ENGLISH

PS-910 Panel operation
INSTRUCTION MANUAL

CONTENTS

Chapter I Introduction to Control System

1.1 Overview

Thank you very much for using the automatic template sewing machine control system of our company!
This system can match with the various types of template machine, satisfying different sewing requirements with satisfactory sewing effect for all sorts of cloth!
Before using, please read the Instruction carefully to ensure the correct use of this system.
Please keep the instruction appropriately in order to check at any time.
In case of discrepancies between actual machine and this Instruction due to different machine configurations and software update, the operating functions shall prevail.

1.2 Functional Description

(1) One machine with multi-purpose, simple operation

Full automatic template sewing machine can replace many kinds of special machinery such as traditional flat sewing machine, long arm sewing machine, bartack sewing machine, embroidery machine, etc. in certain circumstances to achieve multi-usage
After placing the template well, the operating personnel only needs to press the start key, automatic processing can be completed, the operation is quite simple
With standardized operation; the machine can work out amazing effects for a variety of stitches and a variety of fabric!

(2) The man-machine interface is friendly and easy to use

7 inches color LCD touch screen, with clear display, easy to touch
Support display in Chinese, Vietnamese, Korean, Japanese and English
Up to 256M (or 128M) file storage space, to store and process many files
Convenient file Collection (template making), modification, management functions

(3) Precise motion control technology with efficient sewing

Using international advanced DSP chip, fast system run speed, high hardware integration, stable performance
Support step-by-step, closed loop step-by-step, brushless DC, servo drive, using smooth curve for speed governing, smooth operation
Compact mechanical structure, good rigidity, high sewing position precision, low noise

(4) The upper computer graphics editing software is easy to use

Such files in dxf, dst, dsb, ai, plt, edi, tzf format that are generated by software such as Autocad, Coredraw are easily converted into processing files

The software has comprehensive graphics editing functions, supports layer editing and adding various kinds of special sewing stitch lines

With common control instruction set, customizable control instruction (functional code), high dexterity of action

For each layer, each graphic, each stitch point, a variety of mechanical control commands can be inserted into, to meet the diversified and precise automatic sewing requirement

(5) Rich user parameter settings, comprehensive auxiliary functions

Detail settings can be carried out for various mechanical actions

Point position, painting line, automatic mold slot opening function of some equipment can be extended

Support automatic identification of template, U Disk system updates, broken threads detection, continue sewing in power down, processing statistics, forecast for lack of bobbin thread, system self-test, parameter backup and recovery, encryption lock machine.

1.3 Notes

1.3.1 Safety Instruction

In order to avoid the possible risk and prevent damage to the device, please observe the following safety matters:

Note:

- Please don't carry out maintenance and debugging to electric system by non-specialists, this will reduce the safety performance of equipment, enlarge the fault, and even cause harm to the personnel and property losses.
- Some parts inside the case have high pressure; after the system is powered on, please do not open the case cover, in order to avoid accidental injury.
- Please do not pile up sundry around the control box, and in the process of using; remove dust on the surface of control box and the filter regularly, so as to keep good ventilation for the system, which is good for heat dissipation.
- Without authorization of the company, please do not make any change to the product arbitrarily, and the company shall not hold any responsibility for the consequences!

Warning:

- **If it really needs to open the case cover, it must be carried out5 minutes after cutting off power and guided by professionals to contact components inside the electrical cabinet!**

Danger:

- **When the machine is at work, it is forbidden to contact with any moving part or open the control equipment, plug or pull out motor interface, otherwise it may cause personal injury or the machine not to work!**
- **It is forbidden for electrical equipment to work in places with humidity, dust, corrosive gas, flammable and explosive gas, otherwise it may cause electric shock or fire!**

1.3.2 Work Environment

- Solid, level ground installation
- Good ventilation, healthy environment, less dust
- Temperature in work space: 5 to 40 ℃
- Relative humidity in work space: 30% to 90% without condensation

1.3.3 Power Supply Requirement

- Single-phase AC220V/50 to 60 HZ
- It needs to be equipped with the voltage regulation equipment when the power grid voltage fluctuation is more than 10%
- Equipment power is between 1.0 to 2.0KW according to different machine configuration

1.3.4 Grounding Requirement

- In order to prevent electric shock or fire accident of electrical equipment due to causes such as electric leakage, over voltage, insulation, etc., please make sure the electronic control with reliable grounding
- The grounding resistance should be less than 100 ohms, conductor length within 20 meters, conductor cross-sectional area greater than 1.0 square millimeters

Chapter II Description of Main Interface

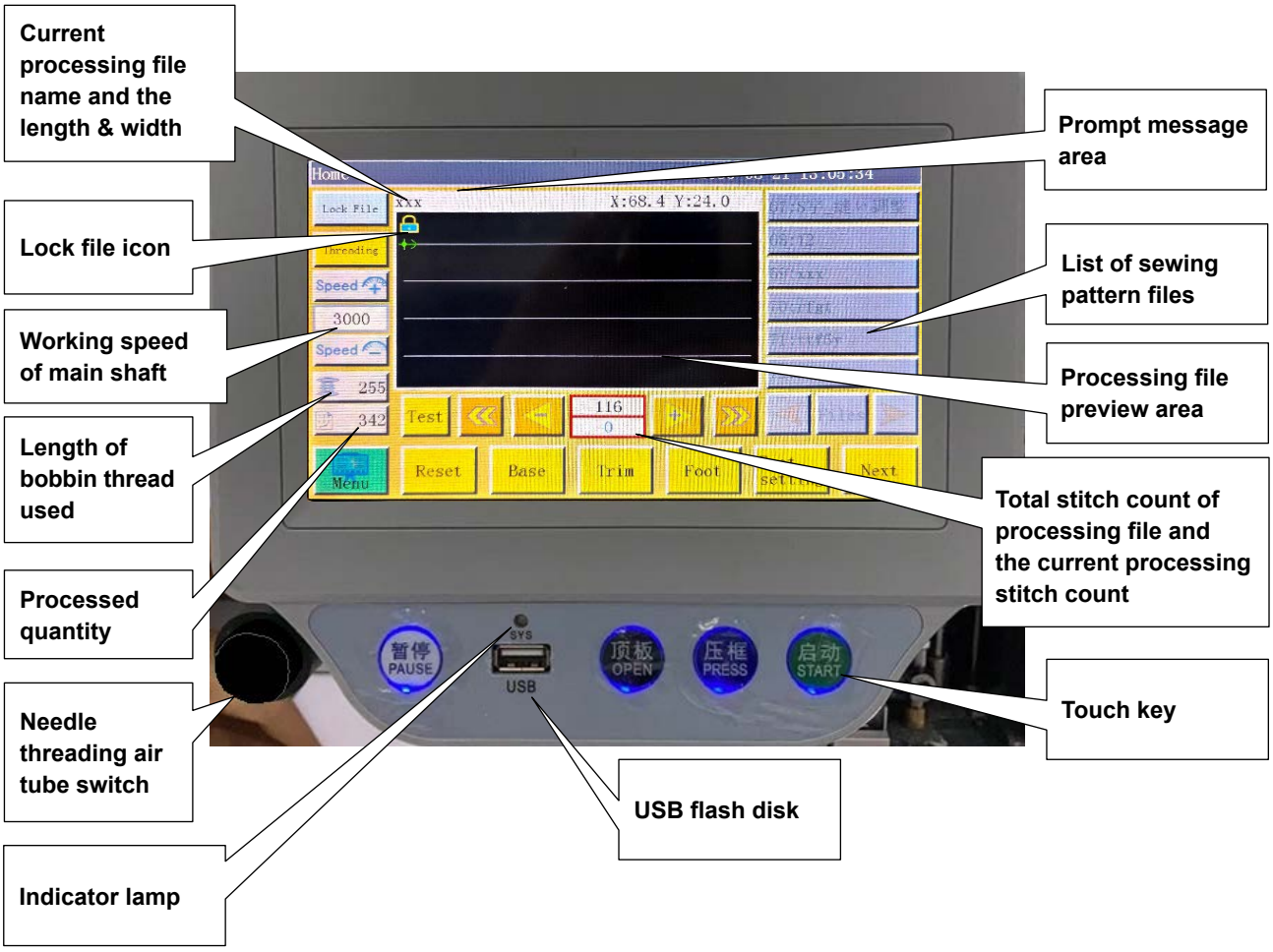
2.1 System Power-up

Upon system power-up, the HMI displays the boot screen, when the main shaft will automatically rotate for testing and reset other parts. The reset action is related to power-up reset parameters setup.

2.2 Main Interface of Processing

2.2.1 Display Instruction for Main Interface of Processing

The main interface of processing is automatically activated after the display of boot logo. The main interface of processing is shown below:



Key functions in the main interface of processing are described as follows:

Processing file preview area: Displays the pattern of the currently selected file. Click on this area to switch over the pattern preview mode between the "Full graphic" (the graphic is scaled for optimal display in the preview area) and the "At ratio" (the graphic is displayed using the actual ratio to the processing range). When the processing pattern contains 8,000 stitches or more, only the "Full graphic" display mode is available.

List of sewing pattern files: Displays a list of sewing pattern files. Click on the key to select a pattern.

*1. Only for the PS900

“Lock file” key : Lock the currently processed file to prevent misoperation. Once a file is locked up, other processing files can't be chosen, when  icon will appear in the preview area. Click once to lock, and click again to unlock.
Press the START key in the locked state to display E217.
E217 can be hidden by unlocking or setting the parameter P194 accordingly.
Note: Automatic template recognition will work only in the locked state of "lock file". The recognized template is displayed in the "prompt message area", and the corresponding numbered file will be automatically selected. If the "template recognition mode" is set to "by file name", electronic label (identifier) will be used to match the file name; if it is set to "by serial number of file", the serial number of file will be matched using a code scanner.For details of the method of using the electronic labels (RFID) and bar codes, refer to the Instruction Manual for the machine head.

“Threading” key : Places the sewing machine in the threading state and lowers the presser foot. In addition, the starting operation is automatically locked to prevent accidental startup.

“Acceleration” key : The rotating speed of main shaft increases by 100 rpm. If this key is pressed and held (long-pressed), the speed will increase continuously until the set max speed is reached. Arbitrary change to rotating speed can be prohibited by setting a password.

“Deceleration” key : The rotating speed of main shaft decreases by 100 rpm. If this key is pressed and held, the rotating speed will decrease continuously until the set min. speed is reached. Arbitrary change to rotating speed can be prohibited by setting a password.

“Display the current main shaft speed” : Click to pop up the “File Speed” setting interface to set the independent speed of the current file. If set to 0, it means no independent processing speed.

“Bobbin thread statistics” key : Show the used length of bobbin thread. Press the key to enter the processing statistics interface.

“Processing statistics” key : Show the finished quantity. Press the key to enter the processing statistics interface.

“Main menu” key : Press the key to get into main menu interface.

“Try“ key : It is used to simulate the processing process based on graphical trajectory. When this key is depressed, XY axes rotate while the main shaft is stationary.

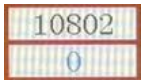

“Segment fast reverse” key : Used to return to the starting position of the previous seam line by movement without load.
Used to check the designated processing stitch position or to start sewing from the designated seam line.


“Segment fast forward” key : Used to proceed to the starting position of the next sewing by movement without load.
Used to check the designated processing stitch position or to start sewing from the designated seam line.


“Single needle return without load” key : When this key is pressed, the sewing position is returned to one previous stitch by movement without load. Continuous backward movement without load is activated when this key is pressed and held.

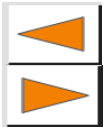

“Single needle forward without load” key : When this key is pressed, the sewing

position is proceeded to one stitch forward without load. Continuous forward movement without load is activated when this key is pressed and held.



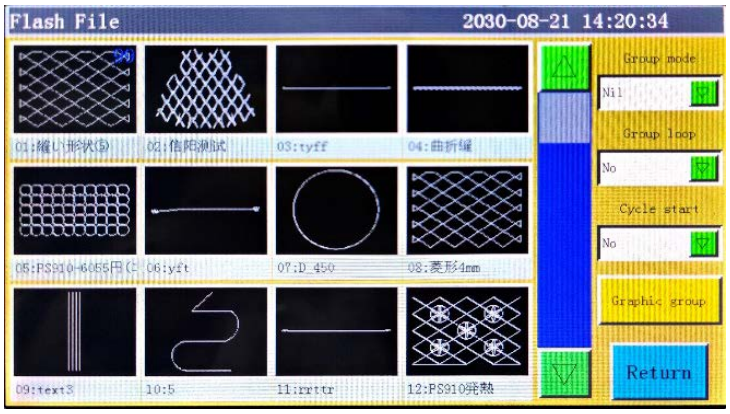
"Total stitch count setup" key: The number in the upper line indicates the stitch count of processing file, while the number in the lower line indicates the current stitch count. Press the key, when the "Jump stitch" setup window pops up.

Note: "Jump Stitch" window description: 0 … 9 : Number input for set value; CL : The set value returns to 0; ⊕ : The set value plus 1; ⊖ : The set value minus 1; ← : Delete a digit from right to left; キャンセル : Cancel current modification; 確定 The sewing position is moved to the set stitch number position.


Used to scroll the page to the left to display the processing files.

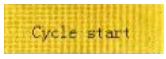
Used to scroll the page to the right to display the processing files.

Used to display all processing files.



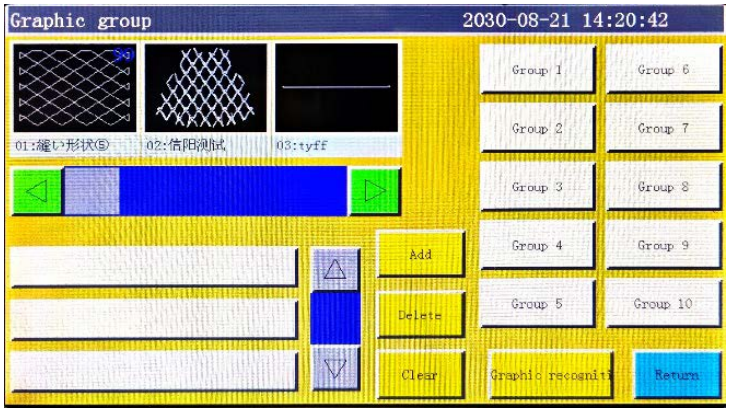
Group mode : Used to to select a group from the Group 1 to Group 10.

Loop : Used to to activate all the graphic files within the selected group.



Cycle start : When the "Loop" is set to "Yes", selection of whether the operation is carried out in repetition or stopped after one round can be made.

"Group" key : Used to to enter the Group edit screen".



Groups 1 to 10 : Select a group you want to edit.

Used to to add an arbitrary graphic file to the selected group.

Used to to delete an arbitrary file from the group.

Used to to delete all graphic files in an arbitrary group.

Used to to enter the Graphic recognition screen.

“Reset” key : Press the key, when the shafts start to rotate, while the machine is reset.

“Reference” key : Press the key to get into XY axes reference point setup page. At the same time, the sewing position moves to the current reference position.

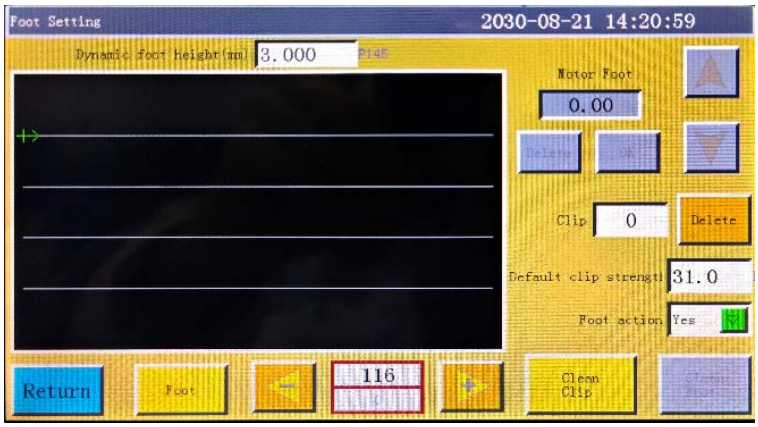
“Trim” key : Press this key to carry out thread trimming.

“Manual presser UP/DOWN” key : Every time this key is pressed, the presser foot status is changed over between lifting and lowering.

“Next interface” key : Press the key to get into test interface.

Enter the page for setting the intermediate presser height and the clip streng

On this Intermediate presser setting screen, setting of the difference-in-thickness of the material or clearing of the presser foot can be carried out only when the presser foot is lowered.



: Used to set the vertical movement stroke of the intermediate presser during sewing.

Multi-layered part sewing setting : Use this setting when you want to change the height of the intermediate presser when sewing stepped parts of the material during sewing.

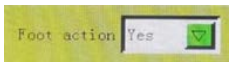

Used to determine the position at which you want to change the intermediate presser height. Change the intermediate presser height with  key and press  key.

If you want to delete the setting of the intermediate presser height, move the sewing position to the position where you have changed the height using the same operation when setting the height and press  key.

Exit this screen with 

key after you have set the intermediate presser height to reflect

the change you have made.



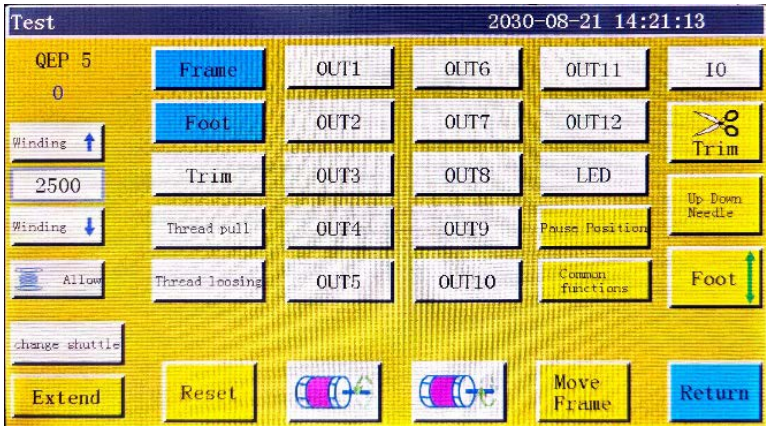
: Select ON/OFF of the multi-layered part sewing for the pattern that includes the multi-layered part sewing setting.

: Setting of the multi-layered part sewing is cleared.

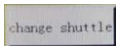
: Refer to "Adjusting the thread tension" described in the Instruction Manual for the main body of sewing machine.

2.2.2 Test Interface Display Description

On the test interface, manual operation such as winding the bobbin thread, etc. can be carried out.



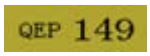
Key functions on the test interface



Auto hook change: If the machine is designed with “auto hook change” feature, signal will be output for rotating hook change when the key is depressed.

“Bobbin thread winding on/off” key : Press the key to switch between “allow” and “prohibit”. Activate “Allow” and press the "Start" switch to start the winding operation, when the main shaft will wind the thread at the speed set in this page. The winding will stop if the start switch (or the “Stop” key) is depressed again or the set winding time elapses. “Prohibit” means thread winding is prohibited.

: Show current rotational speed of main shaft.

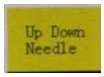


: Show current angle of main shaft（0 to 999）* QEP value 1 = 0.36°

: Set the winding speed of main shaft.


“Main shaft REV” key : Press the key, when the main shaft starts to reverse and move slowly.


“Main shaft FWD” key : Press the key, when the main shaft starts to rotate forward slowly.



"Needle rod up/down" key: Press the key to switch between upper position (the highest point of needle) and lower position (the lowest point of need).

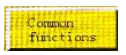
"Trim" key : Press the key, when the machine sews one stitch to realize a complete trim operation.

Frame , Trim , Thread pull , Thread pull **:** The output is turned ON only as long as you keep pressing the key. When you release the key, the output is turned OFF.

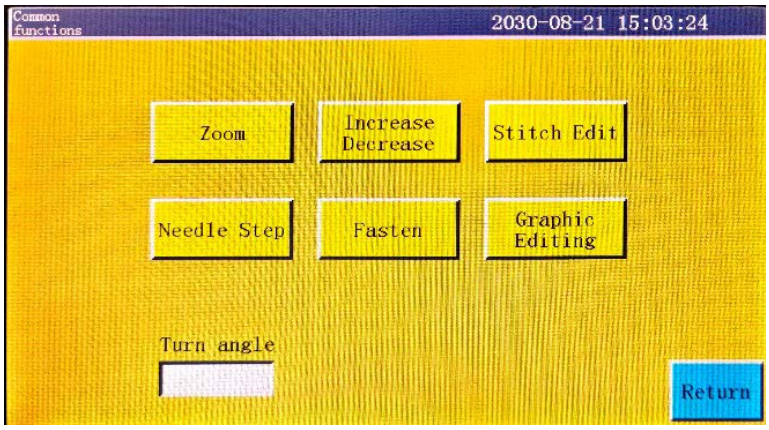
Foot **:** Every time you press this key, the output is turned ON and OFF alternately.
If you keep pressing this key while the output is already in the ON state, the output will be turned OFF only as long as you keep pressing this key and will be restored to the ON state when you release it.
On the other hand, if you keep pressing this key while the output is in the OFF state, the output will be turned ON as long as you keep pressing this key and will be turned OFF when you release it.

Led , OUT1 ,... OUT12 **:** Press the key, when the corresponding IO output function is always ON; press again to turn off the output. For some electric control, the LED lamp will be always ON.

Note: Please don't press and hold the electromagnet control output for long (e.g. Trim , Thread pull , Thread pull) **;** otherwise, the electromagnet connected with this output may get damaged due to overheating!



Common functions : Press this key to open the common function screen. On this screen, you can zoom, increase/decrease, edit the needle points, set the pitch, enhance and edit graphics with respect to the entire processing files.
If you want to carry out processing to each graphic, refer to P40.



"Scaling" key : Press this key to open the Graphic scaling screen. On this screen, scaling of the width and length of the processing file is carried out.
Refer to P49 for details.

"pitch setting" key : Press this key to set the stitch pitch. You can change the stitch pitch of the processed file.

Refer to P40 for details.

“Graphic increase/decrease” key : Press this key to open the graphic increase/decrease interface and set the amount of increase/decrease in length of all continuous curves of the processing curves at the same time. The screen is as follows

Refer to P52 for details.

“Reinforcement” key : Press this key to open the Reinforcement screen and carry out reinforcement setting of stitches.

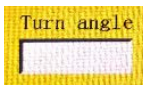
Refer to P35 for details.

“Needle point edit” : Press the key to open the Needle point edit screen. You can carry out setting of needle entry points on this screen.

Refer to P45 for details.

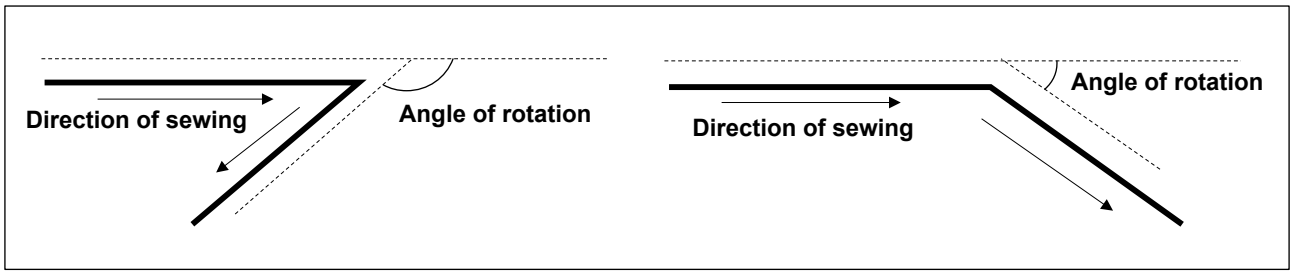
“Graphic edit” key : Press the key to open the Graphic edit screen.

Refer to P40 for details.



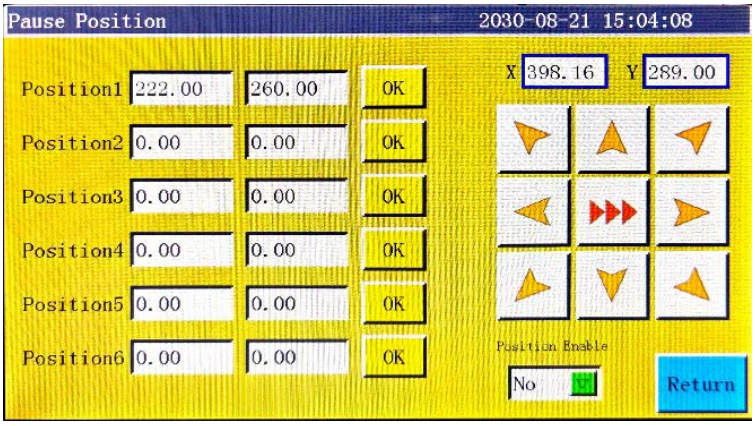
Angle of rotation : With this key, you can set the angle of rotation of the needle bar or machine head. (Only for the PS900 and PS910)

If the angle of rotation of the processing file exceeds the set value, rotating operation will be started from immediately before the corner portion.



: Enter the pause position interface and insert the "Upper stop" command into the sewing pattern. After you have inserted this command, the "Upper pause" command will be executed during sewing. Then, the sewing machine will move to the automatically-set pause position. As many as six groups of pause positions can be set. Each group of pause positions corresponds to the order of the "Upper stop" commands in the sewing pattern.

* Refer to P37 for setting of commands.

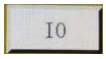


: Press this key to save the position of the current XY coordinates as a pause position.

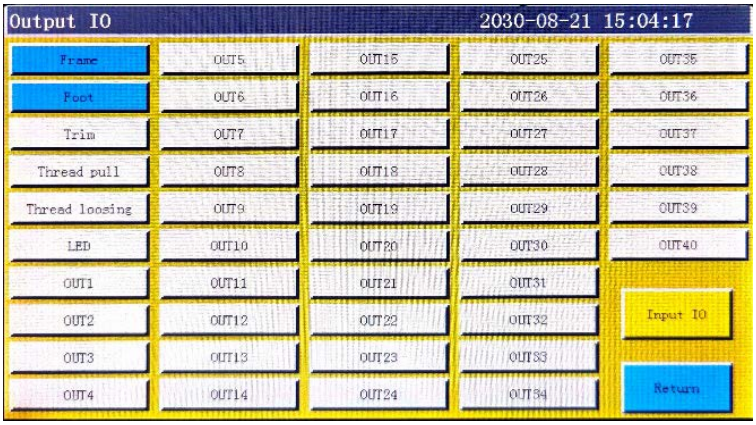
: If you select "Yes", the pause position you have set will take effect.

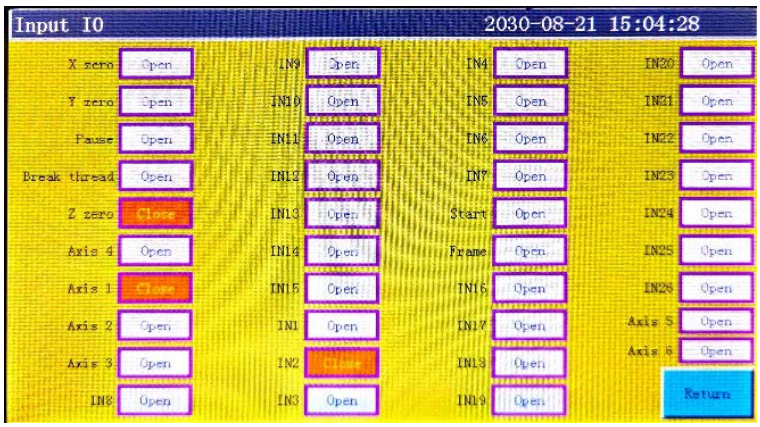
"Previous interface" key : Press the key to go back to the main interface of processing.

"Manual feed" key : Used to to get into the Main interface of the manual feed operation.

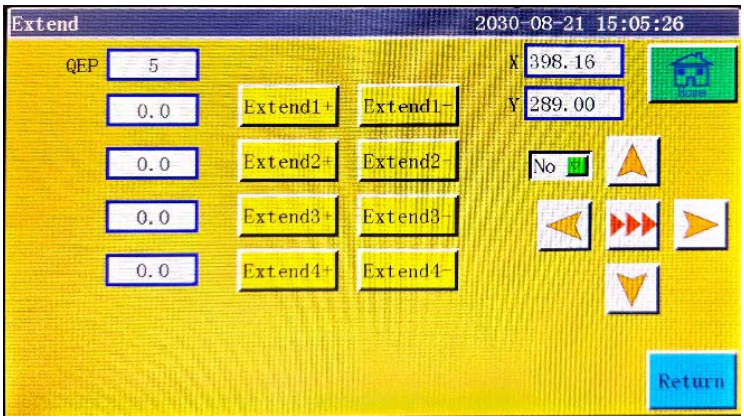


"IO output" key : Enters the IO output interface.





“Test interface extension” key : Enters the extension interface.



: Used to rotate the machine head and the hook driving shaft saddle. (For the PS910).

Used to rotate the needle bar and the hook driving shaft saddle. (For the PS900)

“Shaft rotating speed/Frame movement speed switching” key **:** The speed is switched alternately to three different speeds, low, medium and high. The speed setting can also be changed by pressing the User parameter, Speed parameter and selecting the key speed 1 to 3 in the written order.

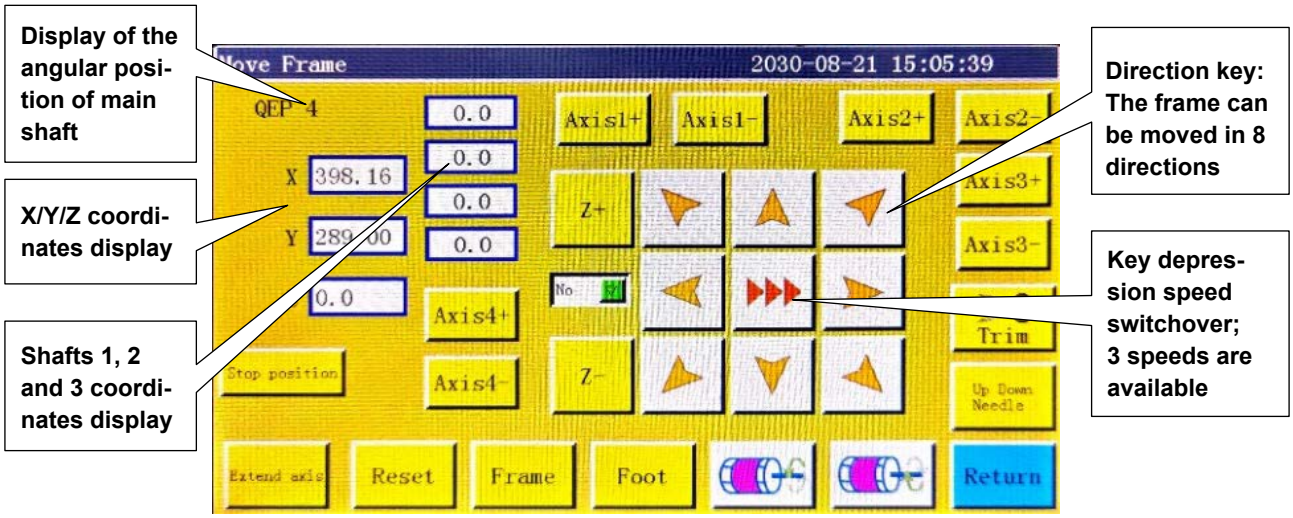
: If you select "Yes", each shaft can be operated even if it is not reset.

* Effective only on this screen

Note **:** When you operate each shaft without resetting, operate it while paying attention to safety.

2.2.3 Display Instruction for Manual Frame Movement Interface

Click on Next and Move Frame successively in the main interface of processing to get into the manual frame movement interface. In the manual frame movement interface, it's possible to move the frame manually and control the rotation of each shaft.



Key functions in the manual frame movement interface are described as follows :

, , **"Frame movement speed switching" key :** Click to switch among low, medium and high speeds.The speed setting can also be changed by pressing the User parameter, Speed parameter and selecting the key speed 1 to 3 in the written order.

"8 direction" keys : Move in X and Y directions.

"Z+", "Z-", "shaft 1+", ... "shaft 3-": Rotate corresponding shafts manually; some of the shafts have no effect on certain machines.

Stop position **:** The current X and Y coordinates are set to the stop coordinates of X and Y axes after resetting.

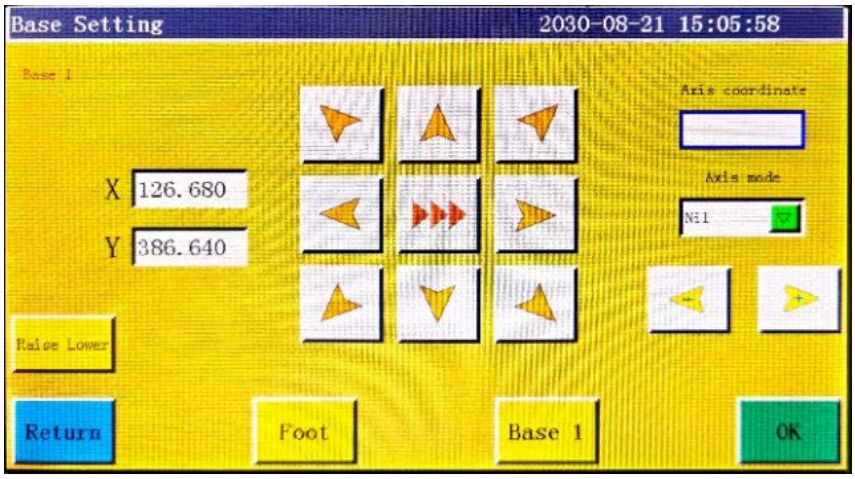
UpDown Needle **: "Needle bar up/down" keys :** Enter the head offset interface for setting the offset position of heads 2 and 3 in relation to head 1. Head 1 is a sewing head. Desired functions such as laser cutting head and brush head can be assigned to heads 2 and 3.

Return **"Return" key :** Press the key to return to the previous operation interface.

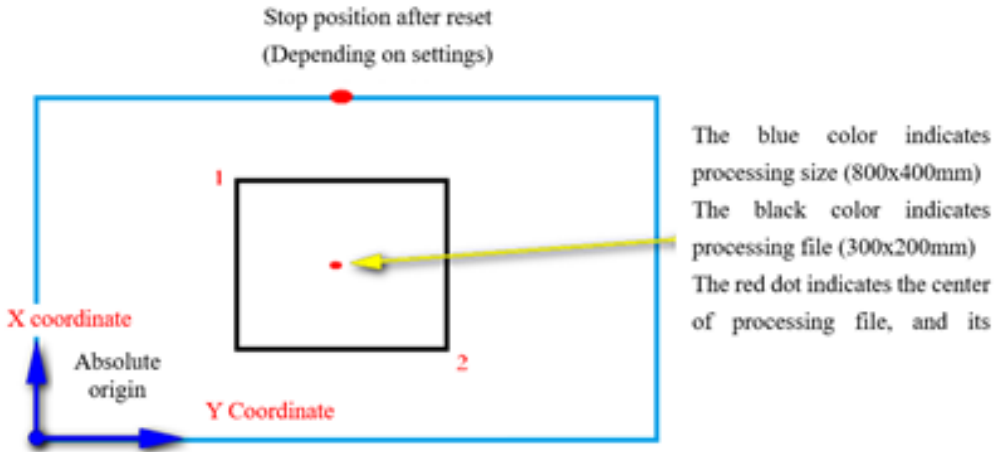
Axis4+ Axis4- **:** Used to rotate the knives (upper and lower).

2.2.4 Display Instruction for Reference Setup Interface

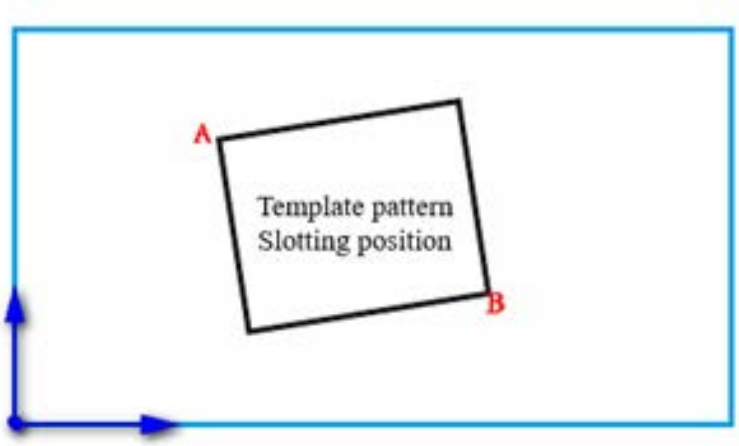
Click Base in the main interface of processing to get into the reference point setup interface. The template reference point can be set in this interface.



Reason for reference point setup : When the processing file generated through the pattern edit software is imported into the memory and previewed for the first time, the system puts the file at the center of the processing range (click the “Processing file preview area” to switch the display mode), and writes this position information into processing file.



The fabricated template is placed on workbench in the position that may be as shown in the figure below:



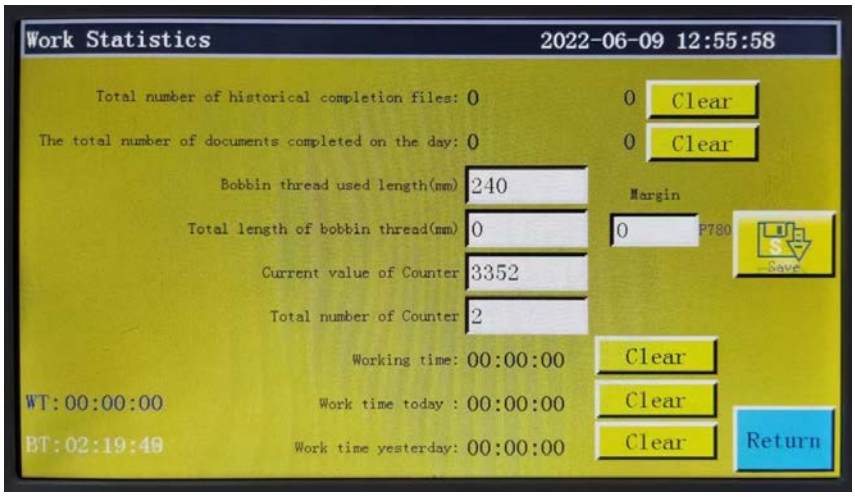
Hence, it's necessary to align reference point 1 with A, and reference point 2 with B. Adjust the position of processing pattern in the system so that it corresponds to the template slotting position.

Detailed steps are as follows :

1) Select the file for which the reference point should be set up in the main interface of processing, and place the corresponding template. Click Reset to enter the reference point setup interface, and the system will automatically move the frame to reference point 1.
2) If dual reference points are set up in upper computer software, the upper left corner of the interface will indicate "set up reference point 1". See whether the reference point 1 is located at template slot A; in the case of offset, click the arrow keys to move the point until they coincide with each other.
3) Click OK to finish the setup of reference point 1. The system automatically moves frame to reference point 2, when the upper left corner of interface indicates "set up the second reference point". Click direction keys to move the frame so that reference point 2 coincides with the position of template B. To return to re-set reference point 1, click Base 1 key to switch to reference point 1 for setup.
4) Click OK to finish the setup of reference point 2, when the system automatically returns to the main interface of processing. The system will write this position into processing file, while the processing preview area pattern will be adjusted to correspond to the position of template. Upon the completion of reference point alignment, additional alignment is not needed as long as you don't modify this file and template. If the upper computer does not set up dual reference points, the sewing start point will be taken as reference point 1 by default, in which case the system will return to main interface of processing after the alignment of reference 1. By setting up system parameters, it is possible that reference alignment is not needed at the first use. Please consult the manufacturer for detailed settings.

2.2.5 Process Statistics Interface Display Instruction

Click  or  in the main interface of processing to enter the processing statistics interface. In this interface, you can view the processing quantity, time, bobbin thread length and other information.



The interface is described as follows :
Cumulative total number of files completed : Displays the cumulative number of processing files completed up to the present. Click Clear to clear 0.
Total number of files completed by today : Displays the cumulative number of processing files completed on the day. Click Clear to clear 0.
Current value on counter : Refers to the total number of processed documents. Each time the processing is completed, it will automatically add 1, which cannot be closed.
Total number on counter : Displays the target number of processing files.
Select "Menu", "User Parameters" and "Statistics Settings" in the written order.
Then, set as follows:

- "Continue work after the counter has reached the target value (P47)" ⇒ No
- "Enable counter setting (P48)" ⇒ Yes

With the aforementioned settings, the sewing machine will stop operation after the current value on the counter reaches the preset total number.

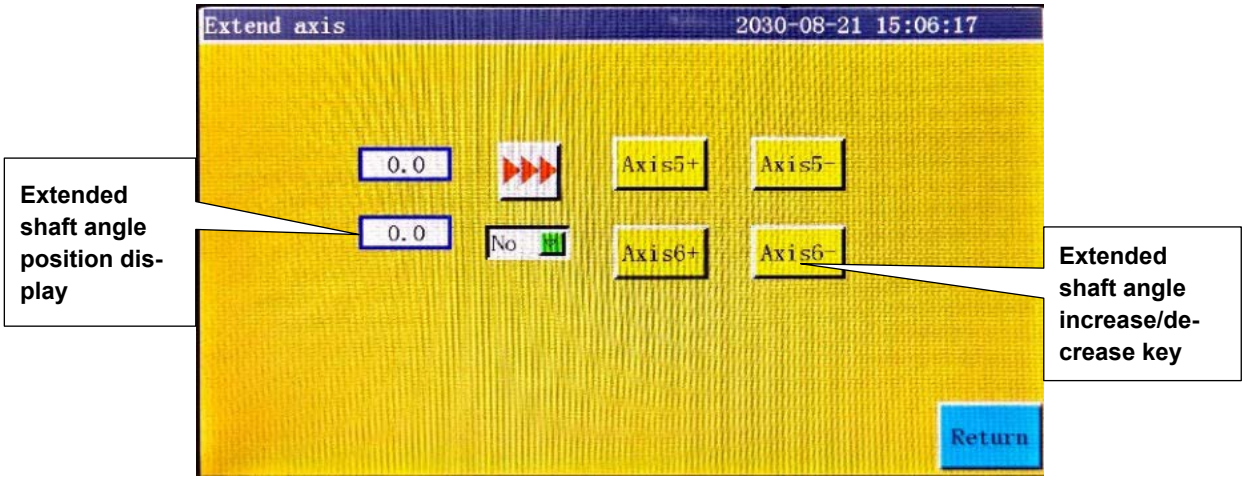
Use length of bobbin thread (mm) : Displays the used length of the bobbin thread.
Total length of bobbin thread (mm) : Sets the total length of the bobbin thread wound on the bobbin (initial state). When using the bobbin winder, the total length of the bobbin thread can be estimated by the "average bobbin circumference length x number of revolutions x bobbin winding time".

- "Stop operation after bobbin thread has run out (P50)" => Yes
- "Enable bobbin thread counter setting (P51)" => Yes
- "Bobbin thread count mode (P779)" ⇒ Default

With the aforementioned settings, an error will be output to stop the operation in the case "(Total length of bobbin thread) - (Amount of bobbin thread used) < (Remaining amount of bobbin thread)".
“Working hours” : Show the total processing time. Just count "working..." state time.
“Man-hours of the day” : Show the processing time of the day. Click Clear to clear 0.
Man-hours of the previous day : It shows the processing time yesterday. Click Clear to clear 0.
WT : Previous operating time (time from power on to off during last use)
BT : Current operating time (time from power on to off during the current use)

2.2.6 Explanation of display of the extended interface

In the test interface, press Extend key to enter the extended interface.

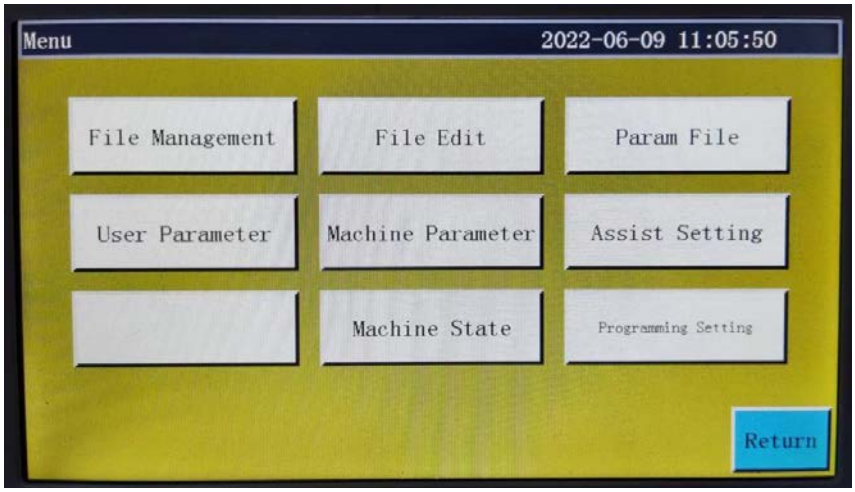


The shaft rotating function of this interface is not adopted in the PS Series.

2.3 Main Menu Interface

Press 

key in main interface of processing to enter the main menu interface, as shown in the figure:



File management : Used to manage memory files and USB files and carry out file export and import operations.
File edition : Used to create a new graphic for sewing or edit and correct the existing graphics.
Parameter file : Write parameters into the system, and export system parameters in the form of file; the transfer of files between memory and USB flash disk, etc.
User parameters : Used to change the settings of parameters used frequently by the user.
Machine parameters **:** Only accessible to machine assemblers.
Assist settings : Used for processing assist settings and testing, etc.
Network file : (Temporarily unavailable)

Machine state : When a malfunction occurs, this key is used to allow the remote administration equipment to report the machine status to the relevant engineers and wait for solutions from them.
Programming setting : With this button, enter the programming setting interface. Programming parameters can be set for the programming software.

Chapter III File Management

File management is performed to import, export and delete files in USB flash disk and memory. The system only recognizes the processing files with extensions .SLW. Processing files are created with PC graphic edition software delivered with machine or through file capture.

3.1 Memory File Management

Press File Management key in main menu interface to enter file management interface as shown in the figure below:

The system memory can store up to 999 processing files, of which the total size shall not exceed 128M. Support file names in Chinese and English (case sensitive); each file name can consist of up to 15 Chinese characters or 30 characters (the displayed number of characters may vary depending on the interface). In the case of wrong format of processing file or file corruption, no preview is displayed here.
Click to select a file, when the selected file turns red; the selected file shall be handled as needed.

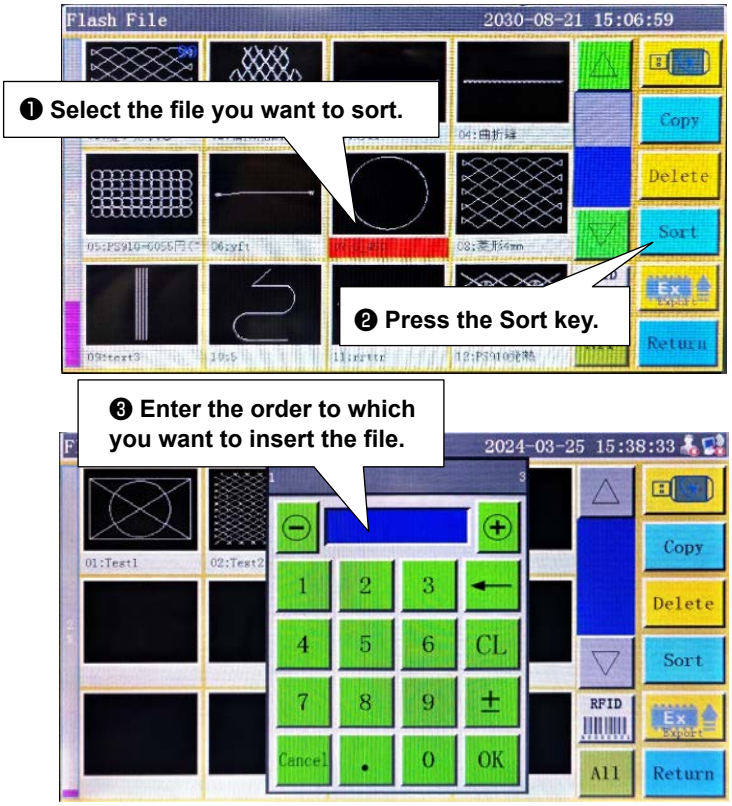
Key description :

Copy **Copying file :** Copy the currently selected file. File copy can be created by clicking "Copy" and entering the new file name.

Delete **Deleting selected file :** Delete the currently selected one or more files.

Sort **Sorting file :** Insert the currently selected one or more files into designated location.

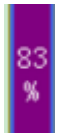
For example, select "002 : TEST2", click Sort , enter "1" into the pop-up dialog box, and click "OK". The file ranks first and turns into "001:TEST2".



"Electronic label (RFID) and barcode write" key : The function is determined by "User parameters" - "Other settings" - "Template recognition mode : By electronic label/barcode".
If the recognition is by "barcode", it means the processing file is matched by scanning barcode with scanner. Method of binding processing file to barcode : Click this key after selecting the processing file, enter the desired barcode value into the pop-up "Barcode" window, and click OK to return. At this point, the set barcode value is displayed on the graphic.
If "By electronic label" is selected, it means the file name in IC card is recognized using electronic label reader so as to match processing file. Method of binding processing file to electronic label: Click this key after selecting the processing file, and click "Yes" in the pop-up confirmation window; when the card reader beeps once, it means the file name has been successfully written into electronic label; at this point, the interface title bar shows that file name.
Refer to "4. PREPARATION OF THE SEWING MACHINE" in the Instruction Manual for the main body of sewing machine => "4-21 RFID" or to "6. SUBCLASS MODEL" => "6-1. Barcode reader".

Select all files : U Select all files under the directory.

Export file : Copy one or more files from the memory into the root directory of USB flash disk. If a file exists with the same name in the USB flash disk, a message will appear reading "The file already exists. Do you want to overwrite it?"



: The current storage space occupancy ratio, through which you can make clear understanding of the storage occupancy.

File in USB flash disk : Click to enter the "U-disk file" interface.

3.2 Management of Files in USB Flash Disk

Insert the USB flash disk, and press  key in memory management interface to switch to the USB flash disk file management interface as shown in the figure:

USB flash disk file management supports up to 15 Chinese characters or 30 characters display. If USB flash disk is accessed through file management, the files and folders in .slw formats under root directory of the USB flash disk are displayed by default; if USB flash disk is accessed through parameter file, the files and folders in .xhp format under root directory of USB flash disk will be displayed by default. Support multi-level folder operation; it is recommended that folders be used for classification management where there are a lot of files. Click to select a file, when the selected file turns red; the selected file shall be handled as needed.

Key description :

Import files : Copy the selected one or more files from USB flash disk to the memory space, and replace the file with the same name (if any).

"Delete" key: Delete one or more selected files.

"Select all" key : selects all files in the USB flash disk.

Memory file : Click to return to the memory file interface.

"Return" key : Return to the main menu interface or parent folder.

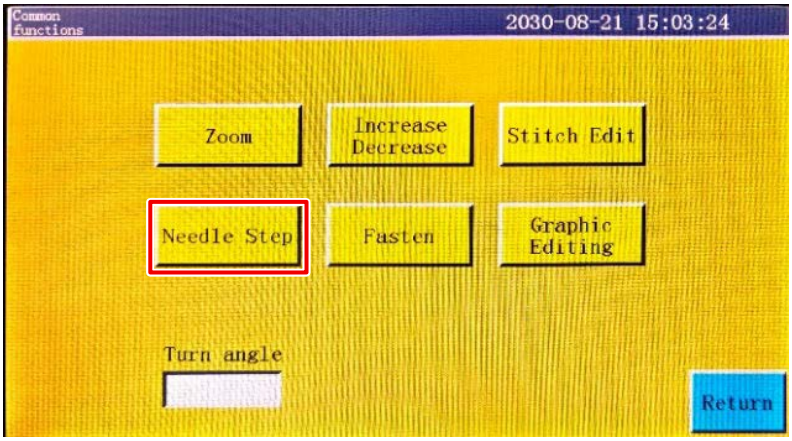
Note : If the processing file in .SLW format can't be recognized or imported, Please upgrade the motherboard program directly to the latest version. See **"7.7 System Upgrade"**.

3.3 Interchangeability of patterns

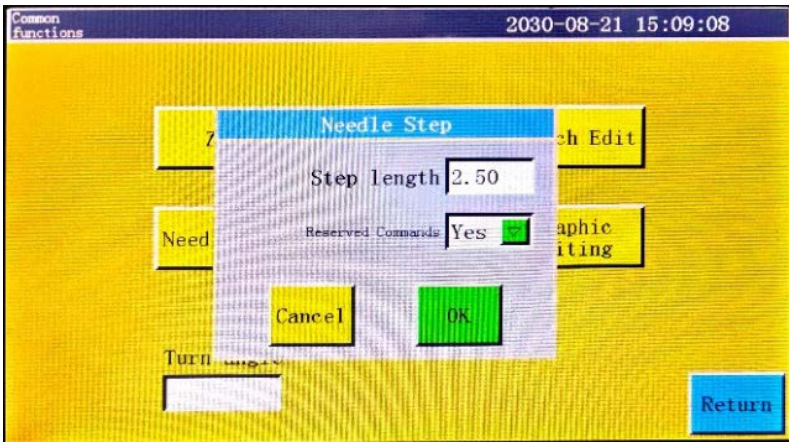
If it is necessary to use a pattern file for the PS-800, use the following method to set it up.

Insert the USB flash disk that contains the target PS-800 pattern file. Then, write the PS-800 pattern file on the operation panel. Refer to "3.2 Management of Files in USB Flash Disk" for how to write the pattern file.
After you have written the pattern file, return to the initial screen. Then, press the "Next" button to open the test screen.

Press the Common function key to display the Common function screen.



Press the Stitch pitch setting key to display the stitch pitch setting screen.



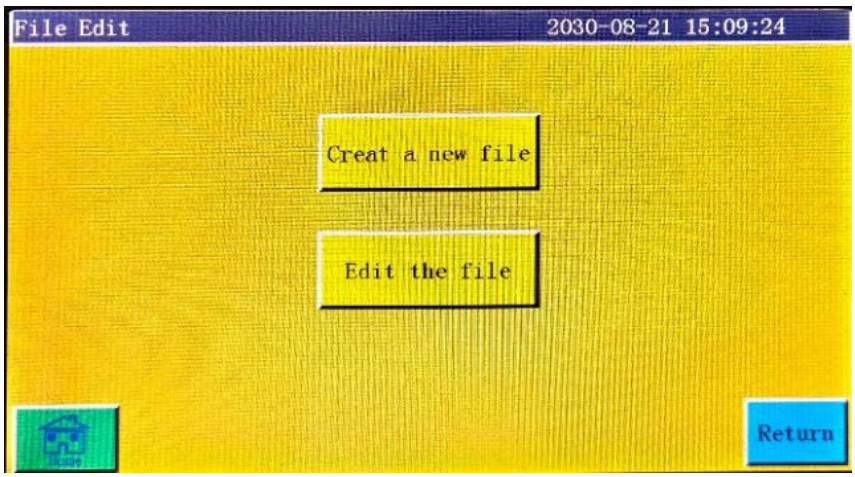
Press the OK key on the stitch pitch setting screen. In order to ensure that the needle bar rotation setting exists on the graphic file, the data has to be saved again.

Chapter IV File Editing

The File Editing is used to create new processing files or to add sewing paths to the existing processing files. Where it's necessary to create complex and accurate graphics, the included sewing control software is recommended for better results.

4.1 Main Interface of File Editing

Press File Edit key in the main menu interface to enter the main interface of file editing as shown in the figure:

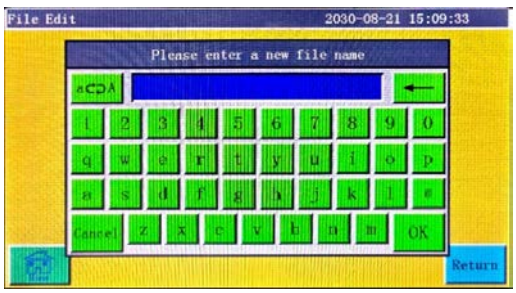


Creat a new file : Create new capture file.

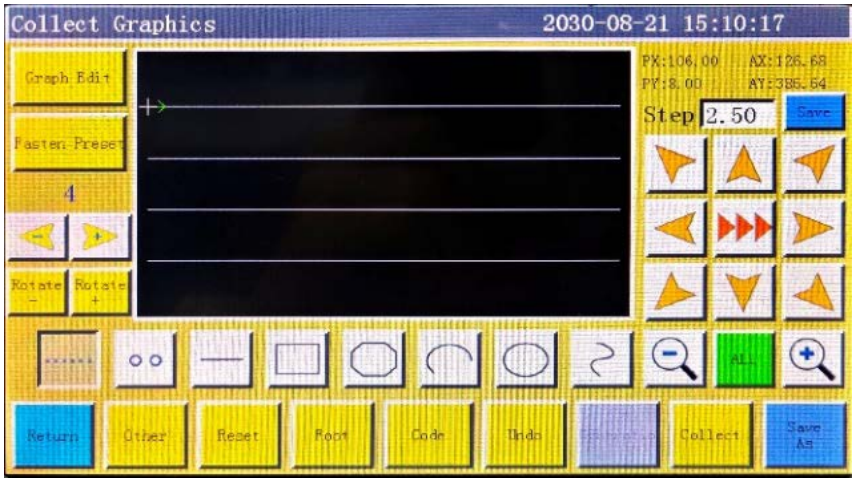
Edit the file : Make modification or other edits based on the file selected in the main processing interface.

4.2 Capturing Graphics

Pressing Creat a new file in file editing interface pops up a new file naming window. See the figure below:



After entering the name, press OK or Edit the file to enter graphic capture interface as shown in the figure below:



The function keys of capture interface are as follows :

“PX”, “PY” : Used to indicate the last X and Y coordinates you have previously edited. If you move the coordinates on the Graphic edit screen, the displayed coordinates will change accordingly.

“AX”, “AY” : Indicate the coordinates of the current cursor point.

Step 3.0 **:** The distance between stitches in sewing settings; the standard value is 3.0 mm. The setting range is from 1 to 50 mm.

, , **“Frame movement speed switching” key :** Click to switch among low, medium and high speeds.

Graph Edit **“Graphic Edit” key :** The key will only light up when graphic is captured. Press the key to enter the curve editing interface for curve editing.

Reinforce **“Reinforcement preset” key :** key into reinforcement preset settings, open preset and click

"OK", collection page "Reinforcement preset" into blue characters. Close the default and click "Cancel" to change the "Reinforce the default" of the collection page to black, and the default is "Close". When the reinforcement preset is set up, the corresponding reinforcement is automatically carried out for each new line segment collected. If you want to reinforce the edited graphics, you can operate in "Graphic Edit".

1 **:** Indicates the graphic number in the processing file.

“Curve selection decrease” key : Press this key to select the previous curve.

“Curve selection increase” key : Press this key to select the next curve.

“Idle capture” key: Press the key once; when the background turns yellow, the current capture segment is idle. It is displayed with dotted line.

: When you press this key, the background color turns yellow to make the current capture segment to a single needle.

: Press the key once, when the background turns yellow, the current capture segment is straight line.

Press the key once, when the background turns yellow, the current capture segment is rectangle (determined with 2 points).

Press the key once, when the background turns yellow, the current capture segment is polyline segment.

Press the key once, when the background turns yellow, the current capture segment is arc (arc determined with 3 points).

Press the key once, when the background turns yellow, the current capture segment is circle (circle determined with 3 points).

Press the key once, when the background turns yellow, the current capture segment is curve (curve determined with more than 3 points).

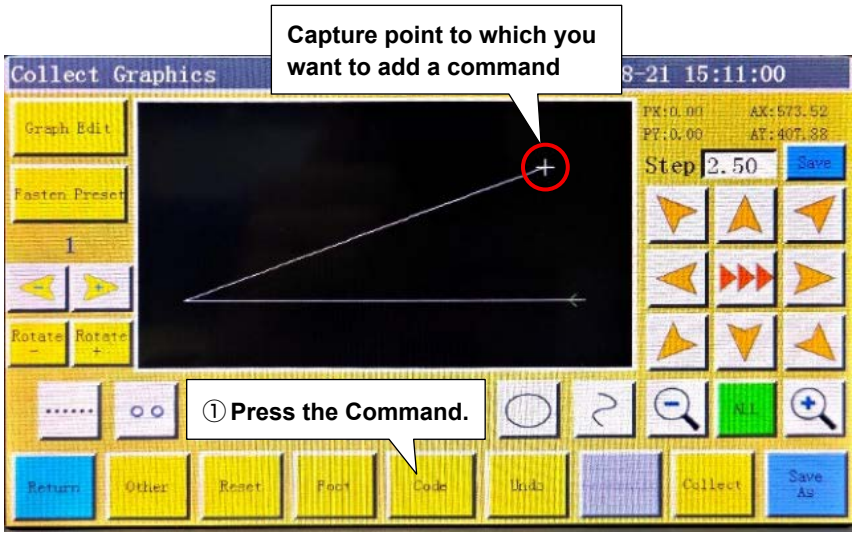
"Zoom-out" key : Press the key to zoom out of the captured file graphic. Click on the graphic preview area to move the graphic.

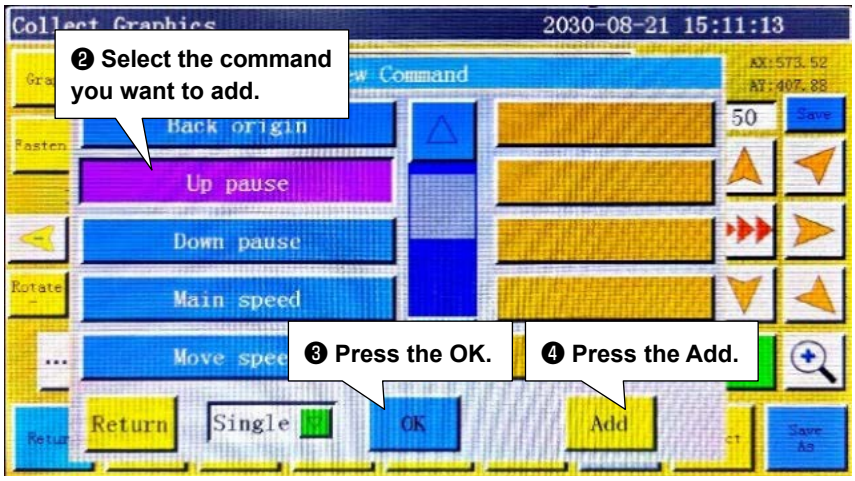
"Zoom-in" key : Press the key to zoom into the captured file graphic.

ALL **"Display switch" key :** Press the key to switch between full-scale display and proportional display.

Code **"Command" key :** Used to start the command code insertion operation.

From this interface, a command can be added to each graphic.
Refer to P37 regarding the case of adding a command to each needle point and details of commands.





Undo **"Cancel capture" key :** Press the key once to cancel the capture of previous step.

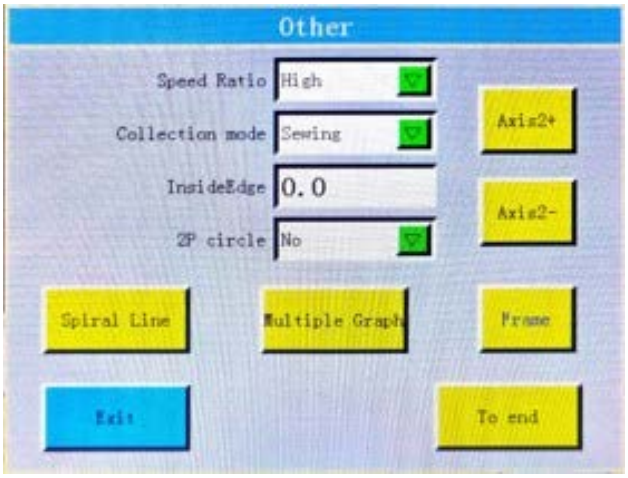
Curve End **"Curve generation" key :** When polyline segment and curve are captured, press the key to finish the capture of current segment.

Collect **"Capture" key :** Press the key to determine the current cursor location or finish the capture of current segment. If some areas of the generated graphics go beyond the processing range, they can't be generated.

Save As **"Save file" key :** Press the key to save the current capture file. The saved file can be displayed directly in the preview area of main interface.

新規 **"New file creation" key :** Press this key to save the current graphic to a file with a different name.

Other **"Other" key :** Press this key to open other editing interfaces. The interfaces are as follows **:**

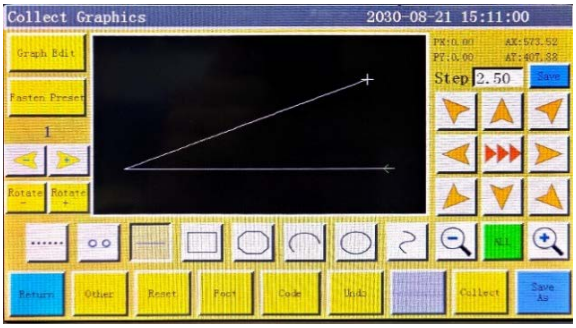


Speed Ratio High **:** You can select the sewing speed of the graphic. There are four sewing speeds such as the high speed, medium high speed, medium low speed, and low speed. Select the "Menu", "User Param" and "Speed ratio" in the written order. Then, the percentage according to the speed ratio can be set.

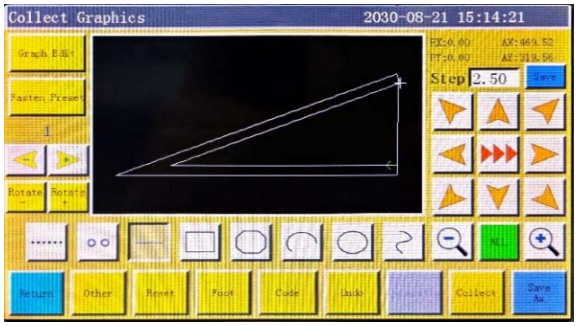
Collection mode Sewing **:** The position of the sewing (head 1), head 2 or head 3 can be selected. Head 2 and head 3 can be defined independently as a required function. For example, the laser knife type head, pen holder type head, etc.

InsideEdge 0.0 **:** Set the numerical value of the internal offset in this field.

[Comparison of graphics before and after the internal offset setting]



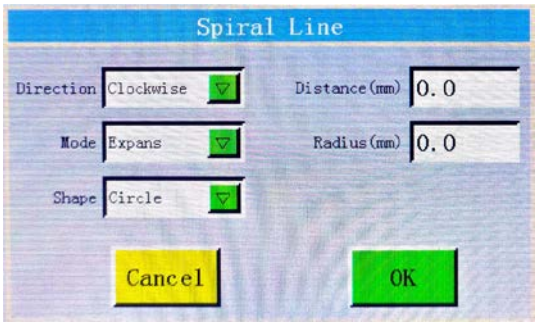
before internal offset setting(Setting value 0.0)

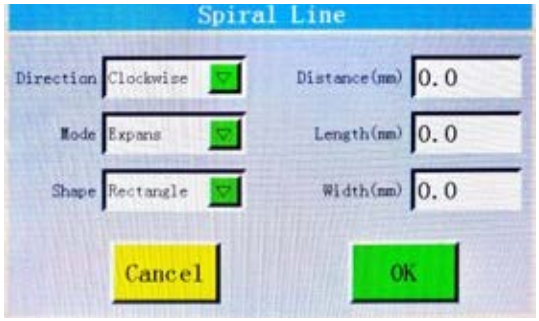


after internal offset setting(Setting value 20)

: If you select the circle drawing method and set it to "Yes", you can draw a circle using the center point of the circle and one points on the circle.

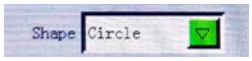
"Spiral line" key : Used to open the Spiral sewing setting screen.



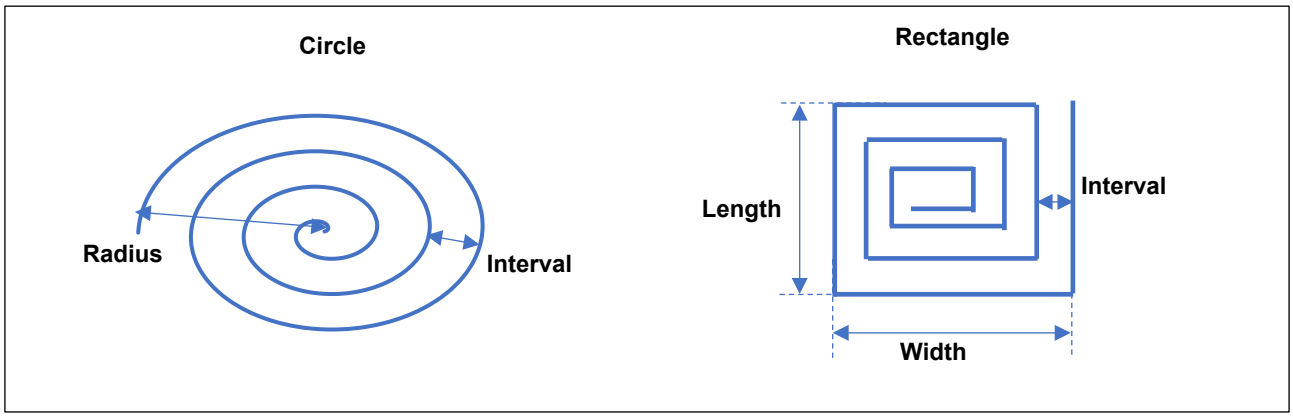


: Select either clockwise or counterclockwise.

: Select either a spiral line is created outward or inward.



: Select either a circle or rectangle.

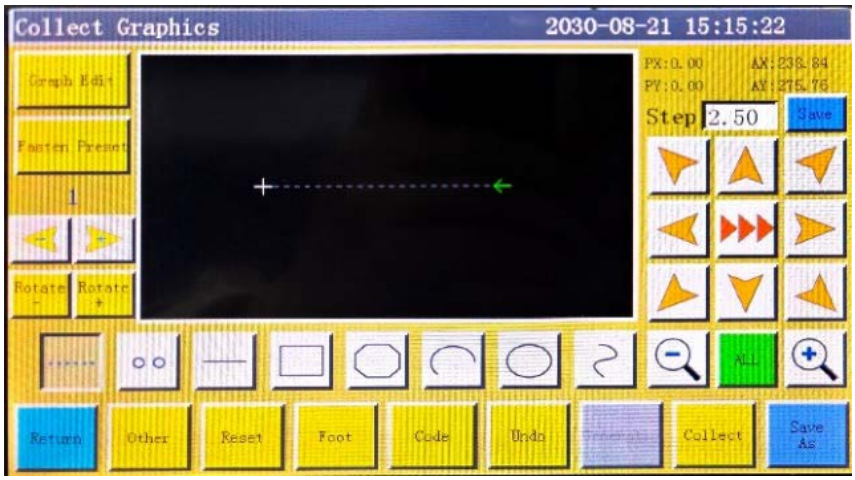


"Multiple graphic" key : Use this key to enter the multiple sewing setting.

Refer to P34 for details.

4.3 Idle Capture

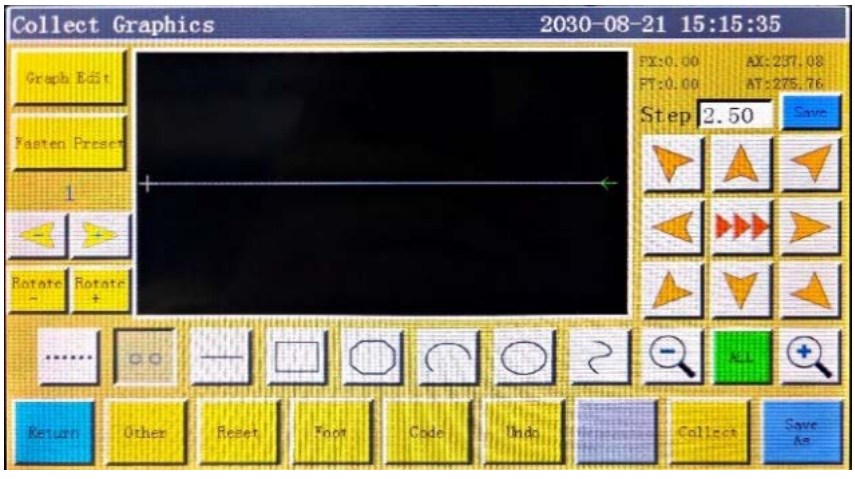
Press ····· key on the graphic capture interface to change the background color to yellow (the mode is switched to the idle (movement without load) mode), indicating that the current segment is in the idle mode (only the frame is moved while the main shaft is not engaged in sewing).



In the case of idle capture, two points generate an idle segment.
The absolute origin or the end point of previous capture segment is the first point of idle capture and displayed as red cursor. Press the key to move cross cursor to desired position, and press Collect key to generate idle segment.
If it is necessary to insert a command at the end of this segment, refer to the command setting operation procedure.

4.4 Single needle capturing

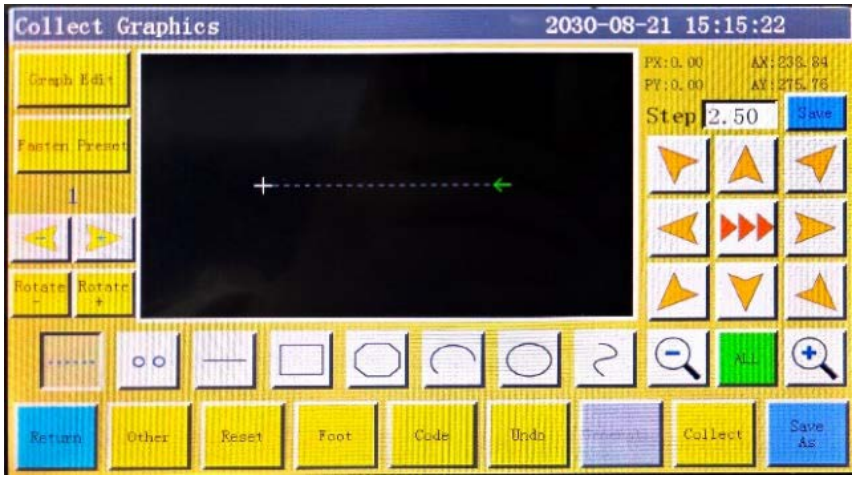
Press oo on the interface for capturing a graphic to change the key background color to yellow, indicating that the current segment is in the single needle mode.



Straight line of one stitch consisting of of two points is created.
The maximum length is 12.7 mm. Any length longer than that value will be ineffective.

4.5 Single needle acquisition

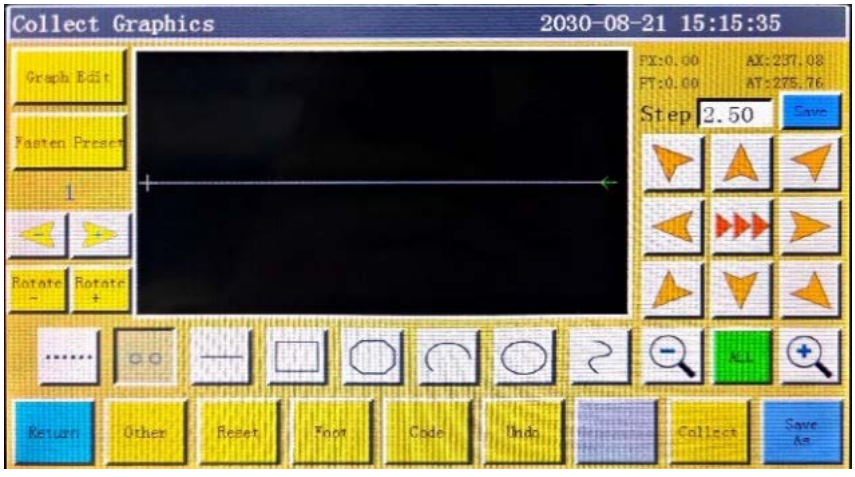
Depress the [—] key in main interface of file capture, when the key background turns yellow, which means the capture of current segment is in straight line mode as shown in the figure :



In the case of straight line capture, two points generate a segment of straight line.
The absolute origin or the end point of previous capture segment is the first point of straight line capture. Press the key to move cursor to desired position, and press [Collect] key to generate straight line.

4.6 Rectangle Capture

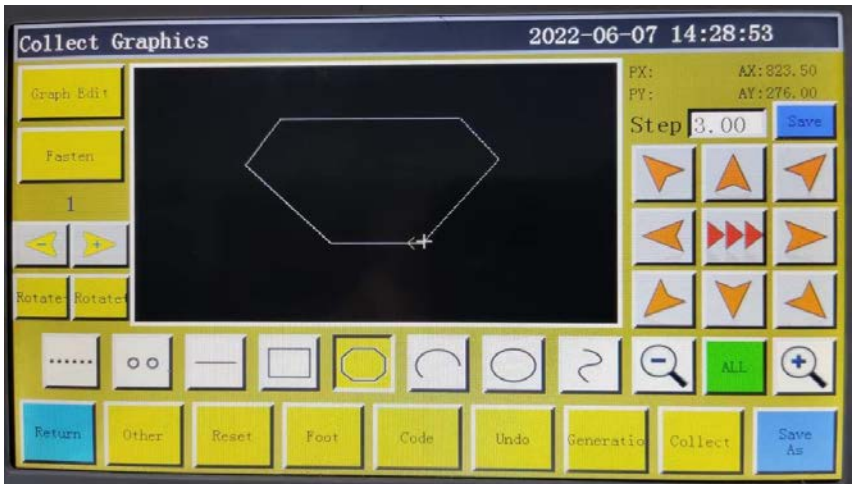
Press [□] key in main interface of file capture, when the key background turns yellow, which means the current segment capture is in rectangle mode as shown in the figure :



In the case of rectangle capture, two points with different X and Y coordinates generate a rectangle.
The absolute origin or the end point of previous capture segment is the first point of rectangle capture. Press the key to move cursor to desired position, and press [Collect] key to generate rectangle.

4.7 Polyline Segment Capture

Press  key in main interface of file capture, when the key background turns yellow, which means the current segment capture is in polyline segment mode as shown in the figure:



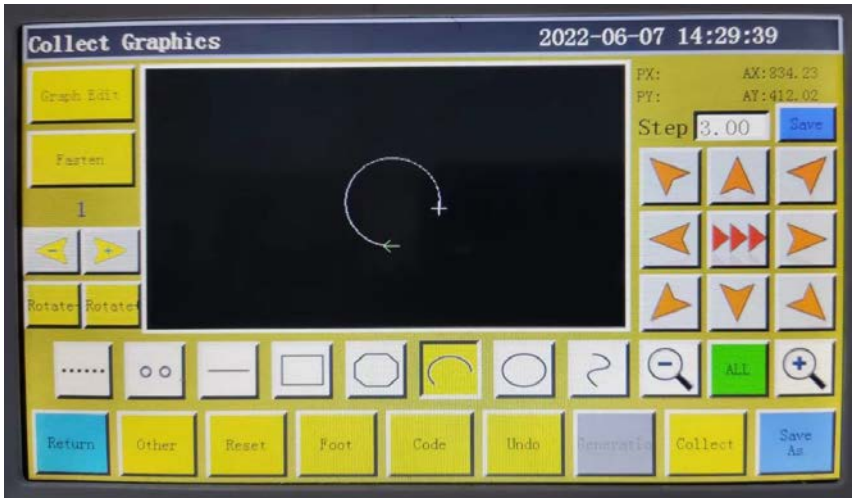
In the case of polyline segment capture, up to 127 consecutive points can be handled, and the line segment will be generated by two points determining straight line.
The absolute origin or the end point of previous capture segment is the first point of polyline segment capture. Press the key to move cursor to desired position, press 

key to identify the capture point, and move for several times to determine capture points; upon completion, press 

key to generate the polyline segment linking the points up.

4.8 Arc Capture

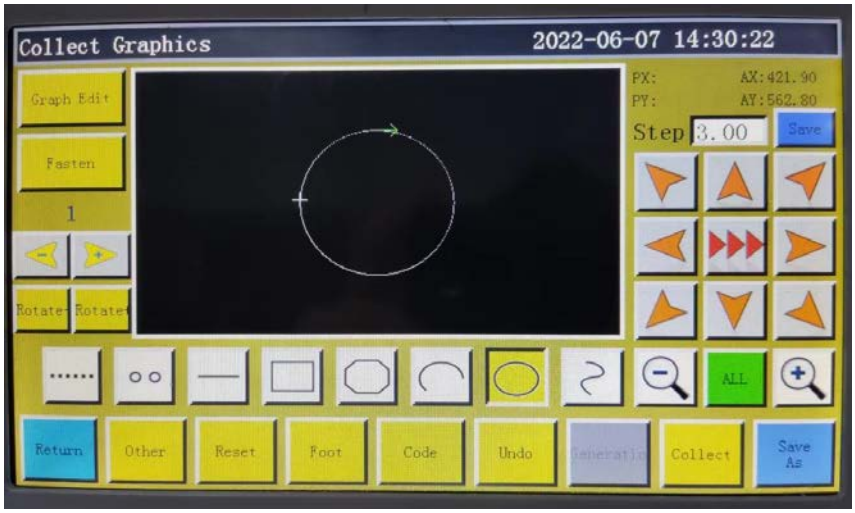
Press  key in main interface of file capture, when the key background turns yellow, which means the current segment capture is in arc mode as shown in the figure :



In the case of arc capture, any 3 points that are not in the same straight line generate an arc: The first point is the start point of arc, the second point being the height reference point of arc, and the third point being the end point of arc.
The absolute origin or the end point of previous capture segment is the first point of arc capture. Press the key to move cursor to desired position, and press Collect key to identify the arc height reference point; press key to move to the desired position, and press Collect key to determine the end point of arc to generate the arc.
To draw accurate arc, reference coordinate values are needed, and it's necessary to make the height reference point in the perpendicular bisector of line between start point and end point.

4.9 Circle Capture

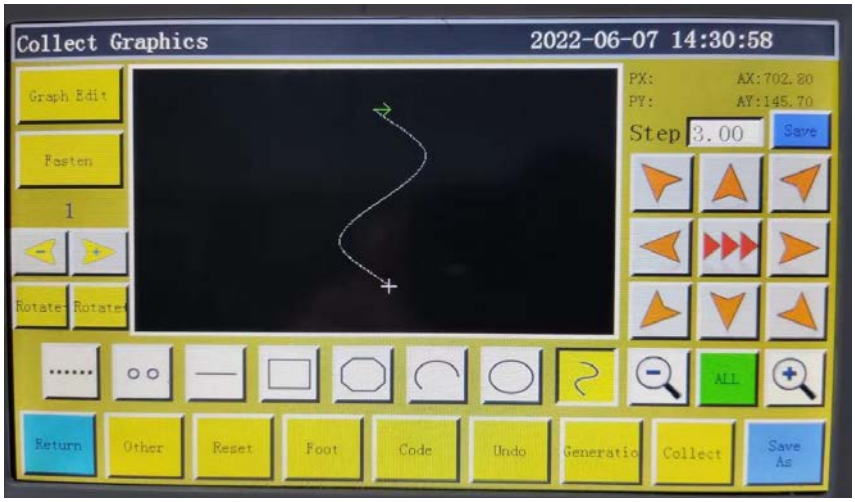
Press ◯ key in main interface of file capture, when the key background turns yellow, which means the current segment capture is in circle mode as shown in the figure :



In the case of circle capture, any 3 points that are not in the same straight line generate a circle. The processing sequence: The first point (start point) > The second point > The third point > The first point (end point).
The absolute origin or the end point of previous capture segment is the first point of circle capture (the start point and end point of circle). Press the key to move cursor to desired position, and press Collect to identify the second reference point; press the key to move to the desired position, and press Collect key to determine the third reference point to generate the circle automatically. In the meantime, the press frame moves to the start point of circle.
Where accurate circle is needed, it is recommended that the distance between the first and second points should be the diameter of circle; the third point should be in the perpendicular bisector of the diameter line determined by the first and second points, and its distance from the diameter line should be the radius of circle.

4.10 Curve Capture

Press  key in main interface of file capture, when the key background turns yellow, which means the current segment capture is in curve mode as shown in the figure :



In the case of curve capture, up to 127 consecutive points can be handled, and the Bezier is generated by the degree of arc of the neighboring 4 points. The capture point shall be as dense as possible at the turning so as to achieve optimal curve effect. The capture of less than 3 points can generate curve.

The absolute origin or the end point of previous capture segment is the first point of curve capture. Press the key to move to desired position, press 

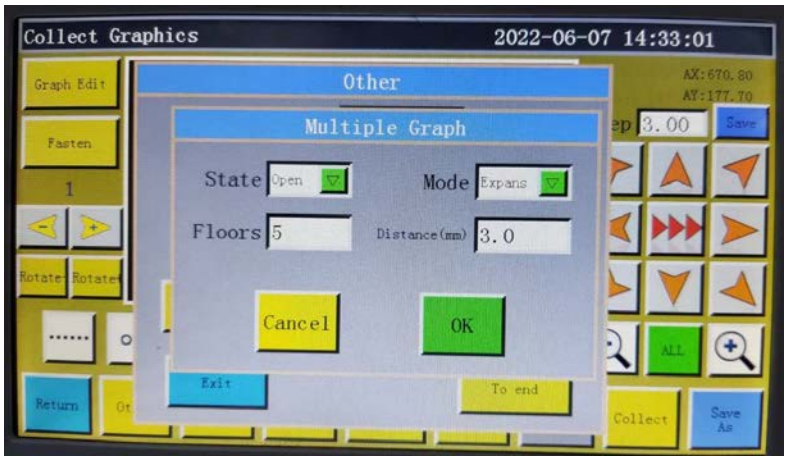
key to identify the capture point, and move for several times to determine capture points; upon completion, press 

key to generate the curve.

4.11 Multiple Curves

In the case of file capture, if the current capture curve (except idle and straight line capture) requires multiple sewing, it's necessary press 

key to get into multi-curve setup interface as shown in the figure **:**

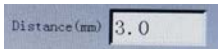


: State ON/OFF.Determine whether multi-curve sewing is employed or not for next capture. The multi-curve sewing is adopted when "ON" is displayed, or is not adopted when "OFF" is displayed.

: Mode selection There are two kinds of pattern selection, "Shrinkage" and "Expansion".

For the "Shrinkage", a multiple curve sewing graphic is created inside the graphic. For the "Expansion", a multiple curve sewing graphic is created outside the graphic.

: Set the number of graphics to be increased the range of entry : 1 to 20.

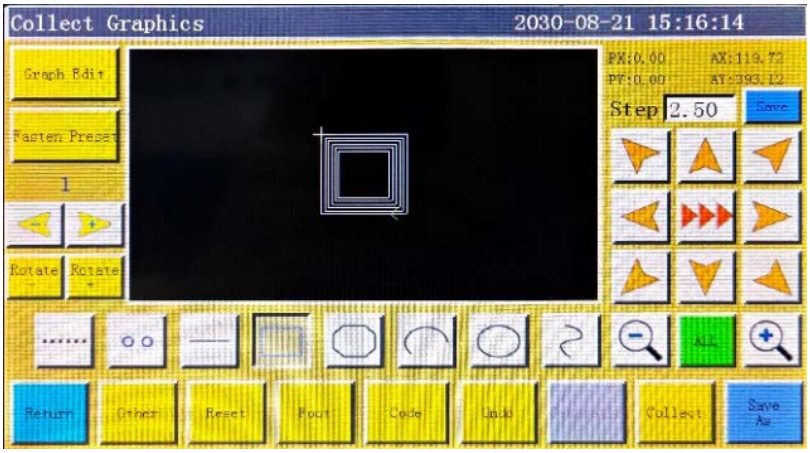


: Set the interval between graphics to be increased the range of entry : 0.1 to 20.0mm.

Select multiple sewing as needed, and set the offset distance and the number of offset layers. Upon completion of the setup, press 

key to save current settings and go back to the main interface of capture graphic. For instance: Set the state to "OPEN", the mode to "internal shrinkage", the number of layers to "5", and the spacing to "3.0"; click 

and perform a "rectangle capture" to get the curve as shown below; all the 5 rectangles inside are generated on a multi-curve basis.



4.12 Reinforcement Preset

The reinforcement preset is used when it is necessary to sew graphics with overlapped at the time of capturing a file.

Press 

on the main interface of capturing files to open the Reinforcement setting interface.

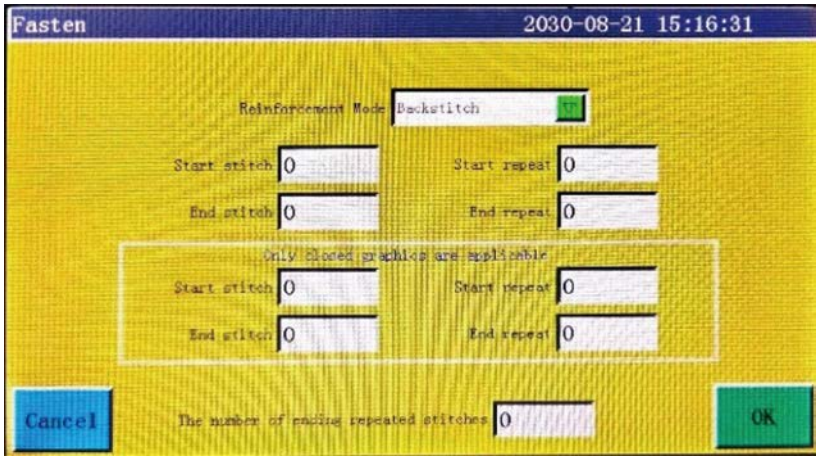
After you have completed setting, press the "OK".

Selection of the reinforcement mode : Three different modes can be selected, i.e., backstitch, shot stitch and zigzag stitch.

The modes are as described below.

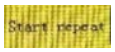
Backstitch : Seam of a graphic near its starting and end points are sewn in repetition.

In the case of a closed graphic (such as a rectangle and circle), set only a closed graphic in the corresponding field.

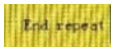


: Set the number of backstitches to be sewn at the starting point of sewing.

: Set the number of reverse feed stitches to be sewn at the end point of sewing.



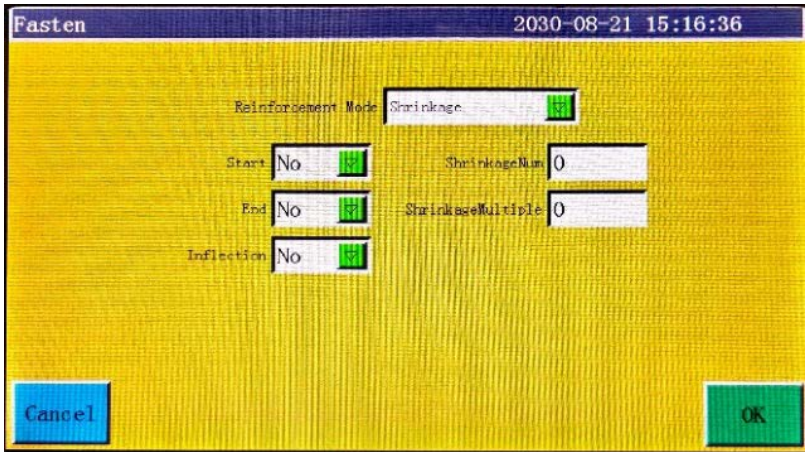
: Set the number of times of sewing in the forward and backward directions to be performed at the starting point of sewing.



: Set the number of times of sewing in the forward and backward directions to be performed at the end point of sewing.

: Set the number of stitches to be sewn with overlapped at the end point of sewing.

Shot stitch **:** Based on the currently-set stitching pitch, seams are reinforced by sewing with a reduced stitching pitch.



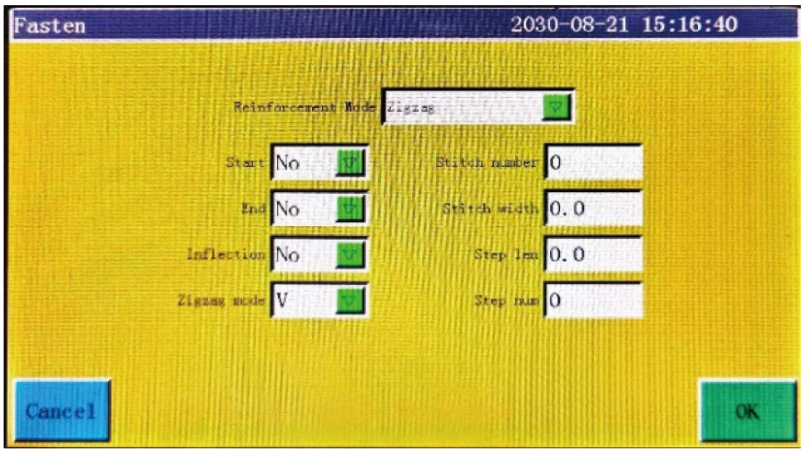
Start End : When you select "Yes", reinforcement is carried out at the starting and end points of sewing.

Inflection : When you select "Yes", seams are reinforced at corner portions.

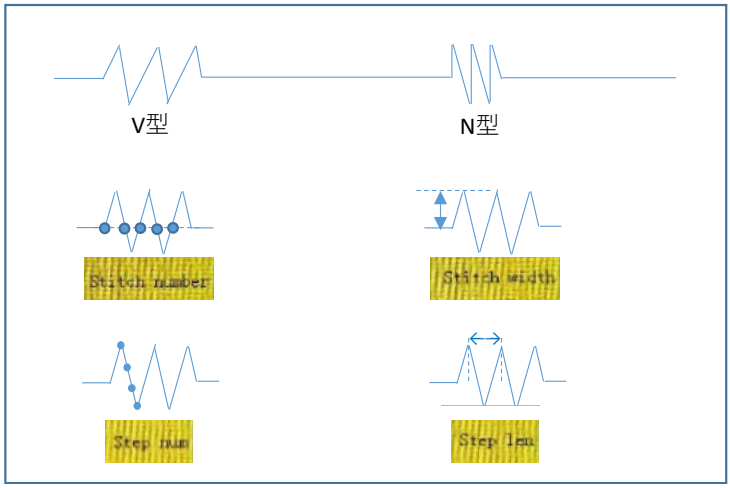
ShrinkageNum : Set the number of stitches to be reinforced.

ShrinkageMultiple : Set the degree of reduction of the stitching pitch.

Zigzag stitch : Seams are reinforced by sewing stitches in V form or N form.



Zigzag mode Select either V type or No type.



4.13 Commands

Press 

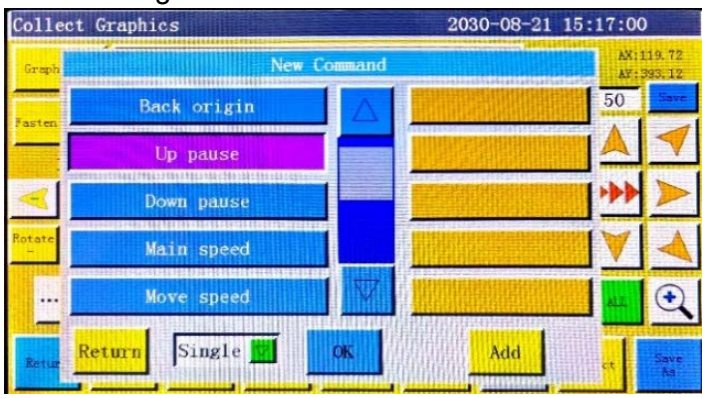
to get into the Command setting interface if it is necessary to add a command to the current graphic location at the time of capturing a file.
This function is available on the file capture interface and the graphic editing interface and works differently on the respective interfaces.

【Capture interface】
On the capture interface, a command can be added to the starting and end points of a graphic.

Press 

key during capturing of a graphic to open the command setting interface.

The command addition setting interface is as described below.



: Select the command you want to add from the displayed list of commands.

: Select the target command you want to add, either single or whole.

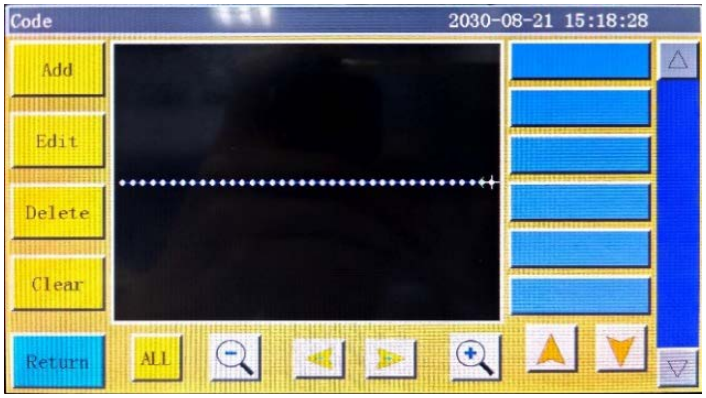
: If you press this key after you have selected the command you want to add, the command will be added.
When the command is added, it is displayed as a green dot on the processing file.

【Graphic editing interface】

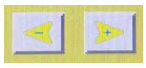
On the graphic editing interface, a command can be added to each needle point.

Press 

key after you have selected the graphic to which you want to add a command to open the command setting interface.




: Command that is added to the currently selected needle point is displayed.


: Used to select a needle point. The selected needle point is displayed in red.

: Used to open the command addition interface.

Refer to the description given in the capture interface for details.

: Used to change the setting of the added command.

Move to the needle point to which you have added a command. When you select the command you want to change the setting and press this key, the Setting change screen is displayed.

: Used to delete the added command.

Move to the needle point to which you have added a command. When you select the command you want to change the setting and press this key, the Setting change screen is displayed.

: Used to delete all of the added commands.

There are 36 or more types of commands.

Used to set the IO number that needs to be output and its high and low levels. When this command is encountered, the IO level corresponding to the IO output is output.

Inverted output IO : Used to set the IO number that needs to be inverted and its high/low levels and inversion content. When the command is encountered, the IO is inverted according to the numeric value or the state.

Used to set the level of the entered IO number needs to be detected. If the command is encountered, subsequent operations will be performed when the corresponding IO is at the high or low level.

Delay Used to set the required extension time. The machine stops operation by the set time when the command is encountered.

SecondaryOrigin The second origin command sets the secondary starting position when the command is encountered.

Back Origin Used to move the sewing position to the coordinates when resetting is terminated.

Up Pause For the upper pause command, the main shaft stops at the upper needle stop position when the command is encountered.

Down Pause For the lower pause command, the main shaft stops at the lower needle stop position when the command is encountered.

Main Speed Once you have edited the main shaft speed, the main shaft speed is changed over to the set speed when the command is encountered.

For the jump speed command, the needle jumping speed is adjusted when the command is encountered.

Reset Speed If this command is encountered when the main shaft speed has been changed by the command, the speed will be restored to the speed before it is changed.

Cut For the thread trimming command, thread trimming is performed when the command is encountered without stopping the main shaft.

If you have edited the Z axis coordinate, the Z axis will move to the edited coordinate position when the command is encountered.

Z Axes Speed If you have edited the Z axis speed, the Z axis motor speed will conform to the edited speed when the command is encountered.

If you have edited the coordinates of the extended axis, the extended axis will move to the position of the edited coordinates when the command is encountered.

Used to edit the speed of the extended axis. When this command is encountered, the speed of the motor for the extended axis is adjusted to the edited speed.

Up Table For the clamp lift command, the main shaft stops at its upper stop position and the clamp is lifted when the command is encountered.

For the clamp holder command, the clamp is lowered when the command is encountered.

Rotate This command rotates the head along the sewing locus. It is mainly used for the model that is provided with the machine head rotating function.

RotateEnable The "Rotation Enabler" command temporarily closes or turns on the "Rotation along the Track" function.

When you have selected the head command and selected head 1, head 2 or head 3, the head is switched over to the selected head when the command is encountered.

Used to cancel the command for lifting the presser foot. When the command is encountered, the presser foot lifting setting is canceled.

XY ABS Move This command moves the sewing position to the set coordinates when it is encountered.
The main shaft keeps operating.

Foot up The presser foot lifting command lists the presser foot after the completion of sewing when it is encountered.

Foot height The presser foot height command adjusts the presser foot height when it is encountered.

Cancel Cut Used to cancel the thread trimming cancellation command. When the command is encountered, thread trimming is canceled.

Loose open The thread tension release ON command allows the thread clamp to loosen the thread when it is encountered.

Loose closing The thread tension release OFF command allows the thread clamp to tighten the thread when it is encountered.

Thread pull The wiper ON command allows the wiper to operate after thread trimming when it is encountered.

Cancel pull The wiper OFF command prevents the wiper from operating after thread trimming when it is encountered.

Frame pause The clamp lifting stop command detects the state of the clamp when it is encountered. If the clamp is in its upper position, the sewing machine pauses and the error "Clamp fails to clamp" is displayed.

まず回転 If a graphic containing a curve exists, this command is used to turn the machine head preliminarily to the angle of rotation.
This function is only provided for the model with the rotating machine head.

主軸が1回回転する When this command is encountered while the machine moves by idling (movement without load), the main shaft makes one rotation.

Clip thread 1 The tension 1 command temporarily adjusts the AT clip strength when it is encountered.

Clip thread 2 Without function

Turn Start An inflection point activates the command. When the command is encountered, reduction in speed is started.

Turn Speed For the inflection point speed command, the main shaft rotates at the command speed when the command is encountered.

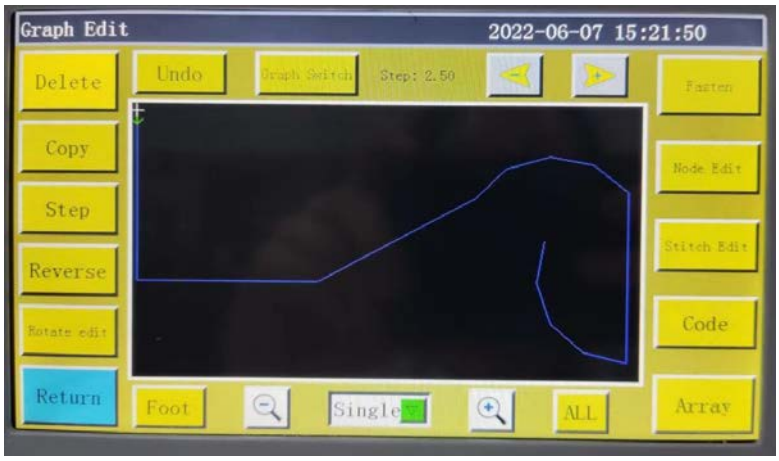
Turn End An inflection point terminates the command. When the command is encountered, sewing at the inflection point is terminated to restore the sewing speed to the normal one.

4.14 Graphic Editing

With the graphic editing, captured graphics can be edited in detail.

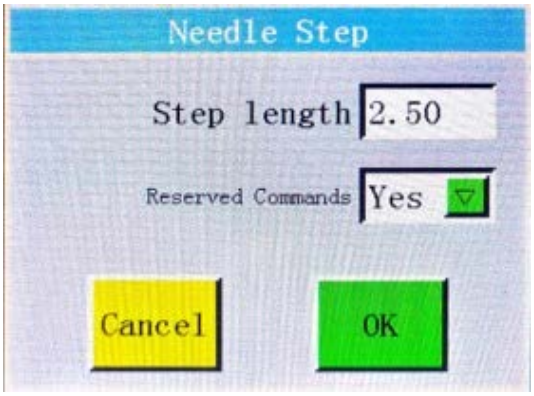
Click 

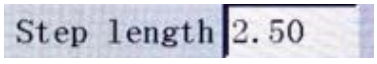
to enter the following interface:



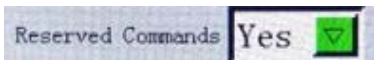
The function keys can't be edited unless the graphics to be handled are selected (turn blue if chosen) using  .

: Used to set the stitching pitch of the selected graphic. (the stitch length ranges from 1 to 50)





: Enter the changed pitch (mm) in this field.



: Select "Yes" when you want to maintain the command you have added to the processing file even after having changed the pitch length.

Code **"Command" key :** Used to add a command.

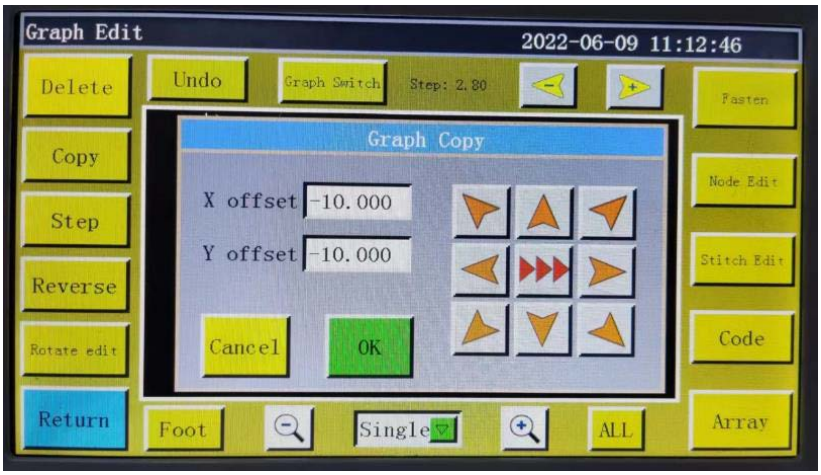
(Refer to P49 for details.)

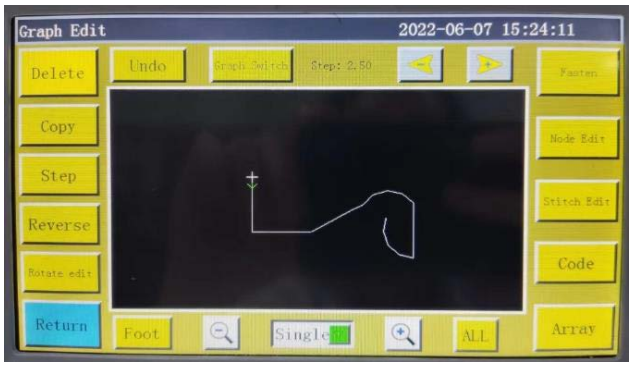
Reverse **:** Reverse the sewing process of the selected graphic, that is to say, the stitching is performed in reverse order.

Undo **: "Revoke" key :** back to the state before the last modification.

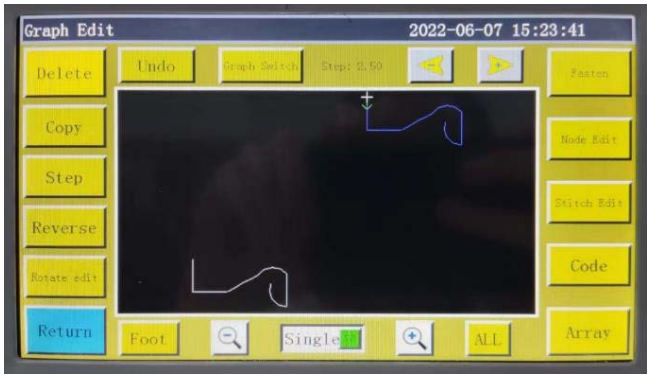
Delete **:** Delete the currently selected graphic

Copy **:** Select the image to be copied and set its offset, that is, determine the location of the replicated image, as follows :



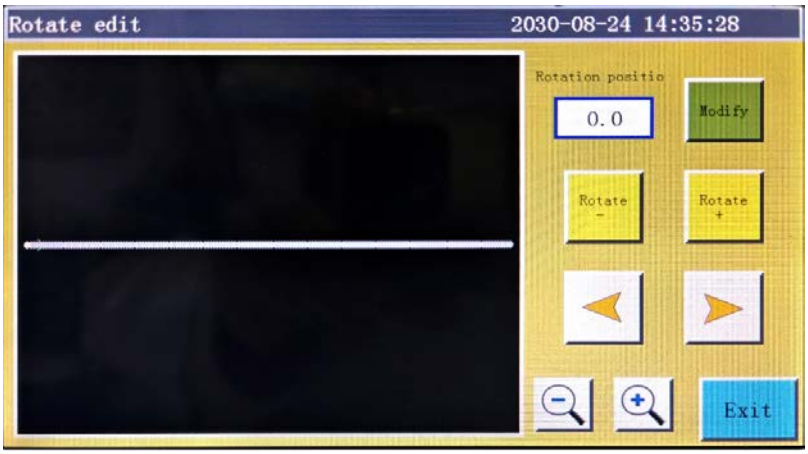


Before copying



After copying

Rotation edit : Used to change the angle of the head of the needle point you have selected. This command is only provided for the model with the rotating machine head.



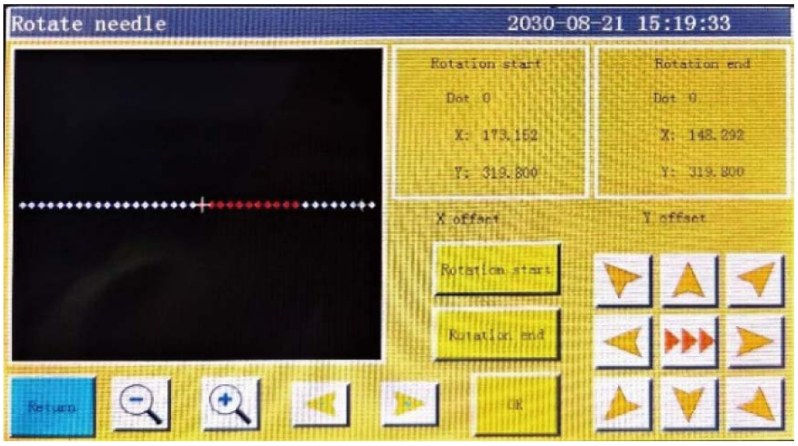
: Used to move the needle point during selection of needle points.

Rotate - Rotate + : With these keys, the angle of rotation can be changed.

Rotation positio 0.0 : Used to display the angle of rotation.

Modify : Used to save the setting of the angle of rotation. Setting is not reflected unless this key is pressed.

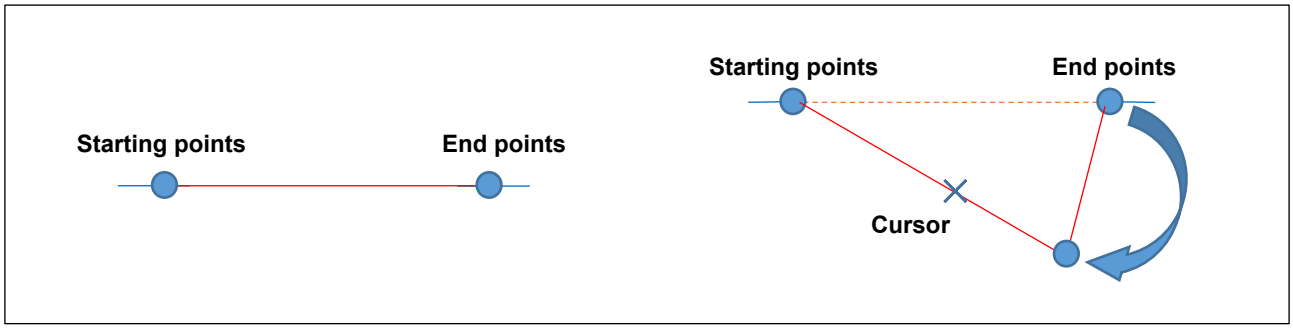
Rotating needle : Used to select the range of needle points to be edited and perform rotational move of the end point with reference to the starting point.



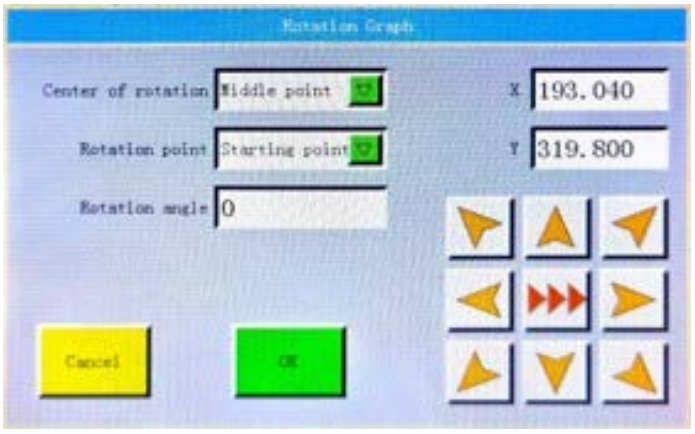
Rotation start : Used to select the starting point of the editing range. Once the starting point is determined, the needle point will turn red.
Information including coordinates of the starting point is displayed at the upper right of the screen.

Rotation end : Used to select the end point of the editing range. Once the end point is determined, the needle points from the starting to the end points will turn red totally. Information including coordinates of the end point is displaed at the upper right of the screen.

OK : When you press this button after you have completed range selection and cursor movement (to determine the angle of rotation), the editing is performed.



Rotate ：Rotates the selected shape.



：Used to select the center point of rotation. Select one from the starting point, midpoint and end point.

：Used to move the cursor to the starting point, midpoint or end point of the selected graphic.

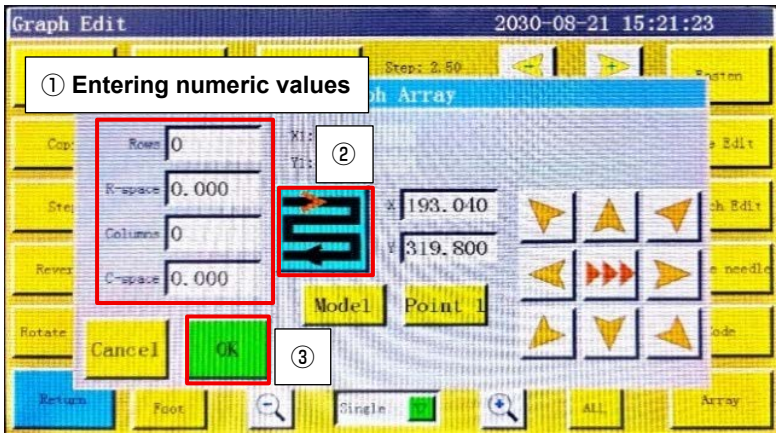
：Used to set the degree of rotation.

“Array” key：Used to create a copy of the selected graphic on the rows and columns.

Mode 1 ：There are three stages of modes, mode 1 to mode 3.

The modes are as described below.

Mode 1: Set the number of rows and columns and intervals to create a copy.



Rows : Set the number of graphics to be added to the rows (vertical side).

R-space : Set the interval of graphics to be added to the rows (vertical side).

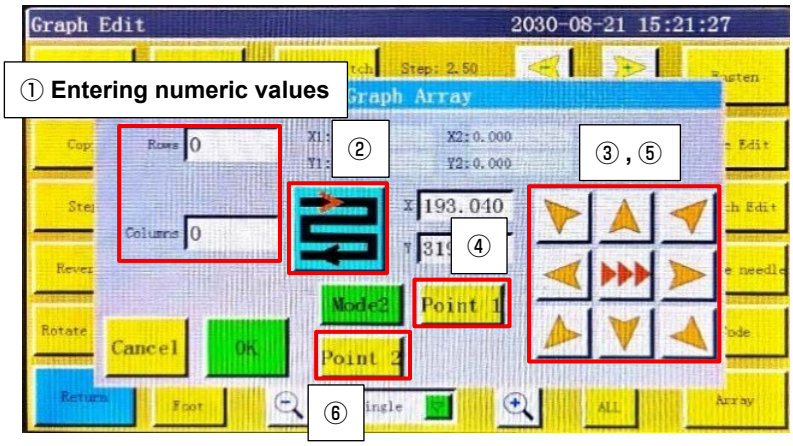
Columns : Set the number of graphics to be added to the columns (horizontal side).

C-space : Set the interval of graphics to be added to the columns (horizontal side).

 : With this key, the direction of creating a copy can be set.

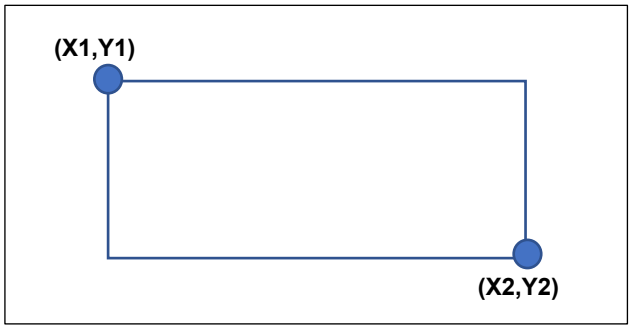
A copy is created along the direction of the arrow and the line.

Mode 2 : Set coordinates of two points to determine the area. Copies are automatically created by the set numbers of rows and columns. Carry out the operation following the steps of procedure from ① to ⑥ .



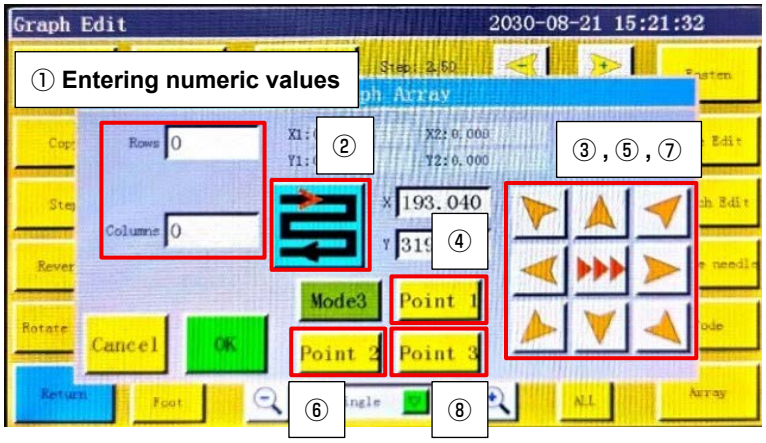
Point 1 : Determine coordinates of (X1, Y1). The coordinates displayed in (X, Y) are entered in (X1, Y1).

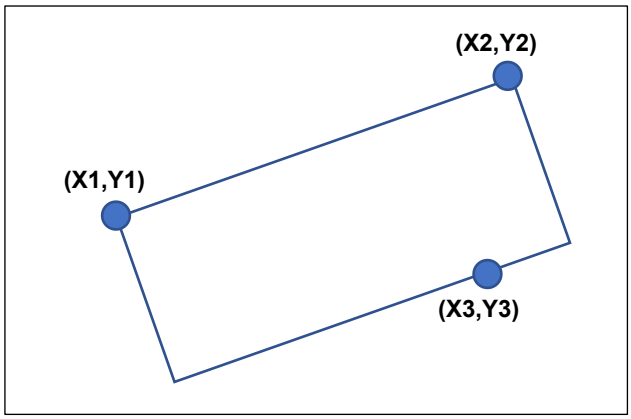
The same applies to the second and third points.



Determine an area based on the first and second points.

Mode 3 : Set coordinates of three points to determine an area. Copies are automatically created by the set number of rows and columns.
Use the Mode 3 when you want to create a tilted graphic. Carry out the operation following the steps of procedure from ① to ⑧ .





Determine a quadrangular area based on the first, second and third points.

Stitch Edit **:** Click this key after selecting the graphic, when all needle points are displayed on the graphic; the interface is as follows:

A certain needle point can be added, deleted, translated or changed. (The green dot indicates that a command is given to the dot.)

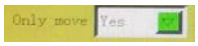
: Used to select an arbitrary needle point. Then, determine the position to which you want to add the needle point with the Direction keys and press the "OK" key to add the needle point.

: Used to select an arbitrary needle point. Press the "OK" key to delete the needle point.

: Used to select an arbitrary needle point. Then, determine the position to which you want to move the needle point with the Direction keys and press the "OK" key to move the needle point.

: Used to select a needle point you want to use as the starting point. Then, press the "OK" key to change the starting point.

: Used to add a zigzag stitch to an arbitrary needle point.



: Used to select, in the case of point movement, either one stitch or multiple needle points is/are used to connect the departure point and the destination point.

: Used to correct the reference point.

: Used to deflect an arbitrary graphic along with the graphic selected from a straight line, rectangle and curve.

: The entire curve is presented in the form of many nodes so that the curve can be changed by adding, deleting and translating the nodes. Moreover, even the start point and the direction of the entire curve can be changed (the key operation mode is the same as needle point editing). The interface is as follows:

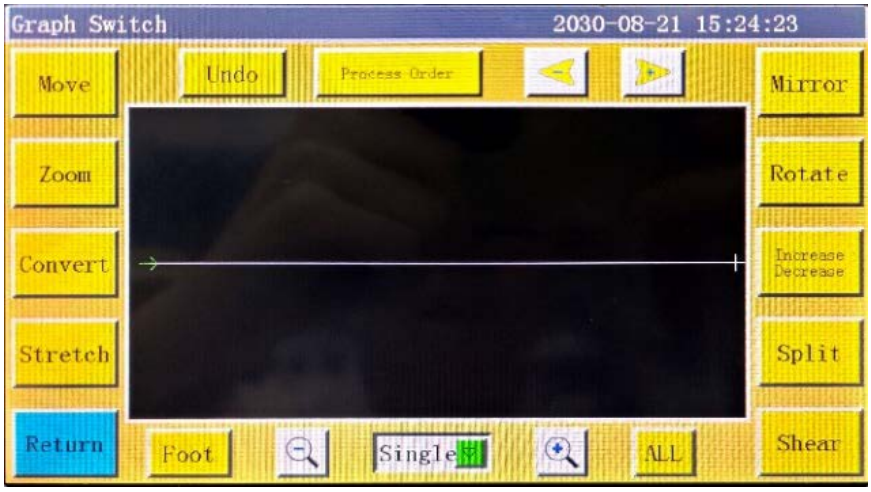
: Used to select an arbitrary node. Then, determine the position to which you want to add the node and press the "OK" key to add the node.

: Used to select an arbitrary node. Then, press the "OK" key to delete the node.

: Used to select an arbitrary node. Then, determine the position to which you want to move the node with the Direction keys and press the "OK" key to move the node.

Used to select a node you want to use as the starting point. Then, press the "OK" key to change the starting point.

Graphic transformation: When you get into the graphic transformation interface, the panel display will be as shown below.



This graphic can be changed or edited by setting up parameters such as pan, stretch, scale, rotation, mirroring, increase/decrease, and shear.

Select the method and select the curve you want to edit through


.

: Undo the edition of the previous step.

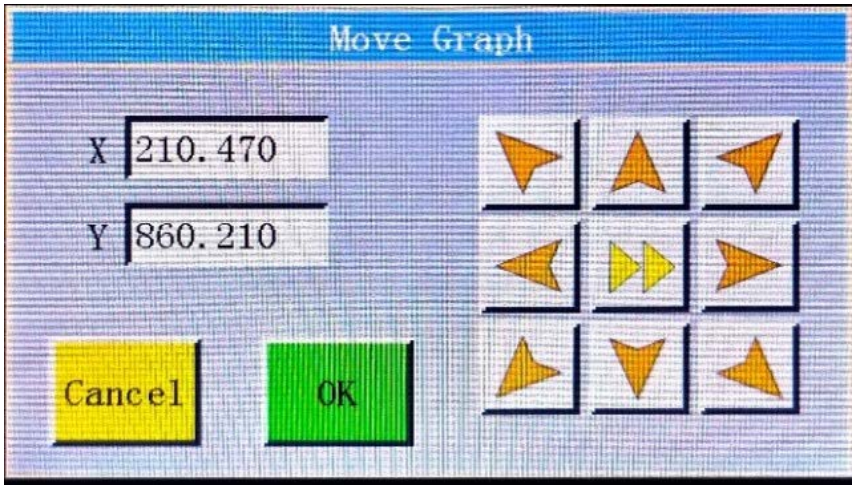
: Enter the processing sequence interface to view the processing sequence of graphic.

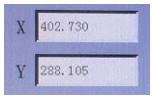
: Used to indicate the order of graphic processing. When you press any of these keys, you can select the graphic corresponding to the order.


: Used to change the order of graphic processing.

Select a graphic and press the key to change the order of graphic processing.

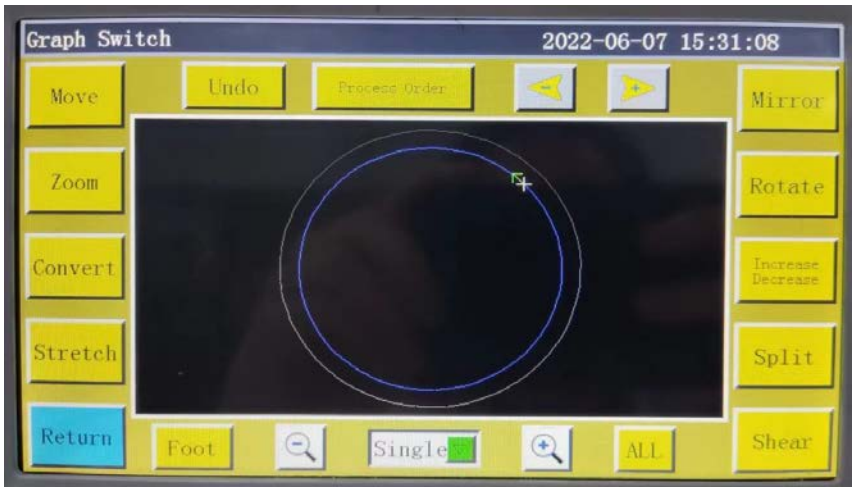
: Used to move a graphic to the set XY coordinates.





: Used to set coordinates of the destination.

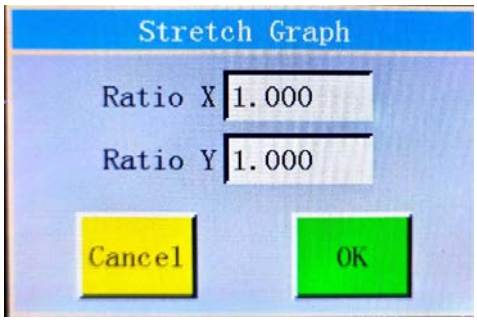
Before translation :

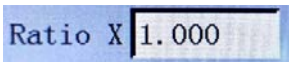


After translation :

: Used to change the ratio of the selected graphic to expand/contract it.

* The ratio in the initial state is "Vertical : Horizontal = 1:1".

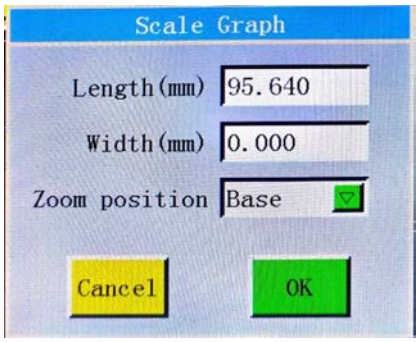


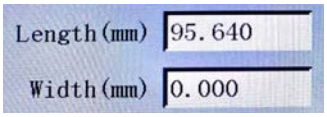


: Used to set the expansion/contraction ratio in the horizontal direction.

: Used to set the expansion/contraction ration in the vertical direction.

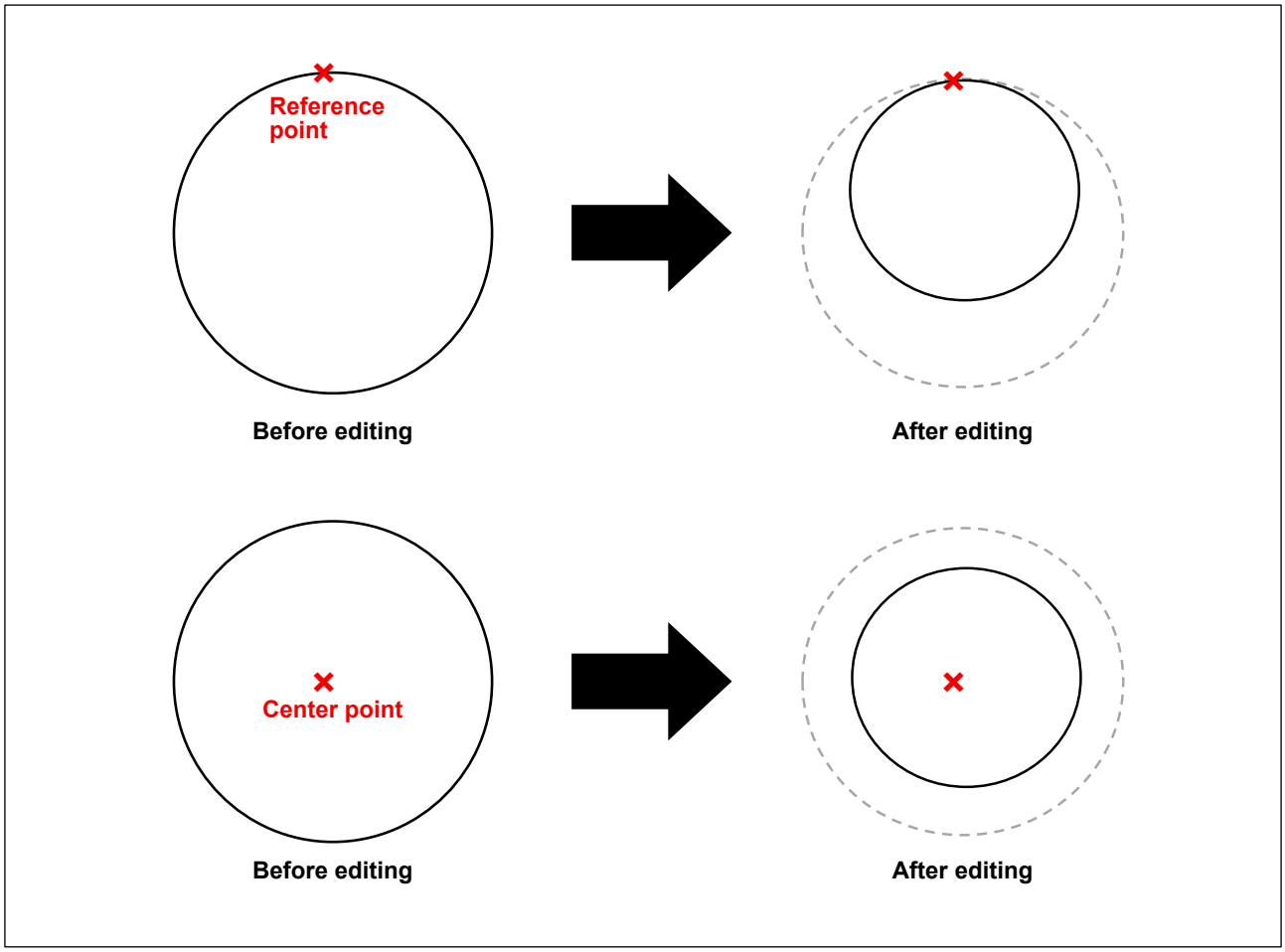
: The selected graphic is scaled by the set graphic ratio.





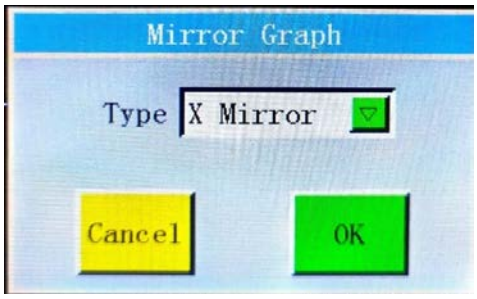
: Used to set the size of a graphic after it is expanded/contracted.

: Used to select the starting point of expansion/contraction.



Mirror : Make horizontal and vertical mirroring changes to the selected graphic. As follows:

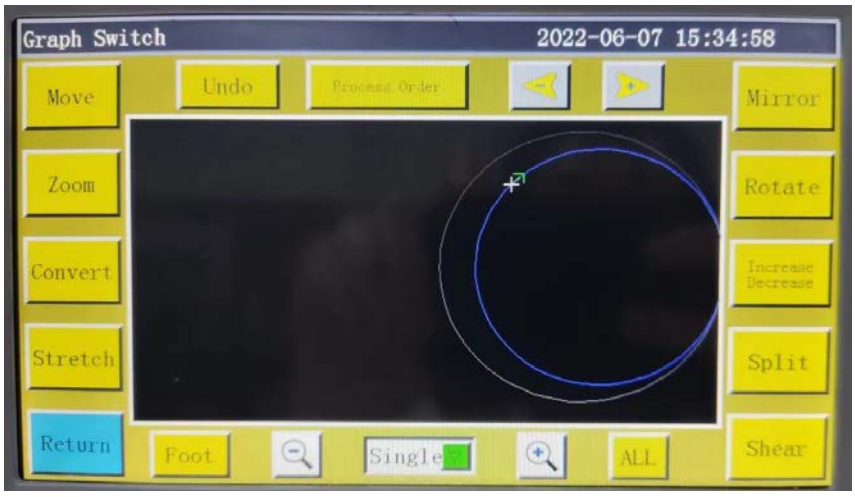
Before the change:



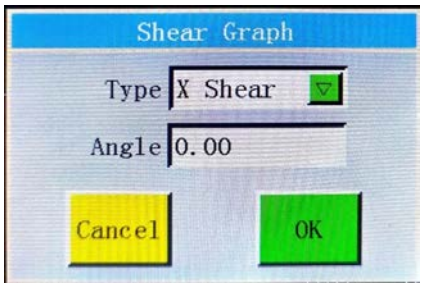
Type X Mirror : Used to select the direction of mirror inversion.

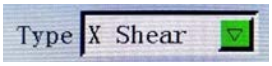
Before the change:

After horizontal mirroring change:

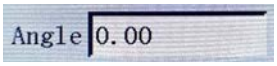


Used to tiled the selected graphic.





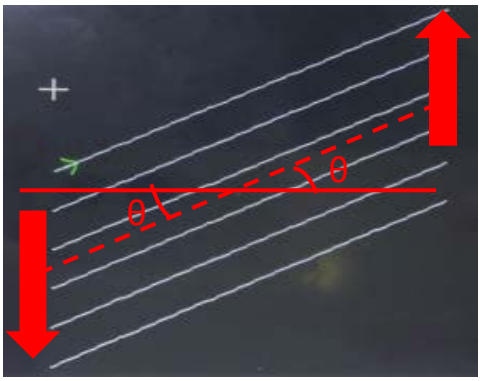
: Used to select the tilting direction of the graphic.



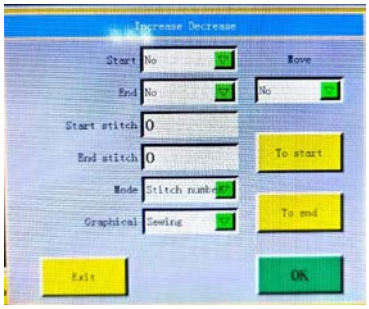
: Used to set the tilting angle of the graphic.

In the case of horizontal shear

In the case of vertical shear



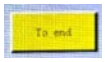
: Press this key to open the increase/decrease graphic interface and set the increase/decrease of all continuous curves of the processing curves simultaneously. The screen is as shown below **:**



, 

: Used to set whether or not increase/decrease of each continuous curve is carried out at the start or end of the curve.

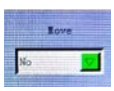
: Used to move the frame to the starting point of the processing file.



: Used to move the frame to the end point of the processing file.

: Used to set the increase/decrease mode and select the length or the number of stitches.

: Used to select a target of increase/decrease. (Seam line, cutting line, idling (movement without load)

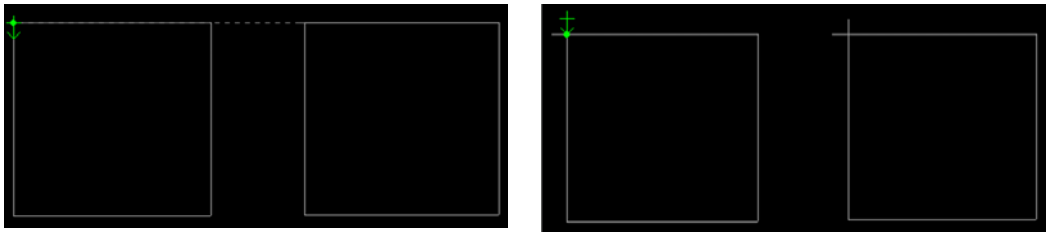


: This function is disabled.

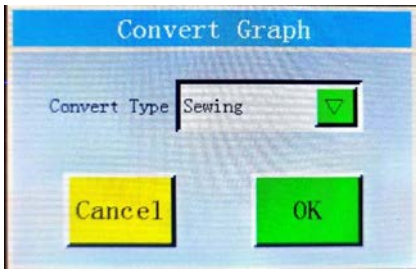
: Used to set a length (unit: mm) or the number of stitches to increase/decrease.

A positive number indicates extension of the curve. A negative number indicates shortening of the curve.

For example, if the stitch length of the current pattern is 3 mm, and the extension is set to 5 mm, the curve will be lengthened by one stitch. (If the extension is set to a value smaller than one stitch length, the setting will not take effect.) When you set as "Start: Yes", "End: Yes" and "Increase or decrease: 9" in the figure on the left, the figure will be changed to the figure on the right.

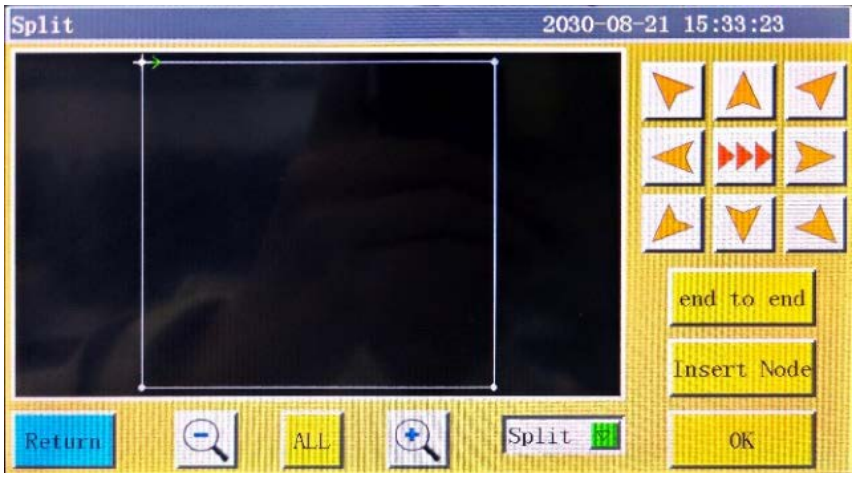


: Changes over the selected pattern between the sewing mode and the jump mode.

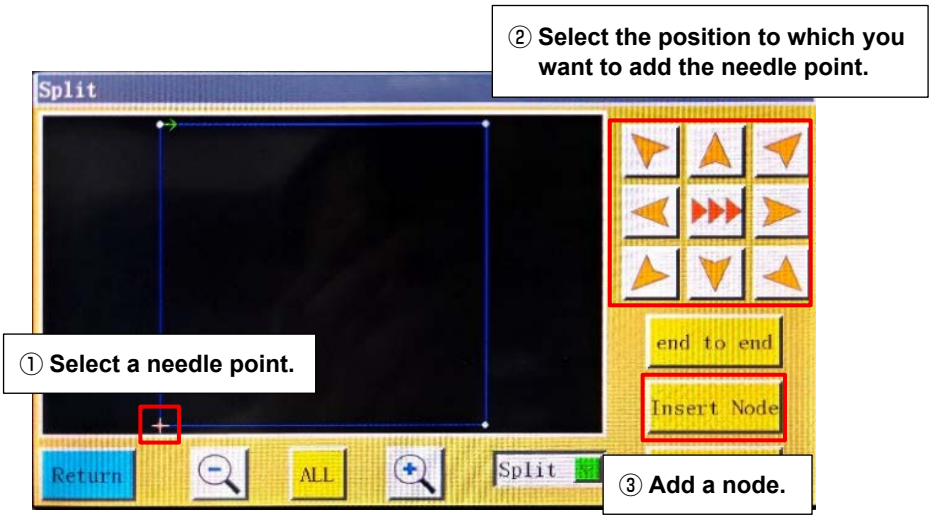


: Used to change the type of the selected graphic. (Seam line and idling (movement without load))

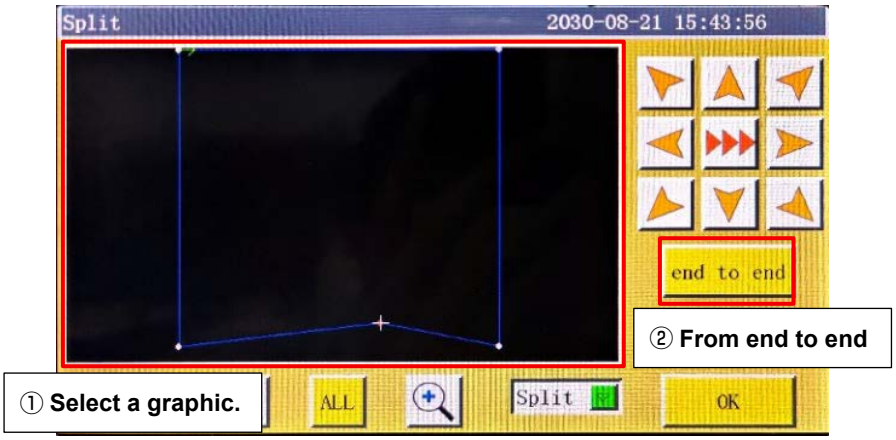
: Splits a selected graphic or combines the selected graphics.

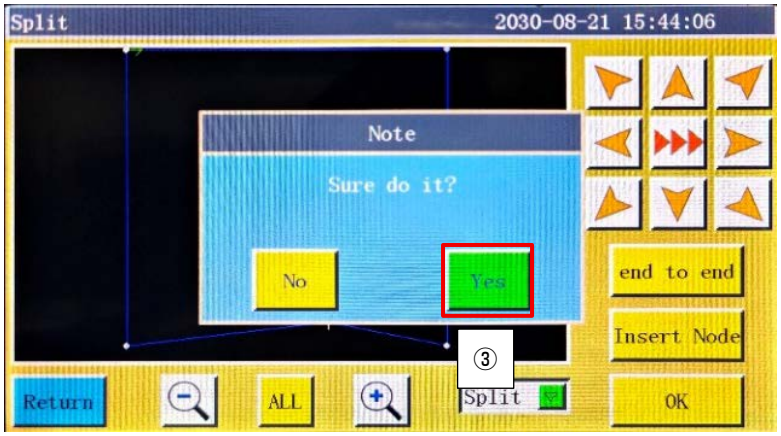


: Used to add a needle point. (Add a needle point following the steps of procedure ① to ③ .)



end to end : Connect the starting and end points of the selected graphic. (Add a needle point following the steps of procedure ① to ③ .)



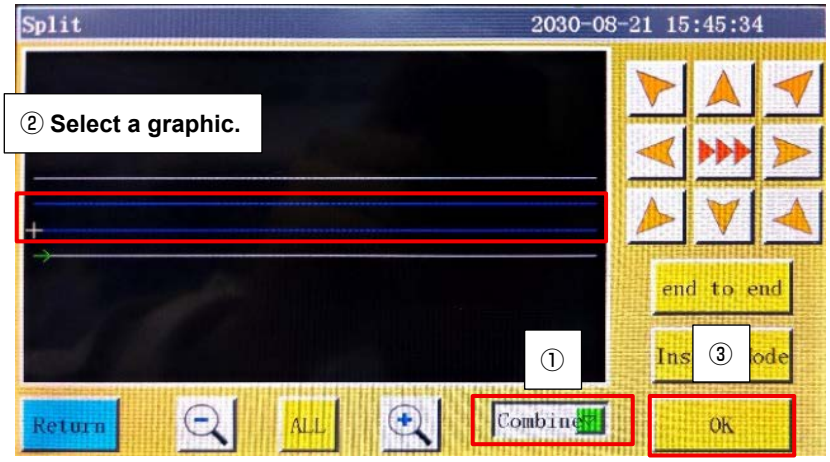


: Used to select either "Split" or "Combine".

In the case of split, one graphic as described above can be edited.

In the case of “Combine”, two or more graphics can be edited so that they are connected. (Edit following the steps of procedure ① to ③).

* Node editing cannot be performed when "Combine" is selected.

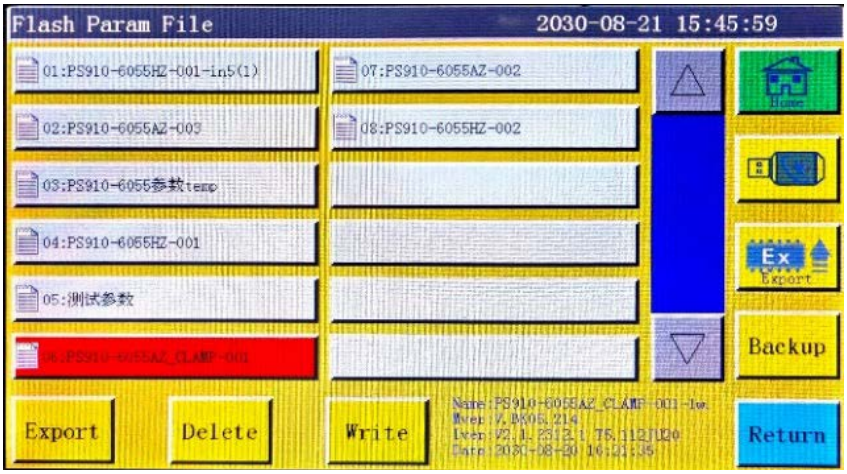


Chapter V Parameter File

Parameters may vary depending on usage scenarios. The parameter file management interface is used to import and export parameter files, manage multiple parameter files, and select one of the parameters in memory as the parameter actually used in the system.

5.1 Memory parameter file interface

When Param File is pressed on the Main menu interface, the memory parameter file interface is opened.



The interface displays parameters files stored in the system. Click on the file name to make it red, and then click Write , when a prompt message pops up reading "In progress, please wait..." and then reading "Operation succeeded"; then, the system returns to the main interface, which means the selected parameters have taken effect. All the set values and other hidden parameters in "User parameters" and "Mechanical parameters" will be modified by this parameter file.

The key functions are described as follows:

Write **:** Write the selected parameter file into control board as a parameter actually used. The parameter file imported to the system from USB flash disk can't take effect unless "Write" is clicked on.

Delete **:** Used to delete the selected parameter file.

Export **:** Export all the parameters used by the current system to USB flash disk. Click "Export" to enter the new file name, when the specified file name will be generated in USB flash disk with extension .xhp.

: Return to the menu page.


: Return to the main page.


: Used to copy single or multiple files you have selected from the memory file to the USB thumb drive. If the file with the same name exists on the USB thumb drive, the message “This file already exits. Are you sure you want to overwrite it?" is displayed.

When  is pressed, the USB parameter file interface is opened.

The system will list the files and folders with extension .xhp, and support multi-level folder operations.

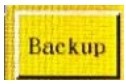
Select the name of the parameter file to be imported into the machine in the USB flash disk parameter file interface, and click  to copy the file to the memory space. Select the file in the way as mentioned above, and click 

to make the parameter take effect.

Note: The parameter file varies depending on equipment model. Mixing is prohibited. Even the equipment of the same model may have different optimal factory parameter configurations due to slight differences in their mechanical structures. Hence, it is recommended, after the purchase of machines, to export factory parameters for each machine and save them with different file names for future use.

The detailed steps for exporting parameters:

1) Insert USB flash disk;
2) Enter the "Parameter file" interface and press the [Output].
3) In the pop-up dialog box, enter numbers or letters as the file name of exported parameter, and click OK to save it to the USB flash disk.



: Used to save the currently used parameter file on the memory inside the panel.

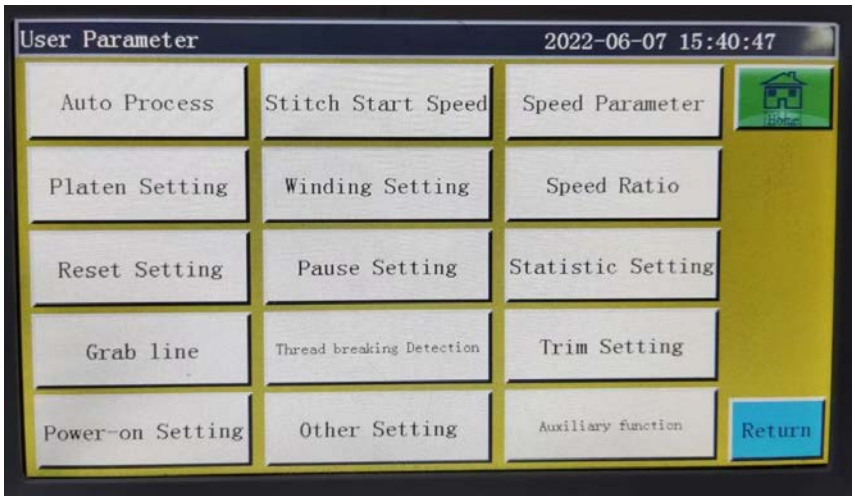
Chapter VI User Parameters

User parameters can be adjusted in accordance with processing requirements so as to meet them and improve processing efficiency.

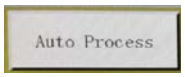
6.1 User Parameters Interface

Press 

key in main menu interface to enter the user parameters interface as shown in the figure :



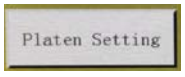
Parameter classification description:



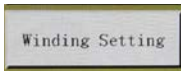
: Set the parameters of sheet pressing, thread cutting and foot pressing, etc. during automatic processing.

: Used to set whether or not the slow start is employed for the starting speed of several stitches at startup.

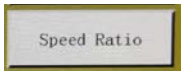
: Set the running speed of main shaft and XY axes.



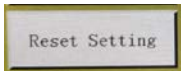
: Set relevant parameters for sheet pressing.



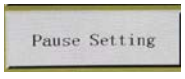
: Set winding parameters.



: Set the main shaft processing speed override.

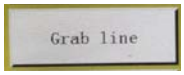


: Set relevant parameters such as the speed at the time of reset, and whether the pressure plate is put down or not.

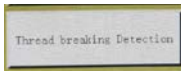


: Set the parameters used when pausing.

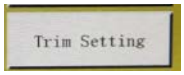
: Set related parameters of processing statistics.



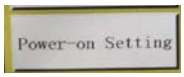
: Set the thread trimming and stitching start thread grab position parameters.



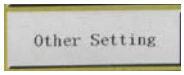
: Set relevant parameters for break detection.



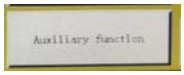
: Set relevant parameters for trimming.



: Set the parameters that need to be initialized when the machine is powered on.

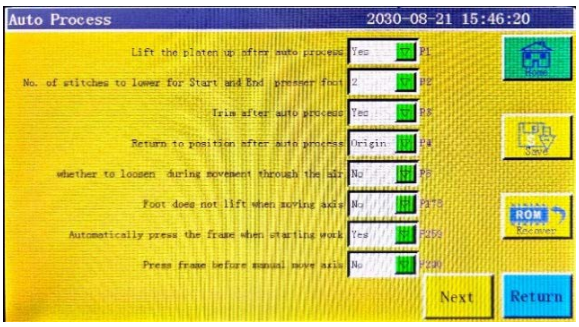


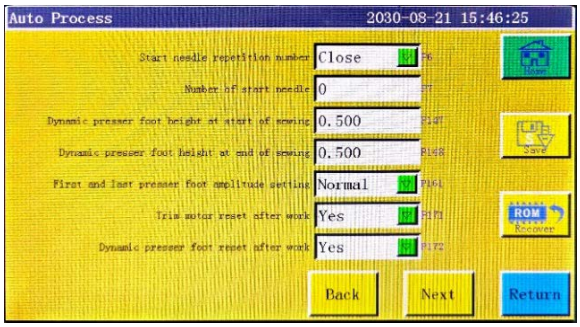
: Set parameters relating to cycle processing and interface display.

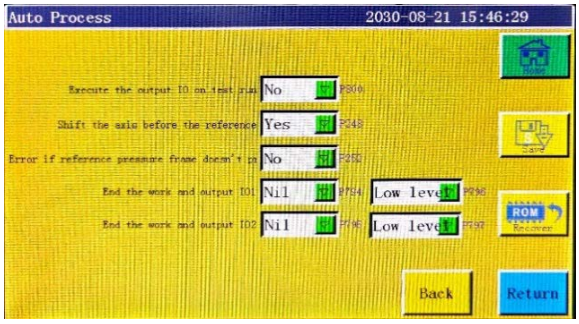


: Sets whether or not the air is blown at the start and end of sewing, and sets whether or not the introduced graphic is located at the center of the processing area.

Take automatic processing as an example, where the interface is as follows:







: The "Restore" key can be used to restore the pre-modification parameters before the set parameters are saved.

6.2 Introduction to User Setting Parameters

Parameter classification		Parameter name	Range	Default	Parameter meaning and remarks
Auto Process	P1	Cassette clamp release after completion of automatic processing	Yes/No	Yes	When the sewing machine completes one cycle of continuous sewing, the cassette clamp is lifted.
	P2	Number of stitches to lower presser at start and end	0 to 8	2	This parameter sets the number of stitches at the starting and end of sewing to be sewn with the intermediate presser lowered than its normal position.
	P3	Thread trimming after the completion of automatic machining	Yes/No	Yes	Thread trimming is carried out every time the continuous sewing cycle is completed.
	P4	Return position after completion of automatic processing	Origin/Secondary origin	Origin	The "origin" means absolute coordinate origin;
					"Secondary origin" refers to the secondary origin (offset point) added to the file
	P5	Thread grip at empty feed	Yes/No	No	Does it OFF the thread grip when feeding in empty
	P173	No lift of presser foot despite the axis movement	Yes/No	No	Selects the state of the feeding frame when adjusting the 2nd origin.
	P259	Automatic clamp when operated	Yes/No	Yes	Is the cassette clamp ON at the start of sewing
	P240	Clamp before manual feed	Yes/No	No	ON the cassette clamp first in manual feed operation
	P6	Number of overlap stitches at the beginning of sewing	Off/1/ 2/ 3	Off	"1", "2" and "3" sew the next needle after repeating the sewing machine 1, 2 or 3 times with respect to the first needle at the start.
					"Off" does not repeat sewing.
	P7	Number of stitches to operate thread clamp at the beginning of sewing	0 to 255	0	OFF the thread grip for the set number of stitches from the sewing start.
	P147	Intermediate presser height at start of sewing	0 to 4	0.5	Height of the intermediate presser at the start of sewing
	P148	Intermediate presser height at the end of sewing	0 to 4	0	Height of the intermediate presser at the end of sewing
	P161	Setting of presser oscillating width at start and end	Normal/Half cut/ Widen	Normal	Height of the intermediate presser at the end of sewing
	P172	Reset intermediate presser motor after completion of operation	Yes/No	Yes	The intermediate presser motor is reset at the end of sewing.
	P248	Need/no need for the axis movement before setting the reference	Yes/No	Yes	This parameter specifies whether or not the frame moves when the reference setting screen is opened.

Parameter classification		Parameter name	Range	Default	Parameter meaning and remarks
Auto Process	P252	Clamp release error before setting the reference	Yes/No	No	An error is displayed in the case the clamp is lifted when opening the reference setting screen.
	P794 P796	IO1 of termination work	No/OUT1 to OUT12, high level/ low level	No, low level	The OUT signal is output upon completion of operation. Output is possible by selecting the output number and setting the "High power level".
	P795 P797	IO2 of termination work	No/OUT1 to OUT12, high level/ low level	No, low level	The OUT signal is output upon completion of operation. Output is possible by selecting the output number and setting the "High power level".
Sewing speed at start	P8	Starting speed of first hand (sti/min)	100 to 3000	300	Acceleration from standstill to maximum sewing speed requires up to 5 stages. Excessively high acceleration may cause the initial stitches to be smaller.
	P9	Second Hand Start Speed (sti/min)	100 to 3000	600	
	P10	Third Hand Start Speed (sti/min)	100 to 3000	900	
	P11	Starting speed of 4th hand (sti/min)	100 to 3000	1500	
	P12	5th Hand Start Speed (sti/min)	100 to 3000	2100	
	P170	Reverse sewing speed (sti/min)	100 to 3000	1200	Reverse stitching speed
	P13	Need/no need for soft start	Yes/No	Yes	Low speed start
	P162	Start sewing 2-needle low speed required/ not required	Yes/No	Yes	Slow : It indicates that the constant number has increased. The aforementioned number of revolutions is decreased.
	P163	Sewing finish 2 needle low speed required/ not required	Yes/No	No	Last 2 stitches slower
Speed Parameter	P14	The highest speed of the main shaft (sti/ min)	100 to 3000	3000	Limit the max. working speed in the main interface of processing.
	P15	Empty feed speed (mm/ min)	100 to 100000	35000	Spatio-temporal feed frame movement speed during normal sewing
	P16	Inching speed (mm/ min)	100 to 20000	5000	For collecting or modifying files Preview the movement speed of the pin frame.
	P160	Test sewing speed (mm/ min)	100 to 60000	8000	Movement speed of the sewing trajectory
	P17	Button speed 1 (mm/min)	100 to 20000	500	When manually moving a box or collecting a file, use the corresponding eight directional keys.
					▶ Operating speed with icon
	P18	Button speed 2 (mm/min)	100 to 20000	1500	8 Correspond to the two direction keys
					▶▶keysOperating speed with icon

Parameter classification		Parameter name	Range	Default	Parameter meaning and remarks
Speed Parameter	P19	Button speed 3 (mm/min)	100 to 20000	8000	8 Correspond to the two direction keys
					▶▶▶Operating speed with icon
	P217	Graphic edit speed (mm/min)	0 to 100000	0	Idling (movement without load) speed that occurs during graphic selection when editing a graphic, etc.
	P174	Head 2 Speed (mm/s)	0 to 2000	60	Velocity of XY shaft when using a laser scalpel
	P175	Head 3 Speed (mm/s)	0 to 2000	0	Velocity of XY shaft when using a laser scalpel
	P178	Continuous inching speed	Normal/Reduce/ Minimum	Normal	This parameter sets the minimum movement speed of the coordinate movement key when editing a graphic.
	P773	Speed of reverse rotation (sti/ min)	0 to 3000	0	This parameter sets the speed of sewing in the reverse direction (the direction to increase coordinate values).
	P20	Absence of thread spreader air spreading output IO	No/OUT1 to OUT8	No	This parameter specifies whether the air blower substitutes the wiper function.
	P774	Number of stitches for sewing end speed limit	0 to 30	0	This parameter sets how many stitches from the end of sewing to reduce the sewing speed.
	P775	Number of stitches to limit the sewing speed at the end of sewing	100 to 1800	0	Reduced sewing speed for sewing the set number of stitches at the end of sewing.
Clamp setting	P22	Prohibit sewing when uplifted	Yes/No	Yes	Sewing is prohibited when the cassette clamp is lifted to its upper position.
	P781	Need for clamp during movement	Yes/No	Yes	This parameter moves the shaft when lifting the cassette clamp. When this parameter is set to "Yes" and the shaft is moved, "E205: Clamp presser fails to clamp" is displayed.
	P863	Main shaft remains the same despite the axis movement.	Yes/No	No	Main shaft is stopped in its upper position when the axis is moving.
	P743	Delay to release the double clamp (ms)	0 to 10000	0	This is not used in the PS-900.
	P744	Delay to lower the double clamp (ms)	0 to 10000	0	This is not used in the PS-900.
	P114	Clip thread correction	-30 to 30	0	At tension correction
		Thread clamp type	Thread clamp/Tension disk release	Thread clamp	
	P23	Pedal operating sequence	Normal/Special	Normal	Sequential order of operation of the pedal
	P24	Pedal operating mode	1STA/1STB/ 1STC/2ST/ 3ST	2ST	There are different operation modes for pedal switches of different mechanical structures (with or without self-locking, etc.).

Parameter classification		Parameter name	Range	Default	Parameter meaning and remarks
Clamp setting	P25	Thread clamp starting angle at the beginning of sewing	1 to 990	10	Thread grip ON at the start of sewing
	P26	Thread clamp ending angle at the beginning of sewing	1 to 990	10	Thread grip OFF at the start of sewing
	P27	Thread trimmer thread grip start angle	1 to 990	930	Grip start angle at thread trimming
	P28	Thread trimmer thread grip end angle	1 to 990	60	Grip end angle at thread trimming
Bobbin thread winder setting	P29	Bobbin thread winding state	Permit/Prohibit	Permit	Bobbin winder 
					Default state
	P30	Bobbin thread winding speed(sti/min)	100 to 4500	2800	Bobbin winder speed
	P31	Bobbin thread winding time(s)	1 to 63000	200	Setting the time of the spool
Speed ratio	P32	High speed ratio(%)	1 to 100	100	Actual speed of main shaft in main interface = Set speed * High speed override
	P33	Medium high speed ratio (%)	1 to 100	100	Refer to the above description.
	P34	Medium low speed ratio (%)	1 to 100	100	Refer to the above description.
	P35	Low speed ratio (%)	1 to 100	100	Refer to the above description.
Reset setting	P36	Clamp at resetting	Yes/No	No	Cassette clamp lowers when returning to origin
	P264	Clamp release after manual resetting	Yes/No	Yes	Press the return button to raise the cassette clamp when returning to the origin
	P38	Origin return method	XY simultaneous / X priority/Y priority	XY simultaneous	"Simultaneous XY " means that origin resetting starts at the same time, and "X preferred" means that x axis resets the origin first and Y axis resets the origin.
	P39	Home return velocity(mm/min)	100 to 60000	15000	X and Y shaft speed at home return
	P303	Extended axis reset speed(mm/s)	1 to 2000	1	Return-to-origin speed of the OP axis
	P741	XY axes 0 (zero) position cushion at resetting	No/X axis/Y axis/ XY axes	XY axes	This parameter sets the axis speed of which is decreased when resetting the origin.
	P649	Alarm at reset error	Yes/No	No	Reset is executed or the confirmation screen is activated by pressing the Reset key.
	P216	Reset output IO enable	No / OUT1 to OUT30	No	Error occurs when the signal of OUT1 to OUT30 is output without resetting the sewing machine after turning the power ON.

Parameter classification		Parameter name	Range	Default	Parameter meaning and remarks
Reset setting	P756-P761 P762-P767	Output I/O before resetting	No/OUT1 to OUT15/ High power level/ low power level	OUT6, Low power level	
			No/OUT1 to OUT15/ High power level/ low power level	OUT9, Low power level	
			No/OUT1 to OUT15/ High power level/ low power level	No, Low power level	
			No/OUT1 to OUT15/ High power level/ low power level	No, Low power level	
			No/OUT1 to OUT15/ High power level/ low power level	No, Low power level	
			No/OUT1 to OUT15/ High power level/ low power level	No, Low power level	
	P823	Output IO for resetting captured graphics is enabled.	Yes/No	No	All parts such as the clamp and presser foot are deactivated by resetting when capturing a graphic
	P782-P787 P788-P793	Output IO after resetting	No/OUT1 to OUT15/ High power level/ low power level	No, Low power level	
			No/OUT1 to OUT15/ High power level/ low power level	No, Low power level	
			No/OUT1 to OUT15/ High power level/ low power level	No, Low power level	
			No/OUT1 to OUT15/ High power level/ low power level	No, Low power level	
			No/OUT1 to OUT15/ High power level/ low power level	No, Low power level	
			No/OUT1 to OUT15/ High power level/ low power level	No, Low power level	
Pause setting	P44	Clamp release during pause	Yes/No	No	This parameter specifies whether the clamp is lifted at the time of pause.
	P45	Pause switch types	Self lock/Ordinary	Self lock	This parameter selects the operation after pressing the Pause key; either releasing the pause by re-pressing the key or stopping the machine as long as the Pause key is held pressed.
	P799	No lift of presser during pause	Yes/No	No	Presser foot is lowered at the time of pause.
	P876	Last operating position of the graphic is restored.	Yes/No	No	The operating position is moved from the end position of the pattern to the origin.

Parameter classification		Parameter name	Range	Default	Parameter meaning and remarks
Pause setting	P204	Starting after pause with the pin ignored	Yes/No	No	This parameter selects the operation after pause during sewing; either re-starting from the paused position or re-starting from the next point.
Statistics setting	P49	Bobbin thread clearing when energized	Yes/No	No	"Yes" means the "used length of bobbin thread" is cleared after power-up
	P50	Stop working after the bobbin thread has run out.	Yes/No	No	"Yes" means the operation is stopped when the used length of bobbin thread reaches the total length
	P51	Enable bobbin thread count setting	Yes/No	No	"Yes" means automatic statistics of the used length of bobbin thread during operation
	P46	Count reset when energized	Yes/No	No	"Yes" means "current value of count by piece" is zero-cleared after power-up
	P47	Continue work after the counter has reached the target value	Yes/No	No	"No" means the operation stops when "current value of count by piece" reaches the "total count by piece".
	P48	Enable counter setting	Yes/No	No	This parameters specifies whether the sewing counter is enabled.
	P52	Working hours counter	Yes/No	No	"Yes" means the processing time statistics feature is enabled.
	P779	Bobbin thread count model	IN1 to IN7/Default	Default	Bobbin thread quantity statistics mode
	P780	Adjustment value of bobbin thread allowance (mm)	0 to 600000	0	Adjustment of the remaining amount of the bobbin thread
Grab line	P53	Thread trimmer thread clamp position	0 to 200	0	This parameter is not used in the PS-900.
	P54	Thread clamp position at the beginning of sewing	0 to 200	0	This parameter is not used in the PS-900.
	P212	Conversion point of graphics that are not for sewing	Yes/No	No	
	P627	First pin clamp IO starting	No/OUT1 to OUT12	OUT3	IO port communication is executed by starting the first stitch. This parameter is mainly used for clamping. This is not used in the PS-900.
	P477	Screw clamp IO after sewing	No/OUT1 to OUT12	OUT3	IO port signal is output after the completion of sewing. This parameter is mainly used for clamping. This is not used in the PS-900.
	P824	First stitch starting output IO	No/OUT1 to OUT12	No	IO set for the first stitch is output.
	P825	Output IO ON angle	0 to 10000	0	
	P826	Output IO OFF angle	0 to 10000	0	
Break Line Detection	P55	Automatic thread breakage detection	Yes/No	Yes	When this parameter is set to "Yes", the machine stops operation and presents the message.
	P57	Number of stitches ignored during sewing	1 to 255	5	No break detection is performed for the initial set stitch number

Parameter classification		Parameter name	Range	Default	Parameter meaning and remarks
Break Line Detection	P58	Detection of the effective number of stitches when thread breaks	1 to 255	15	Thread break is confirmed by continuous detection of break at the set stitch number
	P59	Delay of processing when thread breakage is detected (s)	0.01 to 255.00	5	Set the delay time and take actions against break after confirming thread break
	P929	Number of return stitches broken	0 to 20	0	
	P237	Thread breakage output IO	No/OUT1 to OUT12	No	After the detection of thread breakage, the output IO that corresponds to the thread breakage maintains the high level output.
	P935	Broken thread detection mode	Mode1/Mode2	Mode1	
	P207	Return to zero when thread breaks	0 to 20	0	This parameter sets whether or not the sewing machine returns by some stitches before re-starting sewing after the detection of thread breakage and presentation of the thread breakage alarm.
	P697	Open QEP2 as bobbin thread detection	Yes/No	No	Some machines measure b encoder as bobbin thread
Thread breakage setting	P60	Speed of the main shaft trimming (sti/min)	10 to 500	200	Speed of main shaft for thread trimming
	P61	Starting delay of trimming (s)	0.01 to 6.55	0.01	Delay time at the beginning of thread trimming
	P62	Thread spreading duration (s)	0.01 to 6.55	0.15	Wiper operating time
	P63	Delay to spread the thread to lift the presser foot (s)	0.01 to 6.55	0.25	Time to be elapsed after the presser foot goes up until the wiper starts wiping
	P64	Delay to start tension release (s)	0.01 to 6.55	0	Tension release ON delay time
	P65	Need/no need for thread trimming during automatic idling (movement without load) after sewing	Yes / No	Yes	This parameter specifies whether thread trimming is carried out at the time of idling (movement without load).
	P66	Need/no need for wiper usage	Yes/No	Yes	"No" means the wiper is turned off
	P67	Motor thread trimming mode	Back and forth/single	Back and forth	Motor thread trimming mode
	P68	Motor thread trimming stroke	1 to 100	23	Thread trimming motor stroke
Thread breakage setting	P69	Flat knife thread clamp delay (ms)	1 to 350	1	Thread take-up time for thread trimming
	P164	Knife return speed ratio	10 to 100	100	Rotary knife speed ratio
	P169	Loose line start mode	Angle/Delay	Delay	Thread clamp OFF actuation timing method
	P168	Loose line angle	0 to 999	730	Off angle of the thread clamp

Parameter classification		Parameter name	Range	Default	Parameter meaning and remarks
Power-on Settings	P70	Return the needle to its upper stop position when energized	Yes/No	No	Needle bar is at upper position when turning the power ON
	P71	Automatic clamp return to origin when energized	Yes/No	No	Cassette automatically returns to its origin when turning the power ON
	P72	Motor lock when energized	Yes/No	No	Lock the motor when turning the power ON
	P73	Presser foot lifting when energized	Yes/No	No	Presser foot goes up when turning the power ON
Other Setting	P74	Need/no need for air pressure detection	Yes/No	Yes	"Yes" means stoping and alarming if the air pressure is low when working.
	P75	Need/no need for repetitive operation	Yes/No	No	"Yes" means the same file is processed in a cyclic manner after start-up
	P76	Repetitive processing time (min)	1 to 65535	1440	Total cycle time; cycle processing is stopped when time is up
	P77	Repetitive processing interval (s)	0 to 20	2	The interval between the completion of processing and the restart of processing during processing cycle
	P78	Work end position	Origin/Right/Sewing starting position/End position	Origin	Origin : The point where the XY axis coordinates are both 0
					Right : Rightmost point of the processing range
					Default : The first sewing point of processing file
					End position: Stop after processing
Other Setting	P395	Template recognition mode	By barcode/electronic label	electronic label	File Number : Barcode recognition mode File Name : Electronic label recognition mode
					File Name : Electronic label recognition mode
	P81	Interface style	Classic/Simplicity	Classic	Classic : Three-dimensional keys
					Simplicity : Flat keys
	P685	Activate the motion mode before translation.	XY/X priority/Y priority	XY	This parameter sets the axis that is given priority when the axes move from the current position to the sewing starting position.
	P755	Idling translation mode during operation	XY/X priority/Y priority	XY	Travel mode for jump
	P79	Backward after main shaft stops	0 to 160	0	Reverse feed angle when the main shaft stops
	P241	Connection to the extension screen	Yes/No	No	"Yes" means the display screen can be connected to extension screen to display working files and other information
	P242	Voice prompt	Middle/High/Low/Close	Close	"High", "Medium" and "Low" represent the volume of the audio respectively.

Parameter classification		Parameter name	Range	Default	Parameter meaning and remarks
Other Setting	P21	Enable blackout memory	Yes/No	Yes	After restarting the electricity, continue sewing progress before power failure, continue sewing.
	P194	Files are enabled when electronic labels are separated.	Yes/No	No	The file is written after the electronic label has separated.
Auxiliary setting	P215	Start sewing	No/OUT1 to OUT12	No	IO is output when starting sewing.
	P214	Air blow at the end of sewing	No/OUT1 to OUT12	No	IO is output at the end of sewing.
	P213	Continuous blow time	0 to 5000	0	Set the IO output time at the beginning and end of sewing.
	P729	Imported graphic is not arranged at the center.	Yes/No	No	After a pattern file is imported, the pattern file is displayed at the center of the operation panel.
	P206	Open output IO transfer	No/OUT1 to OUT12	No	It is not used in the PS900.
	P236	Laser output IO	No/OUT1 to OUT12	No	It is not used in the PS900.
	P205	Normal laser washing time (s)	0 to 63000000	0	It is not used in the PS900.

6.3 Error Code List

Error code	Title	Details	Return method
E001	Initialization is not yet executed	• Initialization is not executed when turning the power ON	• Press the "Reset" key.
E002	X axis sensor detection error	• X axis positioning sensor fault	• Check the X axis sensor signal. • Check to make sure that the cord is not broken. • Check the X axis sensor connector for looseness or disconnection.
E003	Y axis sensor detection error	• Y axis positioning sensor fault	• Check the Y axis sensor signal. • Check to make sure that the cord is not broken. • Check the Y axis sensor connector for looseness or disconnection.
E004	Intermediate presser shaft sensor detection error	• Intermediate presser shaft positioning sensor fault	• Check the intermediate presser shaft sensor signal. • Check to make sure that the cord is not broken. • Check the intermediate presser shaft sensor connector for looseness or disconnection.
E006	Moving knife shaft sensor detection error	• Moving knife shaft positioning sensor fault	• Check the sensor signal. • Check to make sure that the cord is not broken. • Check the sensor connector for looseness or disconnection.
E007	Main shaft motor encoder error	• The main shaft motor encoder signal cannot be detected.	• Check to make sure that the cord is not broken. • Check the main shaft motor encoder connector for looseness or disconnection.
E020	X axis motor overvoltage	• A voltage that is equal to or higher than the guaranteed voltage is applied. • Application of an overvoltage has damaged the internal circuit.	• Check to make sure that the supply voltage of 92 V or higher is not applied. • Check to make sure that there is nothing wrong with the power PCB.
E021	X axis motor low voltage	• A voltage that is equal to or lower than the guaranteed voltage is applied.	• Check to make sure that the supply voltage of 80 V or lower is not applied. • Check to make sure that there is nothing wrong with the power PCB.
E022	X axis motor overcurrent (software)	• A current that is equal to or higher than the guaranteed current is applied. • Motor is short-circuited by the overcurrent.	• Check to make sure that there is nothing wrong with the X axis motor. • Check to make sure that there is nothing wrong with the power PCB.
E023	X Shaft motor overcurrent (software)	• A current that is equal to or higher than the guaranteed current is applied.	• Check to make sure that there is nothing wrong with the X axis motor. • Check to make sure that there is nothing wrong with the power PCB.
E024	X axis motor encoder error	• The X axis motor encoder signal cannot be detected.	• Check to make sure that the cord is not broken. • Check the X axis motor encoder connector for looseness or disconnection.
E025	Disconnection of the X axis motor output connector	• The connector of the X axis motor has slipped off. • The motor current detection circuit is damaged. • There is no feed back of the current.	• Check the X axis motor output connector for looseness or disconnection.

Error code	Title	Details	Return method
E026	X axis motor overload	• The X axis motor fails to rotate. • The X axis motor or the driver is damaged.	• Check the X axis motor output connector for looseness or disconnection. • Check to make sure that the cassette holder moves smoothly.
E028	X axis motor A/D conversion error	• A/D conversion of the X axis fails to complete.	• Re-turn the power ON. • Check to make sure that there is nothing wrong with the MAIN PCB.
E030	Y axis motor overcurrent	• A voltage that is equal to or higher than the guaranteed voltage is applied. • Application of an overvoltage has damaged the internal circuit.	Check to make sure that the supply voltage of 92 V or higher is not applied. • Check to make sure that there is nothing wrong with the power PCB.
E031	Y axis motor low voltage	• A voltage that is equal to or lower than the guaranteed voltage is applied.	• Check to make sure that the supply voltage of 80 V or lower is not applied. • Check to make sure that there is nothing wrong with the power PCB.
E032	Y axis motor overcurrent (hardware)	• A current that is equal to or higher than the guaranteed current is applied. • Motor is short-circuited by the overcurrent.	• Check to make sure that there is nothing wrong with the Y axis motor. • Check to make sure that there is nothing wrong with the power PCB.
E033	Y axis motor overcurrent (software)	• A current that is equal to or higher than the guaranteed current is applied.	• Check to make sure that there is nothing wrong with the Y axis motor. • Check to make sure that there is nothing wrong with the power PCB.
E034	Y axis motor encoder error	• The Y axis motor encoder signal cannot be detected.	• Check to make sure that the cord is not broken. • Check the Y axis motor encoder connector for looseness or disconnection.
E035	Disconnection of the Y axis motor output connector	• The connector of the Y axis motor has slipped off. • The motor current detection circuit is damaged. • Check the Y axis motor output connector for looseness or disconnection.	• There is no feed back of the current.
E036	Y axis motor overload	• The Y axis motor fails to rotate. • The Y axis motor or the driver is damaged.	• Check the Y axis motor output connector for looseness or disconnection. • Check to make sure that the linear module moves smoothly.
E038	Y axis motor A/D conversion error	• A/D conversion of the Y axis fails to complete.	• Re-turn the power ON. • Check to make sure that there is nothing wrong with the MAIN PCB.
E040	Intermediate presser shaft motor overvoltage	• A voltage that is equal to or higher than the guaranteed voltage is applied. • Application of an overvoltage has damaged the internal circuit.	• Check to make sure that the supply voltage of 92 V or higher is not applied. • Check to make sure that there is nothing wrong with the power PCB.
E041	Intermediate presser shaft motor low voltage	• A voltage that is equal to or lower than the guaranteed voltage is applied.	• Check to make sure that the supply voltage of 80 V or lower is not applied. • Check to make sure that there is nothing wrong with the power PCB.
E042	Intermediate presser shaft motor overcurrent (hardware)	• A current that is equal to or higher than the guaranteed current is applied. • Motor is short-circuited by the overcurrent.	• Check to make sure that there is nothing wrong with the intermediate presser shaft motor. • Check to make sure that there is nothing wrong with the power PCB.

Error code	Title	Details	Return method
E043	Intermediate presser shaft motor overcurrent (software)	• A current that is equal to or higher than the guaranteed current is detected.	• Check to make sure that there is nothing wrong with the intermediate presser shaft motor. • Check to make sure that there is nothing wrong with the power PCB.
E044	Intermediate presser shaft motor encoder error	• The intermediate presser shaft motor encoder signal cannot be detected.	• Check to make sure that the cord is not broken. • Check the intermediate presser shaft motor encoder connector for looseness or disconnection.
E045	Disconnection of the intermediate presser shaft motor connector	• The connector of the intermediate presser shaft motor has slipped off. • The motor current detection circuit is damaged. • Check the intermediate presser shaft motor output connector for looseness or disconnection.	• There is no feed back of the current.
E046	Intermediate presser shaft motor overload	• The intermediate presser shaft motor fails to rotate. • The intermediate presser shaft motor or the driver is damaged.	• Check the intermediate presser shaft motor output connector for looseness or disconnection. • Check to make sure that the intermediate presser moves smoothly.
E048	Intermediate presser shaft A/D conversion error	• A/D conversion of the intermediate presser shaft fails to complete.	• Re-turn the power ON. • Check to make sure that there is nothing wrong with the MAIN PCB.
E060	Main shaft motor overvoltage	• A voltage that is equal to or higher than the guaranteed voltage is applied. • Application of an overvoltage has damaged the internal circuit.	• Check to make that the supply voltage of 400 V or higher is not applied. • Check to make sure that there is nothing wrong with the power PCB.
E061	Main shaft motor low voltage	• A voltage that is equal to or lower than the guaranteed voltage is applied.	• Check to make sure that the supply voltage of 180 V or lower is not applied. • Check to make sure that there is nothing wrong with the power PCB.
E062	Main shaft motor overcurrent (hardware)	• A current that is equal to or higher than the guaranteed current is applied. • Motor is short-circuited by the overcurrent.	• Check to make sure that there is nothing wrong with the main shaft motor. • Check to make sure that there is nothing wrong with the power PCB.
E063	Main shaft motor overcurrent (software)	• A current that is equal to or higher than the guaranteed current is applied.	• Check to make sure that there is nothing wrong with the main shaft motor. • Check to make sure that there is nothing wrong with the power PCB.
E064	Main shaft motor encoder error	• The main shaft motor encoder signal cannot be detected.	• Check to make sure that the cord is not broken. • Check the main shaft motor encoder connector for looseness or disconnection.
E065	Main shaft motor rotation failure (machine lock)	• The main shaft motor fails to rotate. • The main shaft motor or the driver is damaged.	• Check the main shaft motor output connector for looseness or disconnection. • Check to make sure that the pulley can be manually turned without a hitch.
E066	Main shaft motor rotation failure	• The main shaft motor fails to rotate. • The main shaft motor or the driver is damaged.	• Check the main shaft motor output connector for looseness or disconnection. • Check to make sure that the pulley can be manually turned without a hitch.

Error code	Title	Details	Return method
E067	Y axis motor overcurrent protection	• A current that is equal to or higher than the guaranteed current is detected.	• Check to make sure that there is nothing wrong with the Y axis motor. • Check to make sure that there is nothing wrong with the power PCB.
E068	Y axis motor overcurrent (hardware)	• A current that is equal to or higher than the guaranteed current is applied. • Motor is short-circuited by the overcurrent.	• Check to make sure that there is nothing wrong with the Y axis motor. • Check to make sure that there is nothing wrong with the power PCB.
E069	Y axis motor A/D conversion error	• A/D conversion of the Y axis fails to complete.	• Re-turn the power ON. • Check to make sure that there is nothing wrong with the servo PCB.
E070	Y axis driver parameter error (hardware)	• The parameter set value of the Y axis driver is wrong.	• Check the parameter of the Y axis driver.
E071	Y axis driver parameter error (software)	• The parameter set value of the Y axis driver is wrong.	• Check the parameter of the Y axis driver.
E072	Y axis motor A/D conversion error	• A/D conversion of the Y axis fails to complete.	• Re-turn the power ON. • Check to make sure that there is nothing wrong with the servo PCB.
E073	Disconnection of the Y axis motor encoder connector	• The Y axis motor encoder signal cannot be detected.	• Check to make sure that the cord is not broken. • Check the Y axis motor encoder connector for looseness or disconnection.
E075	Y axis motor encoder error (Z phase)	• The Y axis motor encoder (Z phase) cannot be detected.	• Check to make sure that the cord is not broken. • Check the Y axis motor encoder connector for looseness or disconnection.
E079	Y axis motor overload	• The Y axis motor fails to rotate. • The Y axis motor or the driver is damaged.	• Check the Y axis motor output connector for looseness or disconnection. • Check to make sure that the linear module moves smoothly.
E080	Y axis motor driver overload	• An overload on the Y axis driver is detected.	• Check the Y axis motor output connector for looseness or disconnection. • Check to make sure that the linear module moves smoothly.
E085	Y axis motor deviation error	• The position deviation of the Y axis motor has exceeded the detection level.	• Check to make sure that the linear module moves smoothly.
E088	Y axis motor overcurrent error (hardware)	• A current that is equal to or higher than the guaranteed current is applied.	• Check to make sure that there is nothing wrong with the Y axis motor. • Check to make sure that there is nothing wrong with the power PCB.
E110	Y axis motor electronic gear ratio setting error	• Setting of the electronic gear ratio of the Y axis motor is wrong.	• Change the Y axis motor.
E112	Main shaft motor short-circuit signal detection	• A short-circuit signal of the main shaft motor is detected.	• Check to make sure that the main shaft is not short-circuited. • Check to make sure that there is nothing wrong with the power PCB.
E113	Main shaft motor encoder connector fault	• The main shaft motor encoder signal cannot be detected.	• Check to make sure that the cord is not broken. • Check the main shaft motor encoder connector for looseness or disconnection.
E120	Main shaft motor overload	• The main shaft motor fails to rotate. • The main shaft motor or the driver is damaged.	• Check the main shaft motor output connector for looseness or disconnection. • Check to make sure that the pulley can be manually turned without a hitch.

Error code	Title	Details	Return method
E121	Main shaft motor driver overload	• An overload on the main shaft motor is detected.	• Check the main shaft motor output connector for looseness or disconnection. • Check to make sure that the pulley can be manually turned without a hitch.
E125	Main shaft motor power low voltage	• A voltage that is equal to or lower than the guaranteed voltage is applied to the main power supply of the main shaft motor.	• Check to make sure that the supply voltage of 180 V or lower is not applied. • Check to make sure that there is nothing wrong with the power PCB.
E140	1 Main shaft motor short-circuit signal detection	• A short-circuit signal of the main shaft motor is detected.	• Check to make sure that the main shaft is not short-circuited. • Check to make sure that there is nothing wrong with the power PCB.
E142	1 Main shaft motor A/D conversion error	• A/D conversion of the main shaft fails to complete.	• Re-turn the power ON. • Check to make sure that there is nothing wrong with the servo PCB.
E144	Parameter fault detection (software driver)	• Setting parameter is defective.	
E146	1 Main shaft motor encoder connector fault	• The main shaft motor encoder signal cannot be detected.	• Check to make sure that the cord is not broken. • Check the main shaft motor encoder connector for looseness or disconnection.
E149	1 Main shaft motor power low voltage	• A voltage that is equal to or lower than the guaranteed voltage is applied to the main power supply of the main shaft motor.	• Check to make sure that the supply voltage of 180 V or lower is not applied. • Check to make sure that there is nothing wrong with the power PCB.
E203	Main shaft motor malfunction	• The main shaft motor fails to operate properly.	• Check to make sure that the version of the driver is the latest one. • Turn the pulley to check to make sure that the main shaft motor runs without a hitch. • Check to make sure that the main haft motor encoder connector is properly connected. • Check to make sure that the main shaft motor output connector is connected correctly.
E204	Main shaft motor reverse rotation	• The main shaft motor rotates in the direction opposite to the specified direction.	• Check the main shaft motor encoder connector for looseness or disconnection. • Check to make sure that the main shaft motor output connector is connected correctly.
E205	Cassette holder lifting	• The cassette holder is in its upper position.	• Lower the cassette holder.
E206	I/O PCB failure	• The I/O PCB has failed.	• Check the connector that connects the I/O PCB and MAIN PCB for looseness or disconnection. • Change the I/O PCB.
E207	I/O signal timeout	• There is a timeout for the signal from the I/O PCB.	• Carry out an "output test" to check the signal. • Check the no-signal connector for looseness or disconnection.
E208	Drop in air pressure	• The air presser has dropped.	• Check the air pressure. • Check the air presser sensor connector for looseness or disconnection.
E210	Intermediate presser misalignment error	• The origin position of the intermediate presser is wrong.	• Check the origin adjustment of the intermediate presser.

Error code	Title	Details	Return method
E213	Thread breakage detection error	• Thread breakage is detected.	• Turn the power OFF. Check to make sure that the thread take-up spring moves smoothly.
E214	Sewing counter reaching the set value	• The sewing counter has reached the set value.	• Reset the sewing counter.
E215	Bobbin thread counter reaching the set value	• The bobbin thread counter has reached the set value.	• Reset the bobbin thread counter.
E216	Number of stitches limit error	• The number of stitches has exceeded the limit value.	• Re-examine the pattern data.
E217	Pattern data read failure	• Pattern data that is not supported is used. • The pattern data is corrupted.	• Examine the pattern data.
E218	Pattern data read timeout	• There is a timeout during reading of the pattern data.	• Re-examine the pattern data.
E219	MAIN PCB error (exceptional condition)	• A defect has occurred in the MAIN PCB.	• Change the MAIN PCB.
E220	Incompatible update file	• The update file that is not supported is used. • The update file is corrupted.	• Check the update file.
E221	Update execution error	• The update file that is not supported is used. • The update file is corrupted.	• Check the update file.
E222	Updating not yet executed	• Updating has not been executed.	• Execute updating.
E224	Abnormal communication between the I/O PCB and MAIN PCB	• The I/O PCB fails to communicate with the MAIN PCB.	• Check to make sure that the cord is not broken. • Check the connectors of the MAIN PCB and I/O PCB for looseness or disconnection.
E225	Abnormal communication between the operation panel and MAIN PCB	• The operation panel fails to communicate with the MAIN PCB.	• Check to make sure that the cord is not broken. • Check the connectors of the MAIN PCB and operation panel for looseness or disconnection.
E226	Update file corruption	• The update file is corrupted.	• Check the update file.
E227	Abnormal communication between the operation panel and MAIN PCB (during file transfer)	• The operation panel fails to communicate with the MAIN PCB when transferring a file.	• Check to make sure that the cord is not broken. • Check the connectors of the MAIN PCB and operation panel for looseness or disconnection.
E228	Pattern data size is too large	• You have attempted to create pattern data that exceeds the the number of stitches and data volume the equipment can handle.	• Re-examine the pattern data.
E229	Too large angle between stitches	• The angle between stitches is too large.	• Re-examine the pattern data.
E230	Pattern data reading	• Pattern data is being read.	• Wait for a while. (This is not an error.)
E231	Intermediate presser shaft motor overload	• The intermediate presser motor fails to rotate. • The intermediate presser motor or the driver is damaged.	• Check the intermediate presser shaft motor output connector for looseness or disconnection. • Check to make sure that the intermediate presser moves smoothly.
E232	No insertion of external medium	• No medium is inserted.	• Check to make sure that the medium is inserted correctly.

Error code	Title	Details	Return method
E233	Read & write error (external medium connection)	• Data cannot be read from the medium. • Data cannot be written on the medium.	• Check the data in the medium. • Check to make sure that the medium is data-writable.
E234	Sewing area exceeded	• The sewing data has exceeded the possible range of sewing.	• Re-examine the pattern data.
E235	File compatibility error	• The file is not compatible.	• Check the file type.
E236	MAIN PCB memory corruption	• Memory error on the power PCB is detected.	• Change the MAIN PCB.
E237	Password not yet set	• A password is not yet set.	• Set a password.
E238	Unsupported editing	• Unsupported operation is contained in the pattern data.	• Re-examine the pattern data.
E240	Abnormal communication between the operation panel and MAIN PCB	• The operation panel fails to communicate with the MAIN PCB.	• Check to make sure that the cord is not broken. • Check the connectors of the MAIN PCB and operation panel for looseness or disconnection.
E241	Timing setting error	• Setting of the timing is wrong.	• Re-examine the timing setting.
E242	Workable input I/O error	• Inoperable input/output settings are turned on.	• Select "Workable Input IO" and turn off unnecessary input/outputs
E243	Work enable input I/O error	• Inoperable input/output setting is placed in ON.	• Select "Work enable input IO" and place unnecessary input/output in OFF.
E244	I/O signal timeout	• There is a timeout during waiting for the I/O signal execution.	• Carry out an "output test" to check the signal. • Check the no-signal connector for looseness or disconnection.
E245	Pattern execution timeout	• There is a timeout during waiting for the pattern data execution.	• Re-examine the pattern data.
E246	File name character limit error	• The file name has a large number of characters.	• Re-examine the file name.
E247	Intermediate presser lifting	• The intermediate presser is in its upper position.	• Lower the intermediate presser.
E248	Cassette holder lifting	• The cassette holder is in its upper position.	• Lower the cassette holder.
E249	Cloth cutting knife lifting	• The cloth cutting knife is in its upper position.	• Lower the cloth cutting knife.
E250	Punching material running out		
E251	Return-to-origin error	• The origin position cannot be reached.	• Check to make sure that the X axis origin is correctly adjusted. • Check to make sure that the Y axis origin is correctly adjusted. • Check to make sure that the intermediate presser shaft origin is correctly adjusted.
E252	Cloth cutting knife motor overload	• The cloth cutting knife motor fails to rotate. • The cloth cutting knife motor or the driver is damaged.	• Check the cloth cutting knife connector for looseness or disconnection. • Check to make sure that the cloth cutting knife moves smoothly.
E400	Abnormal communication between the driver and MAIN PCB	The driver fails to communicate with the MAIN PCB.	

Error code	Title	Details	Return method
E401	Overcurrent protection detection (driver)	• A current that is equal to or higher than the guaranteed current is detected.	• Check to make sure that there is nothing wrong with the motor. • Check to make sure that there is nothing wrong with the power PCB.
E404	Parameter fault detection (hardware driver)	• Setting parameter is defective.	
E405	Parameter fault detection (software driver)	• Setting parameter is defective.	
E406	A/D conversion error detection (driver)	• A/D conversion fails to complete.	• Re-turn the power ON. • Check to make sure that there is nothing wrong with the driver.
E407	Encoder connector fault detection (driver)	• The encoder signal cannot be detected.	• Check to make sure that the cord is not broken. • Check the motor encoder connector for looseness or disconnection.
E408	Encoder error signal detection (AB phase driver)	• The encoder (A and B phases) cannot be detected.	• Check to make sure that the cord is not broken. • Check the motor encoder connector for looseness or disconnection.
E410	Power supply part low voltage detection (driver)	• A voltage that is equal to or lower than the guaranteed voltage is applied.	• Check to make sure that the supply voltage of 92 V or higher is not applied. • Check to make sure that there is nothing wrong with the power PCB.
E411	Power supply part overvoltage detection (driver)	• A current that is equal to or higher than the guaranteed current is applied. • Motor is short-circuited by the overcurrent.	• Check to make sure that the supply voltage of 180 V% or lower is not applied. • Check to make sure that there is nothing wrong with the power PCB.
E413	Motor overload detection (driver)	• The motor fails to rotate. • The motor or the driver is damaged.	• Check the motor output connector for looseness or disconnection. • Check to make sure that the cassette holder moves smoothly.
E414	Driver overload detection (driver)	• An overload on the driver is detected.	
E418	Motor overspeed detection (driver)	• The number of revolutions of the motor has exceeded the detection level.	• Check to make sure that the cord is not broken. • Check the motor output connector for looseness or disconnection. • Check the motor encoder connector for looseness or disconnection.
E419	Motor position deviation error detection (driver)	• The position deviation of the motor has exceeded the detection level.	• Check to make sure that the motor runs without a hitch.
E427	Detection of system mismatch between the motor and the driver(driver)		
E428	Return-to-origin error detection (driver)	• The motor fails to return to its origin.	
E429	Power supply fault detection (driver)		
E444	Motor electronic gear ratio is out of range (driver)	• The setting of the motor electronic gear ratio is wrong.	• Change the motor.

Error code	Title	Details	Return method
E448	Motor overload (driver)	• The motor fails to rotate. • The motor or the driver is damaged.	• Check the motor output connector for looseness or disconnection. • Check to make sure that the cassette holder moves smoothly.
E449	Driver overload signal detection (driver)	• The motor fails to rotate. • The motor or the driver is damaged.	• Check the motor output connector for looseness or disconnection. • Check to make sure that the cassette holder moves smoothly.
E450	Motor position deviation error detection (driver)	• The position deviation of the motor has exceeded the detection level.	• Check to make sure that the motor runs without a hitch.
E452	Positive-direction movement limit detection (driver)	• The movement amount of the motor in the positive direction has exceeded the limit.	• Return the cassette holder to its home position.
E453	Negative-direction movement limit detection (driver)	• The movement amount of the motor in the negative direction has exceeded the limit.	• Return the cassette holder to its home position.
E478	Motor A/D conversion error (driver)		

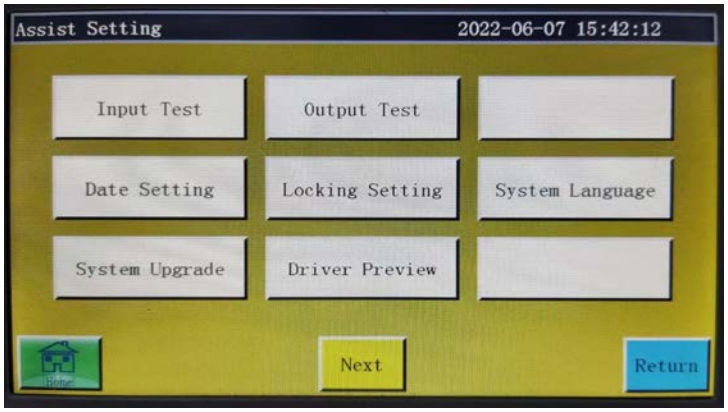
* Command file errors differ with the sewing machine model. Refer to the command file error list in the Instruction Manual for your sewing machine.

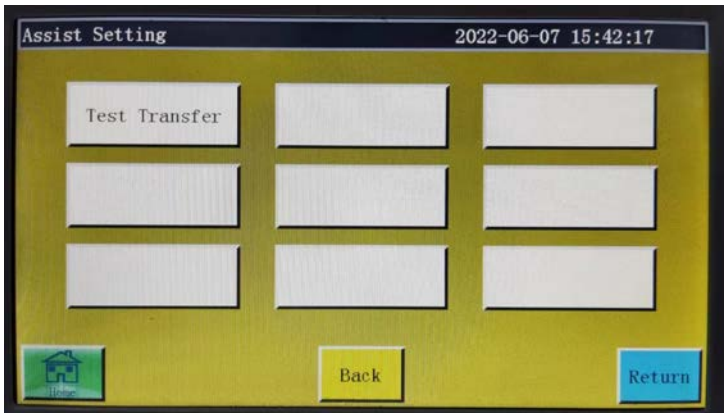
Chapter VII Assist Setting

Auxiliary settings are used to test hardware input & output, network, time and system upgrade, etc.

7.1 Assist Setting Interface

Press Assist Setting key in main menu interface to enter the assist operation interface as shown in the figure:





The key functions are described as follows：

Input Test：Test if input port is normal.

Input Test：Test if output port is normal.

Date Setting：Set the system time.

Locking Setting：Set the administration password, use restrictions, staged unlocking and so on.

System Language：The screen system language can be selected from 10 languages, i.e., Simplified Chinese, Traditional Chinese, English, Vietnamese, Japanese, Korean, Russian, Italian, Turkish and Cambodian.

System upgrade：Used to upgrade the firmware version of motherboard and display screen.

Driver preview：Preview current, subdivision and other parameters of drive for each shaft. (Modification is not available on screen)

Transmission test：Used to test whether the communication between display screen and motherboard, and to view logs, etc.

7.2 Input Test

Used to test if the external input circuit is in good condition.

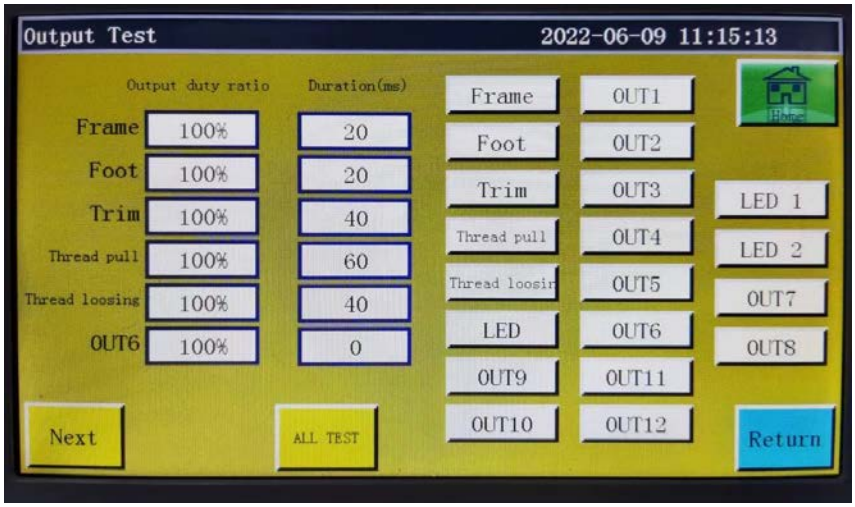
Press Input Test key in the assist operation interface to enter the input test interface as shown in the figure：

You can manually trigger relevant sensors and check whether the input status has changed, and determine if the sensor or hardware is in good condition.

7.3 Output Test

Used to test whether output control is in good condition.

Press Out Test key in assist operation interface to get into output test interface as shown in the figure：



Test the corresponding output as needed.

Functions such as the wiper and tension release that are output with solenoids are placed in ON state only as long as the key is held pressed.

However, the electrical magnets may generate heat and may be damaged if the key is held pressed for a long time.

Functions such as the clamp and intermediate presser that are output with solenoid valves are turned ON by a press on the key, and turned OFF by another press on the key.
For the functions OUT 1, OUT 2 and so on, a certain part of outputs are not used due to the facility load.
LED R and LED B light up in red and blue respectively when "sys" lamp on the control panel goes out.
When ALL TEST is clicked, it shows the message reading "In progress, please wait...", which indicates a full output test is being performed; the prompt box will not be closed until the test is completed.

7.4 Date Settings

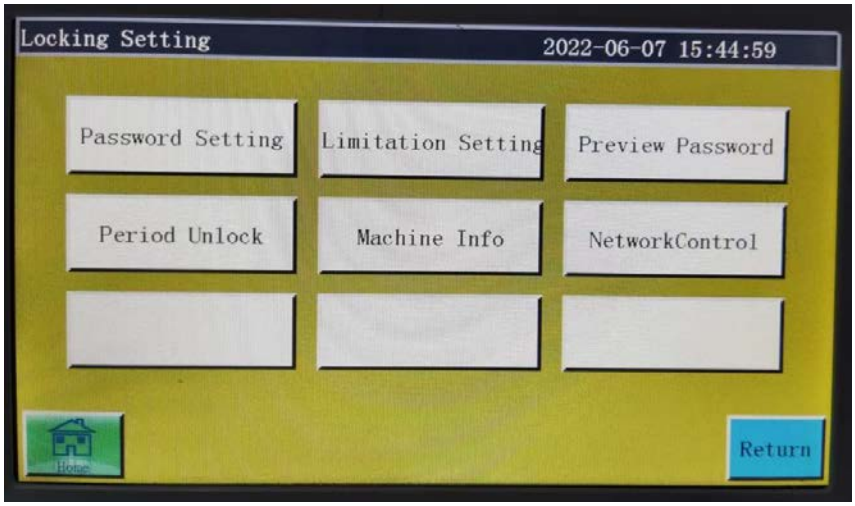
Used to set the system time (e.g., "year, month, day, hour, and minute") displayed in the upper right corner of the screen.
Enter the administration password to get into the setup interface. The interface is as follows:

The time is displayed in a 24-hour system accurate to "second".


"Save" button : Click this key to save the set date and time. If the mother-board is equipped with a battery, the time is updated at next startup even if the power was turned off so as to ensure accurate time.
Accurate time helps sewing better, and enables the accurate recording of the time of problem in alarm log, thereby facilitating troubleshooting and problem analysis.

7.5 Lock Settings

Press Locking Setting key and enter the administration password in the assist operation interface to enter the lock setup interface as shown in the figure:

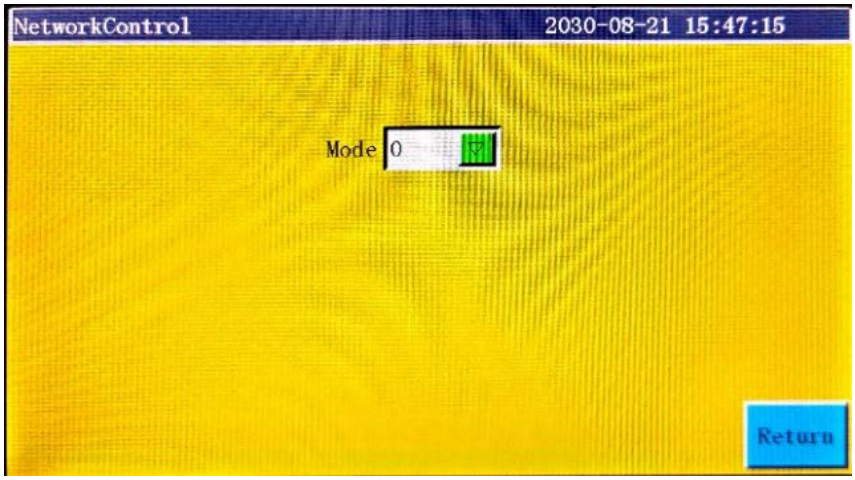


The electronic control is provided with three different types of passwords.
Mechanical parameter password : Enabled in " Locking Setting " - "Password Setting". Once the mechanical parameter password is set up, it's impossible to enter the "Machine Param" setup interface without entering the correct password.
User parameter password : Enabled in " Locking Setting " - " Password Setting ". Once the user parameter password is set up, it's impossible to enter the "user parameter" setup interface without entering the correct password.
O**ther passwords :** Enabled in " Locking Setting " - " Password Setting ". The settings can be established using upper computer parameters software. You have to enter "other passwords" in order to use file management, lock files, adjust the main shaft speed in main interface, and delete processing statistics information.
Lock machine setup interface is used to set whether to lock the machine at a fixed time, manage lock secret code and other related operations. It can realize time-limited use such as installment function.
If the restriction on use is set for the equipment, input of the password for unlocking the equipment is required on the main interface of processing when the set time is reached.
Note : This function is only for manufacturer instead of customers. Improper use of this feature may cause the machine to be locked up.
Device information : Information on the sewing machine such as the software version are included.
Network Control : Enters the JaNets linkage mode interface

In the case of using JaNets : Operation mode 2

In the case of not using JaNets : Operation mode 0

*** Operation mode is "0" when the bar code reader is used.**



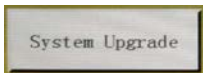
7.6 System Language

The screen system language can be selected from 10 languages, i.e., Simplified Chinese, Traditional Chinese, English, Vietnamese, Japanese, Korean, Russian, Italian, Turkish and Cambodian.

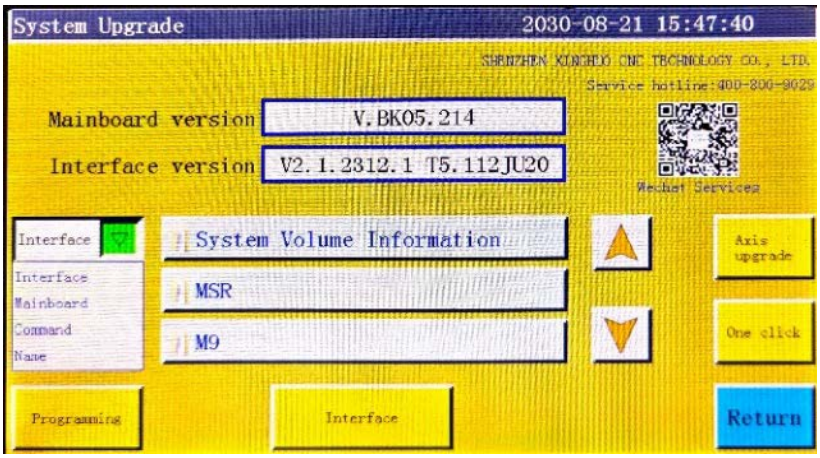
The interface diagram is below：

Click on the desired language, when a pop-up window reading "Prompt: Sure do it?" appears Select "Yes", and the language used in the screen will be changed to the set language.

7.7 System Upgrade

Press 

key in assist operation interface to enter the system upgrade interface as shown in the figure：



：Current motherboard version information is displayed.

"CS 01"indicates the system type and differs with the model. (The image shows the PS800.)

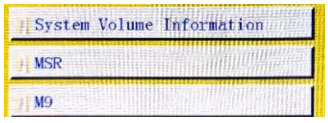
It does not change after upgrading.

"213" indicates the version. It can be changed by upgrading.It can be upgraded to a higher version or fall back to a lower version.

：Display the current screen interface version information. "112JU9" indicates the version number.

Press 

to display the USB interface or the motherboard upgrade file.



：Upgrade package directory that is automatically read after the insertion of USB flash disk; display the interface or motherboard upgrade files under all folders and current directory.

Upgrade key：There are four different types of upgrade keys; i.e., "Panel software", "Main software", "Command" and "Name".

Type of the upgrade key is automatically checked against 

.

The system upgrade steps in the figure are as follows :

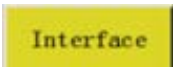
(1) Receive the corresponding upgrade file from the supplier. The extension of interface upgrade file is .fcav (e.g. XH_HMI_T1_V074.fcav), and that of motherboard upgrade file is .TFL (e.g., TZD_CS01.TFL). Put the file(s) in USB flash disk.

(2) Insert the USB flash disk and enter the "System upgrade" page.

(3) Select the desired type of upgrade: Mainboard ,Command or interface.

(4) Find the upgrade file and select the file to be upgraded.

(5) Click 

or 

.

(6) The prompt message reading "In the upgrade, do not power off!" pops up. Do not turn off the power until this prompt disappears; otherwise, you may need to return the product to its manufacturer for repair.

(7) In the case of motherboard upgrade, a progress bar 

will pop up to show the progress of the upgrade. When you start upgrading, the progress bar reaches 99% approximately within several tens of seconds. Approximately 30 seconds later, the motherboard will reboot and the buzzer will sound to indicate that the upgrade process is successfully completed. In the case of upgrading the interface, the progress bar is not displayed even when you start upgrading. Alternatively, the display reboots approximately 30 seconds later and is upgraded.

Description of related error prompts :

(1) Upgrade interface prompt: "Error in upgrade file type"

Cause : a . The upgrade file is not selected.

b . The upgrade file is corrupted or not suitablefor the present system.

Solution : Reinsert the USB flash disk or put the correct upgrade file therein.

(2) For the upgrade of motherboard, the prompt message reading "No valid upgrade file found" appears.

Cause : No upgrade file is selected

Solution : Insert the USB flash disk, select a valid upgrade file, and click "Upgrade".

(3) For the upgrade of motherland, a prompt message reading "Wrong upgrade file"appears

Cause : The upgrade file is corrupted or not suitable for the present system

Solution : Use the upgrade file of which the type is the same as current system type; for example, CS01 can only use the CS01 upgrade file. Check whether the upgrade file in USB flash disk is correct.

(4) The progress bar remains at 1% after "Motherboard upgrade" is clicked.

Cause : The communication between screen and motherboard is abnormal

Solution : Check whether the connection wire between screen and electric control is in good condition, and restart. If the problem remains unsolved, the product should be returned to its manufacturer for troubleshooting.

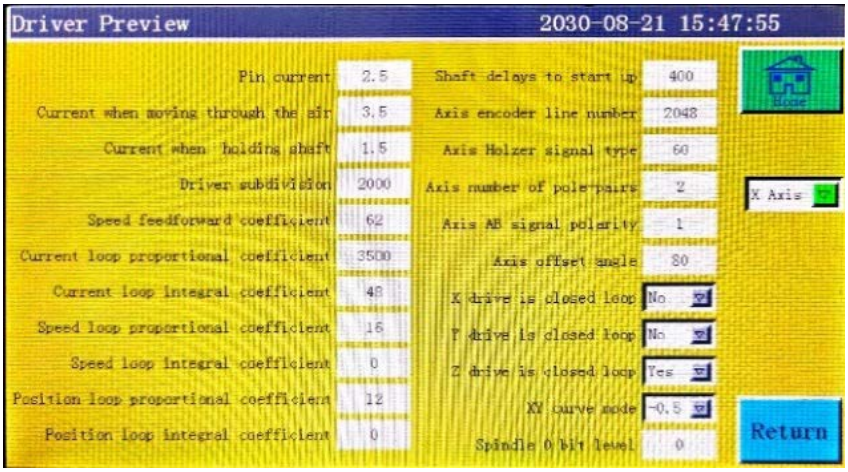
Programming command button : Press this button to open the program command interface. In this interface, programming commands can be written or set to OFF.

This key cannot be used in the PS Series.

This key cannot be used in the PS Series.

7.8 Driver Preview

Display detailed parameters for each shaft of the system drive.
On this screen, change of the parameter screen is disabled.

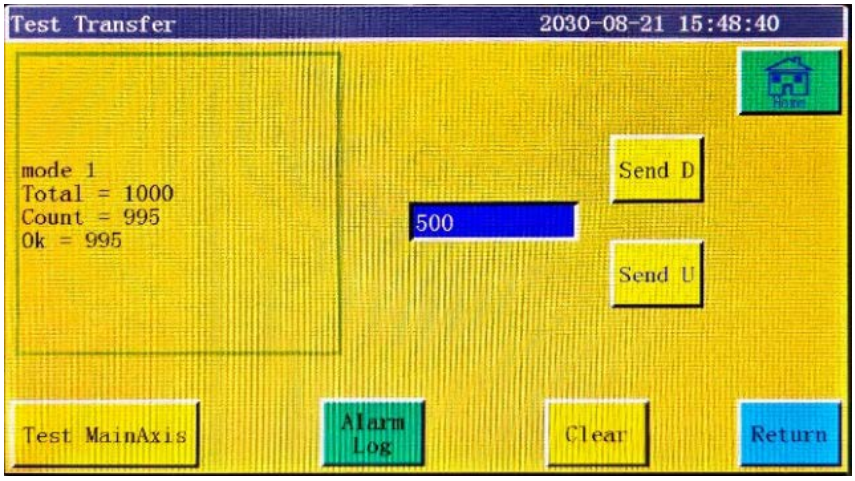


Selection box : Driver parameter information for the selected axis is displayed on the left part of the screen.


: Press this button to examine the parameter information for the X, Y, Z drives of the system, thread trimming axis, main shaft and Y servomotor.
This information is displayed only in the case simplified Chinese is selected in the language selection.

7.9 Test Transfer

Used to test whether the communication between screen and motherboard is in good condition. The test transmission interface is as follows.

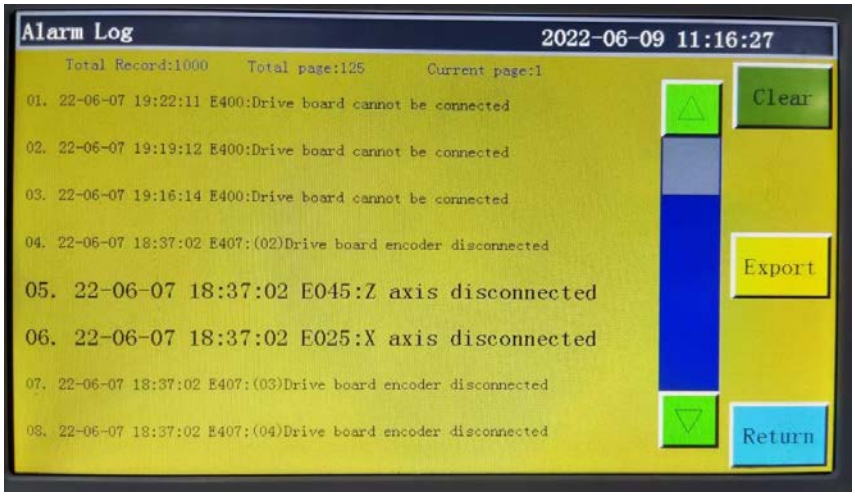


Enter the value you want to test in 5000 , and click SEND DOWN or SEND UP , when the test result will appear on the left window. If the values of Total, Count, and Ok are the same or very close to each other (within a difference of 1%), it means the communication between screen and motherboard is normal.

Clear ：Clear the test result on the left.

Test MainAxis ：Used to test whether the main shaft operates properly under no load. The electric current to the main shaft is decreased during the test. Be aware that the current value will not return to the normal value until the power is turned OFF.

Alarm Log ：Error log can be displayed.



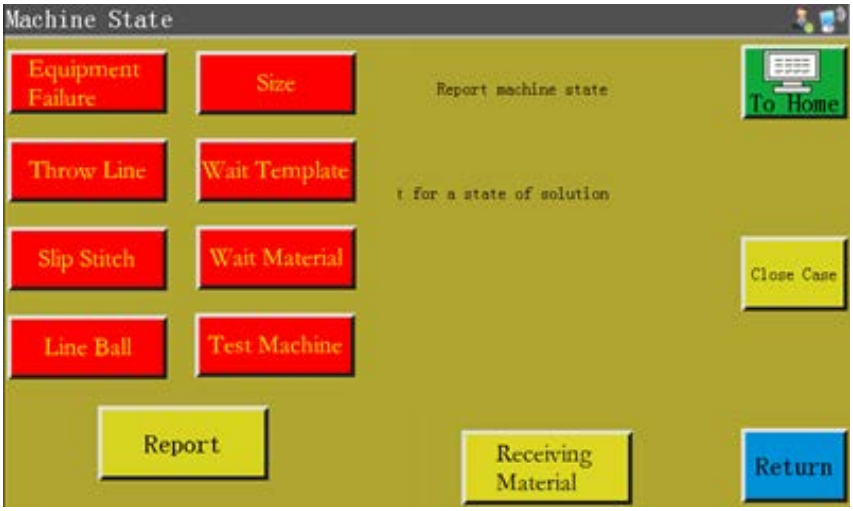
Export Export the alarm log as a file to a USB flash disk for convenient troubleshooting and anomaly statistics.

Clear : Clear all contents of alarm log.

Chapter IX Machine State

8.1 Machine status interface

When an operator finds any anomaly in equipment, the abnormal status of equipment can be reported to the LAN server through local area network to prompt technicians to perform maintenance; moreover, the current equipment status is displayed on the console in real time.



The operator shall select the machine status to be reported, and click Report to bring up the following interface：

Upon the arrival of technician at the equipment, he/she can click In Place , when the machine status displayed on console reads "Waiting for solution". When Close Case is clicked after the removal of anomaly, the machine status displayed on console returns to normal.

Appendix I: Information Prompt and Solutions

1. “Pressure box didn’t put down”

Cause: The press frame was not dropped before resetting, processing, file capture and file modification

Solution: Click 

to drop the frame.

2. “These is no reset”

Solution: Click 

.

3. “X-axis drive open circuit”

Cause: a. X-axis motor is not connected

b. Loose motor interface

Solution: Turn off the power and check the motor line for connection anomaly.

4. “The bobbin thread has been used up”

Cause: The bobbin thread required by pre-processed file is longer than the remaining bobbin thread (total length of processing statistics interface - initial length of bobbin thread)

Solution: a. Use the bobbin thread statistics function to replace the bobbin thread and modify relevant length information;

b. Where the bobbin thread statistics function is not used, you can click 

to disable it. See **"2.2.5 Process Statistics Interface Display Instruction"** and **"6.2 Introduction to User Setting Parameters"**.

5. “The quantity of work is full”

Cause: In the processing statistics interface, the "current value of count by piece" increases to the "total count by piece”

Solution: a. If the processing statistics function is used, it's necessary to modify the "current value of count by piece" or the "total count by piece" so that the former is less than the latter.

b. Where the processing statistics function is not used, you can click 

to disable it directly. See **"2.2.5 Process Statistics Interface Display Instruction"** and **"6.2 Introduction to User Setting Parameters"**.

6. “File range out of bounds”

Cause: a. The length and width of the processing file are beyond the processing range

b. The length and width of the processing file is within the processing range, but the absolute coordinates are beyond the processing range (if imported first into a machine with large processing range, the file will incorporate absolute coordinates and then be exported to a machine with small processing range)

Solution: a. Reduce the size of processing file

b. Import the processing file generated directly through upper computer. See **"2.2.4 Display Instruction for Reference Setup Interface"**.

7. “Opening state”

Cause: The touch key on top panel is pressed, thus the top panel being open.

Solution: Click the "top panel" key on touch key pad.

8. "No working file”

Cause: The lock file is open.

Solution: Check whether the graphic interface indicates a lock file flag. If so, just click 

.

9. "The main motor error”

Cause: a. The main shaft motor circuit is open or the encoder cable is not connected.

b. Main shaft motor is damaged

Solution: a. Check if the motor cables are properly connected, and if the encoder cable is connected.

b. If the motor cables are properly connected, it's necessary to replace main shaft motor, test the main shaft with  in powered-on state, or manually rotate the motor to check if QEP changes on the screen.

10. "Connecting the main control board"

“Connecting the main control board”

Cause: a. The connection between motherboard and screen is out of order

b. The screen goes wrong

c. The motherboard is damaged

Solution: a. Check whether both ends of cable are properly connected, restart, and replace screen cable.

b. Replace the screen to check if it functions properly

c. Change motherboard to check if the screen gives a similar alarm.

11. "Couldn’t find X zero signal”

Cause: a. X motor direction error;
b. X motor position sensor failure;
c. Failure to move due to excessively large load in X direction of motor

Solution: a. Enter the manual frame shift interface and test X motor rotation;
b. Enter the "input test" interface, and manually trigger the position input signal to check if it can be detected
c. Turn off the power and manually push press frame to check if the load is too large and gets stuck.

12. “Motor scissors are not in place”

Cause: a. The encoder cable of motor with Z signal malfunctions
b. Parameter setting error

Solution: a. Press 

and check if the motor is properly connected or if the motor is in good condition.
b. Rotate the motor manually to check whether the W axis/axis limit signal indicator of motherboard changes.
c. Check if the parameter settings exhibit conflict.

13. "The main motor direction error”

Cause: Main shaft rotation direction is wrong

Solution: Use parameter modification software to correct the main shaft moving direction or modify the main shaft motor direction or main shaft encoder direction in shaft operation mode in mechanical parameters.

14. "X-axis driver hardware over-current”

Cause: a. Poor contact of X-axis motor base
b. Damaged X-axis stepping motor or short circuit of motor cable
c. Motherboard hardware problem

Solution: a. Confirm that the flashing mode of X stepping motor alarm indicator on motherboard is "1 green and 5 red's"; if not, it means false alarm.
b. Reinsert X motor cable and restart the machine
c. Change X axis motor
d. Change the motherboard

15. "Motor foot in fault”

Cause: No motor limit signal is detected when motor press foot is reset

Solution: Check motor press foot related base for looseness; check whether the z signal limit signal input changes in the input test interface;

16. "Head board cannot be connected”

Cause: a. The connection between head board and control board is out of order
b. Head board is damaged
Solution: a. Check whether the connection is abnormal or replace connection cable
b. Change the head board.

17. "Air pressure is insufficient”

Cause: a. Air supply equipment exception results in insufficient air pressure
b. Abnormal input of control board
c. Abnormal parameter settings or wiring error
Solution: a. Check whether the barometric pressure is normal
b. Short-circuit the input and gnd with tweezers and check if the input changes at "Assist settings" - "Input test" side
c. Check whether the parameters are set abnormally. In normal condition, the input is “normally closed”. In the case of insufficient pressure, it should be opened, when the LED will light up for alarm.

18. "Electrical fault, please contact the manufacturer”

Cause: Hardware failure
Solution: Contact the manufacturer

19. "Grab line motor is not in place”

Cause: No motor limit signal is detected when motor press foot is reset
Solution: Check motor press foot related base for looseness; check whether the z signal limit signal input changes in the input test interface; check whether the parameters are improper.

20. "Input IO1 timeout error”

Cause: No signal is detected at this input port
Solution: Enter "input test" interface, and manually trigger the position input signal to check whether it can be detected

21. "Foot follow error”

Cause: Press foot zero input port detects no signal
Solution: Check the IO port set for follower press foot alarm in parameter setup software, manually trigger the IO port and check whether it can be detected

Appendix II: Quick Start Guide

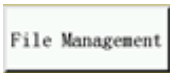
(1) Start the machine

Install the equipment and connect the power supply. Turn or press the power switch to start the machine. Get into the main interface of processing as described in Section 2.2.1 after the logo appears.

Where bobbin thread winding is needed, refer to **"2.2.2 Test Interface Display Description"**.

(2) Set up processing file

Copy the .SLW processing file generated by the PC sewing editing software into the USB flash disk; insert the USB flash disk into the USB interface of equipment; click 

→ 

→  in the main interface of processing to get into "USB flash disk" interface, click the name of the file to be processed to make it turn red, and click  to copy the file into memory. Press 

→ 

to return to the main processing interface. Select the file to be processed on the left, when the processing pattern can be previewed in the middle of interface.

If "file capture" function is used to create processing file, see **"Chapter IV File Editing"**.

(3) Place the template

Put the fabric to be processed into the prepared template, click 

, and click 

to make press frame get into rising state. Place the template under press frame, and click 

so that the press frame can go down and press the template.

(4) Align with reference

See **"2.2.4 Display Instruction for Reference Setup Interface"**.

(5) Start the processing

Press start button in the main interface of processing, and the machine will start the processing based on pattern. Upon completion of processing, the system automatically returns to the reset origin or other set points.

Note:

1. If the processing is not performed for the first time (it has been copied into memory for reference alignment, and the automatic template recognition function has been enabled), only two steps will be needed: Place the template → Start the processing
2. If other information prompts are displayed, refer to **"Appendix I: Information Prompt and Solutions"**.
3. If the processing is repeated after processing, you have to click other buttons upon completion of one processing cycle and enter parameter setup interface to cancel cycle processing.