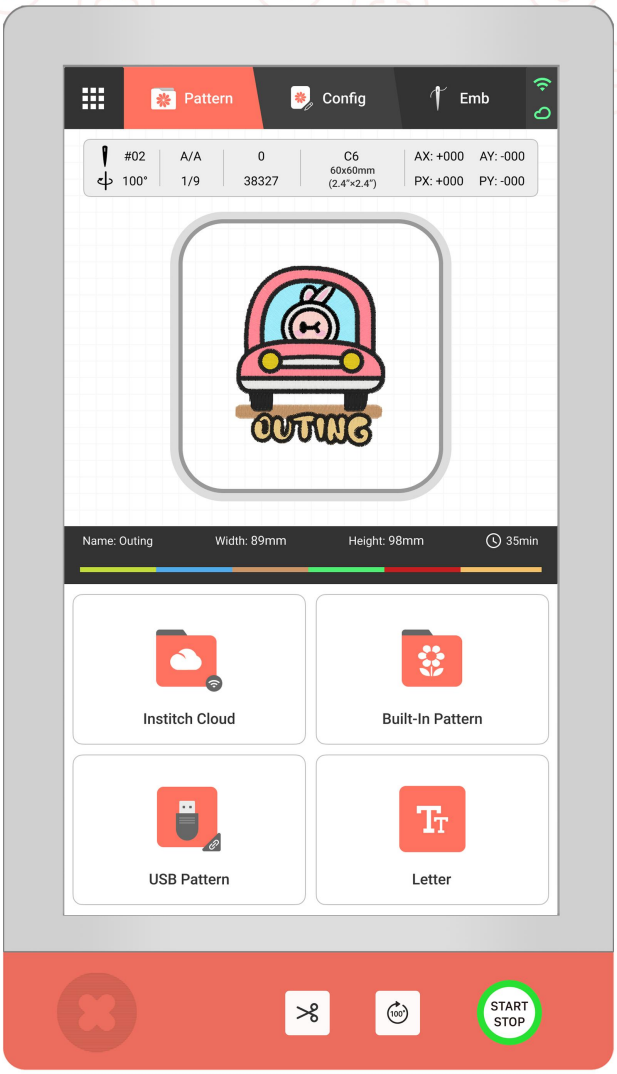
Operation Manual

Institch OS4



Content

Important Safety Instructions

Hazard Warning 4

Safety Instructions 4-5

Turn On or Off the Machine

Controller 6

Mode Selection Page 7

Language Settings 8

Connect to Institch Cloud 9-10

Pattern Selection

Pattern Selection 11-14

Institch Cloud Folder 15-16

Combine Multiple Patterns 17

Pattern Division 18

How to Divide Patterns 19

Export Pattern to USB 20

Import Patterns from USB 21

Direct Emb from USB 22

Built-in Patterns 23

Letter Embroidery 24

How to Embroider Letters 25

Content

Pattern Editing

Pattern Editing 26-27

Set Pattern Colors 28-29

How to Set Colors 30

Needle Color Setting 31

How to Set Needle Colors 32

Choose frame (EOM or EOV) 33-34

Choose frame (EOX) 35-36

Quickly Add Frames 37-38

Letter Editing 39-40

Rotate Pattern 41

Scale Pattern 42

Mirror Pattern 43

Reset Edited Pattern 44

Save Edited Pattern 45

Delete Edited Pattern 46

Pattern Embroidery

Pattern Embroidery 47-49

Stitch Forward or Backward 50

Color Forward or Backward 51

Trace & Positioning 52-53

Content

Settings

Main Settings 54-55

Test 56-57

Machine Settings 58-61

Trimming Settings 62-63

Thread Breakage Settings 64-65

Speed Settings 66-67

Frame Settings 68

Find the Origin 69

How to Find the Origin 70

Screen Calibration 71

Power-Off Recovery 72

Statistics 73

Service & Upgrade 74-75

Common Issues and Solutions

Common Issues and Solutions 76-77

Important Safety Instructions

Please take this machine seriously and do not treat it as a toy, When operating or using the machine, always observe the following safety precautions

- Do not operate the machine with blocked ventilation openings
- To disconnect the machine, turn the main switch to the “O” (Off) position
- Do not unplug the machine by pulling the cord, Always grasp the plug—not the cord—when unplugging
- Keep fingers away from all moving parts, especially around the needle area
- Do not use a bent needle
- This embroidery machine is not intended for use by young children or individuals with reduced physical or mental capabilities without supervision

⚠ WARNING

Instructions for safe operation:

- Pay attention to the needle during embroidery, and avoid pulling the thread directly, touching the hand wheel, needle or other moving parts
- Plug the machine directly into the electrical outlet, do not use an extension cord
- Do not place or store the machine near any extreme environment (high temperature, low temperature, high humidity or dust area), heater or other thermal appliances, so as not to cause machine failure
- The plastic bag that this machine was supplied in should be kept out of the reach of children or disposed of, Never allow children to play with the bag due to the danger of suffocation
- Do not place the embroidery machine on an unstable or inclined table, otherwise the machine may fall, resulting in injuries

Important Safety Instructions

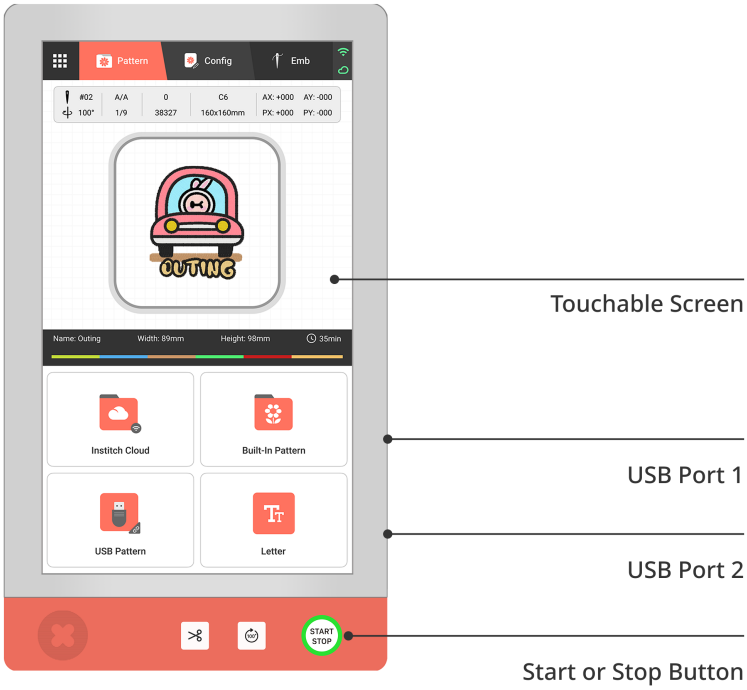
For a longer service life:

- When storing the machine, please avoid direct sunlight and high humidity locations, Never use or store this machine near heaters, irons, halogen lamps, or other hot objects
- Only use neutral soap or detergents to clean the machine shell, Benzene, thinner or sourcing powder can damage the machine, and should never be used
- Do not let the machine drop or be impacted
- Always consult the operation manual when replacing or installing any assemblies, needle, or other parts to assure correct installation
- Only the interface cable (USB cable) included with the machine can be used, and it cannot be replaced by other types of cables

Repair or adjustment:

In the event of a malfunction occurs or requires adjustments, first follow the troubleshooting table on the back of the operation manual to inspect and adjust the machine yourself, If the problem persists, please consult our after-sales personnel, They provide professional help and support, Never attempt to repair the machine yourself as this could cause more serious damage

Controller



Description of Functions

Contents	Description
Touchable Screen	High brightness LCD display and touch screen
USB Ports 1 & 2	USB port for pattern import and export
Start or Stop Button	Click button to start and stop embroidery.

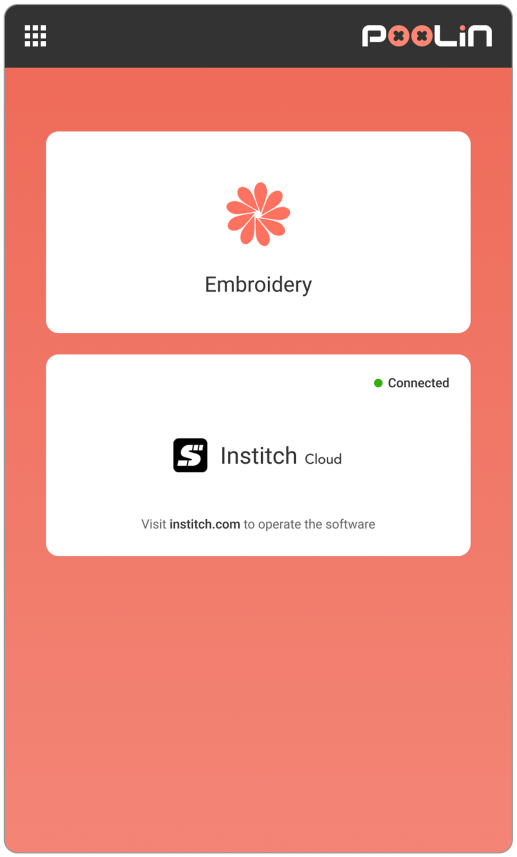
⚠ Tips:

- To protect the touch screen and extend its service life, do not tap it with hard or sharp objects.
- Do not click too hard when tapping to avoid damaging the touch screen.

⚠ Tips:

- Insert and remove the USB drive in the correct direction.
- Do not remove the USB drive while data is being read to avoid data loss.

Mode Selection Page



Description of Functions

Contents	Description
	Click the button to enter the embroidery home screen, where you can select patterns and start embroidery tasks.
	The current connection status between the device and the cloud platform is displayed to confirm whether the network connection is successful.

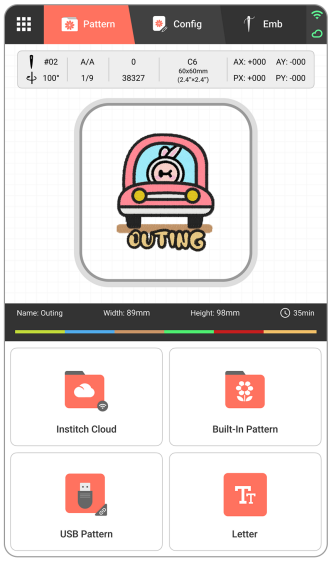
⚠ Tips:

Tap the top-left corner to enter Settings, where you can switch the interface language.

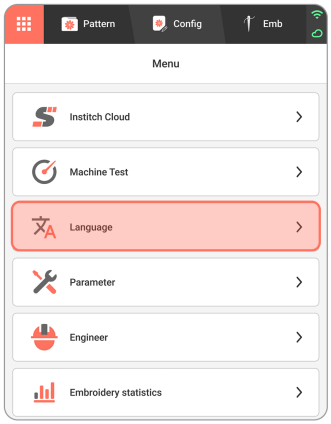
Language Settings

The default language is English. To change it, follow the steps below before operating the machine.

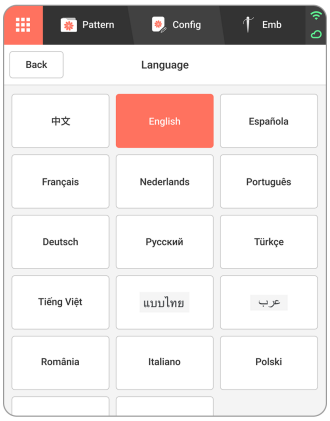
1 Tap



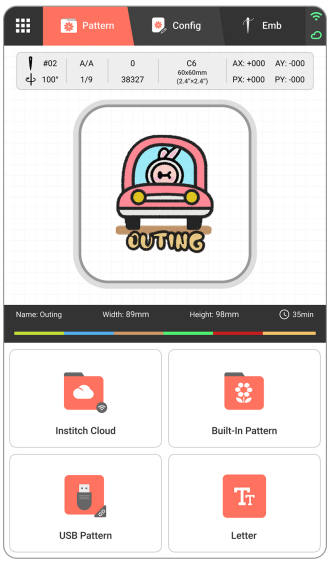
2 Tap Language Settings



3 Select your local language



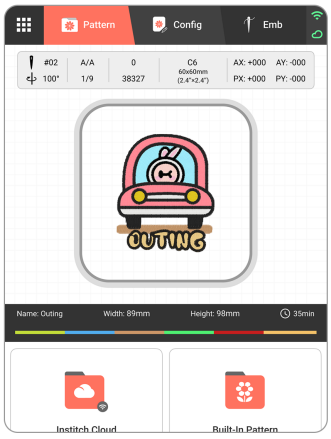
4 Tap Pattern To return to the main menu



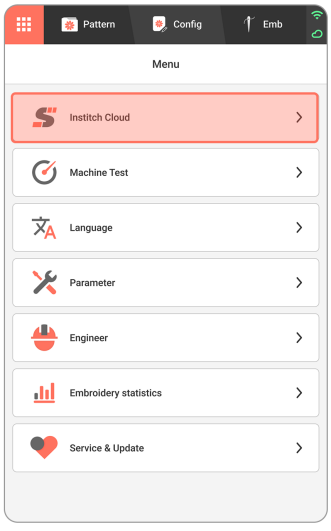
Connect to Institch Cloud

After successful binding, patterns will automatically sync to the Institch Cloud Platform. You can manage patterns remotely or send them to the device for real-time syncing and transfer. Please make sure the file is in DST or DSB format.

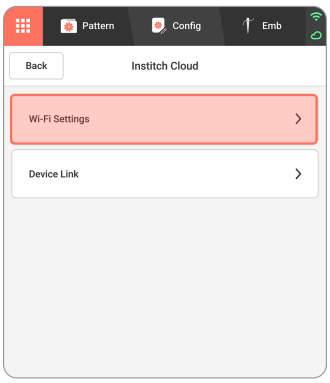
1 Tap



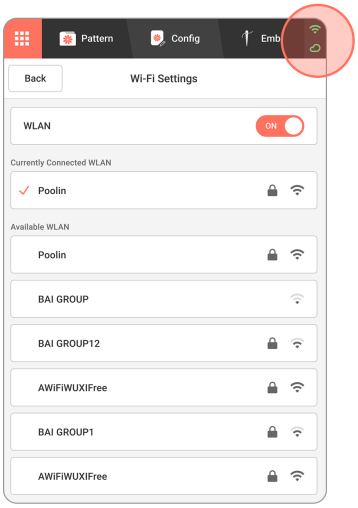
2 Tap Institch Cloud



3 Tap Wi-Fi Settings

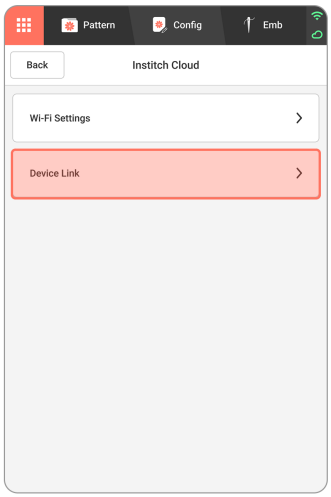


4 Choose a network from the list. Once connected, the current network status will be displayed.

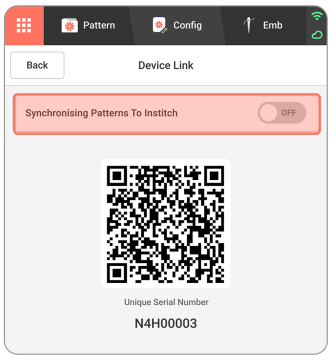


Connect to Institch Cloud

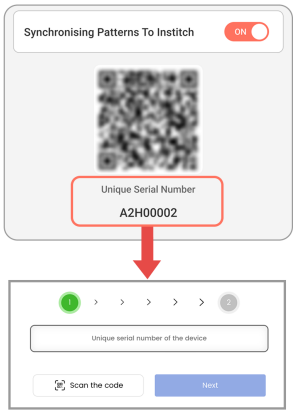
5 Tap Device Connection



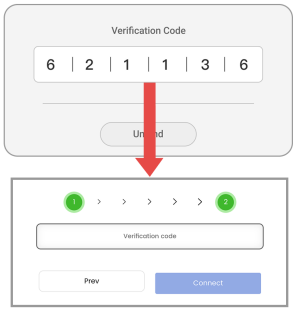
6 Enable Sync Patterns to Institch Cloud Platform



7 After logging into your Institch Cloud account, follow the on-screen instructions to bind your machine.



Step 1



Step 2

⚠ Tips:

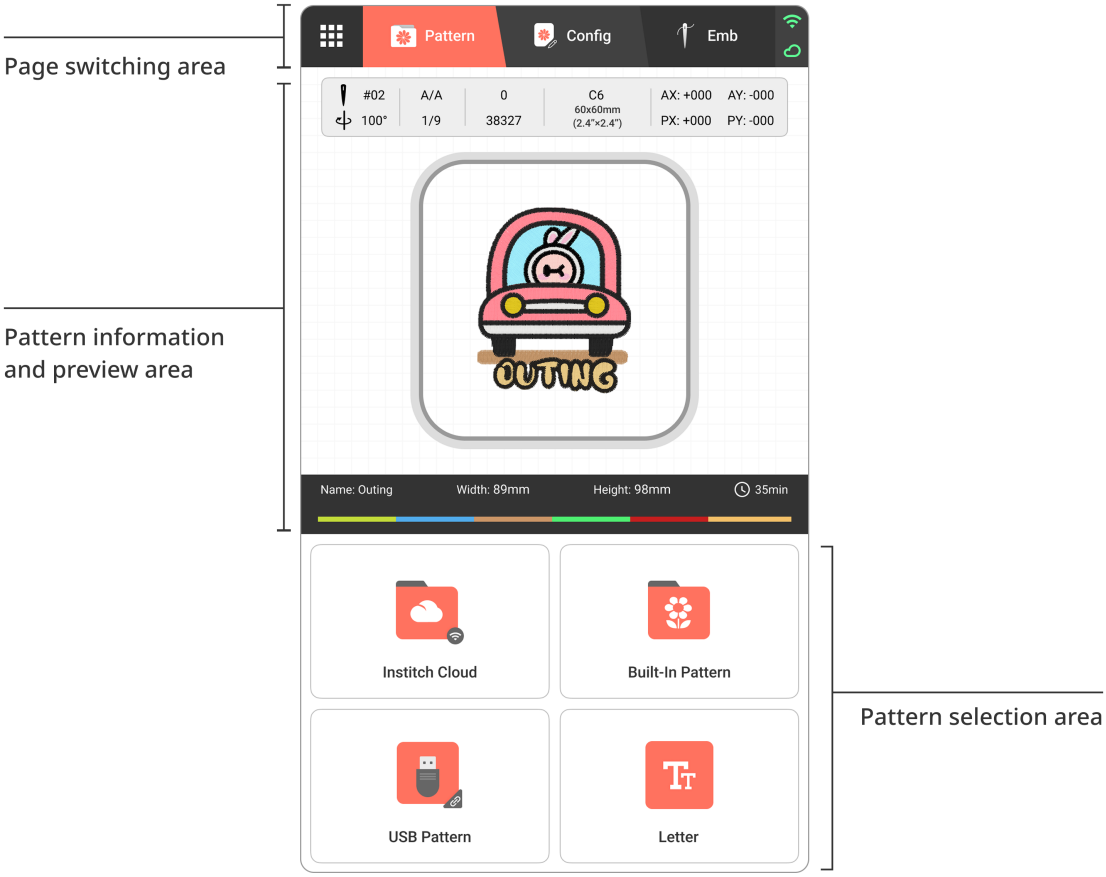
Cloud binding is a one-time setup — once bound, your device information will sync to the Institch platform

To unbind, tap the Unbind button under Device Binding

If you encounter any issues, technical support is available via our official social media channels

Facebook: Institch Doodle Digitizing

Pattern Selection



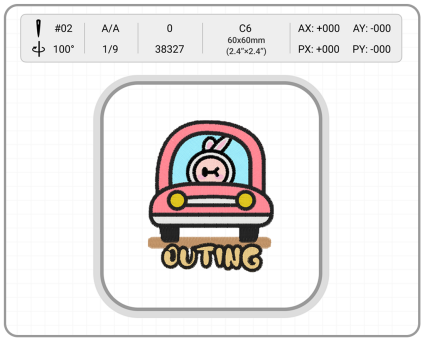
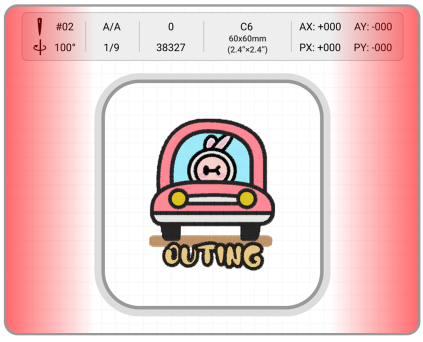
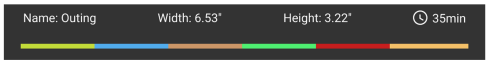
1. Page switching area

Contents	Description
	Settings Page
Pattern	Pattern Selection Page
Config	Pattern Editing Page You cannot enter this page without selecting a pattern.
Emb	Embroidery Status Page You cannot enter this page without selecting a pattern.

Pattern Selection

Contents	Description
	Wi-Fi Signal Status & Pattern Sync Switch · Strong Wi-Fi signal; pattern sync is enabled · Good Wi-Fi signal; pattern sync is enabled · Weak Wi-Fi signal; pattern sync is enabled · Strong Wi-Fi signal; pattern sync is disabled

2. Pattern information and preview area

Contents	Description
	Display the position of the pattern in the selection frame. Displays the actual position of the pattern within the current embroidery frame.
	If the pattern exceeds the frame area, the preview zone will show a red gradient as a warning, prompting the user to make adjustments.
	Displays basic pattern information (such as size, stitch count, etc) and the embroidery sequence.

Pattern Selection

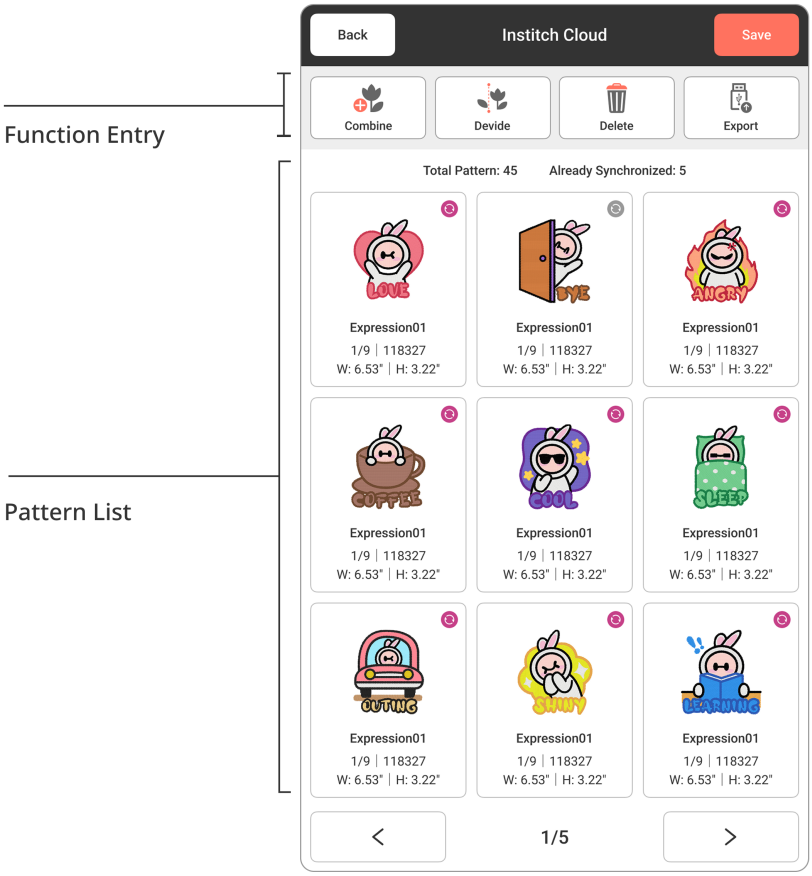
Contents	Description
	#02: Current needle position If “00”, it is “No Needle”. Turn the color change motor knob by hand until screen shows any number but "00".
	100°: Main axis degree display If “???” or another number appears, the main shaft is not in position. Tap 100° at the bottom of the page to reset it.
	AA: Embroidery Work Mode Display (Three Modes). You can switch between them on the Pattern Embroidery Page.  AA: Automatic color change and embroidery start AM: Automatic color change and manual embroidery start MM: Manual color change and embroidery start
	1-9: Completed colors & total colors
	0-38327: Completed stitches or Total Stitches
	C6 160 mm x 160 mm: Frame type and area
	AX AY PX PY: Coordinate display of relative origin of pattern and frame. AX or AY: coordinate display of relative origin of pattern. PX or PY: coordinate display of relative origin of frame.

Pattern Selection

3. Pattern Selection Area

Contents	Description
	Institch Cloud Folder Once the device is bound and transmission is complete, patterns in this folder will automatically sync to the Institch Cloud Platform.
	Built-in Patterns
	USB Patterns After inserting a USB drive, the system will automatically detect compatible pattern files. You can select and start embroidering immediately—no download required. Tap the “Select” button to batch select multiple patterns and import them to the device.
	Custom Letter Embroidery Use the built-in keyboard to enter text and generate embroidery patterns instantly.

Institch Cloud Folder

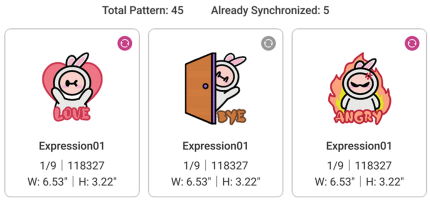


1. Function Entry

Contents	Description
Combine	Combine: Select patterns and tap Save to open the combined pattern editor. Up to 8 patterns can be selected for combination
Devide	Divide: After selecting the pattern, click to enter the pattern division editing.
Delete	Delete Button Tap to select and delete multiple patterns.
Export	Export Patterns to USB

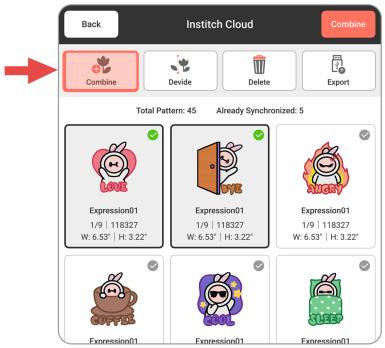
Institch Cloud Folder

2. Pattern List

Contents	Description
	Select one or multiple pattern files Below each pattern, its width, height, total number of colors, total stitch count, and pattern name are displayed.
	Once connected to the Institch Cloud platform, the system will automatically sync the patterns in the folder. Patterns that have been synced display a purple icon in the top-right corner, while unsynced patterns display a gray icon.
< 1/5 >	Pattern List Pagination

Combine Multiple Patterns

1 Tap the Multi-Select button, then choose the patterns to combine.



> ⚠ Tips:
>
> You can combine up to 8 patterns. Supported sources include built-in patterns, Institch Cloud, letter patterns, and custom USB-imported patterns.

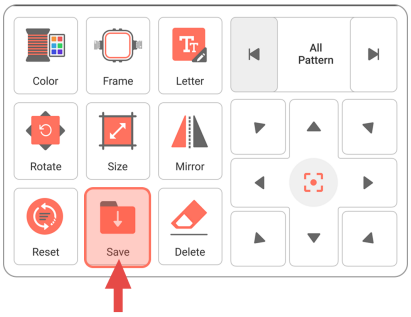
2 After selection, tap the Edit button.



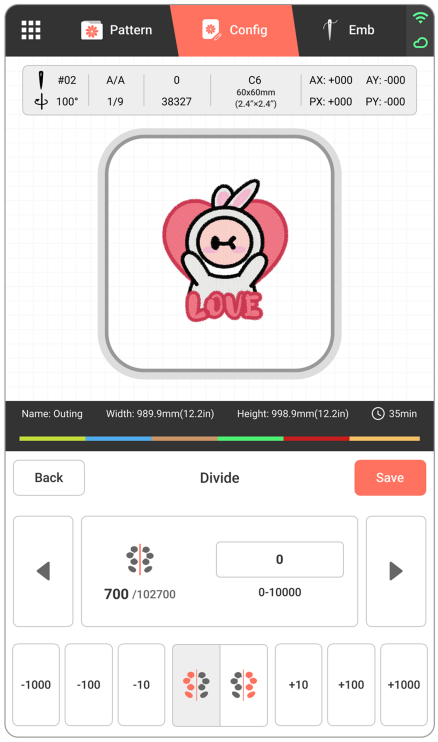
3 Use the left or right arrow keys to switch between patterns, edit them individually, or switch to Edit All mode.



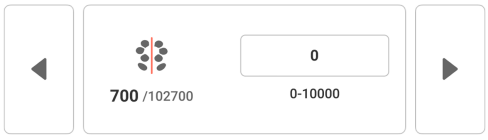
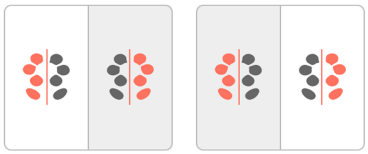
4 To save the combined pattern, tap Save. It will be stored in the Institch Cloud folder.



Pattern Division

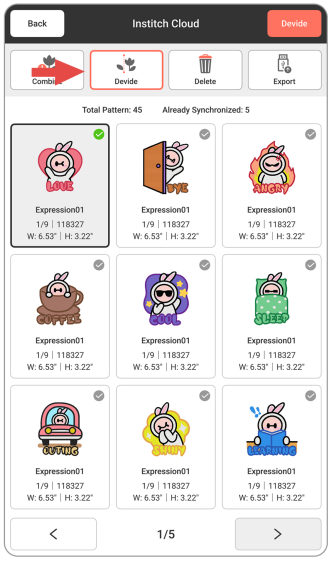


Description of Functions

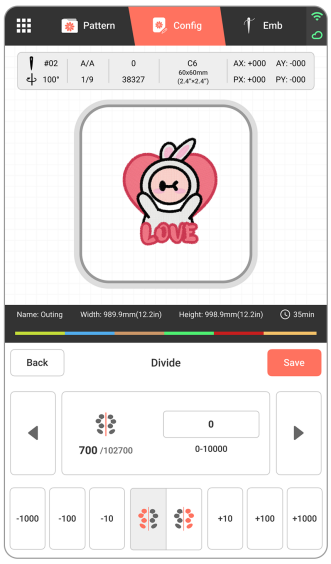
Contents	Description
	Customize the division of stitches Input the specific number of stitches, and click the left and right switching keys to divide.
	Divide the Pattern by Stitch Count Only the system default number of stitches can be selected for division.
	View the Division Preview Press the left side to preview the first half of the pattern Press the right side to preview the second half of the pattern.

How to Divide Patterns

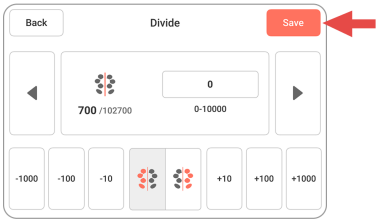
1 Click the Divide button and select the patterns you want to divide.



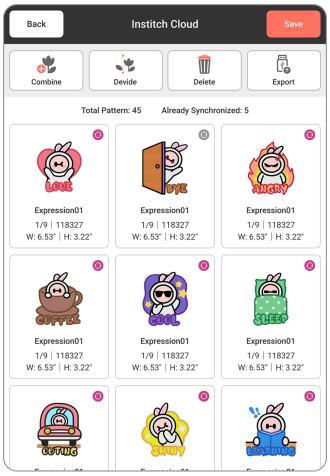
2 After making your selection, and divide the patterns as needed.



3 Once the splitting is complete, click Save.



4 The split patterns will be saved to the Institch Cloud folder.



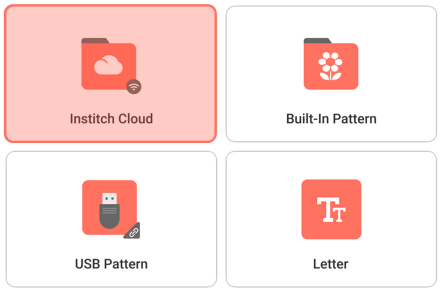
⚠ Tips:

Design division is to divide the pattern into two according to the specified number of stitches. After the division, two divided designs will be displayed on the design management interface. The current version only supports dividing patterns by stitch sequence. If by outline, please use design software.

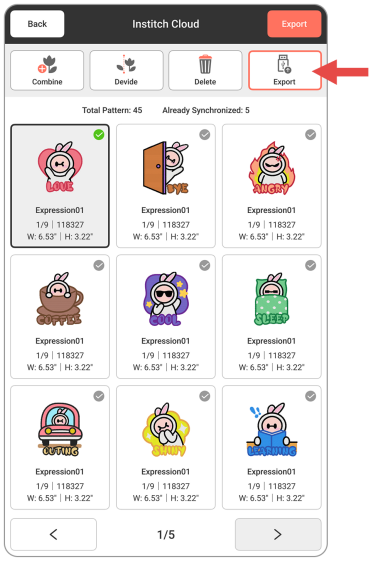
Export Pattern to USB

1 Insert USB

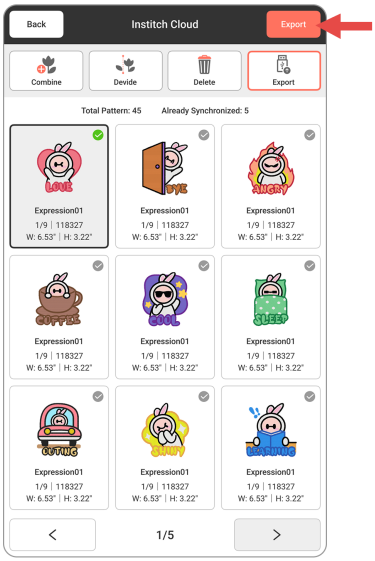
2 Click Institch Cloud



3 Click the Export button and select the patterns you want to export.



4 After making your selection, click the Export button at the top right.



⚠ Tips:

When exporting, if the USB cannot be read, please re-plug or replace the USB and try again.

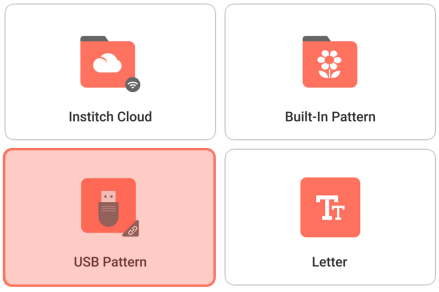
Do not remove the USB until the export is complete to avoid data loss.

Import Patterns from USB

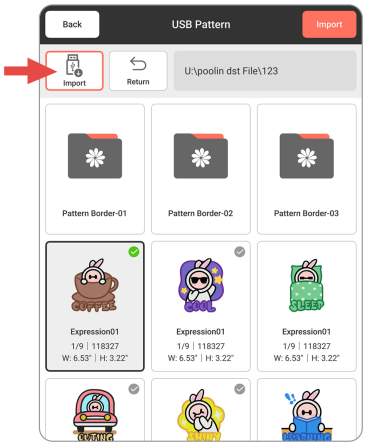
If a “USB not detected” message appears during import, please unplug and reinsert the USB or try a different USB device, then re-import. The USB storage capacity must be less than 64GB and formatted as FAT32. Do not remove the USB before the import is complete to avoid data loss. This machine supports pattern files in DST or DSB formats. Other formats need to be converted using design software.

1 Insert USB

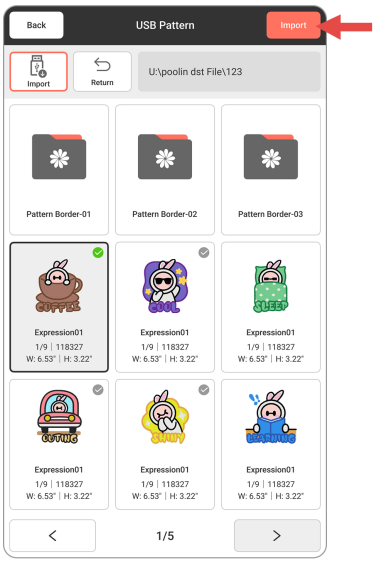
2 Tap USB Pattern



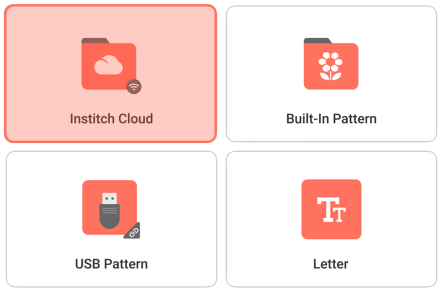
3 Click the Import button and select the patterns you want to import.



4 After making your selection, click the Import button at the top right.



5 The imported patterns will appear in the Institch Cloud folder.



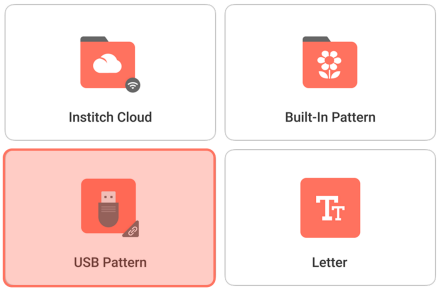
Direct Emb from USB

The USB storage capacity must be less than 64GB and formatted as FAT32.

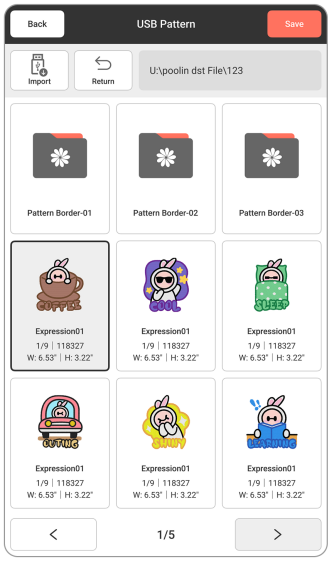
This machine supports pattern files in DST or DSB formats. Other formats need to be converted using design software.

1 Insert USB

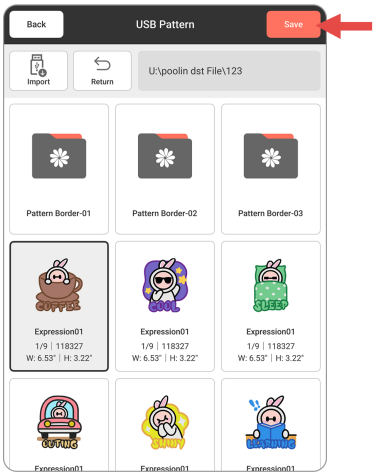
2 Tap USB Pattern



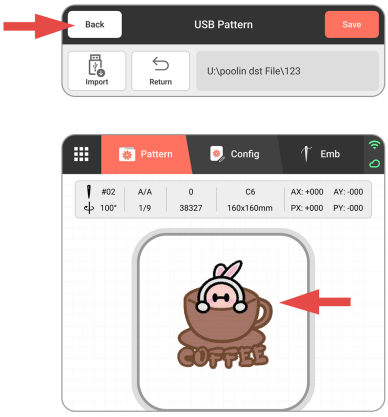
3 Select the patterns you want to stitch directly.



4 After making your selection, click the Save button at the top right.

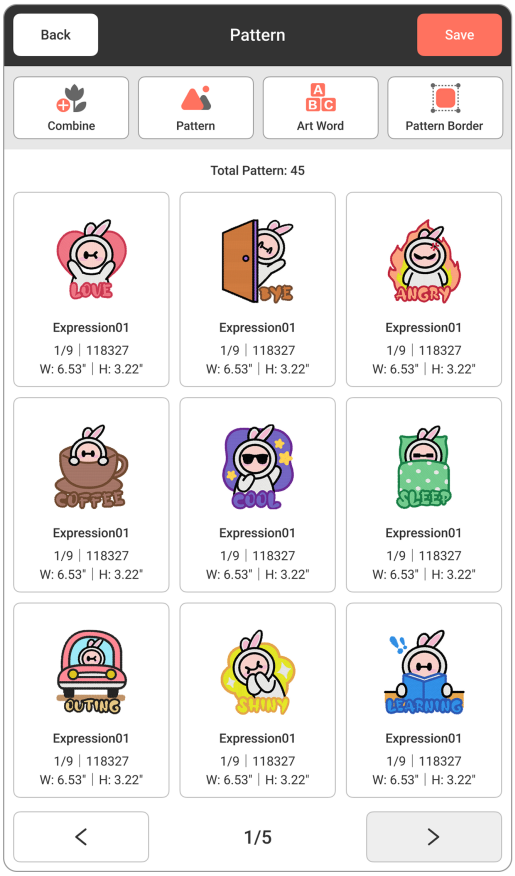


5 Click the Back button—the patterns will now be selected.



Built-in Patterns

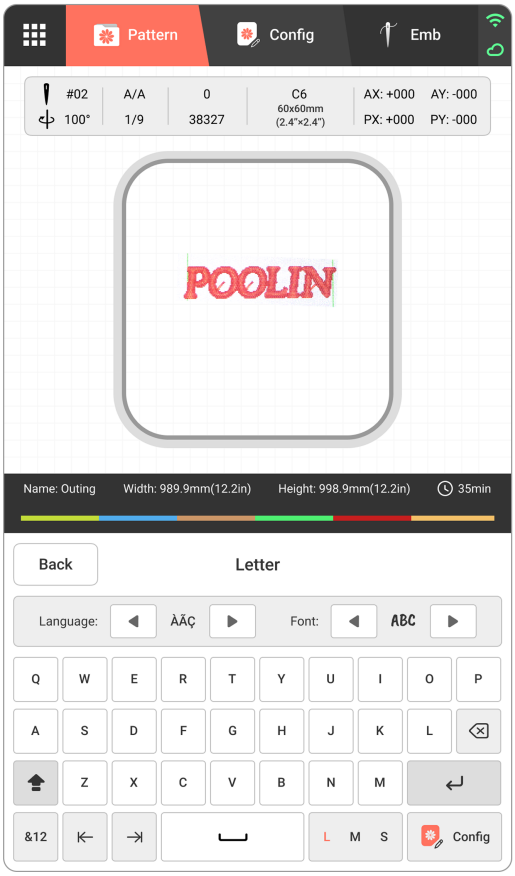
Function Entry



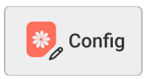
Description of Functions

Contents	Description
Combine	Combine: Select patterns and tap Save to open the combined pattern editor. Up to 8 patterns can be selected for combination
Pattern	Built-in Patterns
Art Word	Built-in A–Z Art Patterns
Pattern Border	Built-in Border Patterns

Letter Embroidery

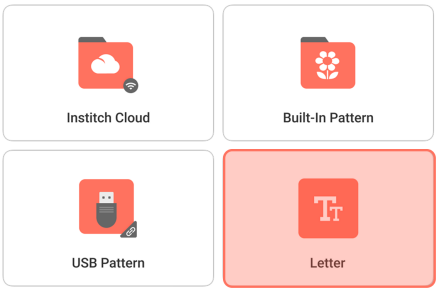


Description of Functions

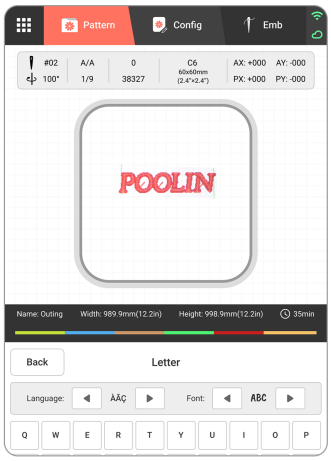
Contents	Description
	Font Selection Panel Fonts: 8 built-in artistic fonts. Characters: A–Z, a–z, numbers, symbols, and Latin letters.
	Adjust Letter Size
	Letter Edit Shortcut Tap to enter editing for style adjustments.

How to Embroider Letters

1 Click Letter



2 After entering a letter, the preview area will display the corresponding effect in real time.



3 Click Config at the bottom right to adjust the letter.



4 Once adjustments are complete, click the Save button at the top right.



Pattern Editing

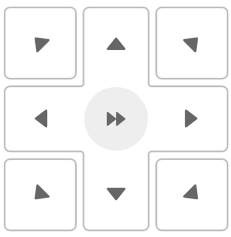


Pattern Editing Panel

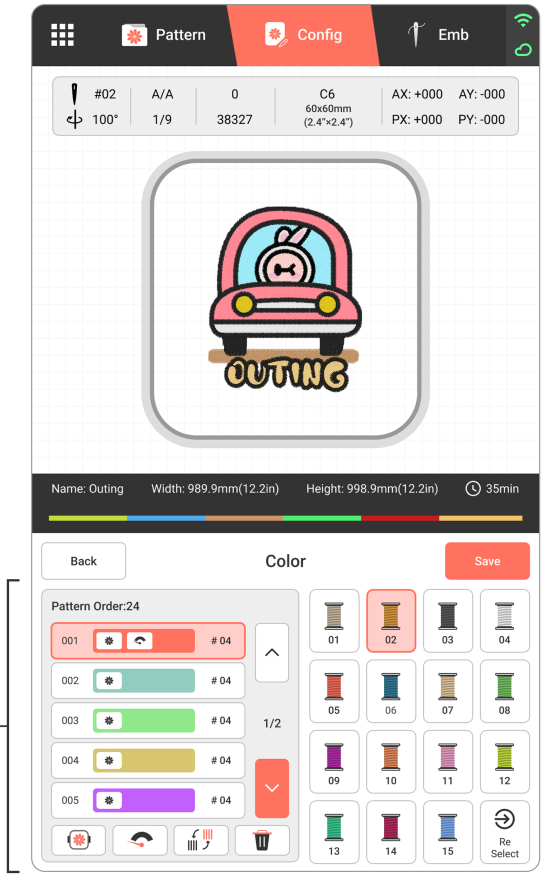
Description of Functions

Contents	Description
Color	Color Settings Page
Frame	Embroidery Frame Selection Page
Rotate	Pattern Rotation Page

Pattern Editing

Contents	Description
	Pattern Scaling Page
	Mirror Pattern Page
	Reset Edited Pattern After tapping the Reset button, the selected pattern will be cleared.
	Save Edited Pattern After tapping the Save button, a new pattern will be generated in Institch Cloud.
	Delete Edited Pattern After tapping the Delete button, the currently selected pattern will be deleted. In combination mode, use the left and right switch keys to select the pattern to delete.
 	Edit Letter Pattern This button is only available when a letter pattern is selected.
	Select Combined Pattern Use the left or right arrow buttons to switch between group selection and single selection. This function is disabled when only one pattern is selected.
	Move Pattern Within Frame Center: Move the pattern to the center of the display; Top Left: Move the pattern to the top-left of the display; Top Right: Move the pattern to the top-right of the display; Bottom Left: Move the pattern to the bottom-left of the display; Bottom Right: Move the pattern to the bottom-right of the display.

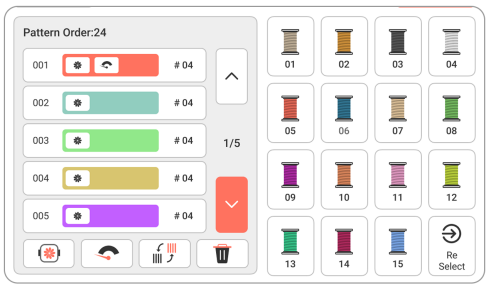
Set Pattern Colors



Color settings area

Needle Color Display Area

Description of Functions

Contents	Description
	On the left is the color sequence and total number of colors of the pattern On the right are the actual embroidery thread colors used for each needle. If the color of the needle does not match the embroidery thread used, you can click Back to set the right color. In the middle of setting, if the previous needle number is wrong, click selected and reset.

Set Pattern Colors

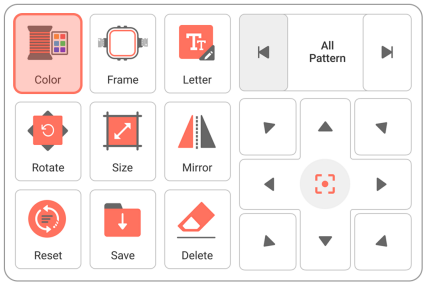
Contents	Description
	Appliqué: If add appliqué in the current color, click this key, and the pattern will be added after the current needle number. When embroider this color, it will automatically be out of the frame and stop, waiting for the appliqué to be added. After finishing, start the machine directly to continue embroidery. If want to cancel the appliqué, click it again.
	Low-speed embroidery: If a certain color needs to be at a reduced speed, click this key, and will be added after the current needle number. If cancel low-speed embroidery, click it again.
	Modify colors in batches, click this key At this time, the same colors will be selected, and then re-select the color in the needle color display area. If cancel the batch modification of colors, click it again.
	Delete: Deletes the incorrect needle number midway through setup 1. Click incorrect needle number; 2. Click the delete icon; 3. Click OK to clear the subsequent color sequence.

How to Set Colors

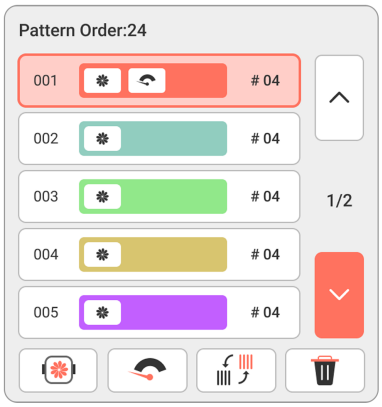
1 Confirm the total number of colors in the pattern.



2 Click Color in the editing interface



3 Select a color change sequence



Tips:

Take figure 1 as an example, the pattern has 9 colors, then you need to set from 01 to the 9th color.

4 Choose the corresponding needle number based on the color.

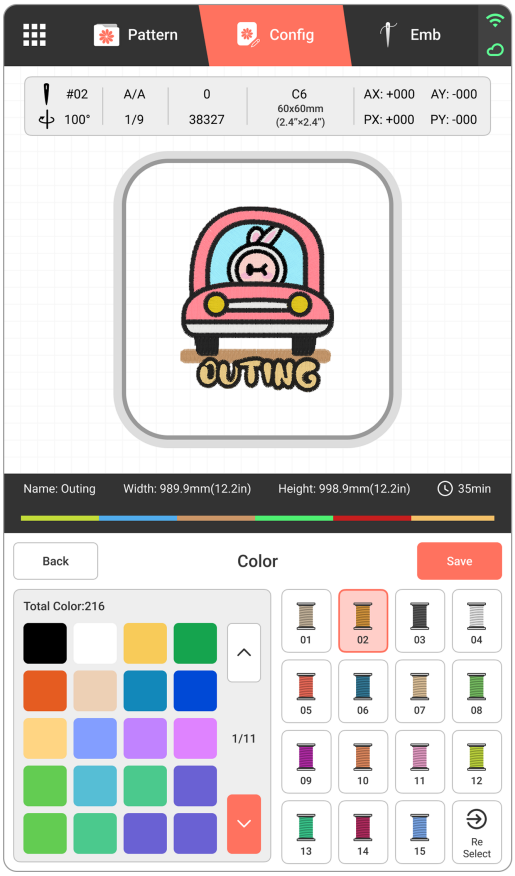


5 Once the adjustments are complete, click the Save button at the top right.

Tips:

This machine supports up to 200 total colors. If the previous color is wrong in the middle of setting, please re-select and set.

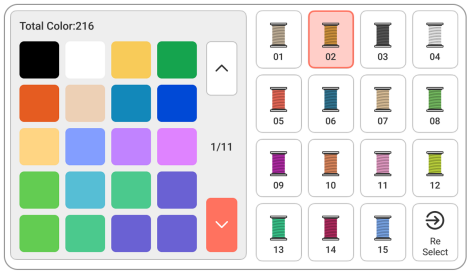
Needle Color Setting



Color settings area

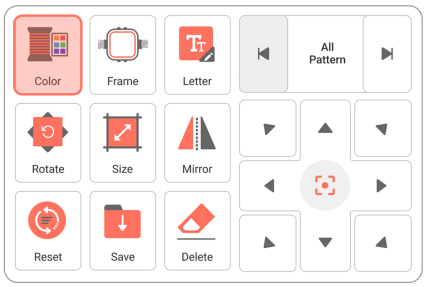
Needle Color Display Area

Description of Functions

Contents	Description
	1. First select the needle number to be set; 2. Click the color block on the left to select the desired color, and click Save. Please refer to the actual color of the embroidery thread corresponding to the needle.

How to Set Needle Colors

1 Click Color in the editing interface



2 Click the needle number you want to configure.

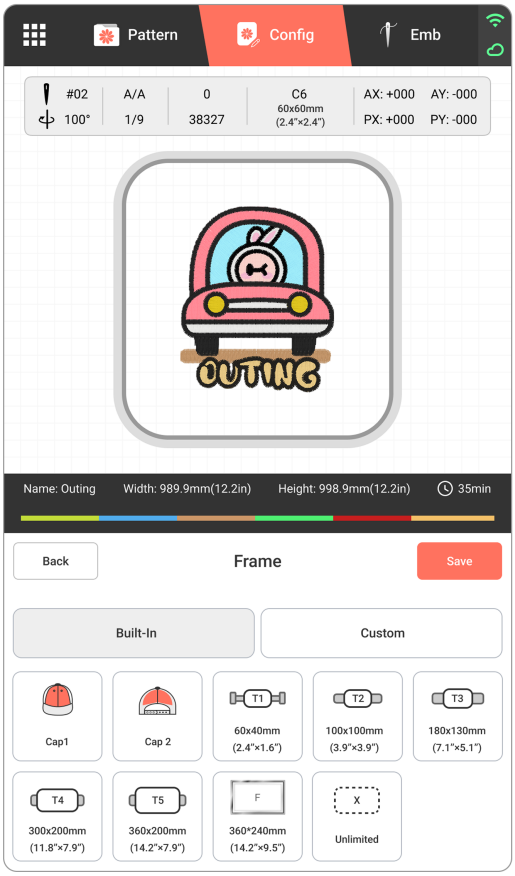


3 Select the desired color from the color swatches.

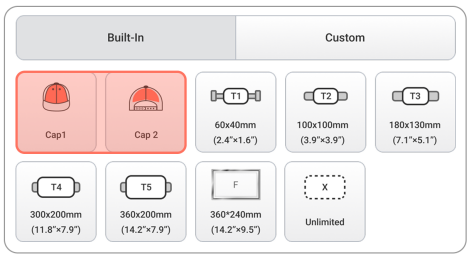


4 Once the adjustments are complete, click the Save button at the top right.

Choose frame (EOM or EOV)



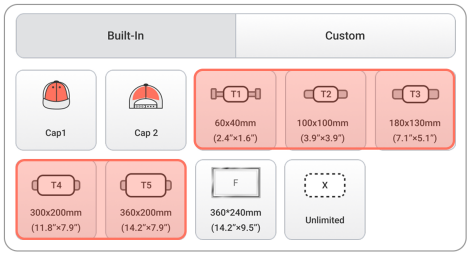
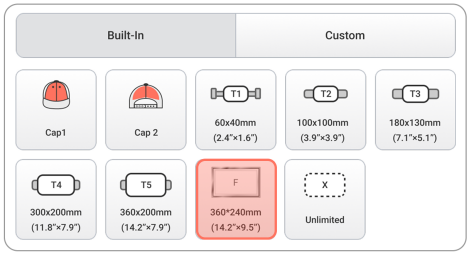
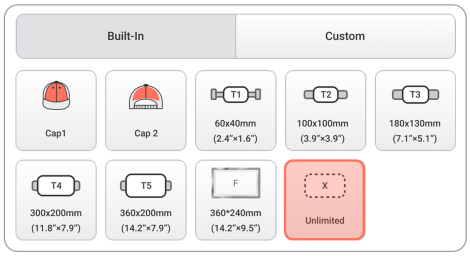
Description of Functions

Contents	Description
	Cap1: For front part of cap Cap2: For side and back part of cap.

Tips:

Must first select the hat frame, and then install the hat driver when embroider cap!

Choose frame (EOM or EOV)

Contents	Description
	T1-T5: Garments hoops · T1: 60*40mm/2.4"* 1.6" · T2: 100*100mm/3.9"* 3.9" · T3: 180*130mm/7.1"* 5.1" · T4: 300*200mm/11.8"* 7.9" · T5: 360*200mm/14.2"* 7.9"
	F: Flat embroidery frame Aluminum material, used with the table board, often used in flat embroidery. · F: 360*240mm/14.2"* 9.5"
	Unlimited: any size. This embroidery frame can be used when frame is not within the selection range of T1-T5. The frame has no boundaries, please use tracking positioning to determine the embroidery position before starting embroidery.

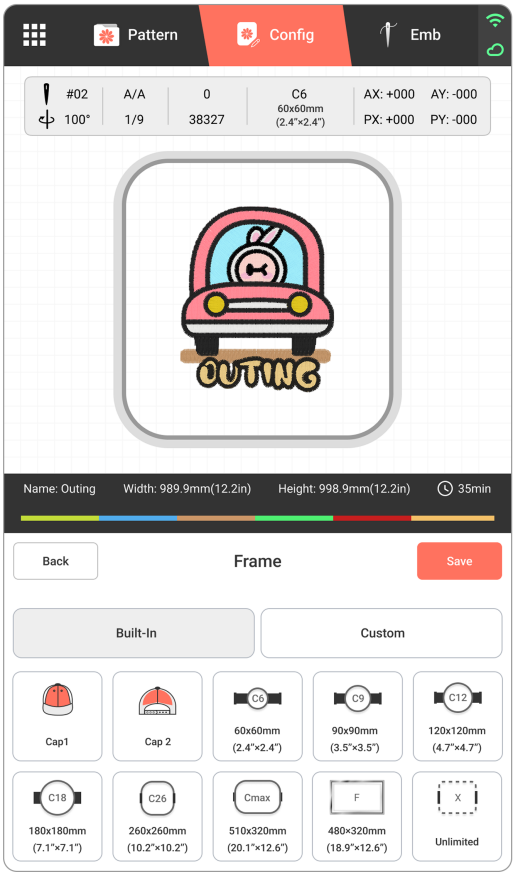
Tips:

Must first select the hat frame, and then install the hat driver when embroider cap!

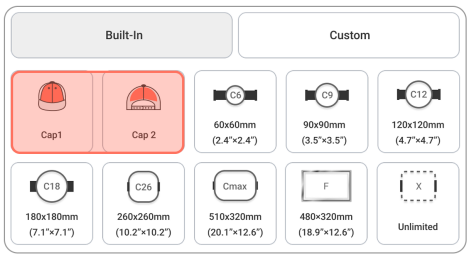
Tips:

Select a suitable embroidery frame according to the size of the pattern, and frame size bigger than actual embroidery size. If the selected embroidery frame is too large, the frame will be too loose and affect embroidery quality. After the cap frame is selected, the currently selected pattern is automatically rotated 180, other frame remain the same.

Choose frame (EOX)



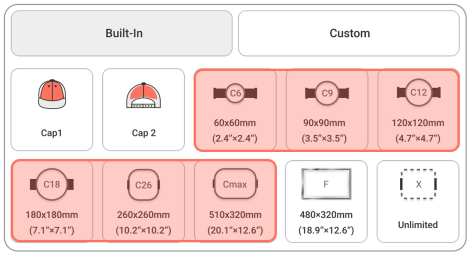
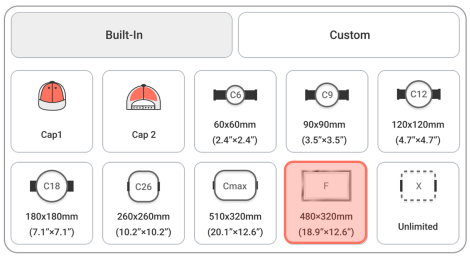
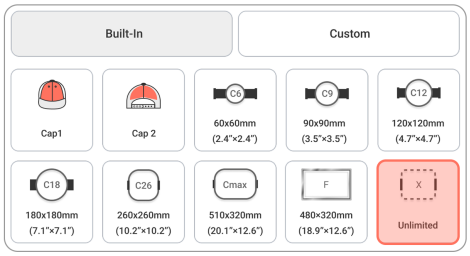
Description of Functions

Contents	Description
	Cap1: For front part of cap Cap2: For side and back part of cap.

Tips:

Must first select the hat frame, and then install the hat driver when embroider cap!

Choose frame (EOX)

Contents	Description
	C1-Cmax: Garments hoops · C6: 60*60mm/2.4"* 2.4" · C9: 90*90mm/3.5"* 3.5" · C12: 120*120mm/4.7"* 4.7" · C18: 180*180mm/7.1"* 7.1" · C26: 260*260mm/10.2"* 10.2" · Cmax: 510*320mm/20.1"* 12.6"
	F: Flat embroidery frame Aluminum material, used with the table board, often used in flat embroidery. · F: 480*320mm/18.9"* 12.6"
	Unlimited: any size. This embroidery frame can be used when frame is not within the selection range of C1-Cmax. The frame has no boundaries, please use tracking positioning to determine the embroidery position before starting embroidery.

Tips:

Must first select the hat frame, and then install the hat driver when embroider cap!

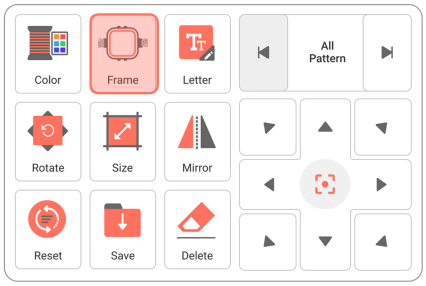
Tips:

Select a suitable embroidery frame according to the size of the pattern, and frame size bigger than actual embroidery size. If the selected embroidery frame is too large, the frame will be too loose and affect embroidery quality. After the cap frame is selected, the currently selected pattern is automatically rotated 180, other frame remain the same.

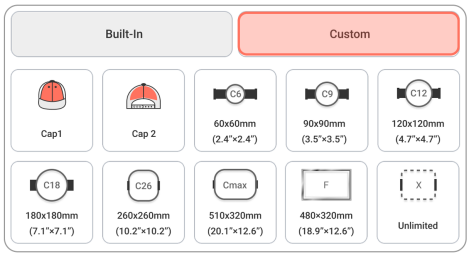
Quickly Add Frames

1 Install hoops in machine

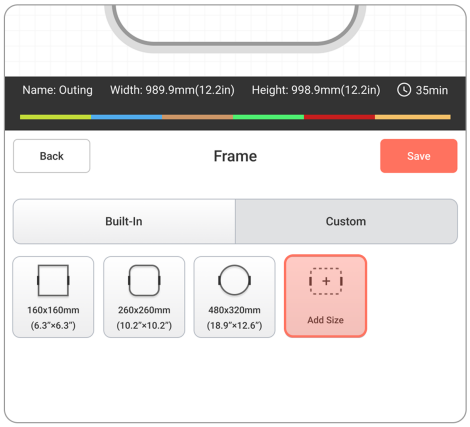
2 Click Frame key



3 Click Custom to switch to the custom hoop page.

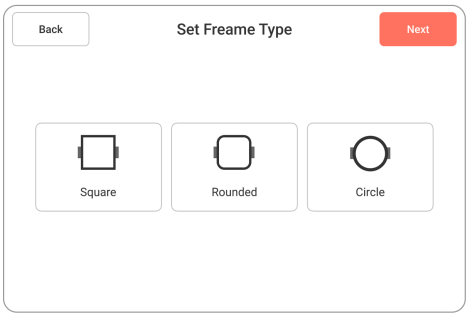


4 Click Add Size



5 Click the type of embroidery frame to be added.

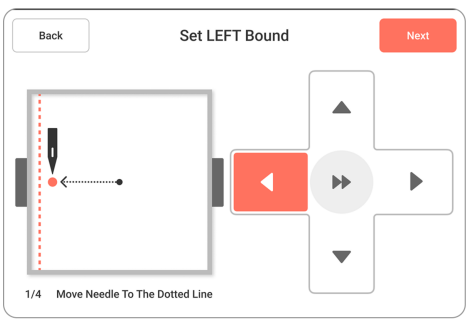
Select according to the actual frame type.



6 After completing the setup, click Next.

7 Find the left edge of frame

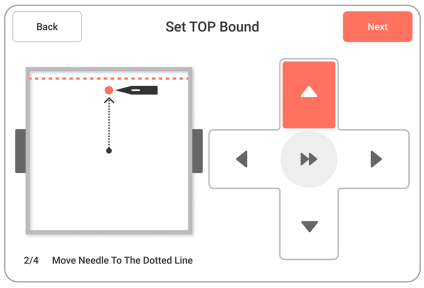
Move the direction key to make the #1 needle close to the left edge. After confirming the left edge, click Next. Please pay attention to the control distance (needle #1 presser foot is far away from the inside of the embroidery frame about 1 cm), can’ t touch the embroidery inside edge.



Quickly Add Frames

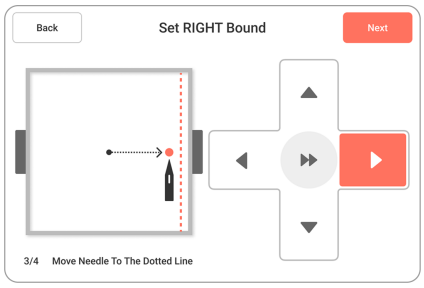
8 **Find the top edge of frame**

Move the direction key to make the #1 needle close to the top edge. After confirming the top edge, click Next. Please pay attention to the control distance (needle #1 presser foot is far away from the inside of the embroidery frame about 1 cm), can’ t touch the embroidery inside edge.



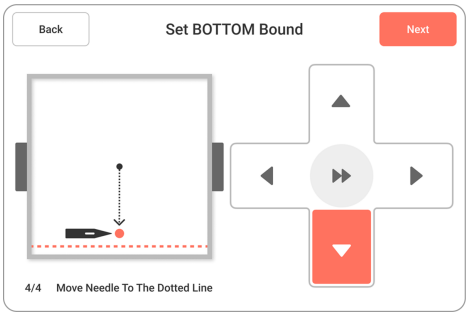
9 **Find the right edge of frame**

Move the direction key to make the #1 needle close to the right edge. After confirming the right edge, click Next. Please pay attention to the control distance (needle #1 presser foot is far away from the inside of the embroidery frame about 1 cm), can’ t touch the embroidery inside edge.



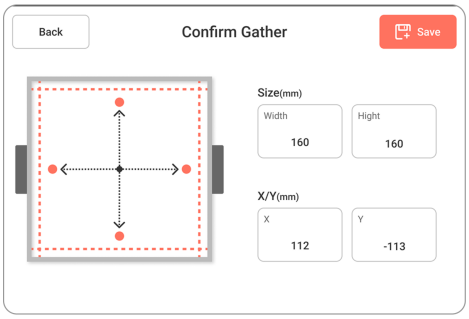
10 **Find the bottom edge of frame**

Move the direction key to make the #1 needle close to the bottom edge. After confirming the bottom edge, click Next. Please pay attention to the control distance (needle #1 presser foot is far away from the inside of the embroidery frame about 1 cm), can’ t touch the embroidery inside edge.



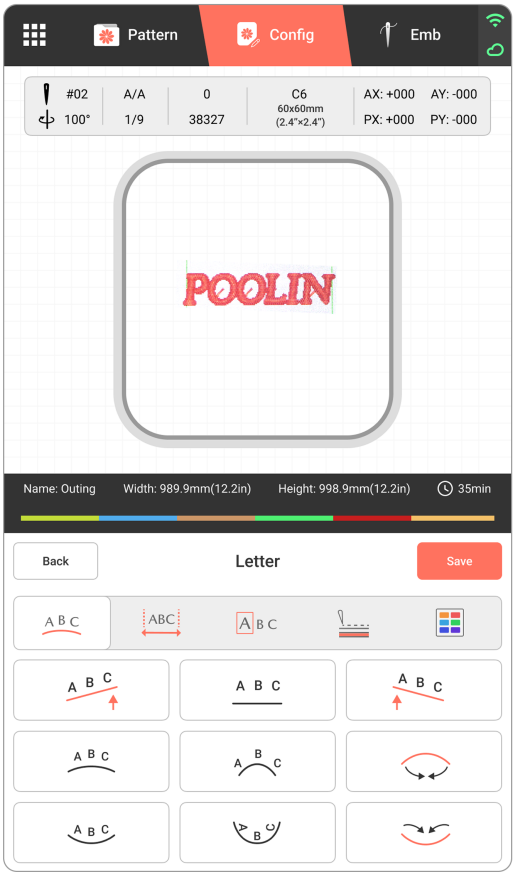
11 **After confirming the information, click the Confirm button.**

If the data collection is wrong, click Close to re-collect.

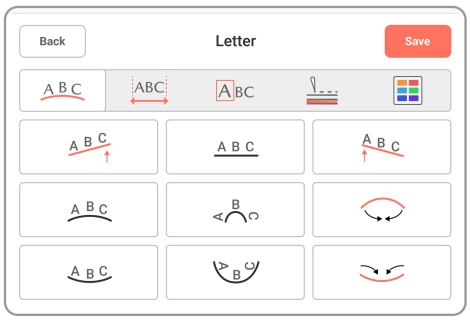


12 **The new frame will be displayed in the list.**

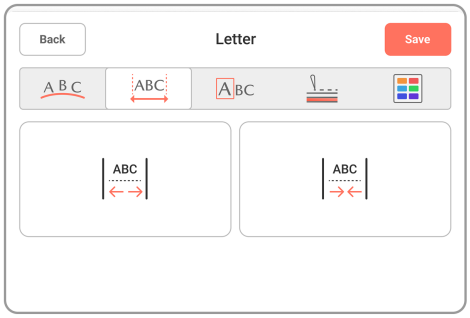
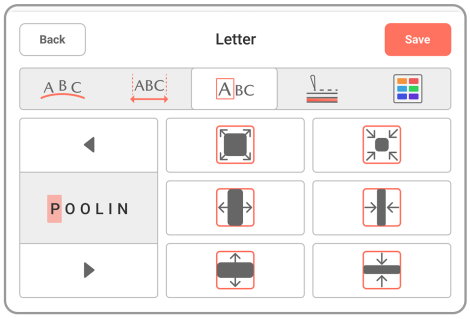
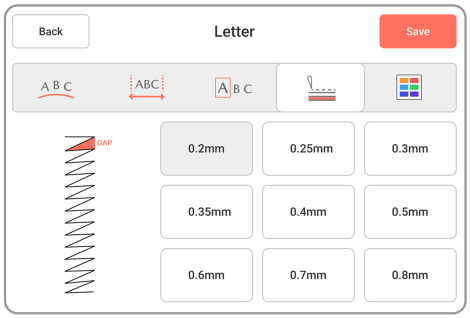
Letter Editing



Description of Functions

Contents	Description
	We offer commonly used text distortion effects to help you quickly create fun and unique styles: Arch Up: Text curves upward like a rainbow Arch Down: Text curves downward, ideal for bottom arcs Italic: Slants the text for a dynamic look.

Letter Editing

Contents	Description
	Adjust the spacing between letters freely
	Select a letter and adjust its size independently.
	Freely adjust the distance between characters (range: 0.2–0.8)Smaller values = tighter spacing; larger values = looser layout.
	Color Mode Switch: Single Color: All letters use one color; Multi-Color: Each letter can use a different color.

Rotate Pattern

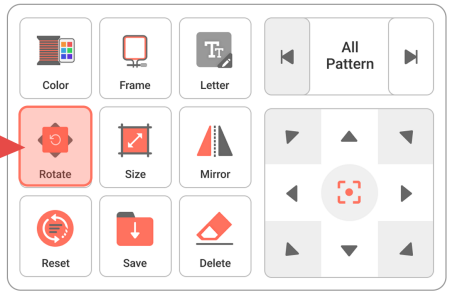
Note: Only edits within the frame range can be saved successfully, please pay attention to the border line of the frame in the preview area.

1 Select a pattern and tap Config

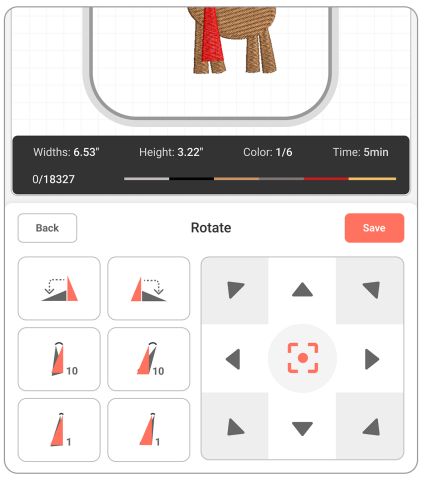


Note: You must select at least one pattern before entering the editing page.

2 Tap Rotate



3 Rotate the pattern




Rotate the pattern counterclockwise 90 degrees


Rotate the pattern clockwise 90 degrees



Rotate the pattern counterclockwise 10 degrees



Rotate the pattern clockwise 10 degrees



Rotate the pattern counterclockwise 1 degree



Rotate the pattern clockwise 1 degree

4 After adjusting, tap Save to apply the changes.

Scale Pattern

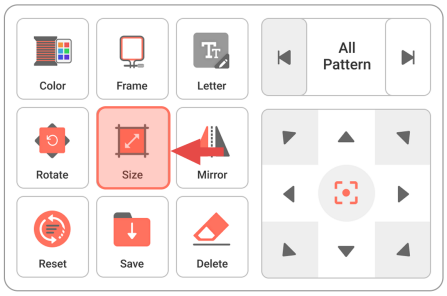
Note: Only edits within the frame range can be saved successfully, please pay attention to the border line of the frame in the preview area.

1 Select a pattern and tap Config

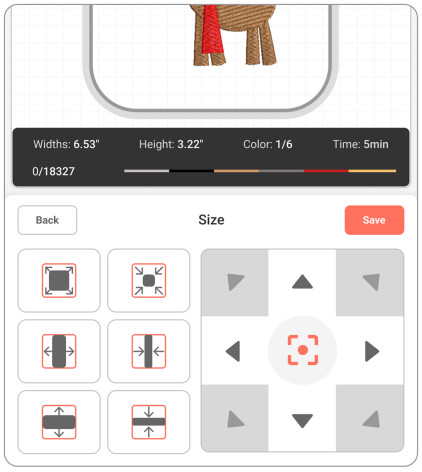


Note: You must select at least one pattern before entering the editing page.

2 Tap Size



3 Adjusting Pattern Size





The pattern is enlarged along the center point.



The pattern shrinks from its center point.



The pattern is enlarged along the X direction.



The pattern shrinks along the X direction.



The pattern is enlarged along the Y direction.



The pattern shrinks along the Y direction.

4 After adjusting, tap Save to apply the changes.

Mirror Pattern

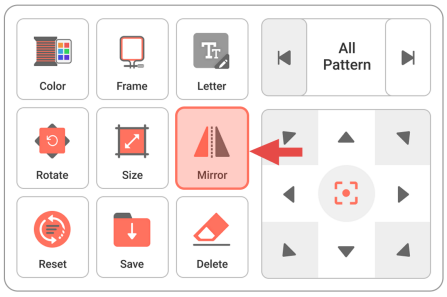
Note: Only edits within the frame range can be saved successfully, please pay attention to the border line of the frame in the preview area.

1 Select a pattern and tap Config

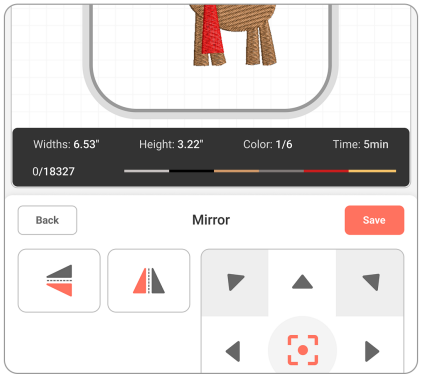


Note: You must select at least one pattern before entering the editing page.

2 Tap Mirror



3 Mirror the pattern





Flip Vertically



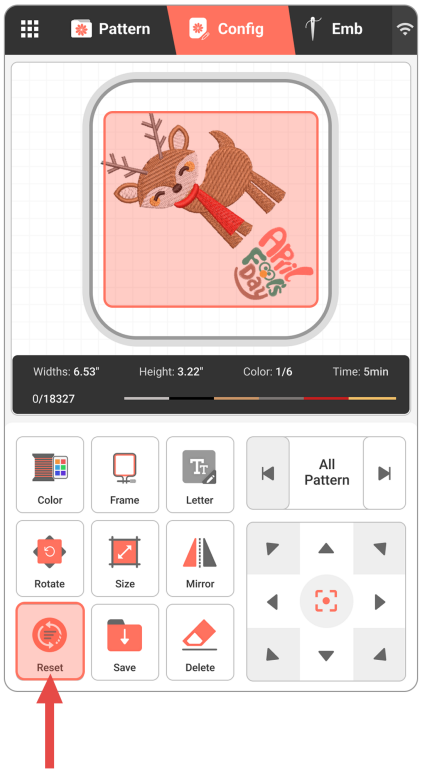
Flip Horizontally

4 After adjusting, tap Save to apply the changes.

Reset Edited Pattern

Note: Only edits within the frame range can be saved successfully, please pay attention to the border line of the frame in the preview area.

1 Click the Reset button



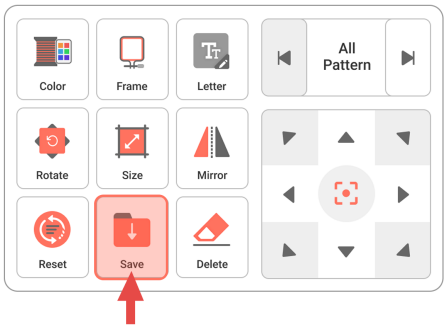
2 The pattern will be restored to its initial state.



Save Edited Pattern

Note: Only edits within the frame range can be saved successfully, please pay attention to the border line of the frame in the preview area.

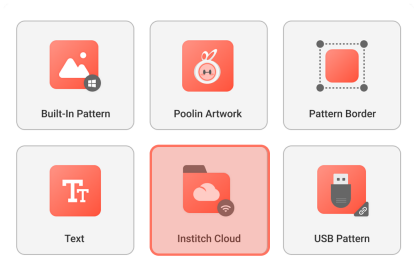
1 Tap the Save button to store the current pattern.



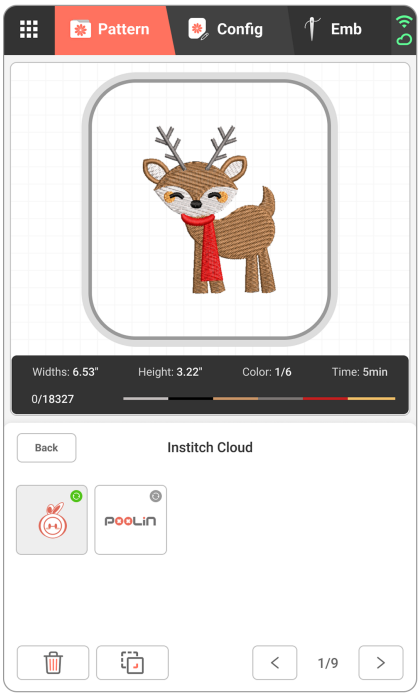
2 Tap the Pattern button



3 Tap the Institch Cloud folder



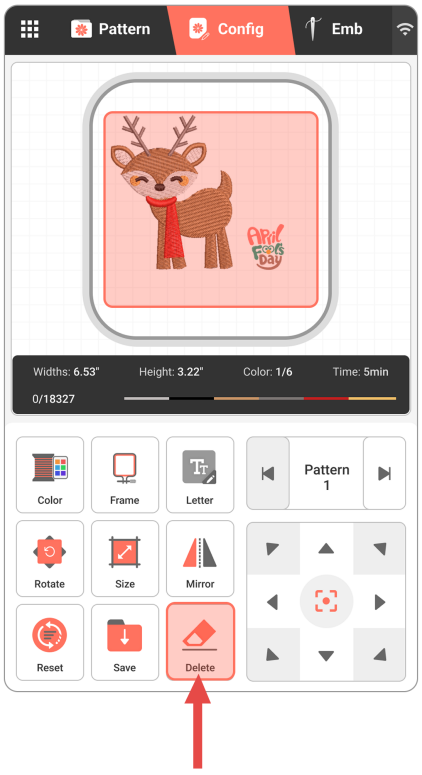
4 Patterns saved to the device will be listed here



Delete Edited Pattern

Note: Only edits within the frame range can be saved successfully, please pay attention to the border line of the frame in the preview area.

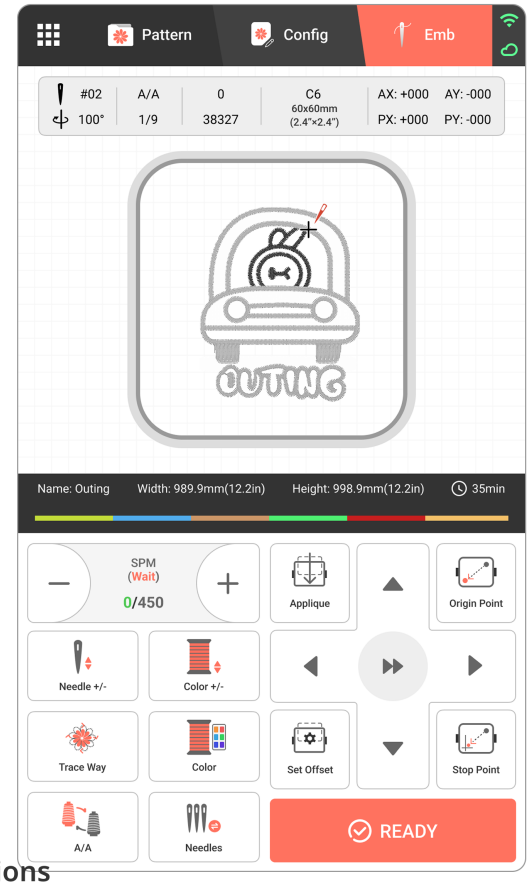
1 Click the Delete button



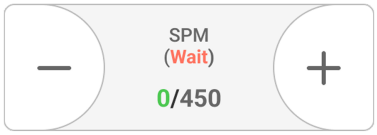
2 The pattern will be deleted



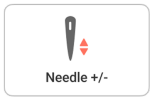
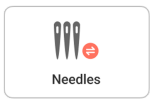
Pattern Embroidery



Description of Functions

Contents	Description
	Real-time and maximum embroidery speed. There are 6 statuses: Waiting, Preparing, Embroidering, Stopped, Thread Break, Complete
	Embroidery speed down or speed up

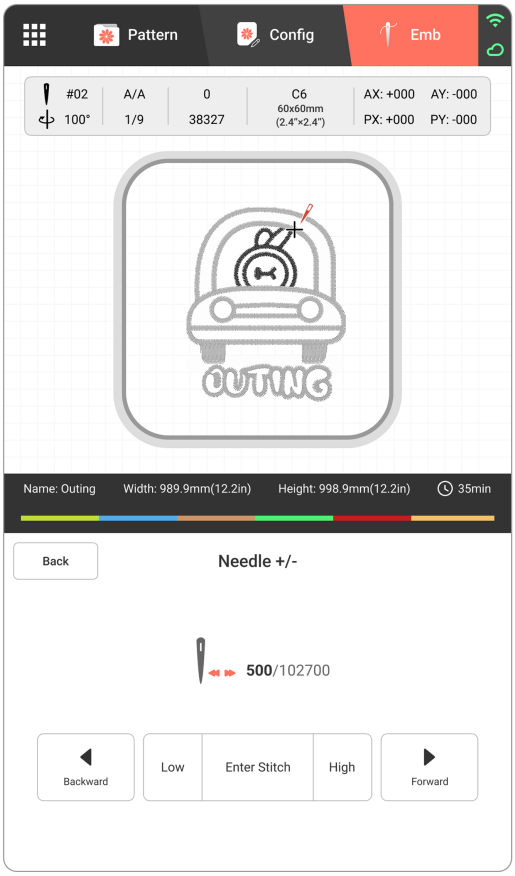
Pattern Embroidery

Contents	Description
	Forward or backward by the number of stitches
	Forward or backward by color
	Embroidery Trace & Positioning
	You can set the pattern colors The functionality is the same as in the embroidery editing page.
	3 color changing modes of embroidery AA: Automatic color change and embroidery start AM: Automatic color change and manual embroidery start MM: Manual color change and embroidery start
	Click the button to manually switch between different needle positions. If “00”, it is “No Needle”. Turn the color change motor knob by hand until screen shows any number but "00".
	Work Mode button (READY or EXIT). Tap to switch modes: READY: indicates the ready state, the selection of pattern must be in ready EXIT: means to enter the working state, only in this state can start embroidery.
	Move Pattern Within Frame Speed Selection Button: Allows switching between high and low-speed movement modes.

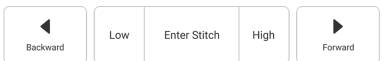
Pattern Embroidery

Contents	Description
	Quick appliqué: Every time you press the key, move alternately between the current position and the offset point. In the stop state, click the button to move the embroidery frame from the stop point to the offset point. After putting appliqué and so on steps, directly start the machine, the frame will return to the stop point, and continue to embroider.
	Set offset point: When make appliqué, press it to set the stop point after going out of the frame; 1. Move the embroidery frame to the specified position; 2. Click the set offset key; 3. Click OK. When no offset point is set, the highest point of the current embroidery frame is automatically defaulted as the offset point.
	Return to stop point: During the embroidery process, when it is necessary to go out of the frame for manual add appliqué or other operations; 1. Pause the machine first; 2. Use the direction keys on the screen to move the position of the frame; 3. When the manual appliqué or other operations are completed, click the key to return to the stop point again, and the embroidery frame will automatically return to the pause position; 4. Click the start key, and the machine will automatically start embroidery from the last stop position. During operation, the embroidery frame and fabric cannot be removed, otherwise the last stop point won’ t be accurate. After power off, please click the recovery key to continue embroidery.
	Return to origin point: Restart embroidery after returning to the origin point. In the state of embroidery, if you click to return to the origin point, the embroidery will over, and return to the starting point, please select as needed.

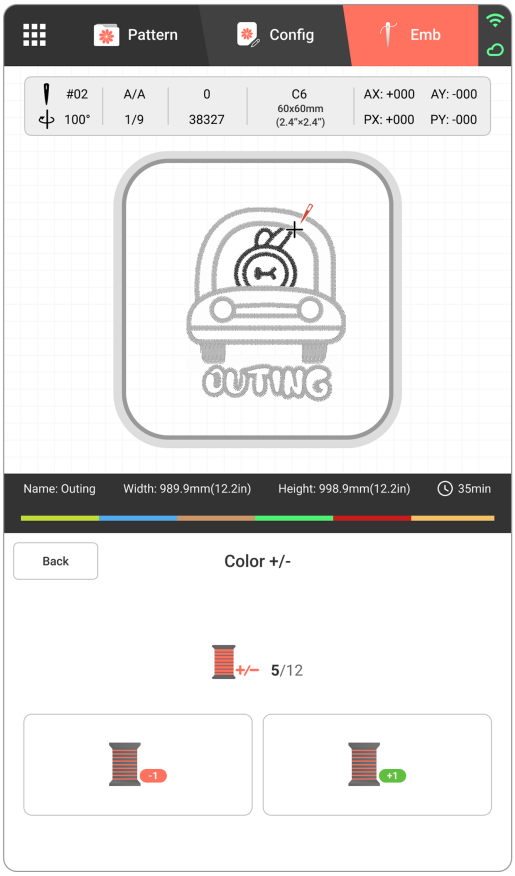
Stitch Forward or Backward



Description of Functions

Contents	Description
	Select low or high speed to move the needle forward or backward. After entering the number of stitches, you can move forward or backward by the specified stitch count.

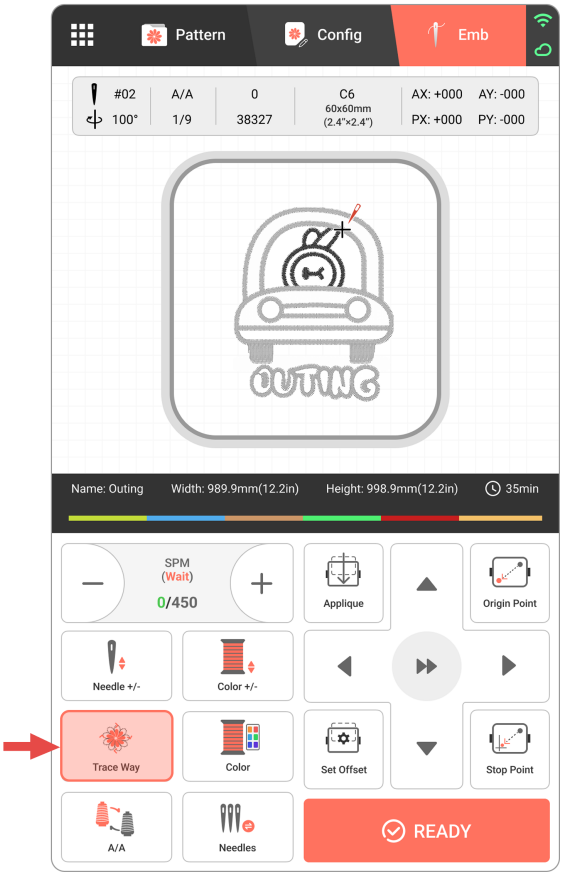
Color Forward or Backward



Description of Functions

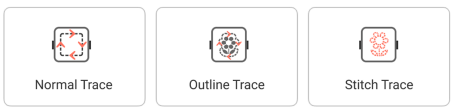
Contents	Description
	Forward color key Press the key, the pattern will go forward 1 color.
	Back color key Press the key, the pattern will go backward 1 color.

Embroidery Trace & Positioning





Description of Functions

Contents	Description
	Before embroidery, it is used to confirm the embroidery position of the pattern. The pattern cannot exceed the embroidery frame Used with laser positioning, if there is no such device, you can observe the contour area that needle No 1 walks through.

Embroidery Trace & Positioning

Contents	Description
 Normal Trace	Normal trace: Fast tracking along the largest edge of the pattern.
 Outline Trace	Outline trace: Stitch tracking on the actual edge of the pattern. Normal trace first, then outline trace
 Stitch Trace	Stitch trace embroidery mode When entering the stitch embroidery mode, normal trace must be performed first to avoid frame collision.

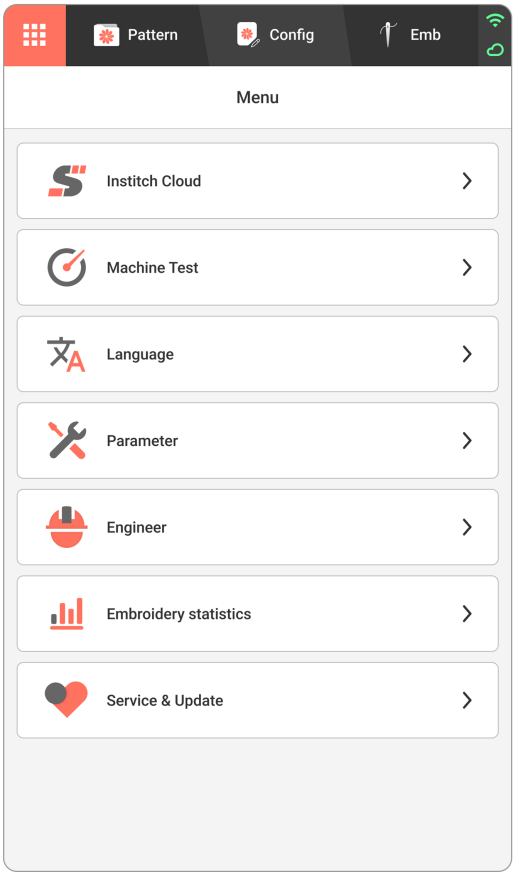
⚠ Tips:

Before embroidery, be sure to track and position to avoid frame collision during embroidery!

⚠ Tips:

When no laser positioning device, it is forbidden to press the #1 needle by finger for tracking, so as to avoid collision on frame personal injury and machine damage!

Main Settings



Description of Functions

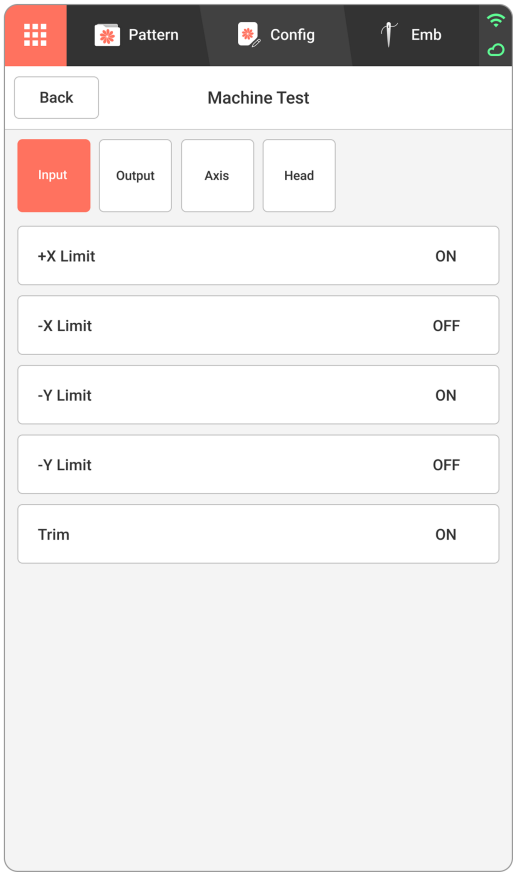
Contents	Description
	Wi-Fi and Institch Connection Settings
	Test: Used to test whether the sensors, motors, and control boards of the machine are functioning normally.
	Language: Set the machine language

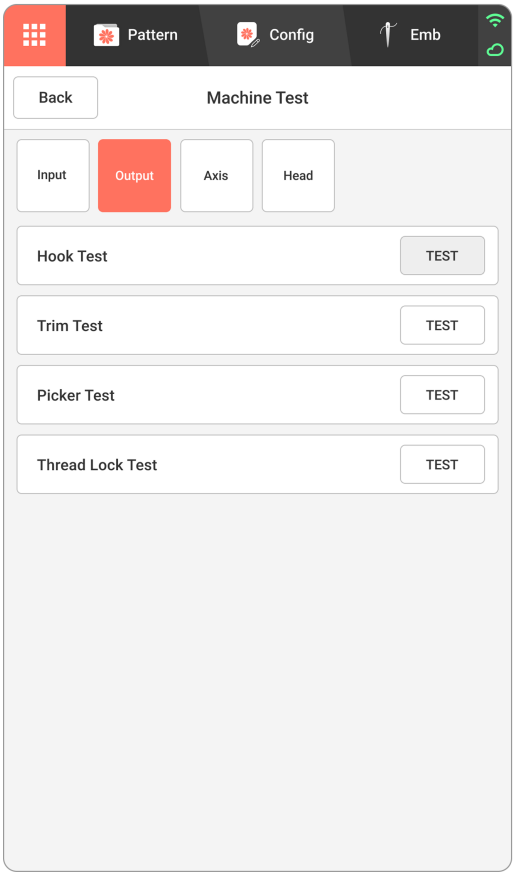
Main Settings

Description of Functions

Contents	Description
	Machine parameters: Used to set machine thread trimming, thread breaking, speed, embroidery frame and other related parameters.
	Engineer parameters: Used under the guidance of professional technicians, please do not modify it without authorization, prevent machine malfunction.
	Statistics: Used to view working statistics and clear statistics operations.
	Service & Upgrade – access maintenance services and system updates

Test

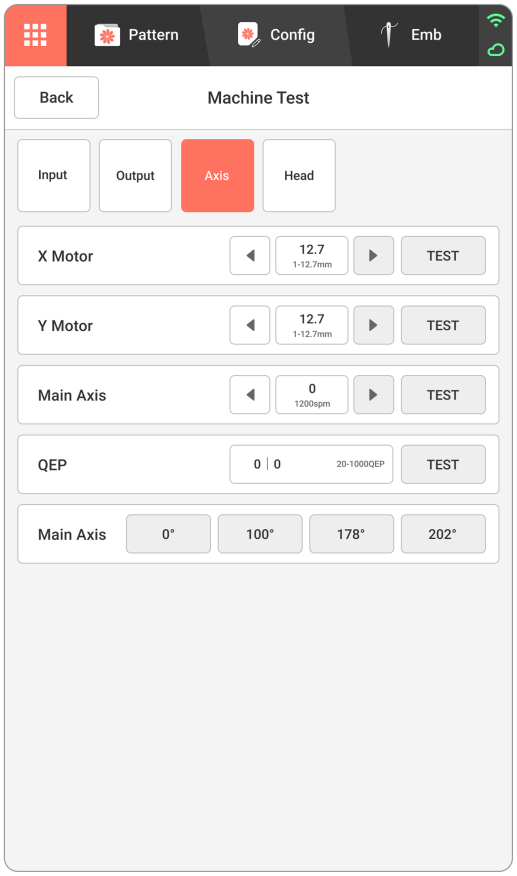


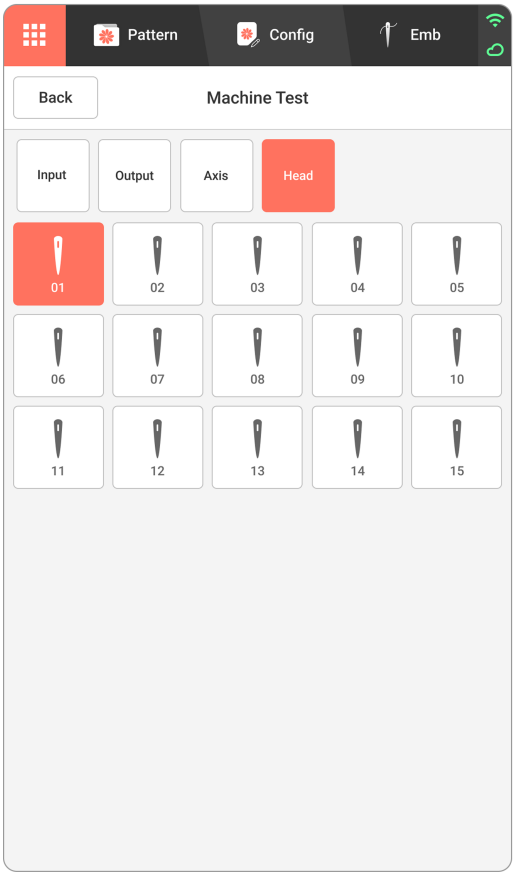


Description of Functions

Contents	Description
Input	Input signal test. Checks the X-axis, Y-axis, and trimming sensor signals.
Output	Output signal test Click test to test whether the thread hooking, trimming, picking, and upper thread clamping are normal.

Test

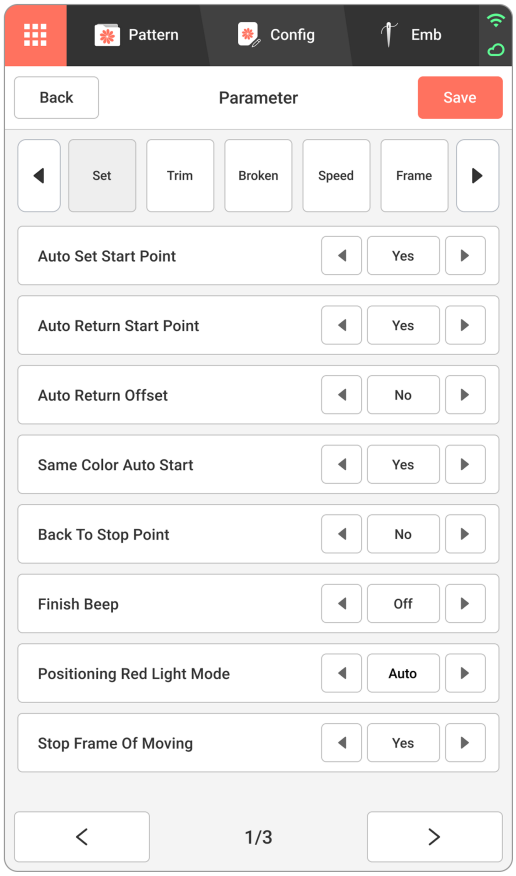


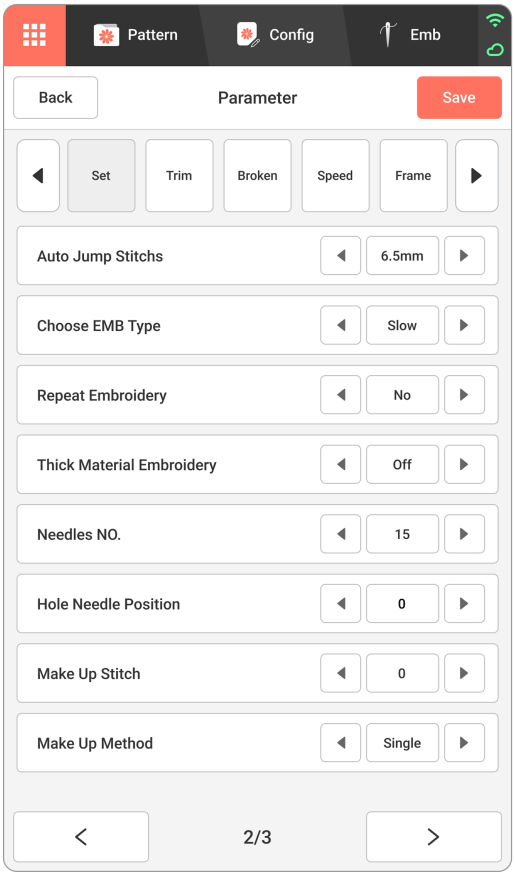


Description of Functions

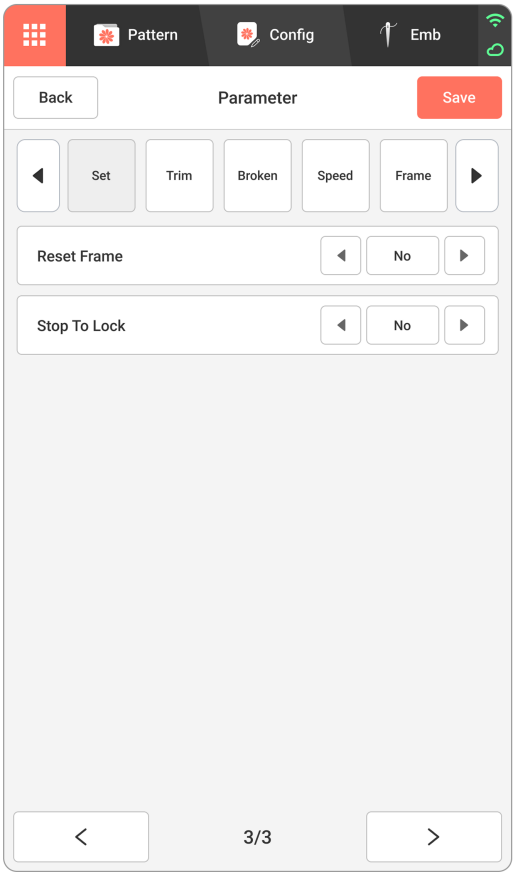
Contents	Description
Axis	Axis test: Test whether the X-axis motor, Y-axis motor, main axis motor, and zero optocoupler are normal. Main axis 0 degrees: Click to enter a custom angle Main axis 100 degrees: Click the main axis to turn to 100 degrees Main axis 178 degrees: Click the main axis to turn to 178 degrees Main axis 202 degrees: Click the main axis to turn to 202 degrees.
Head	Head test Used to detect whether the thread breakage detection optocoupler is normal.

Machine setting





Machine Settings



Description of Functions

Parameter Name	Parameter Description	Defaults
Auto Set Start Point	When set pattern beginning to end continuous embroidery: If set yes, pattern will embroidery from former stop point. If set no, pattern will embroidery from the whole origin point.	Yes
Auto Set Start Point	Whether return to start point after finished: If set yes, it will return to start point after finish. If set no, it will stop at the last one stitch point after finish.	Yes

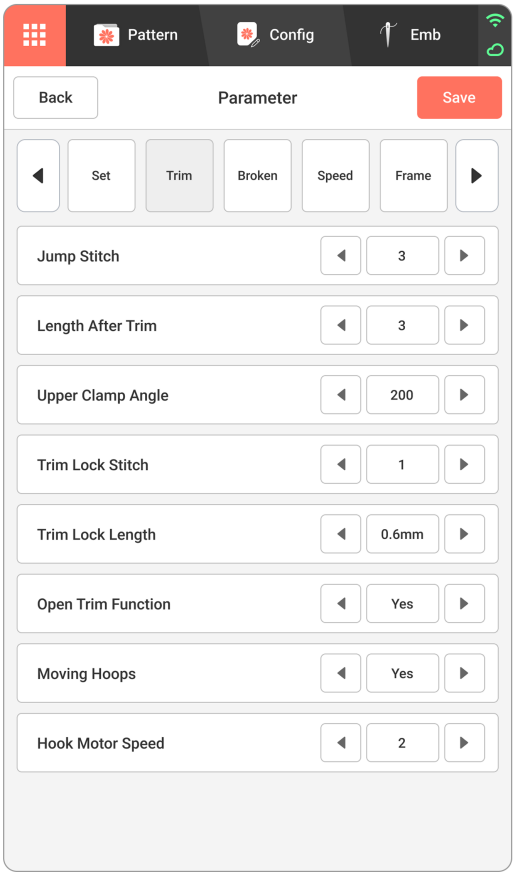
Machine Settings

Parameter Name	Parameter Description	Defaults
Auto Return Offset	Whether the frame automatically shift to the top of the frame after the embroidery is finished, (The parameters of the embroidery frame must correspond to the size of the embroidery frame).	No
Same Color Auto Start	Whether to auto start 2 adjacent same color If set yes, adjacent 2 same color will start automatically. If set no, 2 adjacent same color, after first one finished, machine will stop, need to start second color manually.	Yes
Back to Stop Point	Whether return to stop point when frame move halfway If it is set to "Yes", it will. If it is set to "No", it will not.	No
Finish Beep	Whether to turn on the beep after embroidery is completed. If set to "Yes", there will be a beep. If set to "No", there will be no beep.	Yes
Positioning Red Light Mode	The red light positioning mode is turned on during tracing. If set to "Auto", the red light positioning will be turned on automatically when tracking and the red light positioning is off for other operations. If set to “Constant Light”, the red light will always be on after power on. If it is set to “OFF”, the red light positioning will be turn off under any operation.	Auto
Stop Frame of Moving	Whether to pull the key to stop when crossing the frame. If set to "Yes", click key will stop. If it is set to "No", click key will not stop.	Yes
Auto Jump Stitches	When long-step embroidery is jumping, when the stitch step length exceeds a certain value, it will be automatically divided into two or more stitches for embroidery.	6.5mm
Choose Emb Type	Which method to use for long-step stitch embroidery The default setting is “Slow” except for embroidered hats. Set to “Jump” when embroider caps.	Slow

Machine Settings

Parameter Name	Parameter Description	Defaults
Repeat Embroidery	Whether to repeat embroidery automatically after the pattern is completed. If set to "Yes", the embroidery will be repeated. If Set to "No", the machine will stop.	No
Thick Material Embroidery	Whether to choose embroidery thick material If set to "Yes", the embroidery speed will be reduced. If it is set to "No", the embroidery speed will not be reduced.	No
needles NO	The number of needle currently used by the embroidery machine, If the current machine uses 15 needles, set the parameter to "15"	15
Hole needle position	The Hole Needle Position is the needle number used when eyelet embroidery, and you need to set this value to the corresponding needle position. This needle position does have thread breakage detection during embroidery. When hole needle embroidery is not required, set to “0".	0
Make up stitch	How many stitches set in advance when make up is almost finished, ask the rest of the non-make up machine heads embroider together.	0
Make up method	When embroidering, whether all-head or single-head make up. If set to “All Heads”, all heads will stitch during make up. If set to “single head”, only the thread-broken machine head will stitch for making up.	Single
Reset frame	Whether to find the absolute origin of the embroidery frame when power on. If set to "Yes", every time the power on, the embroidery frame will be reset, and the frame will automatically return to the stop position before power off. If set to "No", it will not return to the stop position before power off when the power on.	No
Stop to lock	Whether to lock the axis in stop state If set to "Yes", the main axis will not be locked in stop state. If set to "No", the, main axis will be locked in stop state.	No

Trimming Settings



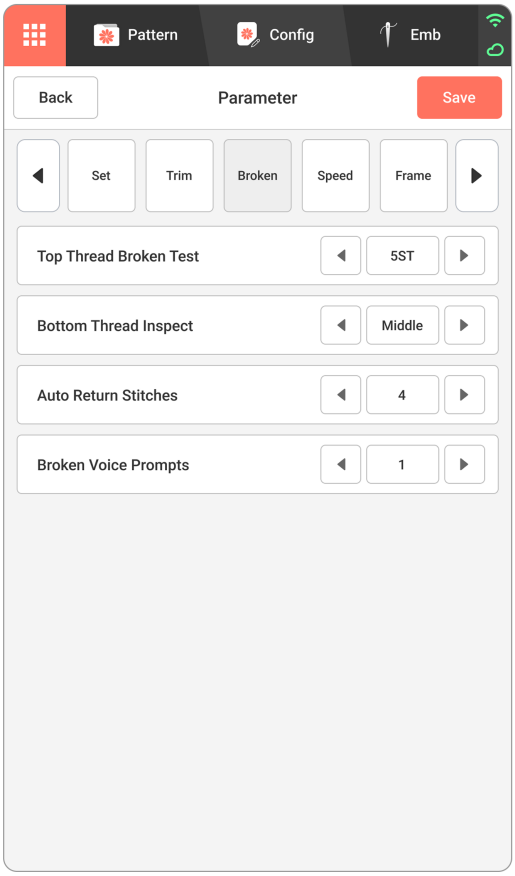
Description of Functions

Parameter Name	Parameter Description	Defaults
Jump Stitch	Amount of jump stitches start trimming or no trimming, the larger the value is, the thread trimming less frequent.	3
Length After Trim	The remaining length of upper thread after thread trimming, the larger the number, the longer the remaining thread.	3

Trimming Settings

Parameter Name	Parameter Description	Defaults
Upper Clamp Angle	The angle at which the upper thread clamp opens after it is closed again after startup. The larger the value, the later the angle at which the upper thread clamp closes and opens.	200
Trim Lock Stitch	How many stitches are locked during thread trimming and starting to prevent the thread from falling off after thread trimming, value. The larger the value, the more trim lock stitches during thread trimming and starting.	1
Trim Lock Length	When embroidering thin materials, the length of the lock stitch should be large, and when embroidering thick materials, it should be appropriately reduced.	0.6mm
Open Trim Function	Whether to Open Trim Function When set to "Yes", the machine uses the thread trimming function. When set to "No", the machine does not use the thread trimming function.	Yes
Moving Hoops	Whether to move hoops after thread trimming If set to "Yes", the embroidery frame will move when thread trimming. If set to "No", the embroidery frame will not move when thread trimming.	Yes
Hook Motor Speed	The speed when using the hook motor the larger the value, the faster the speed.	2

Thread Breakage Settings



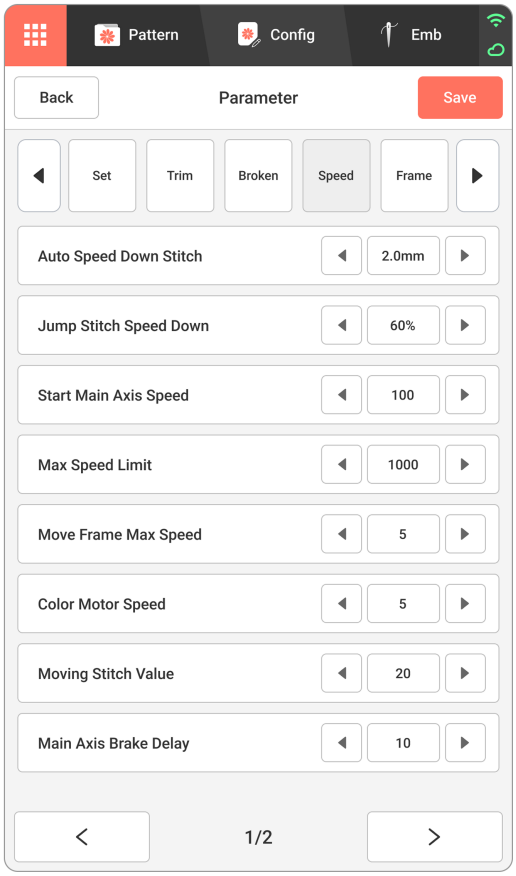
Description of Functions

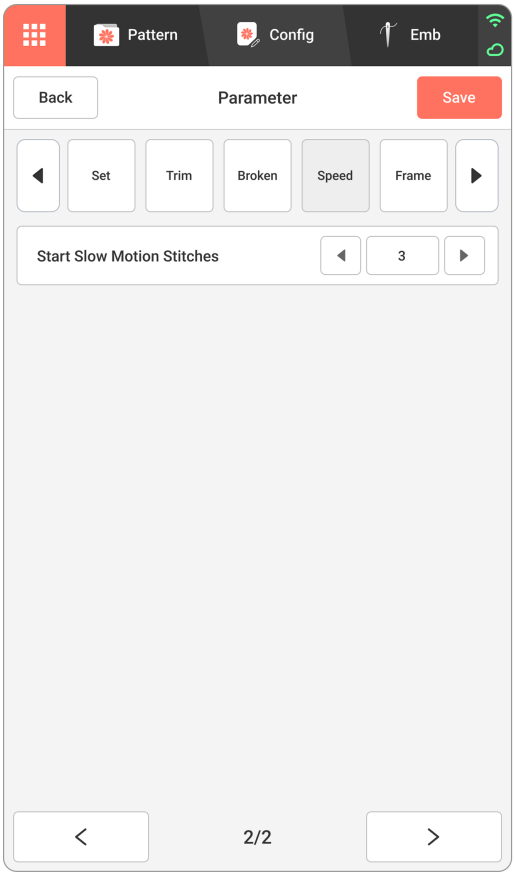
Parameter Name	Parameter Description	Defaults
Upper Thread Break Test	Upper thread breakage detection sensitivity The larger the value set, the lower the detection sensitivity. If set to "no detection", it will not alarm and stop after thread breakage.	5st

Thread Breakage Settings

Parameter Name	Parameter Description	Defaults
Bottom Thread Inspect	Bottom thread broken detection sensitivity When set to "High", the detection sensitivity is high. When set to Medium, the detection sensitivity is medium. When set to "no detection", it will not alarm and stop after thread breakage.	Middle
Auto Return Stitches	Automatic turn stitches after thread breakage, based on detection The larger the value, the more stitches will be automatically returned.	4
Broken Voice Prompts	How often is the prompt after thread breakage The smaller the value is, the shorter the thread breakage beep interval will be. If set to "OFF", there will be no prompt sound after thread breakage.	1

Speed Settings





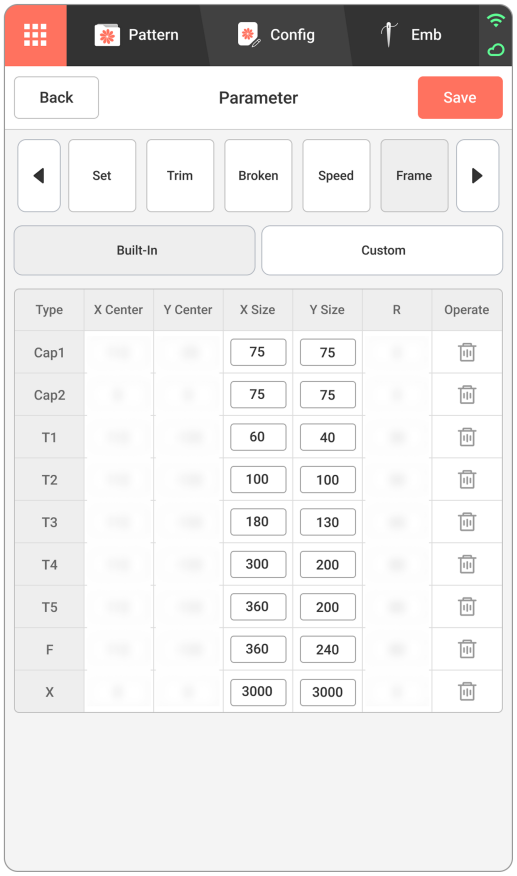
Description of Functions

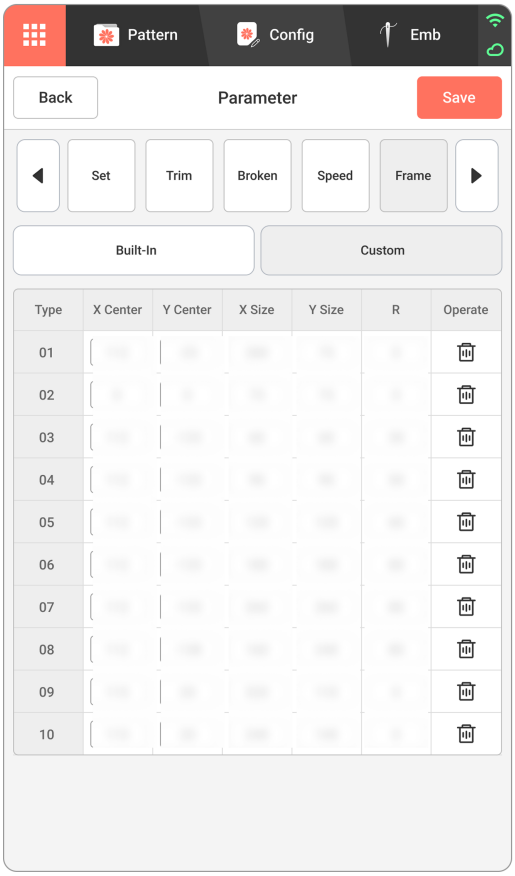
Parameter Name	Parameter Description	Defaults
Auto Speed Down Stitch	Auto Speed Down embroidery after specified stitches number Set to 20mmthe embroidery will start to slow down when the stitch step exceeds 2mm	2.0mm

Speed Settings

Parameter Name	Parameter Description	Defaults
Jump Stitch Speed Down	Slow down to the specific percentage of current speed when jump stitches continuously. Set the percentage of Jump Stitch Speed Down.	60%
Start Main Axis Speed	Speed of main axis at start and stop The more speed set, the longer trimming length.	100
Main Axis Max Speed	Maximum speed setting of main axis (limited by mechanical parameters). Set the maximum speed for embroidery	1000
Move Frame Max Speed	Set the high speed for frame moving. The larger the value, the faster the speed.	5
Color Motor Speed	The speed of color change motor The larger the value, the faster the speed.	5
Moving Stitch Value	Needle step change speed adjustment within how many consecutive stitches Speed of stitch changing in continuous stitches. The larger the value, the slower the speed change.	20
Main Axis Brake Delay	The time required for the main axis to stop. The larger the value, the later the angle of the stop position.	10
Start Slow Motion Stitches	When embroidery starts, move slowly for a few stitches and the main axis starts to speed up. The larger the value, the later main axis will accelerate.	3

Frame Settings





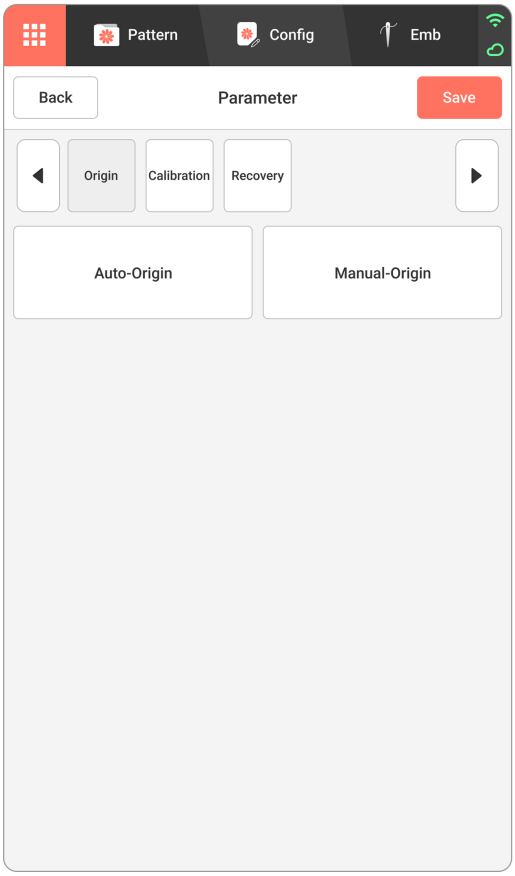
Description

After confirming the size of the embroidery frame and the coordinates of the center position, set the embroidery frame.

It is not recommended to adjust Xcenter and Ycenter coordinates easily.

For square corners, set R to 0. Frames of the same type use the same Xcenter and Ycenter coordinates, but different Xsize and Ysize values. For safety, set Xsize and Ysize 30 mm smaller than the actual frame.

Find the Origin



Description

The absolute origin is to use the frame limit to detect the absolute position of the embroidery frame, so as to ensure that after an unexpected situation occurs in the middle of embroidery, the power-off recovery embroidery can be used to carry out accurate continuous embroidery.

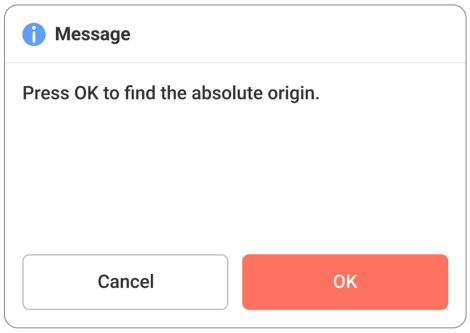
How to Find the Origin



Find the origin point automatically

1 Click Auto-Origin

2 Tap OK



3 The embroidery frame automatically finds the absolute position according to the position of the limit photocoupler.

This operation is mainly used to manually set the frame parameters.

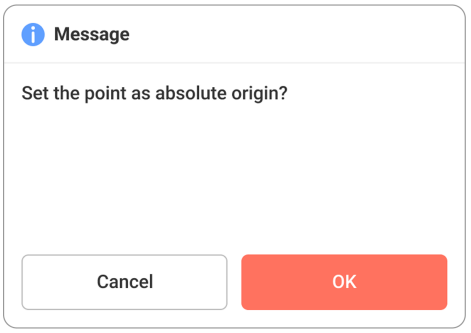


Find the origin point manually

1 Move the embroidery frame to the desired position.

2 Tap Manual Origin

3 Tap OK

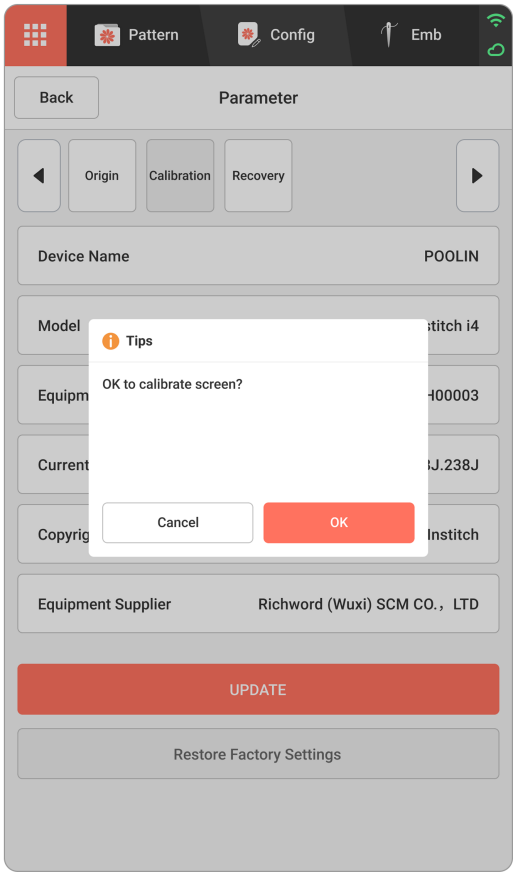


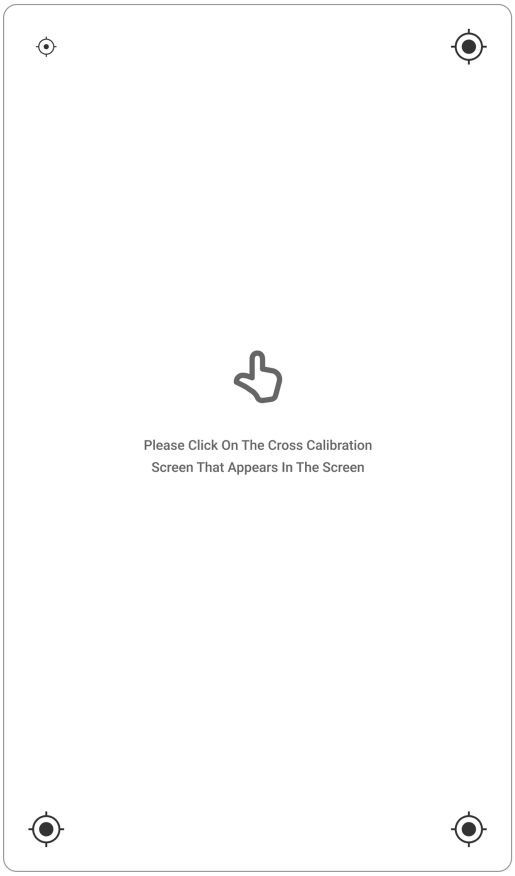
4 Set the current point as the absolute origin.

The PX and PY coordinates become 0,0.



Screen Calibration

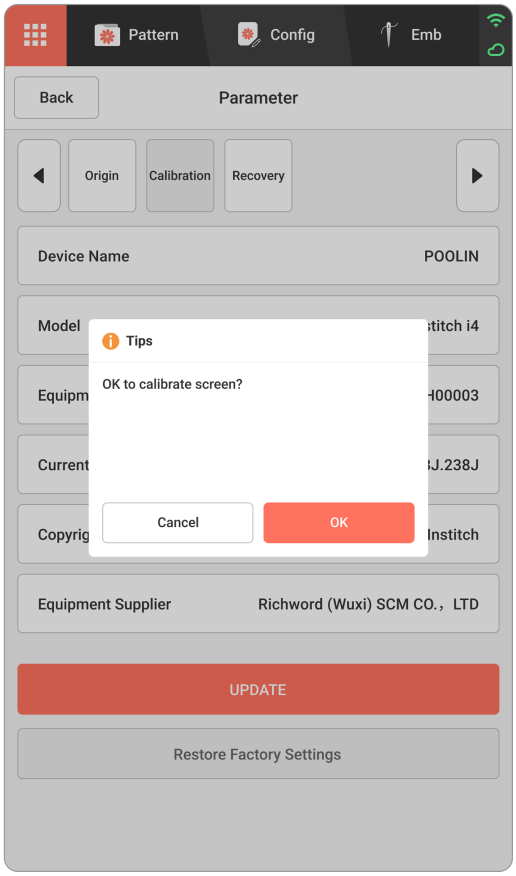


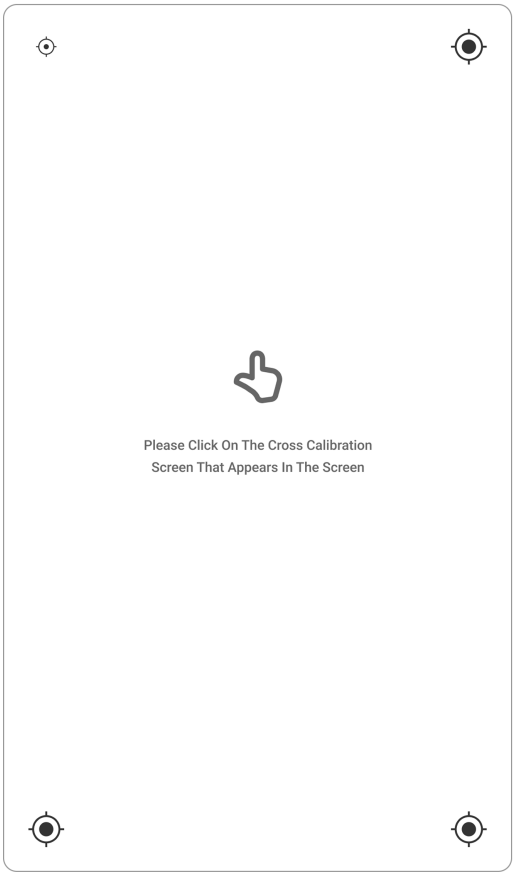


Description

After the touch screen is used for a period of time, data drift may occur, resulting in inaccurate key clicks, which can be solved by calibrating the touch screen. When calibrating the touch screen, the clicked position on the screen must be exactly the same as the center of the displayed cross, otherwise it will affect the touch screen operation in the future.

Power-Off Recovery





Description

After a sudden power-off in the middle of embroidery, it can automatically return to last stitch and continue embroidery, without worrying about pattern misalignment. Even if the embroidery frame is manually moved after power failure, it can still return to the stop point and continue embroidery.

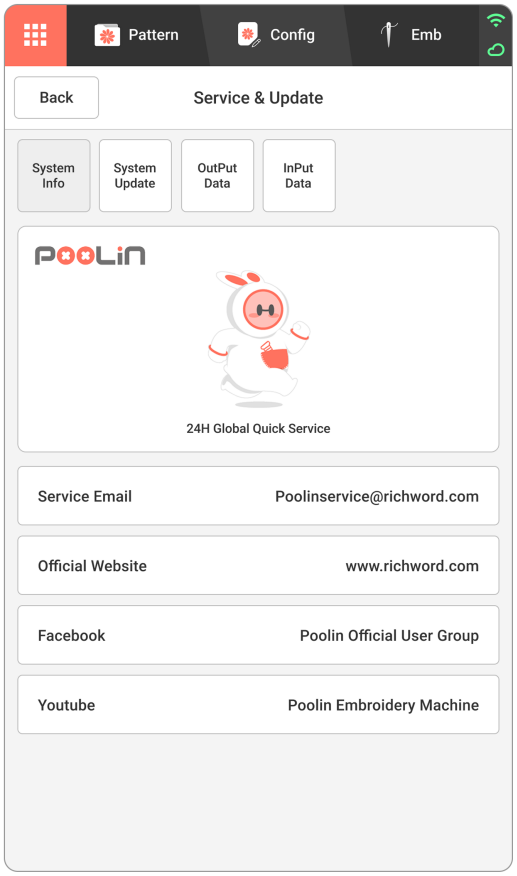
Statistics

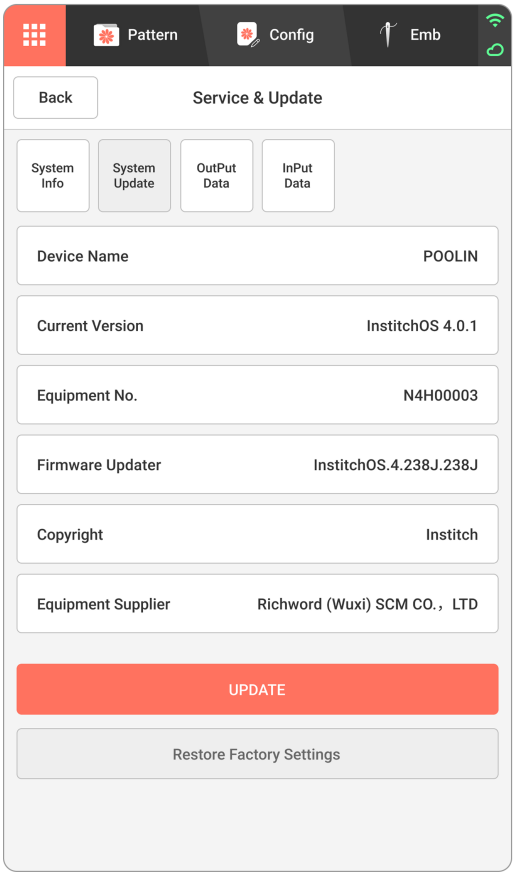


Description

Items in the list can be cleared by clicking the Delete button. The total data cannot be deleted or changed, and normal test data displayed after the new machine is received.

Service & Upgrade





Description of Functions

Contents	Description
System Info	Check the machine name, system version number and other information.
System Update	Upgrade the new version of the system
Export Data	Control-system parameters can be backed up to a USB drive.
Import Data	Import backed-up parameters from a USB drive

Service & Upgrade

System Update	Steps
	1. Input the upgrade package to the root directory of the USB disk; 2. Insert the USB; 3. Click system update; 4. Click update; 5. Wait for the upgrade to complete and restart automatically.

Export Data	Steps
	1. Insert the USB; 2. Click output data; 3. Click OK; 4. Wait for the parameters outputted to USB.

Import Data	Steps
	1. Insert the USB; 2. Click input data; 3. Click OK; 4. Wait for the parameters to be inputted into the machine.

Common Issues and Solutions

Information of Failures	Reasons of Failures	Solutions
Connection Timeout	Operation head and the multi-function board signal line connect failure.	Check the connection cables
	The multi-function board and operation head match failure.	Replace the multi-function board
	Multi-function board damaged	Replace the multi-function board
No Response	The touch screen plug connect failure	Reconnect the touch screen plug
	Touch screen damaged	Replace touch screen
Misalignment	Touch screen failure	Replace touch screen
	Touch screen damaged	Replace touch screen
Main axis not in 100°	Main axis stop not at 100°	Click or rotate hand wheel to 100°
Main shaft does not turn	Servo controller parameter setting error	Check the signal line or power cable of the spindle driver.
	The zero signal plate is damp	Check the spindle motor input power
	The zero signal plate damaged	Replace driver or motor
Replace driver or motor	Check whether thick-material mode is enabled.	Reset the parameters of the servo controller
	Whether the spindle locked while in stop state	Clean the oil and dust on the surface of the zero signal plate.
	Enable red-light positioning mode	Replace the zero signal plate
No 0°	Zero signal plate damaged	Replace the zero signal plate
	Zero signal plate and multi-function board connect failure	Check or replace the connection line
Color Change Timeout	Color-change motor does not turn	Check the color change motor or connection line.
	Color changing mechanical parts stuck	Repair or replace stuck mechanical parts
	The color change motor and the power board connect failure.	Check or replace the connection line
No needle	Position of the needle detection potentiometer error	Adjust the position of the needle detection potentiometer.
	Potentiometer damaged	Replace potentiometer
	Potentiometer and multi-function board connect failure	Check or replace the connection line

Common Issues and Solutions

Information of Failures	Reasons of Failures	Solutions
X Motor Driver Error	X motor driver over-voltage or over-current protection	Check X motor driver and re-power on.
	Driver damaged	Replace driver
Y Motor Driver Error	Y-axis motor driver overvoltage or overcurrent protection	Check Y motor driver and re-power on.
	Driver damaged	Replace driver
Trimmer Motor Stuck	Proximity switch not in place	Manually adjust the thread trimming switch in place
	Proximity switch damaged	Replace proximity switch
Trimming Motor Not Rotating	Motor plug or lines connect failure	Check the plug or lines and re-plug in.
	Multi-function board damaged	Replace the multi-function board
	Motor damaged	Replace motor
Hook Motor Stuck	Motor plug or lines connect failure	Check the plug or lines and re-plug in.
	Multi-function board damaged	Replace the multi-function board
	Motor damaged	Replace motor
Broken Thread Detection Error	Optocoupler board installation error	Reinstall the optocoupler board
	Optocoupler board damaged	Replace the optocoupler board
	Connect lines or plug failure between optocoupler board and the multi-function board.	Check the lines and re-plug in.
	Multi-function board damaged	Replace the multi-function board
	Incorrect upper- or bobbin-thread break detection settings	Adjust to correct embroidery parameters
+X Limit Error	+X limit	Manually move the embroidery frame in the opposite direction
-X Limit Error	-X limit	Manually move the embroidery frame in the opposite direction
+Y Limit Error	+Y limit	Manually move the embroidery frame in the opposite direction
-Y Limit Error	-Y limit	Manually move the embroidery frame in the opposite direction

Create More.Grow More.

whatsApp

Facebook

YouTube