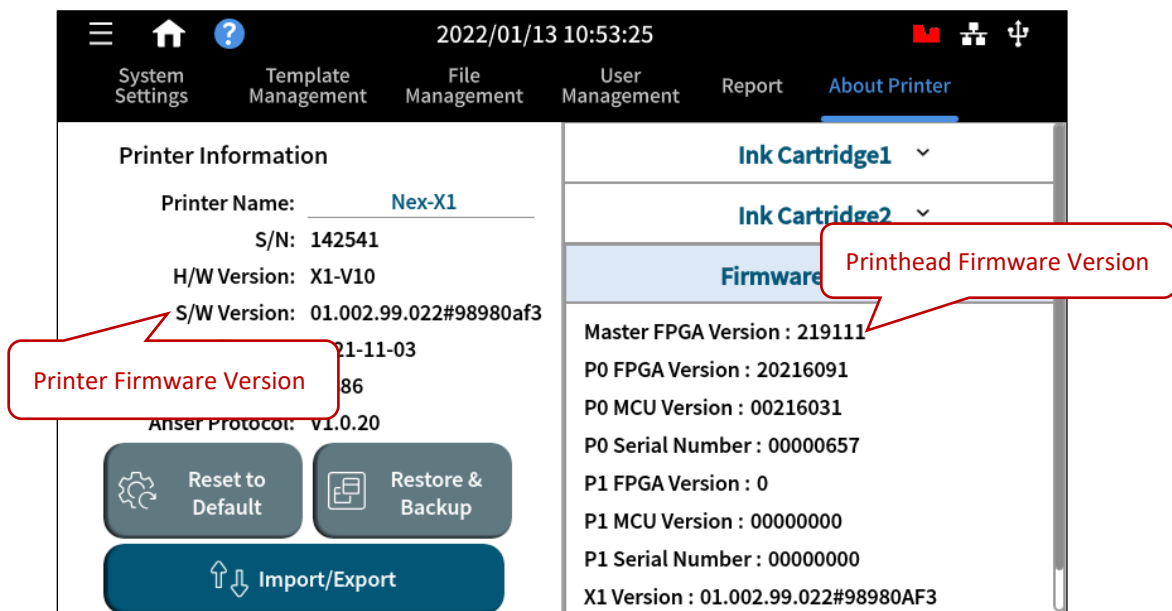


**Note:** Please remove ink cartridge(s) before firmware upgrade for X1 controller.

4. Insert the USB in one of the USB ports and wait for the upgrade confirmation window to show up.

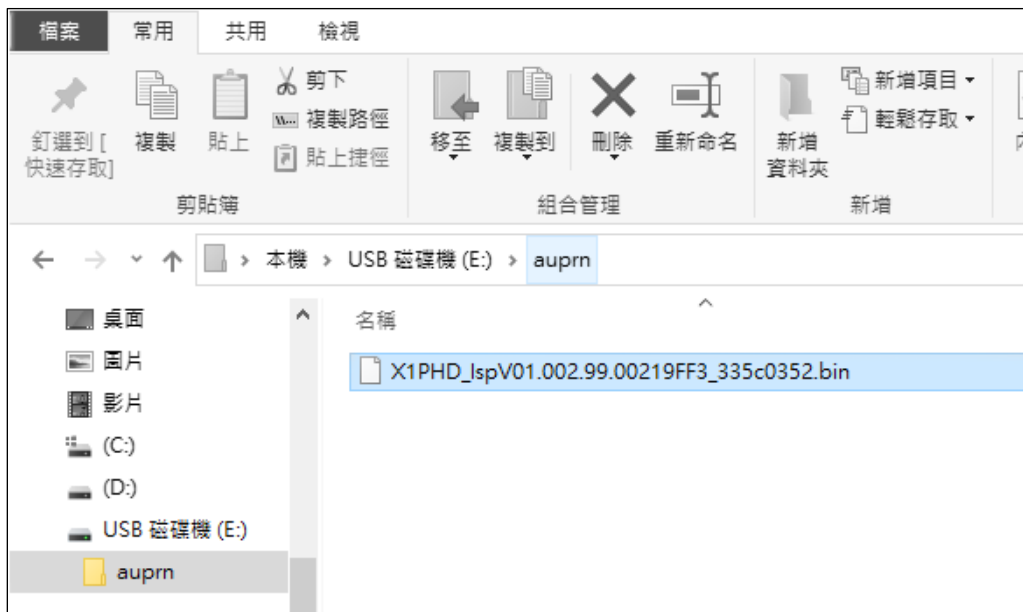


5. Press **Upgrade** to initiate the upgrade process.
6. X1 will reboot automatically once the upgrade process is completed. Please go to Menu > Settings > **About Printer** to confirm the firmware versions of printer and of printhead are both updated.



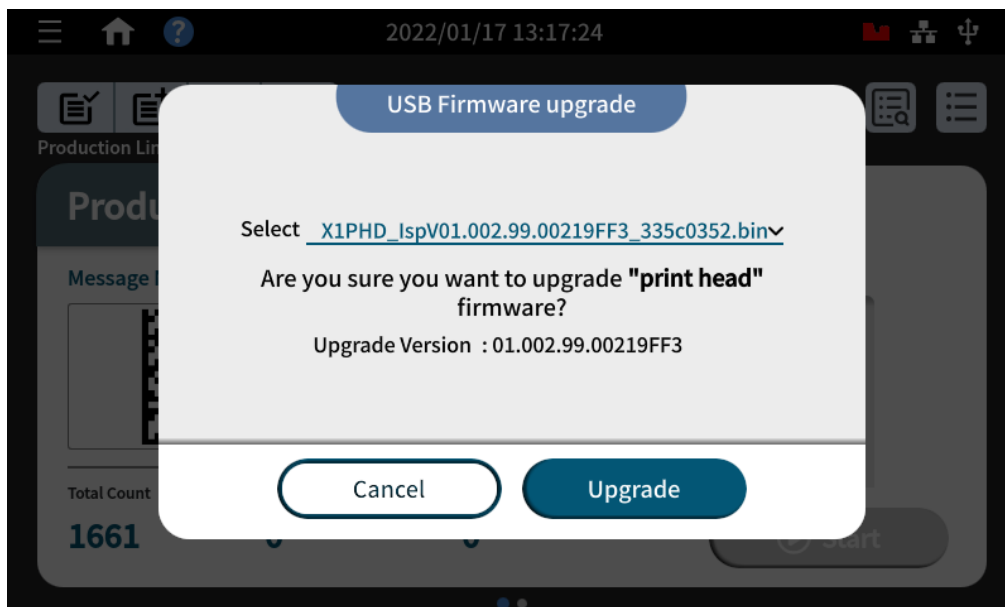
## Printhead Upgrade

1. Copy the printhead upgrade file into the **auprn** directory, and make sure only this file is in the directory.



**Note:** Please remove ink cartridge(s) before X1 printhead upgrade.

2. Insert the USB to the controller, and wait to confirm the prompt window.



- Wait for the process to be completed and it might take several minutes. When done, please press **Exit** and then **Yes** to exit the printhead update mode. It will go back to login page.

Write Config

barres

ComPort ttyS1

Printer head Port 0

Port[1] DeviceID=0

Server Status: connect...OK

Progress 51%

[M031]@0x00008000 updating: /tmp/isp/X1\_M031\_2v0\_EBI\_00219118.blk

Exit

Port 0

Information: Port[0], FPGA Ver=20219071, Muc Ver=219118,

Address	Version	Type
00000000	10218191	TYPE-0.5
00080000	20219071	TYPE-1.0

Port 1

Information:

Address	Version	Type
---------	---------	------

Exit

- Go to Menu > Settings > **About Printer** > **Firmware Version**, and P0 & P1 FPGA should be shown.

2022/01/13 10:53:25

System Settings Template Management File Management User Management Report About Printer

Printer Information

Printer Name: Nex-X1

S/N: 142541

H/W Version: X1-V10

S/W Version: 01.002.99.022#98980af3

Build Date: 2021-11-03

EDC code: 3-886

Anser Protocol: V1.0.20

Reset to Default

Restore & Backup

Import/Export

Ink Cartridge1

Ink Cartridge2

Firmware Version

Master FPGA Version : 219111

P0 FPGA Version : 20216091

P0 MCU Version : 00216031

P0 Serial Number : 00000657

P1 FPGA Version : 0

P1 MCU Version : 00000000

P1 Serial Number : 00000000

X1 Version : 01.002.99.022#98980AF3





[WWW.ANSER-CODING.COM](http://WWW.ANSER-CODING.COM)