

**Substitute Computer Operation  
Instructions  
(AD22, 2024)**

Ordinary type

Shenzhen Ruili Software Technology Ltd

Phone:0755 - 26663378

Fax:0755 – 26666010

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## 1、Overview

You are welcome to use the AD22 computerized quilting control system. Before using this control system, Please read this operating manual carefully, Understand the system characteristics, Correct use and operation of this machine, Prevent accidents, Serve you better.

Quilting machine control software, Implement graphics processing [Drawing , Modification, choose, Save, Graphics stitch partition ,etc]、 Graphics processing、 Machine control [Device detection, equipment control, etc] Functional integration.

The control software is developed based on ARM chips, The software interface has high display accuracy, Intuitive operation、 Flexible and simple, Stitching accuracy、 High operational reliability. Pre-prompt of the operation function, Real-time detection of equipment running status, Maintenance、 High compatibility of accessories, There are no special requirements for the computer.

Different machine configurations are different, It has been set up before leaving the factory, Please attention.

### 1.1 Machine installation environment

- Sturdy ground, Installed horizontally on the ground;
- Keep out of direct sunlight, Good ventilation conditions;
- Space temperature 5—40℃, Relative humidity 30—90%;
- Power requirements: Three-phase four-wire 380V/50HZ, volumetric: 2~4kW;
- Computer power requirements: 12VDC computer, electricity 5A

●When the grid voltage fluctuates by more than 5% , Configuration required Voltage regulators.

## 1.2 Safety Precautions

- All electrical equipment must be grounded;
- Machine maintenance and adjustment must be carried out by professionals;
- Operators must be trained;
- Do not touch the machine rotation position with the system powered on, Mobile parts、Extruded position.

## 1.3 Operator Notes

1.3.1 Computerized quilting machine is a mechanical movement mainly controlled by computerized program. The operator must understand the basic operation of the computerized, Have some knowledge of geometric drawing in graphic editing.

1.3.2 This machine is equipped with a plurality of inductive proximity switches, STOP、Start the button switch. They control the overall operation of the machinery, It plays an important role in the operation of the motor. Please keep these switches well wired、Normal working condition.

1.3.3 When the graphics is deformed in the quilting, Attention should be paid to whether it is caused by loose or damaged transmission parts of the advance and retreat cloth and mechanical connection, rather than just adjustment[Fix compensation].

In addition, during the operation of the machine, it is forbidden to plug and unplug the U disk or floppy disk.

1.3.4 Please check whether the graphics are complete before running the machine. That is, whether the "X" coordinates of the starting point and the end point are consistent and whether they are within the operating range of the machine.

1.3.5 When the machine fails, check the status of each sensor and switch in [Device Detection].

1.3.6 The computer is forbidden to run other programs and delete system programs, otherwise it is easy to cause program errors and crashes. Please use a secure disk to copy the files, otherwise the computer may be infected with viruses or damage the peripheral equipment.

1.3.7 The electric control box should not be placed in a place with humidity, high temperature, large magnetic field, high vibration, and direct sunlight. Please keep the ventilation and the ground stable.

1.3.8 The total cable core of the machine is required to be more than 2.5 square millimeters., Keep the cable skin insulation intact, without crushing damage, aging and other defects. Avoid accidents such as electric shock, short circuit and fire.

1.3.9 Machine moving parts should be refueled every 5-10 days to maintain lubrication and reduce wear and tear.

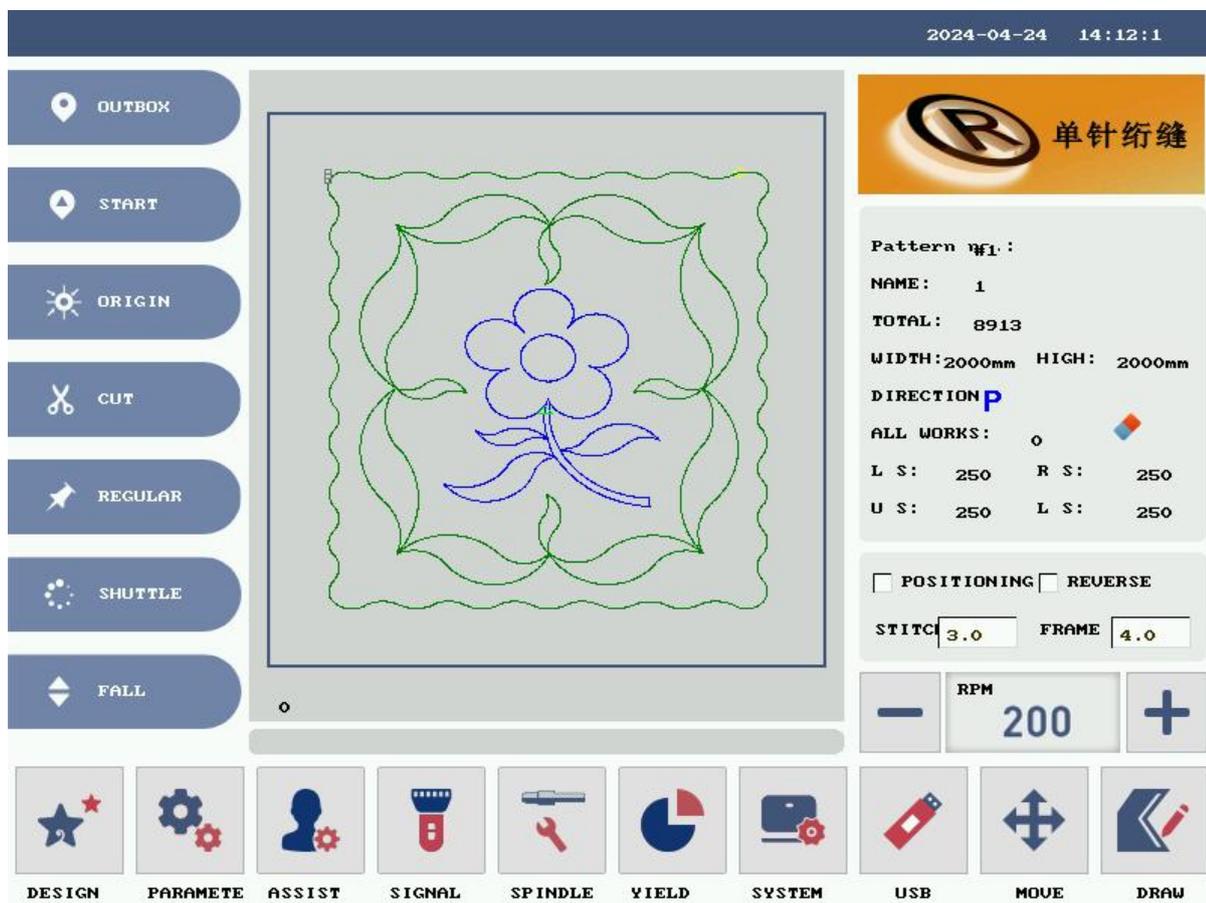
1.4 Introduction to electronic control components (See annex)

## 2 Machine control

The quilting control system is based on the ARM computer operating environment, which has the characteristics of intuitive operation, flexible and simple, high precision and reliability, detailed control prompt information, and real-time detection of the operation status of the control equipment.

The system is set to self-start at the factory. After turning on the main power supply of the machine, the computer is powered on, and the quilting control software will start running automatically.

Machine control interface



## This section describes the features in the control interface

### 2.1 Pattern

Displays the serial number of the current graphs, sorted from 0.

### 2.2 Name

Displays the name of the current graphs.

### 2.3 Total

Displays the Total of the current graphs.

### 2.4 Width、Height

Display the width and height of the current pattern, and modify the width and height of the pattern in mm by checking the "Center" in the "Parameters" interface.

### 2.5 Direction

Shows the quilting direction and display direction of the current graphics, which can be modified in the "Parameters" interface, with a total of 4 directions available.

### 2.6 All works

Start counting from zero, : Zero out yield.

### 2.7 Up and Down, Left and Right, side space

Dimensions of the current graphs away from the rack, modifications can be made in the "Parameters" interface, Unit: mm.

### 2.8 Positioning、Reverse

[Positioning]: When this box is checked, you can use your mouse to click anywhere on the graphs to quilting without having to start from scratch

[Reverse]: When this box is checked, the quilting direction start and

end directions are switched.

## 2.9 Stitch、Frame

[Stitch]: Stitch length, you can change it here directly or in the "Parameters" interface, Unit: mm.

[Frame]: Setting the Pitch of the outer frame

## 2.10 RPM

Increase and decrease the quilting speed of the machine up to the maximum speed limit, which can be set in the "System Settings" interface.

## 2.11 Outbox

When it is not in the Outbox position, move XY to reach the Outbox position

## 2.12 Start

When it is not in the Start position, move XY to reach the Start position

## 2.13 Origin

When it is not in the Origin position, move XY to reach the Origin position

## 2.14 Cut

Allow the machine to perform the wire-cutting action

## 2.15 Regular

Used to secure fabric frames

## 2.16 Shuttle

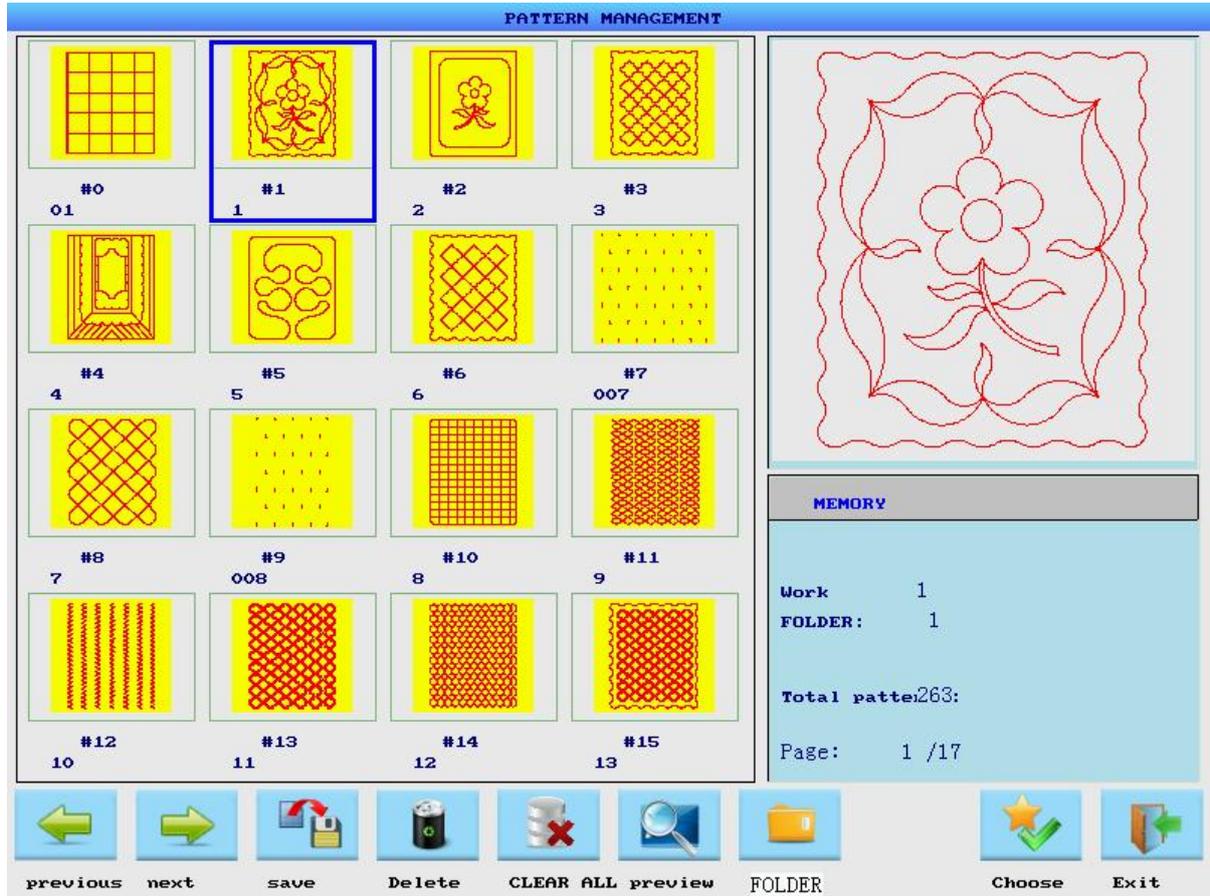
Unlocks the spindle, which can be moved with a single click

## 2.17 Fall

Raising or lowering the headstock, When the headstock is in the up

position, it will go down, and when the headstock is in the down position, it will go up.

### 3. Design



Mouse click on the pattern, **【Memory】** will display the name of the pattern, the current folder, the total number of patterns and other information.

The operating buttons:



Explanation of the command:

**【Previous】 【Next】** : Graphics Browsing Toggle;

【Choose】 : Selecting graphics for processing

【Save】 : Write the selected graphic to a USB

【Delete】 : Delete the selected graphic

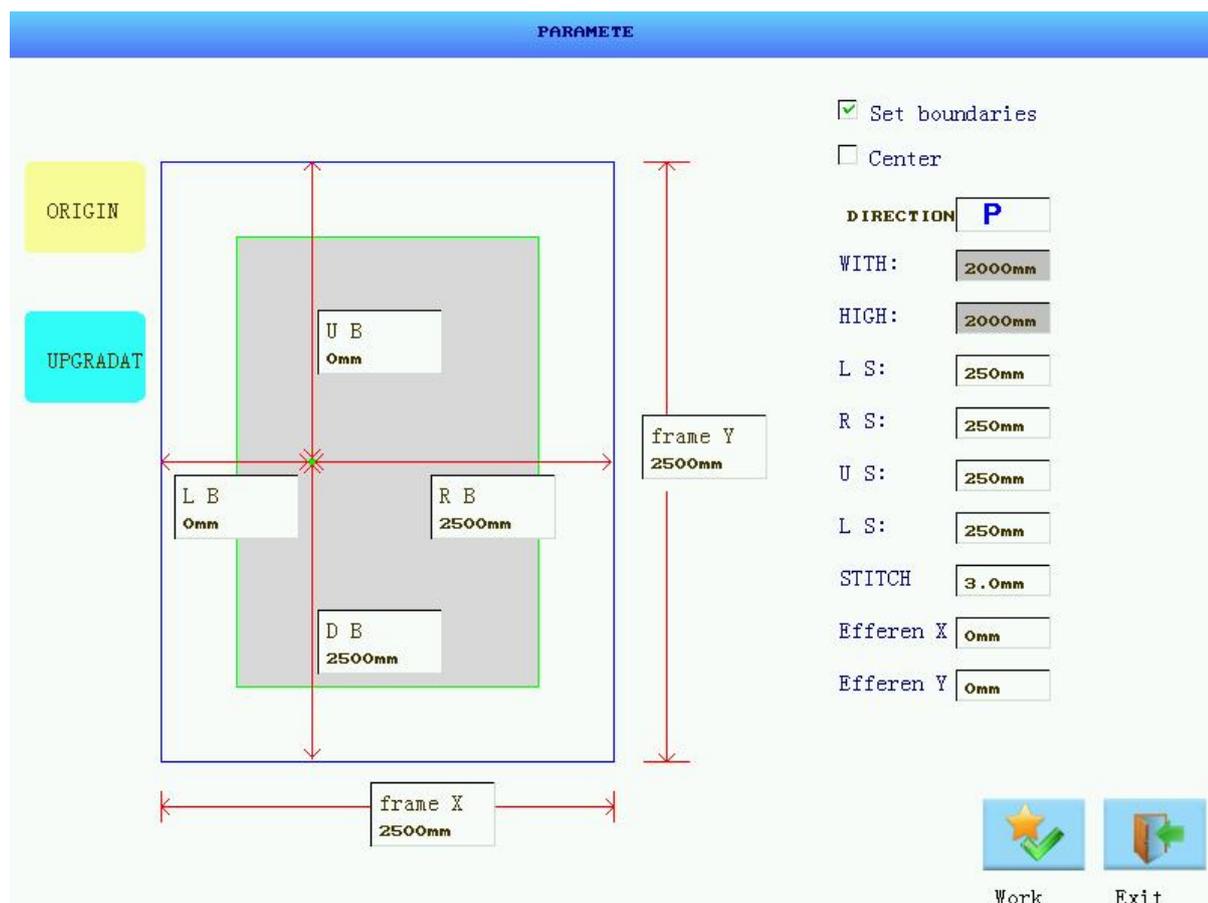
【Clear All】 : Delete all graphics in the current folder

【Preview】 : You can see the selected graphic above 【Memory】

【Folder】 : Replacement folder

[Take care]: The "Delete" button deletes only the selected individual graphic, while the "Clear All" deletes all graphic.

#### 4 Paramete



This function allows you to set the rack size, step length, graphic width and height settings, as well as settings such as the efferen position.

**【Set boundaries】** : When this item is checked, the width and height of the graphic can be obtained by setting the boundaries value of the top and bottom, left and right, and the margin value of the top and bottom, left and right, but the width and height of the graphic cannot be set directly.

**【Center】** : When this item is checked, the graphic is centered and the values of the top, bottom, left and right margins cannot be modified, but the values of the top, bottom, left and right margins can be obtained by modifying the width and height of the graphic.

**【Origin】** : After clicking on this button, the X and Y motors of the machine will return to the zero position.

**【Upgradat】** : Raising or lowering the headstock, When the headstock is in the up position, it will go down, and when the headstock is in the down position, it will go up.

**【Work】** : When all the parameters are set, clicking on this button will edit the graphic according to the parameters and then display it in the machine control interface.

**【Exit】** : If the parameters are modified, the graphic will be re-edited and returned to the machine control interface, if the parameters are not modified, it will directly exit to the machine control interface.

## 5 Assist



\*[Upper Thread Detection]: Detect broken wire signal, when open will detect broken wire signal, when closed will not detect broken wire signal.

\*[Test Sensitivity of Upper Thread]: When thread breakage occurs, the machine detects the number of needle steps at which the thread breakage signal occurs; the larger the setting, the slower the response; the smaller the setting, the more sensitive the response.

\*[Startup Don not Test Number]: At startup, according to the set number of stitches, NO detection of broken wire signal

\*[Wire Breadage and Thread ing Pos]: When a broken wire signal is detected, it will automatically return to the threading position if it is turned on, if it is turned off, it will directly pause and will not return to the threading position.

\*[Return Stitches After Thread Brokei]: When a broken thread signal is detected, the number of stitches will be returned, and the number of stitches will be returned according to the set value.

\*[Bottom Thread Detecton]: Detect the bottom line break signal, if you turn on the bottom line break signal will be detected, when the bottom line is used up will be automatically downtime to report an error, if you turn off, will not detect the bottom line break signal.

\*[Test Bottom Thead Debouncing Sti]: Setting to stoppage after continuous detection of bottom wire breakage.

\*[Test Sensitivity of Bottom Thread]: Sensitivity of each bottom wire break detection.

\*[Trimming Function]: Turning it on detects the signal from the wire cut button, but if it is turned off it does not detect the signal from the wire cut button.

\*[Pattern End Cut]: When quilting is finished, turning it on will automatically cut the thread, turning it off will not. .

\*[Lock Stitch Qty Before Trimming]: The number of stitches to be reinforced before cutting the thread is based on the set value.

\*[Lock Stitch Qty After Trim]: Reinforce the number of stitches after cutting the thread, the number of stitches to be reinforced is based on the set value.

\*[Length of Lock Stitch(mm)]: Distance between needles in each stitch when reinforcing the number of stitches.

\*[Loose Line Angle]: Setting the angle when loosening the wire

\*[Release Angle of Loose Ling]: At startup, loose line at the set angle

\*[Head Up When Crossing]: Determine whether to lift the head when Stride, after turning on, the head signal will be detected when Stride, and off will not detect the head signal.

\*[D cut]: Use this when quilting thin fabrics

\*[D cut angel]: Setting the angle of the D cut, The values that can be set are: 180-359

\*[The frame stitch is adjusted indepe]: When opened, the pinsteps on the outer frame is different from the inside

\*[Outline range]: Distinguish between the outer frame and the range of internal floret shapes, Unit: %.

\*[Automatically Return After Complet]: When open, the quilting automatically returns to the outbox at the end of the quilting process; when closed, the quilting is paused directly after the end of the quilting process.

\*[Number of Shuttle Changes]: When the set value is reached, it will indicate that the bobbin thread needs to be replaced.

\*[Blow Time(second)]: Blow time after cutting the wire.

\*[Number of Refueling Sti]: Add oil to the head after reaching the set value.

\*[Refueling Time(second)]: Time setting for refueling the head.

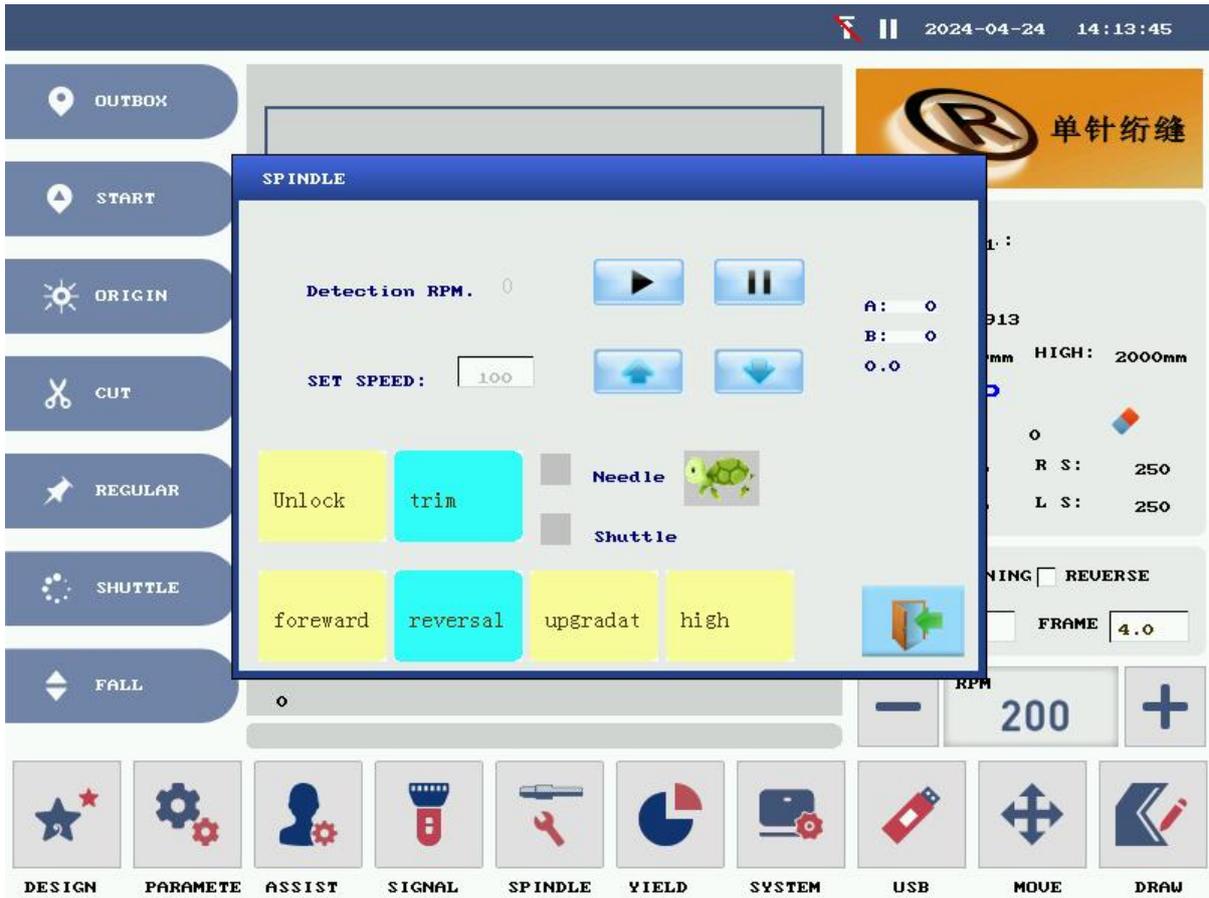
## 6 Signal

[Signal]: Click this button to enter the device detection status: the device detection dialog box "Signal Detection"Signal”

In the normal state, the [X Servo], [Y Servo], and [Needle] "Ready to output" items are displayed in the active state, When the control parts corresponding to the other items are functioning effectively, displayed as “”, The one on the right is the output signal, click to turn it on and off.



## 7 Spindle



\*[Detection RPM]: Used to check whether the spindle speed matches the

set speed,  Start button, when clicked the spindle starts to

rotate,  Pause button, when clicked the spindle will stop rotating.

\*[Set Speed]: Setting the spindle test speed

\*[Unlock]: Clicking on the unlock will spindle unlock it and allow you to move it, clicking on it again will lock it and prevent you from moving it.

\*[Trim]: When the button is clicked, the wire cutting action will be performed, which is used to test whether the wire cutting action is accurate

or not.

\*[Foreward]: By clicking the button, the spindle and shuttle will move a little bit in the positive direction, keep clicking and the spindle will keep moving. .

\*[Reversal]: By clicking the button, the spindle and shuttle will move a little bit in the negative direction, keep clicking and the spindle will keep moving.

\*[Upgradat]: Clicking on this button signals the nose to go up or down, If the head is in the up position, it goes down when you click on it, if it's in the down position, it goes up when you click on it.

\*[High]: When this button is clicked, the spindle returns to the high position, which is the needle zero position.

\*[Needle、Shuttle]: Demonstrate “” Valid state, i. e. in the zero position.



: is the speed of the spindle in the positive and negative directions of rotation.



: Exit button.

## 8 Yield

YIELD						
2024/4 0 <b>1</b>	2024/4 0 <b>2</b>	2024/4 0 <b>3</b>	2024/4 0 <b>4</b>	2024/4 0 <b>5</b>	2024/4 0 <b>6</b>	2024/4 0 <b>7</b>
2024/4 0 <b>8</b>	2024/4 0 <b>9</b>	2024/4 0 <b>10</b>	2024/4 0 <b>11</b>	2024/4 0 <b>12</b>	2024/4 0 <b>13</b>	2024/4 0 <b>14</b>
2024/4 0 <b>15</b>	2024/4 0 <b>16</b>	2024/4 0 <b>17</b>	2024/4 0 <b>18</b>	2024/4 0 <b>19</b>	2024/4 0 <b>20</b>	2024/4 0 <b>21</b>
2024/4 0 <b>22</b>	2024/4 0 <b>23</b>	2024/4 0 <b>24</b>	2024/3 0 <b>25</b>	2024/3 0 <b>26</b>	2024/3 0 <b>27</b>	2024/3 0 <b>28</b>
2024/3 0 <b>29</b>	2024/3 0 <b>30</b>	2024/3 0 <b>31</b>				




clearing    Exit

Displays the production for the day of the month and displays the production for the previous days of the month, If the month has not reached 31 days, the yield of the behind days of the previous month will be displayed, together with the days yield of the current month, to form 31 days, and each additional day will overwrite one day of the previous month's days.

Click the selected days to enter the parameter view interface, with graphic number, graphic name, size (mm) and production statistics.

**【Clearing】** : Clear the day's yield.

## 9 System



\*[中文/ENGLISH]: You can switch the language of the interface, now there are: Chinese, English, Turkish, Russian.

\*[Maching Information ]: Displays the machine's yield(mm), start-up time, sewing time, software version number and other information.

\*[Use Confing]: Access requires a password, Inside, you can set [vendor master password]、 [time and date]、 [expiration date]、 and [change inquiry serial number], The settings here are more important, please do not change them arbitrarily.

\*[Touch Adjust]: Used to correct the touch screen, the touch screen want to realize the touch function before please correct the position, After entering the correction screen, please use your hand to click on the

icon until you exit the correction screen, [Attention] A password is also required to access the correction interface.

\*[Upper Thread Detection]: See description in 《Assist》。

\*[Test Sensitivity]: See description in 《Assist》。

\*[Startup Donnot Test Number]: See description in 《Assist》。

\*[Wire Breadage and Thread ing Pos]: See description in 《Assist》。

\*[Return Stitches After Thread Brokei]: See description in 《Assist》。

\*[Hand Moving Frame Fast Speed]: Speed when manually moving the X and Y servomotors in the “Move” interface, Note: The rabbit Hand Moving Frame Fast Speed, the tortoise Hand Moving Frame Low Speed.

\*[Hand Moving Frame Low Speed]: Speed when manually moving the X and Y servomotors in the “Move” interface, Note: The rabbit Hand Moving Frame Fast Speed, the tortoise Hand Moving Frame Low Speed.

\*[X Moving Speed When Span]: The speed at which the X servomotor moves during a stride.

\*[Y Moving Speed When Span]: The speed at which the Y servomotor moves during a stride.

\*[X,Y Servo Alarm Whether Access]:After opening, if the servo is faulty, quilting is prohibited.

\*[XY Frequency Multiplier]: For use with drive gear ratios.

\*[Main Single]: When open, the needle shuttles are controlled independently and will not link up.

\* **【Max Speed】** : Limit the maximum machine speed.

\*[Startup Acceleration]: Speed of acceleration at startup.

\*[Slowdown Acceleration]: Speed of deceleration by pressing the stop button.

\*[Stitch Length When Decrease Speed]: When making sharp corners, the degree of sharpness.

\*[Starting Speed]: Setting the speed of the first needle spindle at the start of a quilting job.

\*[Speed During Reinforcement]: Spindle speed during quilting operation reinforcement.

\*[Trimming Function]: See description in «Assist» .

\*[Pattern End Cut]: See description in «Assist» .

\*[Cut Speed]: Setting the speed of spindle rotation during wire cutting.

\*[Lock Stitch Qty Before Trimming]: See description in «Assist» .

\*[Lock Stitch Qty After Trim]: See description in «Assist» .

\*[Length of Lock Stitch(mm)]: See description in «Assist» .

\*[Thread Cutting Spindle Angle]: Adjustment of spindle angle when setting up wire cutting.

\*[Loose Line Angle]: See description in «Assist» .

\*[Thread Trimming Release Angle]: Angle of return.

\*[Release Angle of Loose Line]: See description in «Assist» .

\*[Clamping Time]: Set the time when the quilting operation is clamping the thread, the longer the time the longer the clamping is done.

\*[D cut]: See description in «Assist» .

\*[D cut angel]: See description in «Assist» .

\*[Head Up When Crossing]: See description in «Assist» .

\*[Falling Time]: Time required for the head to drop.

\*[Lifting Time]: Time required for the head to rise.

\*[In Place Singal]: When turned on, the quilting operation will automatically detect the head mounting in place signal, and when turned off, the quilting operation will not detect the head mounting in place signal.

\*[Automatically Return After Complet]: See description in «Assist».

\*[Blow Time]: See description in «Assist» .

\*[Number of Shuttle Changes]: See description in «Assist» .

\*[Number of Refueling Sti]: See description in «Assist» .

\*[Refueling Time]: See description in «Assist» .

\*[CW + CCW]: Setting for CW + CCW operation.

\*[Initialize System Y.After Trim]: Used to initialize parameter values in the system setup.

\*[Machine Code Setting]: Manufacturer Settings.

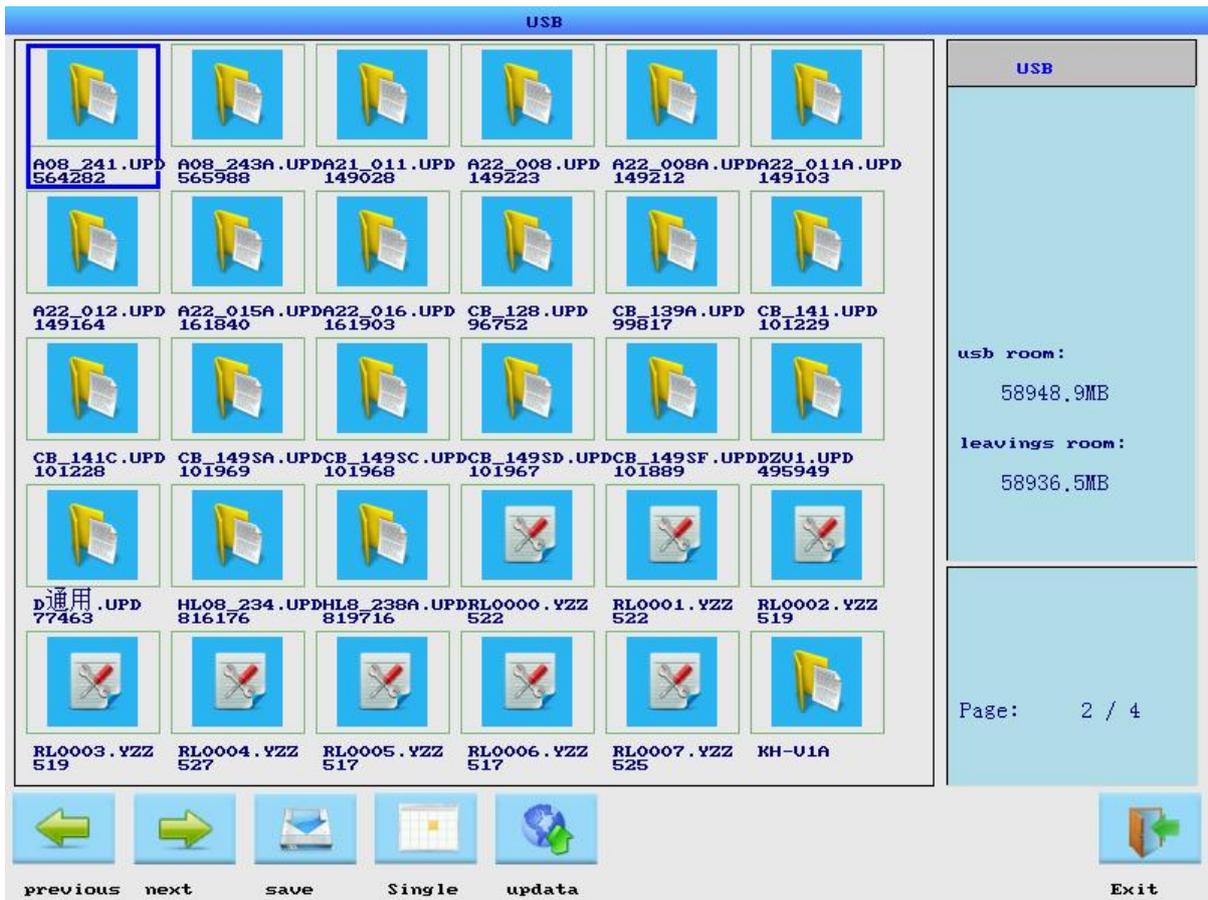
\*[Current Pattern Put Out]: Manufacturers use.

\*[Format Disk]:Format the entire disk of the machine.

\*[Men]: Manufacturers use.

\*[Regular]: When you open it, the place where the factory logo is displayed will be replaced with the generic logo.

10 USB



Mouse click on the USB flash drive management, [USB] will display the capacity of the inserted disk, and the remaining capacity information.

The operating buttons:



Explanation of the command:

【Previous】 【Next】 : File Browsing Toggle:

【Save】 : Write the selected file to the AD22 disk

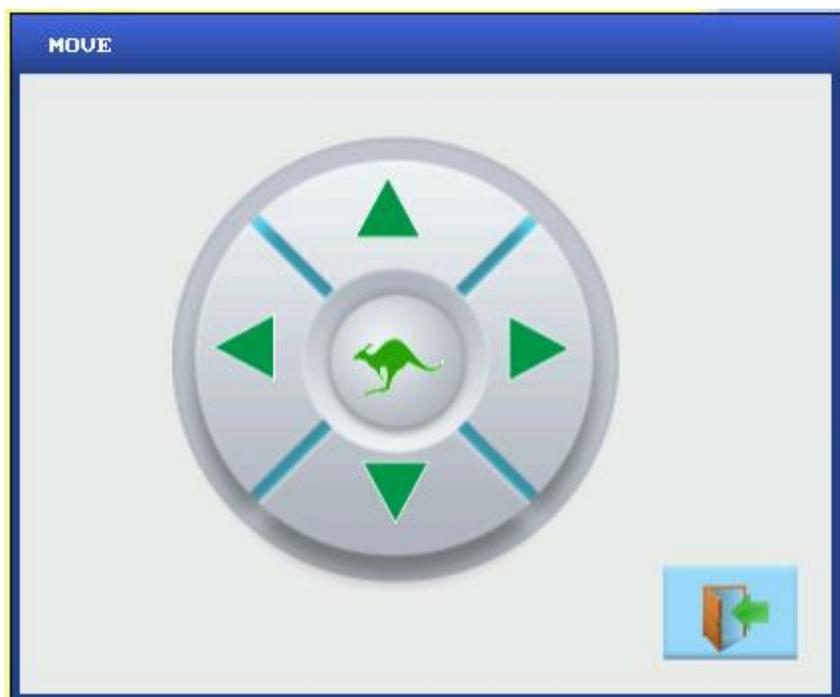
【Single】 : One click, radio becomes multiple choice, another click becomes select all, and the last click becomes single choice again.

【Updata】 : Upgrades and replacements of computer software versions

are possible

**【Exit】** : Exit the USB flash drive management interface directly

## 11 Move



The up, down, left and right arrows in the picture have the same effect as the keyboard up, down, left and right arrows.

\* [Advance]: Servo [Y] advance by 2 mm with spindle in needle position condition.

\* [Retreat]: Servo [Y] Retreat by 2 mm with spindle in needle position condition.

\* [Left shift]: Spindle in needle position condition, servo [X] moves left 2 mm, stops moving when zero sensor is active or left limit sensor is active.

\* [Right shift]: Spindle in needle position condition, servo [X] moves 2 mm to the right and stops moving when the right limit sensor

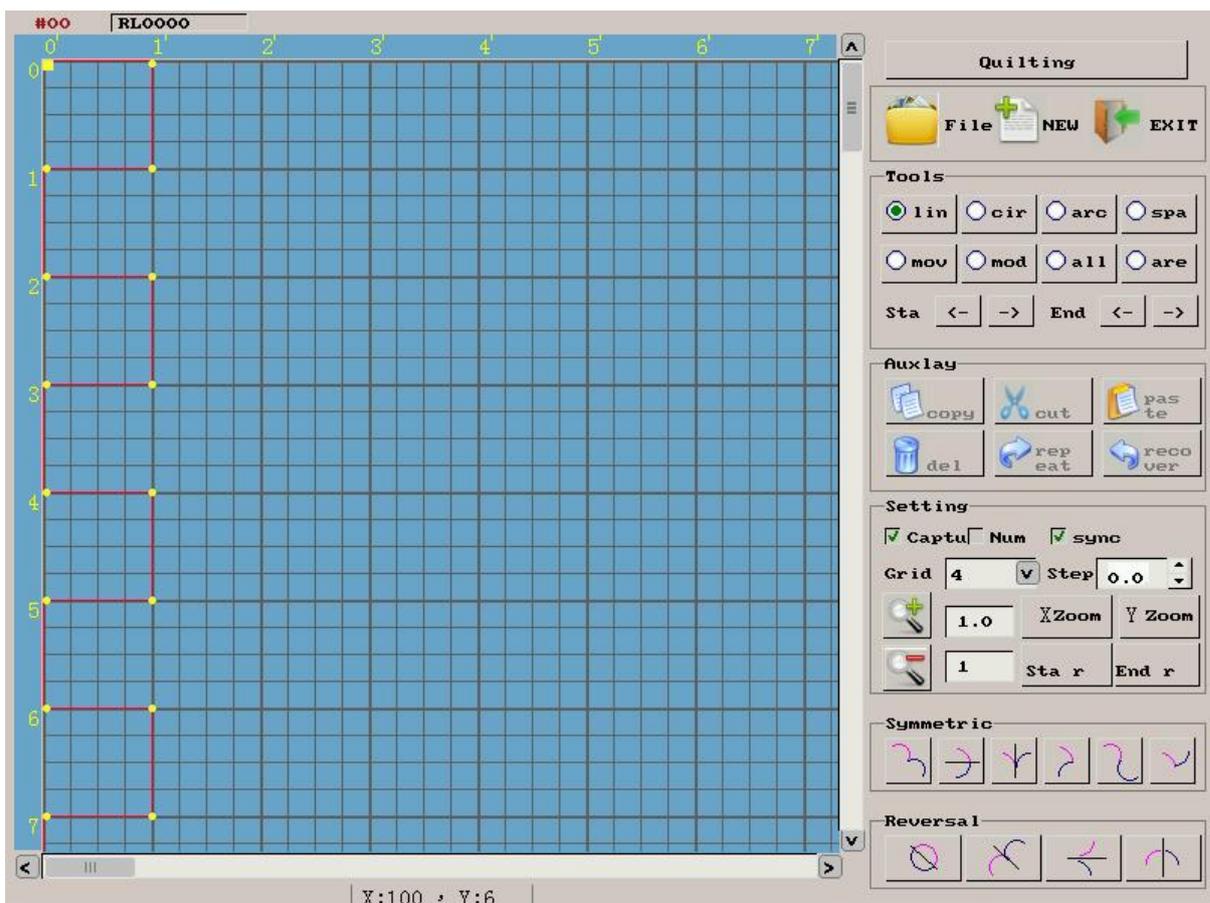
is active.



: The rabbit Hand Moving Frame Fast Speed, the tortoise Hand Moving Frame Low Speed.

## 12 Draw

When editing a new graphic or modifying an existing graphic, it should be noted that the size of the graphic should be within the operating range of the saddle frame and the rewinding device of the machine.



DRAW Drawing

## 12.1 Graphically assisted drawing

This feature can display Windows bitmap graphics, You can draw according to the lines on the graph, and then use the pattern processing to get the desired pattern shape.

## 12.2 File



Mouse click on the file, [Memory] will display the graphic name, drawing number, line segments, and width and height information

Command Explanation:

**【Previous】 【Next】** : Graphics Browsing Toggle

**【Choose】** : Selecting graphics for processing

**【Save】** : Write the selected graphic to a USB

**【Single】** : One click, radio becomes multiple choice, another click becomes select all, and the last click becomes single choice again.

**【Delete】** : Delete the selected graphic

**【Clear All】** : Delete all graphics in the current folder

## 12.3 Exit

Open a new memory space and edit a new graphic to store it.

**RLOOO1** :

Click the name of the current drawing in the upper left corner of the editing interface, and the file dialog box will pop up, enter the name of the modified file, and save the saved drawing with the file name.

## 12.4 Graphical display commands

General rules for graphic display in single-needle machine control systems:

Demonstrate base color is black;

Positioning grid grayed out;

Graphic positioning points are shown as yellow rectangles;

The graphic start position is shown as a large yellow rectangle with an embedded diamond;

Selected areas are shown in green;

Normal pattern graphic elements are shown in red;

The serial number of the graphic elements of the pattern is displayed in yellow numbers

The operating buttons are: Upper and lower sliders、Left and right sliders

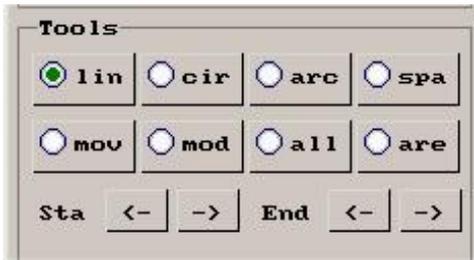
Graphic elements are "lin" or "arc" or "spa" or "cir" 。

Explanation of the command:

[Upper and lower sliders]: Shows graphic up/down movement for easy viewing of graphic area。

[Left and right sliders]: Shows graphic left/right movement for easy viewing of graphic area。

## 12.5 Graphic drawing and modification



See the radio buttons in the Tools: [Lin], [Cir], [Arc], [Spa], [Mov], [Mod], [All], [Are], Starting Point Adjustment Button[<-][->], End Point Adjustment Button[<-][->].

Click on a button[Lin]or[Cir]or[Arc]or[Spa], Enter the drawing state, the starting point of the drawing is the last node of the current graphic [if it is an empty flower, then it is the starting point coordinate], click the left mouse button to finish the drawing, when drawing a circle or an arc, you need to move the mouse and click the left mouse button to finish the selection of the middle point.

In the drawing mode, in the pattern display window, the last graphic element of the pattern can be deleted by clicking the right mouse button; similarly, the last graphic element of the pattern can be deleted by clicking the button [Delete].

Command Explanation:

[Lin]: In the graphic Display window, move the mouse, identify the end point, and click the left mouse button to finish drawing the straight line.

[Cir]: In the graphic display window, move the mouse to determine another positioning point of the circle and click the left mouse button to finish drawing the circle.

[Arc]: In the graphic display window, move the mouse to determine

the end point, click the left mouse button, select the new position again to determine the middle point of the arc, after the new position is determined, click the left mouse button to complete the drawing arc.

[Spa]: Similar to drawing a straight line.

[Mov]: To move the entire graphic, click on a point and the starting point of the graphic, along with the entire graphic, will move to the clicked point.

[Mod]: In the pattern display window, click on the node in the middle of the two graphic elements, then the two elements will be selected, drag the mouse to move the two elements, and then click on the element to complete the modification of the selected elements do not drag the mouse, only click the mouse will be canceled.

[All]: All graphic selected.

[Are]: After clicking the button [Area], in the graphic display window, click on a graphic element node can be selected, click again on the node of the selected graphic element can be unchecked, if you select the middle node, and then click on the node in front of or behind the node, will be in the middle of the selected node as well as all the graphic elements between the nodes to be selected, unselected, and similarly, click on the node in the middle of the two graphic elements will be the same time to uncheck the two graphic elements.

Starting Point Adjustment Button[<-]: After clicking on the button [Are], in the graphic display window, after selecting a graphic element, click on the button [<-], it will select an element in front of the

selected graphic element, and then click on [ $\leftarrow$ ], it will select the graphic element in front of it again, and keep clicking on the graphic element that can be selected all the time until the graphic element of the graphic starting point is selected.

Starting Point Adjustment Button [ $\rightarrow$ ]: After clicking on the button [Area], in the graphic display window, after selecting a graphic element, clicking on the button [ $\rightarrow$ ] will select the following graphic element, and the originally selected graphic element will be deselected until the starting point of the graphic.

End Point Adjustment Button [ $\leftarrow$ ]: After clicking the button [Area], in the graphic display window, after selecting a graphic element, clicking the button [ $\leftarrow$ ] will select an element in front of the selected graphic element, and the original graphic element will be deselected up to the starting point of the graphic.

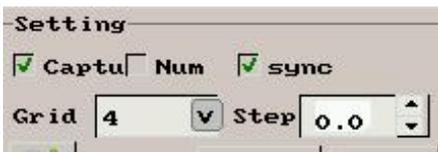
End Point Adjustment Button [ $\rightarrow$ ]: After clicking on the button [Area], in the graphic display window, after selecting a graphic element, clicking on the button [ $\rightarrow$ ] will select the next graphic element, and then clicking on the button [ $\rightarrow$ ] will select the further graphic elements until the end of the graphic.

## 12.6 Auxlay



See radio buttons in “Auxlay” : [Copy]、[Cut]、[Paste]、[Del]、[Repeat]、[Recover], Normally only the recover button can be used, when selecting all or regionally selecting, you can copy, cut, delete, when copying or cutting can be pasted after the.

## 12.7 Setting



See radio buttons in “Setting” : [Captu]、[Num]、[Sync]、[Grid]。

[Captu]: Automatically draws to the nearest intersection when clicked。

[Num]: Show the serial number of each graphic element, starting from the starting point, which is zero。

[Sync]: When checked, the same step size is used for the entire graphic。

[Grid]: Set the number of positional grids, if you set the value to 4, then the number of mini-grids will be 4 in each row and column。

## 12.8 Step set up

There are action commands: Step[ Edit box is displayed]、、, “Region selection button”。

When you draw a graphics, the step of the Draw graphic elements is the current display step; Modify the stitch step before drawing, you can get different stitches for different graphic elements。

When the region is selected, the step of the first graphic element of the selected region is displayed in the [Show Edit Box], Modify the step{click on the step、}or enter the step value in the [Show edit box]}, to change the step of the element in the selected area。

Command Explanation:

[Step show edit box]: Displays the current step or the selected graphic element step。

: Increase the step value。

: Decrease the step value。

The region selection command is used when the needle step is used: When the region is selected, the step of the first graphic element of the selected region is displayed in the [Show Edit Box], Modify the step to change the step of the graphic element in the selected area。

## 12.9 Graphics Scaling



[Zoom]: Zoom in on the graphic without changing the actual size of the graphic.



[Downsize]: Reducing of a graphic without changing its dimensions.

[XY Resizing]: XY zoom will zoom in XY according to the set value, except for the start and end nodes, which will change the actual size of the pattern.

## 12.10 Graphics Rotation



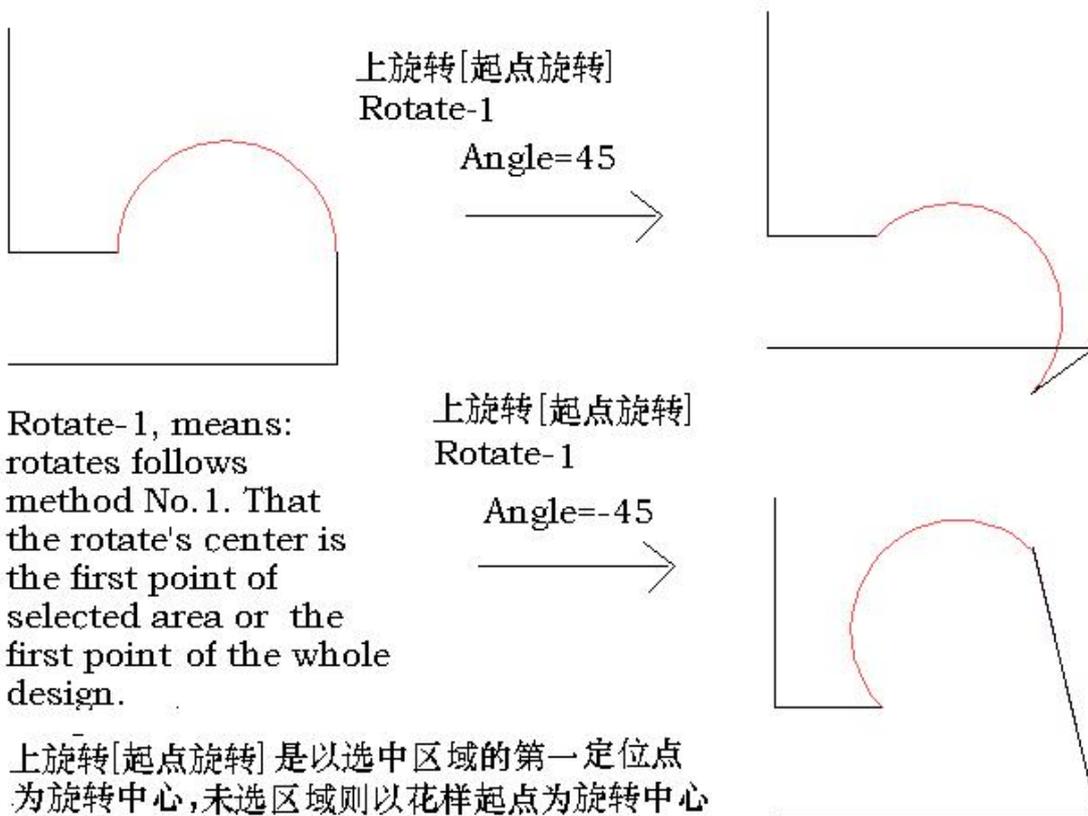
There are action buttons: [Sta r]、[End r]、Rotation angle unit [Edit display box], you can enter the rotation angle.

If no graphics area is selected, the graphics area is full-shaped; If there is a region selected, select the region [shown in yellow] to zoom the graphics area.

### 12.10.1 Radio button[Sta r]

Click the button[Sta r], the selected graphic area is rotated clockwise or counterclockwise using the starting point of the starting element of the area as the center of rotation.

Click **【Sta r】** , Enter the rotation angle in the pop-up input box to rotate to the proper position.



### 12.10.2 Click the button[End r]

Click the button[End r], By clicking the button [End Point Rotation], the selected graphic area is rotated clockwise or counterclockwise with the end the end of the last element of the area as the center of rotation.

Click **【End r】**, Enter the rotation angle in the pop-up input box to rotate to the proper position.

### 12.11 Graph reversal

Includes horizontal reversal、vertical reversal、45° left reversal、45° right reversal。

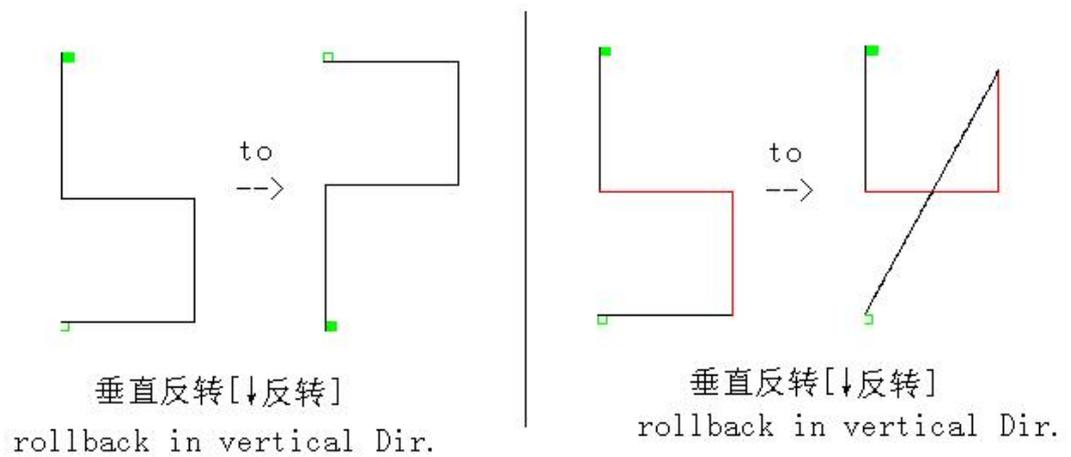


In case no graphic area is selected, full graphic inversion is realized, the graphic start element is the inverted start element, and the graphic end element is the inverted end element.

When selecting the graphic area [yellow display section], the start element and end element of the selected area are the reversal start element and end element, respectively.

### 12.11.1 Vertical reversal、45° right reversal

Click the button [↓Reverse], the selected graphic is reversed in the vertical direction, the figure shows the result of the reversal

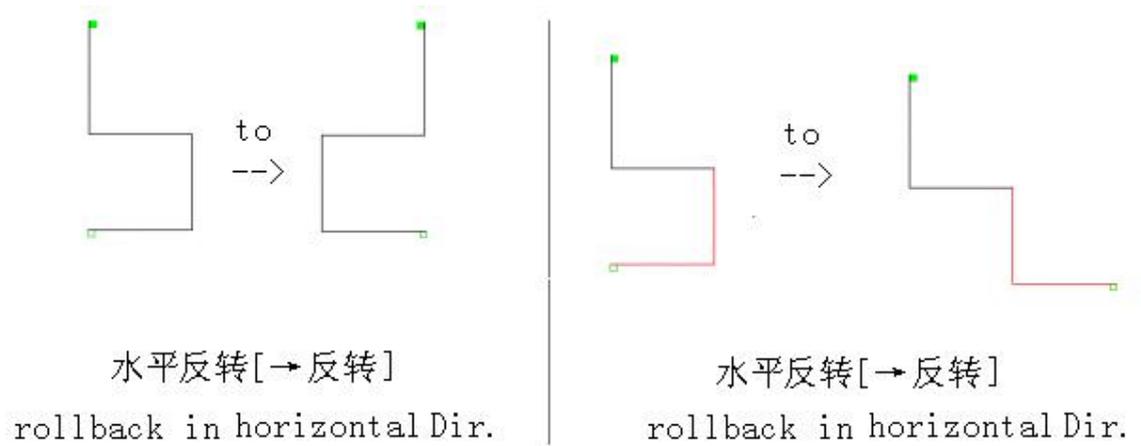


垂直反转[↓反转]图例

Chart for rollback in vertical-direction

### 12.11.2 Horizontal reversal、45° left reversal

Click the button [→Reverse], the selected graphic is reversed in the Horizontal reversal direction, the figure shows the result of the reversal

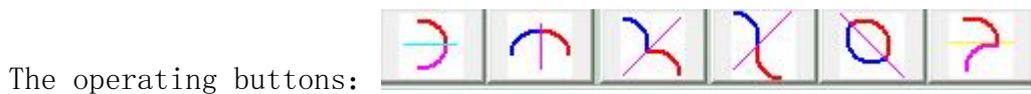


水平反转[↓反转]图例

Chart for rollback in horizontal-direction

## 12.12 Symmetry of graphic

Includes 6 types.

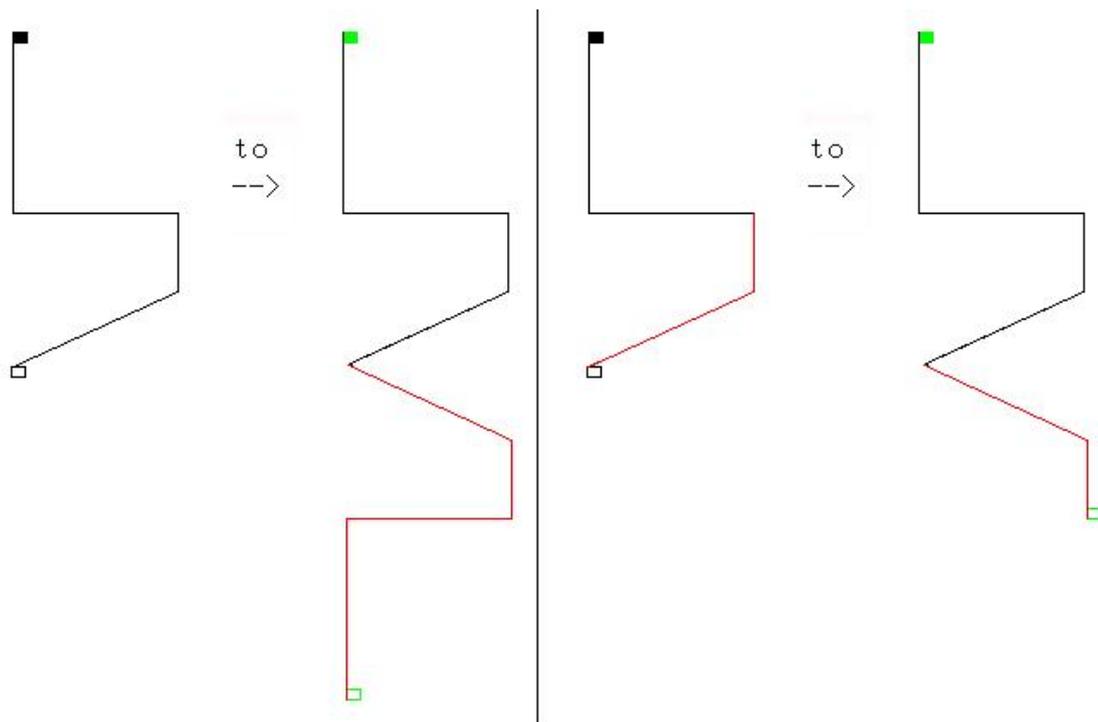


With no graphic region selected, full pattern symmetry is achieved, with the pattern start graphic element being the symmetrical start graphic element and the pattern end graphic element being the symmetrical end graphic element.

In the selection graphic area [yellow display section], the start graphic element and the end graphic element of the selected area are symmetrical start graphic element and end graphic element, respectively.

### 12.12.1 Vertical symmetry [Outlined]

Click the button [ $\downarrow$  symmetry], the selected graphic is symmetry in the Vertical direction, the figure shows the result of the symmetry

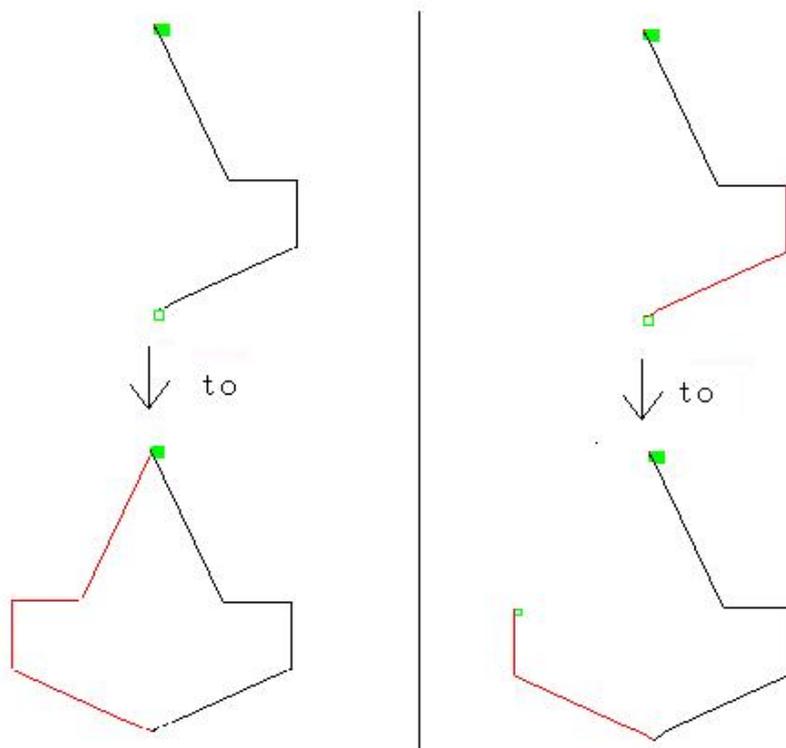


垂直对称[ $\downarrow$ 对称] 图例

Chart for symmetry in vertical-direction

### 12.12.2 Horizontal symmetry[Outlined]

Click the button [→symmetry], the selected graphic is symmetry in the Horizontal direction, the figure shows the result of the symmetry



水平对称[→对称] 图例

Chart for symmetry in horizontal-direction

### 12.13 Exit graphic editing

Click the button [Quilting] or [Exit] to exit the pattern editing state. In the case that the graphic is not in zero position [or the Y values of the starting point and the ending point are not the same], the machine prompts the interface of "The end point of the graphic is not in the zero position, automatically correct the position".

Click【Quilting】button, Starting the machine resets the zero position before quilting.

Click **【Exit】** button, When starting the machine, start quilting in the same position as the last quilting pause.

Exit graphic editing, note that the graphic is zeroed, i.e., the start Y coordinate and the end Y coordinate of the graphic should be the same.

### 13 Problems and Solutions

Recommendation: In case of machine problems, contact the equipment supplier's office for technical support.

#### 13.1 Computer prompted questions

During the quilting operation, the computer automatically detects possible problems, and the computer suggests problems and solutions.

Spindle not in needle position, cannot move X or Y

Reason: When moving X or Y manually, the machine prompts because the machine spindle is not in the needle position (the highest position);

Solution: Return-to-needle position operation.

Right limit, please check the device

Cause: X is right restriction position and at the same time X needs to be Right direction moved toward [including machine quilting operation movement or manual movement], an alarm occurs.

Solution: 1 Reduced machine right-hand travel range due to manual human movement of the X servo;

2 Right limiting sensor mounting position is biased to the left, requiring a rightward shift of the sensor mounting position;

3 Graphics width too large;

4 Right limit sensor power or signal wire problem, check wiring;

5 Right Limit Sensor Invalid; Remain Normally Valid, Replace Sensor.

Left limit, check equipment

Cause: X is left restriction position and at the same time X needs to be left direction moved toward [including machine quilting operation movement or manual movement], an alarm occurs;

Solution: 1 Reduced machine left-hand travel range due to manual human movement of the X servo;

2 Left limiting sensor mounting position is biased to the right, requiring a left ward shift of the sensor mounting position;

3 Graphics width too large;

4 Left limit sensor power or signal wire problem, check wiring;

5 Left Limit Sensor Invalid; Remain Normally Valid, Replace Sensor.

X servo not ready, check equipment

Cause: Computer detects X servo controller is not ready and alarms; X-direction load is too large.

Solution: X direction load is too large, open the front cover of the control box, check the status display of the servo controller (blinking when there is a problem), the status display is abnormal, it is recommended to turn off the power supply of the system, manually move the X is smooth, troubleshooting.

2 Connection wiring or power supply problems, check the relevant wiring.

3 X servo controller problem, please contact the supplier.

Y servo not ready, check equipment

Similar to the X servo controller issue;

Pause button downtime

Reason: Pressing the machine pause switch during automatic quilting operation.

Solution: 1 Normal use

2 Check pause switch [signal test];

Trouble with computer control interface board, exiting job, check equipment

Reason: Abnormalities in normal computer detection during automatic quilting operations.

Solution: 1 due to electrostatic interference, caused by the computer normal detection of abnormalities, please check the computer control box, the machine is correctly grounded?

2 Liaise with vendors to replace hardware equipment.

Normal shutdown after plate completion

Cause: During automatic quilting operation, press [Quilting processing].

Solution: 1 Normal use

Shutdown after disconnection

Reason: Suspension of quilting operation due to detection of thread breakage signal during automatic quilting operation.

Solution: 1 Normal shutdown after disconnection

2 Check the Thread Brokei switch [signal test], and check the power line and signal line if there is an abnormality.

Bottom line depleted shutdown

Reason: Suspension of quilting operation due to reduction of the bottom line to zero when the bottom line detection is valid.

Solution: After a normal stop, the bottom line is automatically initialized to the bottom line set value when quilting again.

Finish customized length, shutdown

Reason: The quilting operation is suspended when the scheduled yield is completed while the scheduled yield setting is in effect.

Solution: After a normal shutdown, the scheduled yield is automatically initialized to the scheduled yield setting when the quilting operation is resumed.

### 13.2 Other possible issues

In case of problems, contact your local supplier's office for technical support;

#### 13.2.1 Computer won't start

Must be returned to the factory for repair