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# **Embroidery Controller Model TFC-xxB**

## **User's Manual**

**V3.0**

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## Part One Outline

Welcome to utilize our control system for computerized embroidery machine. Please read this manual carefully before operating the embroidery machine so as to operate it correctly and to avoid accidents. And please keep it properly for future use.

Different machines may have different configuration. Machines of other kind might not have the function listed in this manual, so please notice the conditions requested for the machine.

### 1.1 Precautions

#### 1.1.1 Safety notice

	Danger	A potential danger, if not avoided, severe injuries would probably be caused to the operators.
	Warning	A potential danger, if not avoided, the equipment would probably be damaged.
	Prohibition	Refer to operations prohibited.
	Notice	Refer to operations that shall be done.

	<b>Danger</b>
---	---------------

	Don't touch any operating parts of the machine while it is running; otherwise personal injuries would be caused.
	To avoid electric shock or fire disaster, the equipment shall be free from humidity, dust, corrosive gas, and flammable and explosive gas.
	To avoid accidents, please don't open the cover plate of the case while operating as it is with high voltage.
	The non-professionals are prohibited to perform maintenance and debug of the electrical parts; otherwise the safety performance of the equipment would be degraded and equipment breakdown would be expanded, even personal injuries or property damage would be caused.
	Please change the fuses according to the specifications identified by this product strictly, to ensure the safety of personnel and property.
	The power switch has the function of over-current protection. If the over-current protection switch turns off, customers shall turn it on 3 minutes later.
	If you have to open the cover plate of the case, please cut off the power first. And at least one minute shall be allowed for the capacitors to discharge before you touch the inner parts of the case, as it is still with electricity even after the power is cut off.
	Don't use the circuit parts that are not from our company.



## Warning

	Please use floppy disks of good quality. Using bad ones would probably damage the floppy driver.
	To avoid disk damage and data losing, the disks shall be free from materials like magnet, TV set, etc., as they are of magnetic material.
	The floppy driver and the USB port are precise devices. When inserting a disk or USB into it, more attention should be paid to the direction. Please don't move out the floppy disk or USB when the driver's lamp is on; otherwise the disk, or the USB, even the driver would be badly damaged.
	The machine should be operated in a clean and ventilated environment. Don't put sundries around the control box so that it can release heat well. And regularly cleaning should be done to avoid dust.
	Don't use the spare parts not provided by our company; otherwise fire disaster, electric shock and severe damage would be caused.

Chart 1-1

### Requirements for power supply:

- (1) The machine's power system should be restricted on its nameplate, and if the input voltage fluctuation is over 10 percent, one voltage regulator is necessary for it.
- (2) The system can only be connected with permanent input power supply and shall be grounded with earth terminal.
- (3) The embroidery machine shall not share the same power supply wire with other strong-powered equipment to ensure that the controller can work safely and reliably.

### Grounding requirements:

- (1) Please ground firmly to avoid electric shock or fire disaster caused by electrical equipment leakage, over-voltage and insulation, and to ensure the computerized embroidery machine to run steadily with longer time.
- (2) The grounding resistance should be no more than 10Ω. Ground through the power supply input wire and make sure that the power port is well grounded.

### 1.1.2 Installation environment of embroidery machine

- ①Solid ground;
- ②Avoid direct sunlight;
- ③Enough space for maintenance;
- ④Clean and dust-free surroundings;
- ⑤Space temperature: 5 to 40℃;
- ⑥Comparative humidity: 30 to 95% RH;
- ⑦Install the devices in horizontal position;
- ⑧Well-ventilated.

### **1.1.3 Safety precautions for using embroidery machine**

- ① Please cut off the power supply before overhauling and adjusting the machine.
- ② The operators and maintenance personnel shall be trained before operating.
- ③ Stop the machine for under-needle work.

### **1.1.4 Power supply specification**

- ① Power supply voltage: Single-phase (AC) 220V or 110V (switch of power supply shall be pulled at the corresponding location).
- ② Frequency: 50Hz/60 Hz.

## **1.2 Function introduction**

The electric control system adopts advanced graphic user interface and the shortcut keys, which makes the operation easy and practical, and also greatly improves the performance and efficiency.

#### **(1) Color LCD monitor**

Adopt color LCD monitor to display the progress of pattern embroidery and the embroidery information in real time.

#### **(2) Automatic speed adjustment**

The speed can be adjusted automatically according to stitch distance.

#### **(3) Pattern merge and edit function**

It is convenient to merge and edit pattern, to merge or divide the memory pattern, and to insert, modify as well as delete the single stitch data. It is convenient for people to embroider flexibly and part adjustment of pattern.

#### **(4) Converting, rotation and scaling of pattern**

Pattern can be scaled in horizontal and vertical direction by any rate between 50% and 200% and can rotate in one degree as well as mirror transformation.

#### **(5) Color change function**

Both manual and automatic color change can be performed through color change mode and needle bar setting.

#### **(6) Trimming function**

It is available to trim manually. And automatic trimming can also be performed after parameter setting.

(7) Thread breakage detect

After setting the parameters, the machine can detect the thread breakage automatically.

(8) Limit check function

When not sure selected scope fit the size of pattern or not, you can use this function to check. If the start point not proper, system report error automatically, then need to adjust manually.

(9) Automatic start point setup function

After select pattern and enter embroidery status, you can pull bar to set start point, or you can use the manual method.

(10) Brake adjustment function

It's to adjust the stop position error of main shaft motor. If not jog to zero position, you could modify the stop position error by brake coefficient selecting parameter.

(11) Parameter setting function

Different machinery configuration can be adapted through system parameter adjustment.

(12) Cycle embroidery function

Cycle embroidery of pattern can be set through machinery parameter.

(13) Boring embroidery function

Through parameter setting, any needle bar can be specified to perform boring embroidery.

(14) Sequin embroidery function

The speed of sequin embroidery can be adjusted through parameter setting. And the progress of sequin embroidery can be visualized.

(15) Switch between Chinese and English interface

Support Chinese and English interface. Other languages can be customized.

(16) Upgrading function

The system can be upgraded by using USB.

(17) Shank backup

In the break, the system automatically switches to the backup continues embroidery needle bar.

(18)Network features

Via Ethernet management computer tricks.

### **1.3 Performance index**

1. Max. speed of main shaft: 1200 rpm
2. Max. speed of sequin: 1200 rpm
3. Precision of frame control: 0.1 mm
4. Range of stitch distance: 0.1 to 12.7 mm
5. Stitch capacity: 600 million stitches
6. Pattern amount: 2000pcs
7. Identified pattern format: DST, DSB
8. Display: 7.0inch with color LCD monitor

## **Part Two Introduction of Electric Control Components And Interface**

### **2.1 Interface and Computer Operating Box Panel**

LCD monitor: displaying the progress of pattern embroidery and other information.

After the power is on and the system starts, the interface of “embroidery status” will pop up. See the figure 2-1:



Figure 2-1

1: Main area of display: displaying the embroidery information of pattern when embroidering.

2: Displaying the current speed of main shaft: press the keys   to adjust the speed.

3: Displaying the in place information of main shaft.



: means that the main shaft is in place;



means that the main shaft isn't at the zero position.

4: Displaying the current embroidery stitches of the current embroidery pattern.  is flat .

5: Displaying the frame.

6: Display the current the number of needles,

7: Display the information of the current pattern, such as: total stitches, colors, repeating.

8: Displaying the current X and Y coordinates of frame .

9: Display the message of current pattern.

10: Displaying the switch of pattern setting. Means the scaling, rotational angle and style of X and Y axes respectively.

11: Displaying the start mode of color change. It can be set under the embroidery preparation interface.



: means automatic start of automatic color change;



: means manual start of automatic color change;



: means manual start of manual color change.

12: Displaying the message of connecting USB 

13: LAN connection message .

14: Displaying prompt information, such as waiting for operating, and thread breakage, etc.

### Introducing the press button and function on the panel:



**(pattern selecting)**

Choose the pattern from the memory of the machine for embroidery.



**(choose pattern setting)**

Setting the detailed data for the pattern will be Embroidery feature.



**(parameter setting)**

Setting process and mechanical characteristics of the machine, select the frame, manual color change, spindle jog, backup needle bar and so on.



**(system function)**

Managing the pattern,reading in/out pattern from USB,adjusting machine,system upgrade.

**Moving button:**



We can move the frame at here.



: We can move the frame at higher speed ,and set higher speed of machine.



We can move the frame at lower speed,and set lower speed of machine.



We can change the the running speed of machine.



OR



: Staring machine button. We can star the machine by here when all

the detail data of the pattern is setting.



OR



: Stopping machine button. We can stop the machine by here when

the machine is running.

## 2.2 power on/off

When the switch is at ` O ` position. The power is off.

When the switch is at ` I ` position. The power is on.

## 2.3 About the indicator LED on the head of machine

When the LED is green,the machine is at normal running.If it is orange,the machine is return running.If is red, the thread is broken.

## 2.4 Emergence stopping button

We can press this button to stopping the running machine if there is any emergency happening.



**If the emerge operation was happened.in order to return the normal running, we shall let the power of machine off,and rotary the button at right to recovery. then power is on to return operating machine.**

## **2.5 USB Port**

The USB port is on the back of the operation panel and at the top of the Start button. It is used to input/output the pattern in U disk .

## **2.6 Internet connecting**

The internet connector is on the back of the panel.The machine could be connected to internet at here.We can input the pattern and update some messages by here.

## **2.7 Touch screen operation**

TFC01 electric pure touch interface. All buttons appear intelligent, completely avoid misuse; all information using touch slide interface mode switching, no flip button, clean and generous. For example: In the main interface between Embroidery and Idling screen, slide switch through the information area. Figure 2-3:

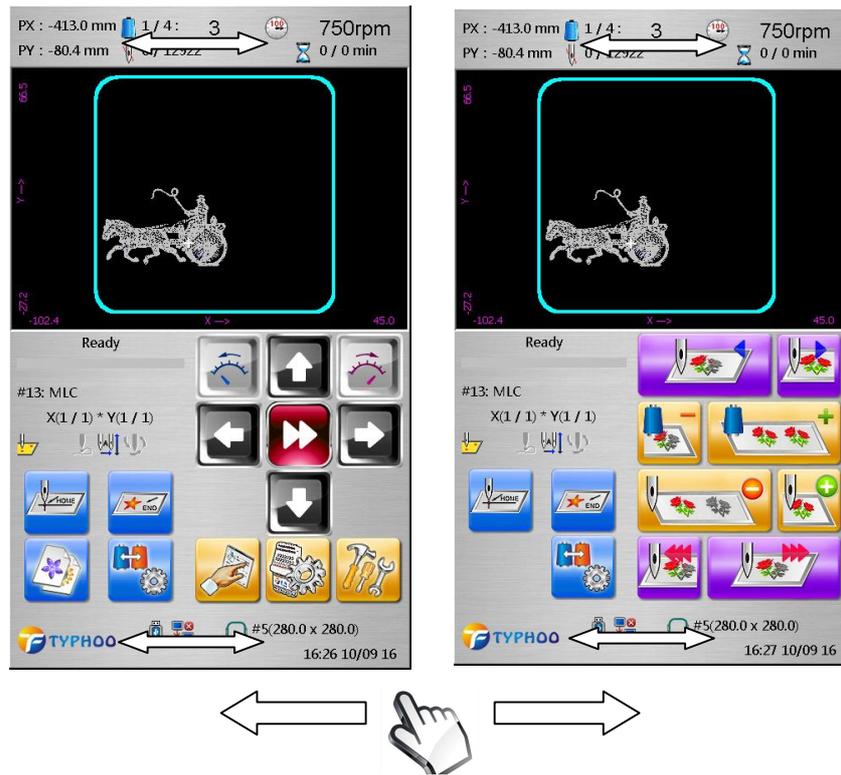


Figure2-3

## 2.8 Preparations before Embroidery

Embroidery is based on the patterns stored in memory. Before using a new machine, system initialization should be made, then input the needed patterns to memory from USB, thus you can select needed pattern to start embroidery.

## **Part Three How to Start Simple Embroidery**

### **3.1 How to Perform the First Embroidery**

Input the pattern needed to be embroidered with the U disk, or USB floppy, which is optional. Please look to Part Four How to Input Patterns for reference.

When the pattern is inputted into the memory, then customers can select and confirm the pattern in memory. Please look to 5.1 How to Select Patterns for reference. Then the machine will enter the status of Embroidery Ready. After setting the start point, customers can press the Start button to start embroidery. Please look to Part Six How to Set the Start Point of Pattern for reference.

### **3.2 Preparations before Embroidery**

Before embroidery, when the machine is under the status of Embroidery Ready, the following settings shall be done or confirmed:

Firstly, automatic color change/manual color change setting, which means whether to change color automatically or wait for manual color change after the stoppage when encountering changing color code during the process of embroidery. If set it to automatic color change, then customers need to set the color change sequence. Please look to 5.4 How to Set Automatic Color Change Sequence for reference.

Secondly, automatic start/manual start setting, which means whether to start embroidery automatically or press the Start button to start embroidery after automatic color change. Please look to Part Nine Operations Related to Color Change for reference.

Thirdly, the direction of the design, the rotational angle, and scaling needs to be set during the process of embroidery. And it is also needed to set whether to embroider the pattern repeatedly. Please look to 5.2 Pattern Change Setting and 5.3 Pattern Repetition Setting for reference.

### **3.3 Select the Pattern in Memory and Confirm Embroidery**

Illustration for pattern start point memorizing:

#### **(1) What is pattern start point memorizing?**

Pattern start point memorizing is to keep any position information of the start point of the pattern in the system. If the pattern is mixed with others, and there is no need to change the previous start point, then customers can use the function of pattern start point memorizing. In this way, repeated positioning of the same pattern of embroidery for several times can be avoided.

#### **(2) Instructions and important points on the realization of the pattern start point**

memorizing

To use the function of pattern start point memorizing, we suggest that customers should adopt the following operating sequence:

Firstly: select the pattern to embroider;

Secondly: move the frame to confirm the start point. For specific operations, please look to Part Six How to Set Start Point of Pattern for reference ;

Thirdly: confirm the embroidery. And the machine will memorize the start point according to system prompt.

### 3.4 Start Embroidery

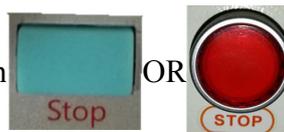
After setting the start point and each items related, then customers can start embroidery. The operating method is as follows:

When the machine is under Stop status: press the Start button



to start embroidery.

When the machine is at work: press the Stop button



to stop embroidery.

## Part Four How to Input Pattern

When embroidering a new pattern, customers shall input the pattern into the memory of the embroidery machine first. Through U disk reading, the pattern can be inputted into the memory.

**Note: The USB floppy function is supported and it is optional.**

To manage the U disk of large capacity in a more convenient manner, we store the files of each pattern in the form of folder.

After turning on, plug the U disk into the USB port, when the  is displayed, we can press the  key. Enter the menu of Disk Management, press the  key. the system will start to read the U disk. The LCD monitor will list the content of the file from the U disk. See the figure 4-1:



Figure 4-1

In the figure above, the sign (DIR) means that the pattern in memory can be read and Written in the form of folder. Press the “Pattern” key to enter the next level sub-content of the root content, and the LCD monitor displays the folder and pattern name under the current sub-content. See the figure 4-2:

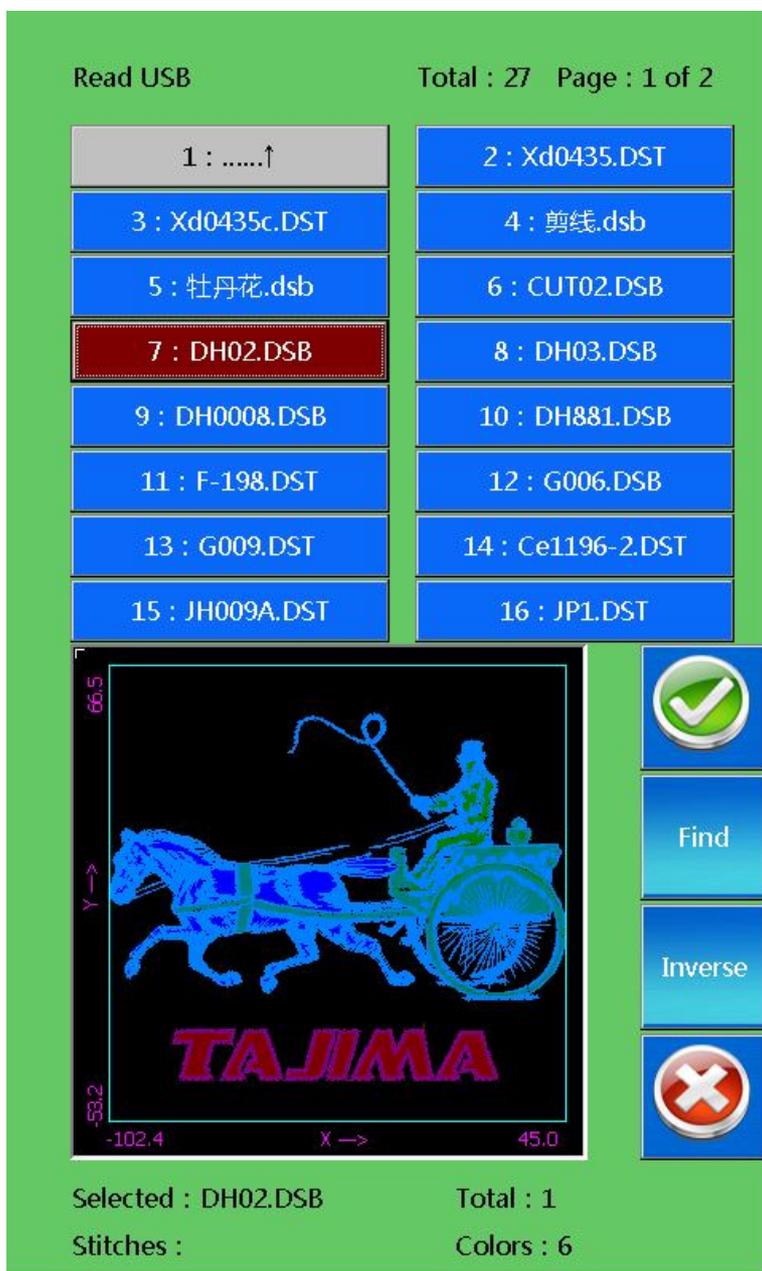


Figure 4-2

We can slide the screen with finger to turn up/down for more pages. Then press  to confirm pattern inputting. The following menu will pop up. See the figure 4-3:

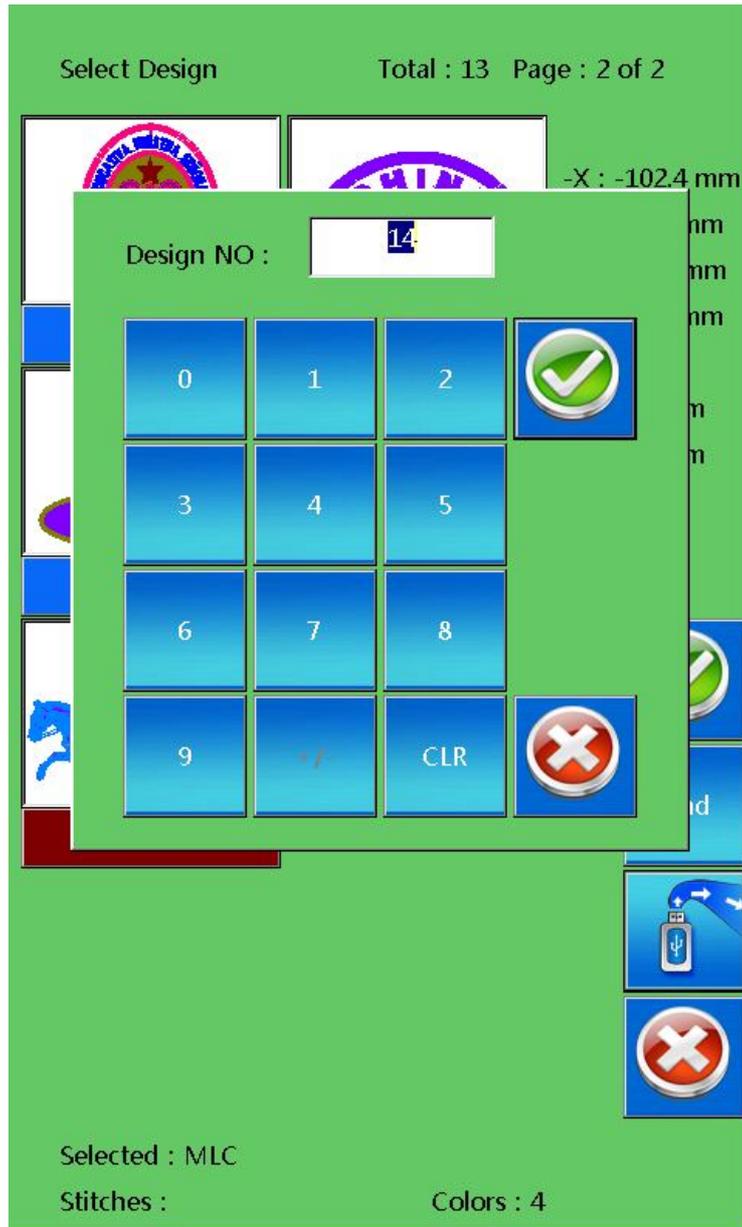


Figure 4-3

The LCD monitor prompts the message that Input the new pattern in memory, and the system will automatically name the pattern No. with the minimum memory. Press the corresponding number keys to make changes and then the  key. The LCD monitor will display the percentage of the current reading progress till the pattern inputting is finished.

## Part Five How to Select Pattern to Perform Embroidery

### 5.1 Select Pattern to Embroider

After patterns have been inputted in memory, We can select the pattern for embroidery.

The methods for selecting patterns and setting up embroidery are as follows:

Press the  key to enter the menu of Pattern Management under the status of Embroidery Ready.

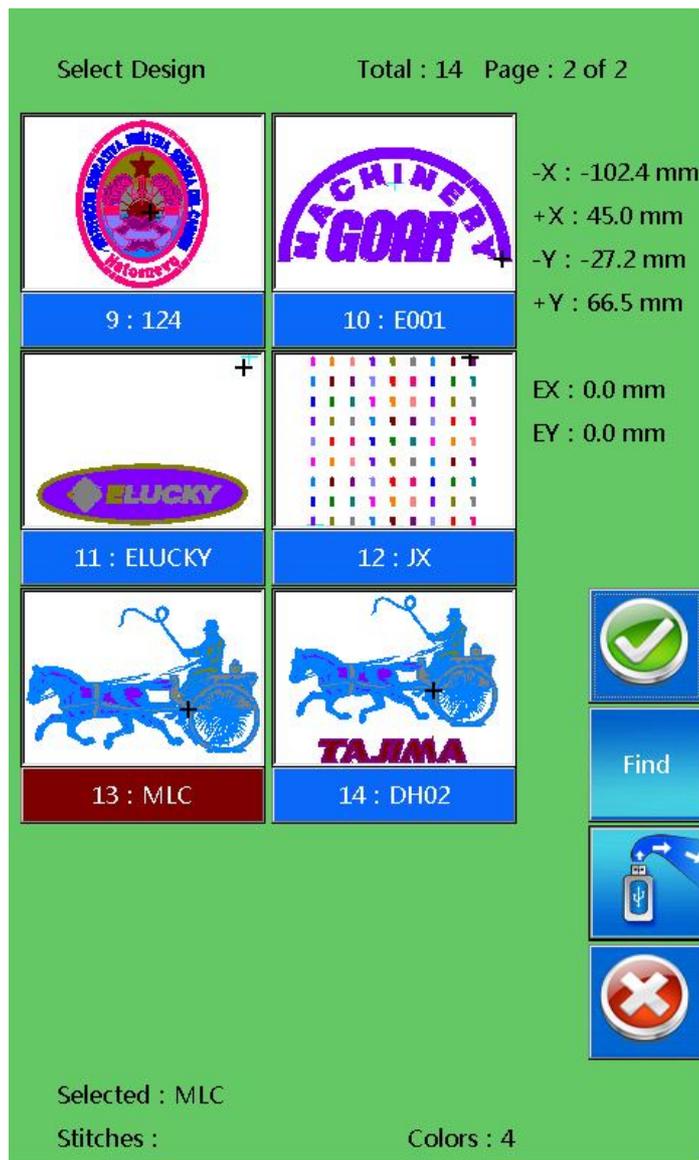


Figure 5-1

We can touch the name or figure of pattern on the monitor to select the pattern to be embroidered. After selecting the pattern, we press  to confirm. Then the monitor returns to the status of embroidery ready. And we shall press . The displays will turn to next, See the figure 5-2:



## 5.2 Pattern Change Setting

Under the status of Embroidery Ready, we press the



key to select

repetition/convert setting. See figure 5-3

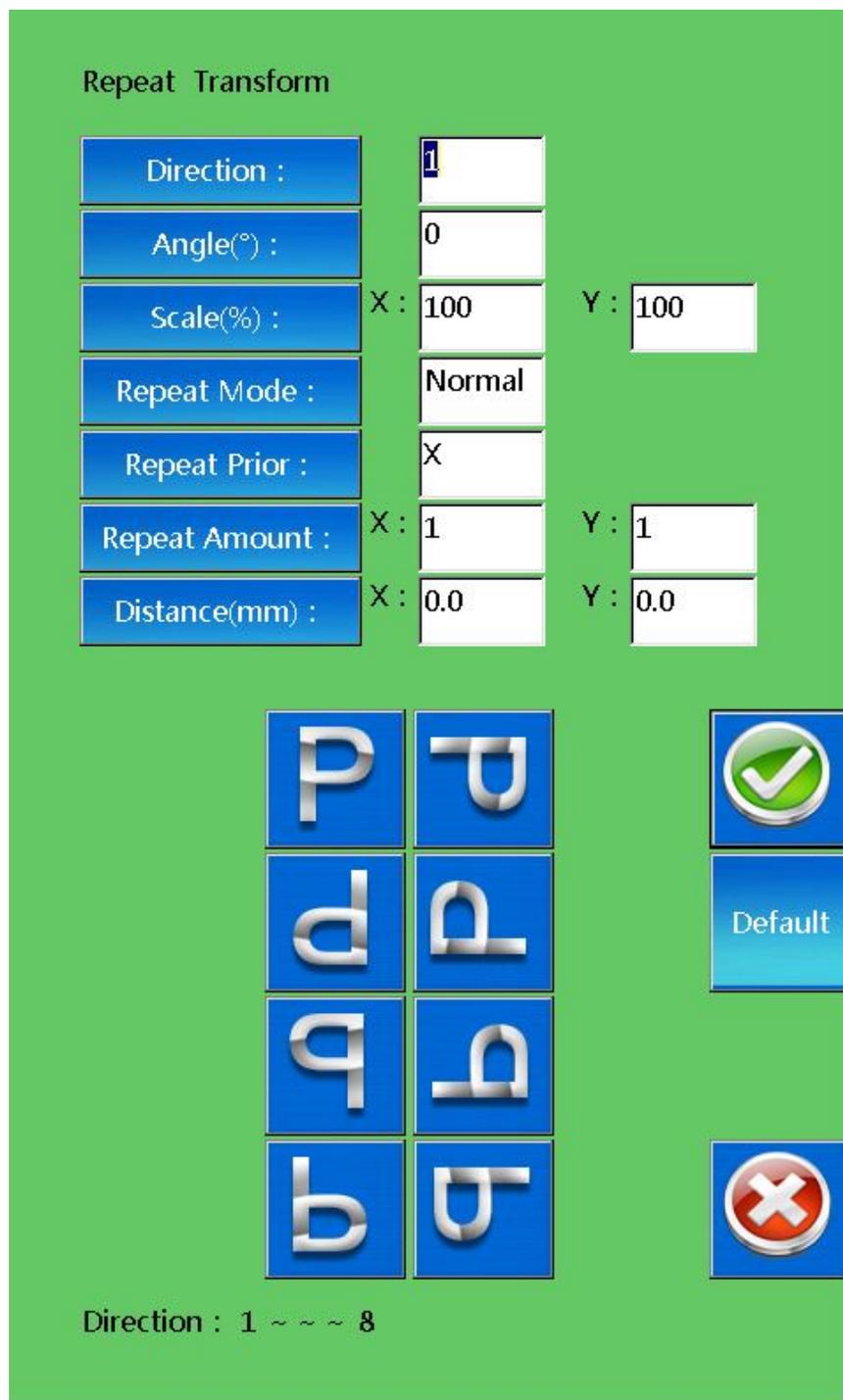


Figure 5-3

### 5.3 Automatic Color Change Sequence Setting

Under the status of Embroidery Ready, we shall press



key. See the figure

5-4,next

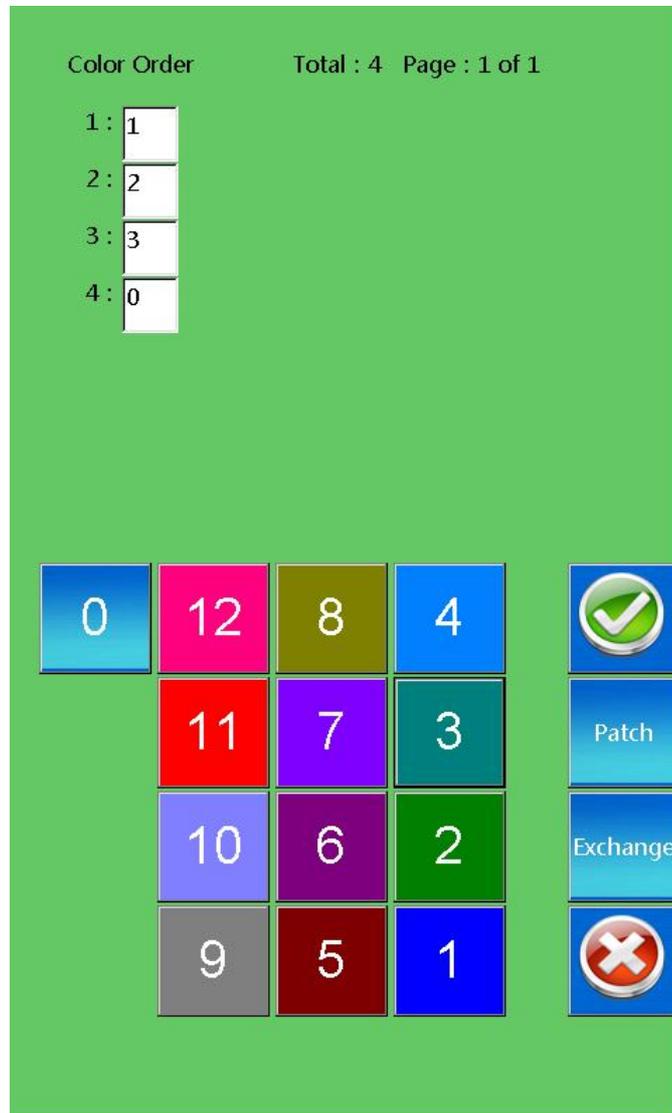


Figure 5-4

Press number to input needle bar NO. of the current color. The cursor will move to next color setting automatically and repeat doing it until all color sequence be set . Press the  key to complete automatic color change and system return to the Embroidery Ready status automatically.

 **If customers don't set the automatic color change sequence, then the system will automatically default it as single color and embroider from the current needle bar.**

## Part Six How to Set the Start Point of Pattern

Start Point Setting is defined as the process of setting the start point of pattern, which is to set the start position that customers want the embroidery to start. After selecting the pattern and finishing setting all the parameters, customers can set the start point of the pattern to get ready for embroidery.

### Method One:

Under the status of Embroidery Ready, We move the frame to the position of the needed start point by manually. Then Press the . The LCD monitor displays as the figure 6-1 shows:

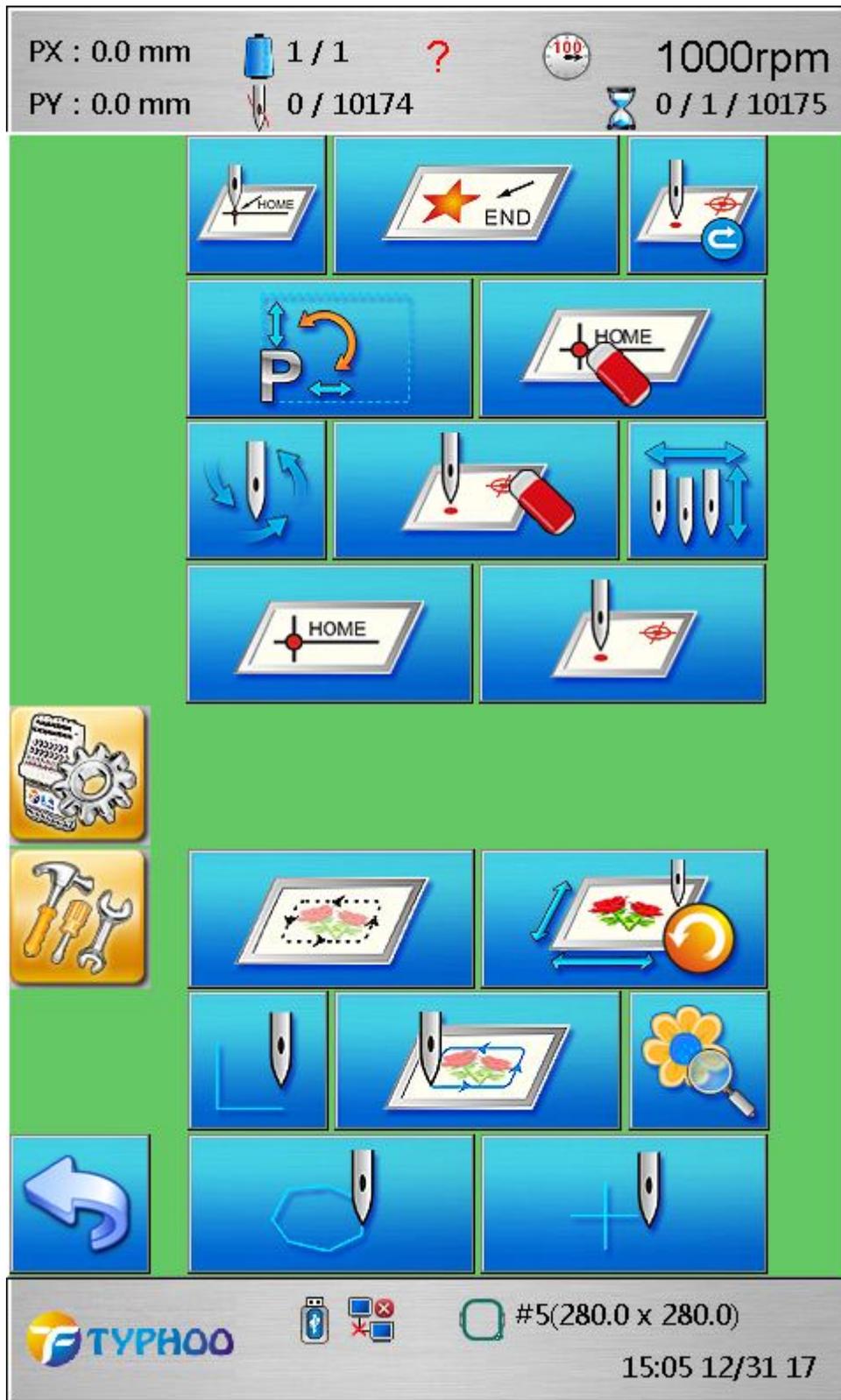


Figure 6-1

The following is the operating method of setting start point:

Press  .The system will display:set the pattern original Point?

Then we press . And setting start point of this pattern is finished. At the same time, the system will display: check the frame limited? After press  to confirm, the machine will check the frame limited automatically. If press , the machine will not check.

After all, we press the start button. The machine will begin running at the original point that you have set.

## Part Seven How to Check the Embroidery Range of Pattern

### Pattern

The operation that customers check whether the frame exceeds the mechanical limit position with the maximum embroidery range of the pattern when it moves automatically from the start point along the maximum range of the pattern is called **Limit Check**.

 **When performing the functions mentioned in this chapter, technicians and operators shall keep distance from the frame to avoid injuries caused by sudden frame movement.**

#### 7.1 Limit Check

If there is a need to perform the operation of limit check when the manual setting of start point is ready, then customers can operate as follows:

After setting the start point, press the  key to enter the the status of Embroidery Confirmation, and the LCD monitor will display as the figure 7-1 shows:



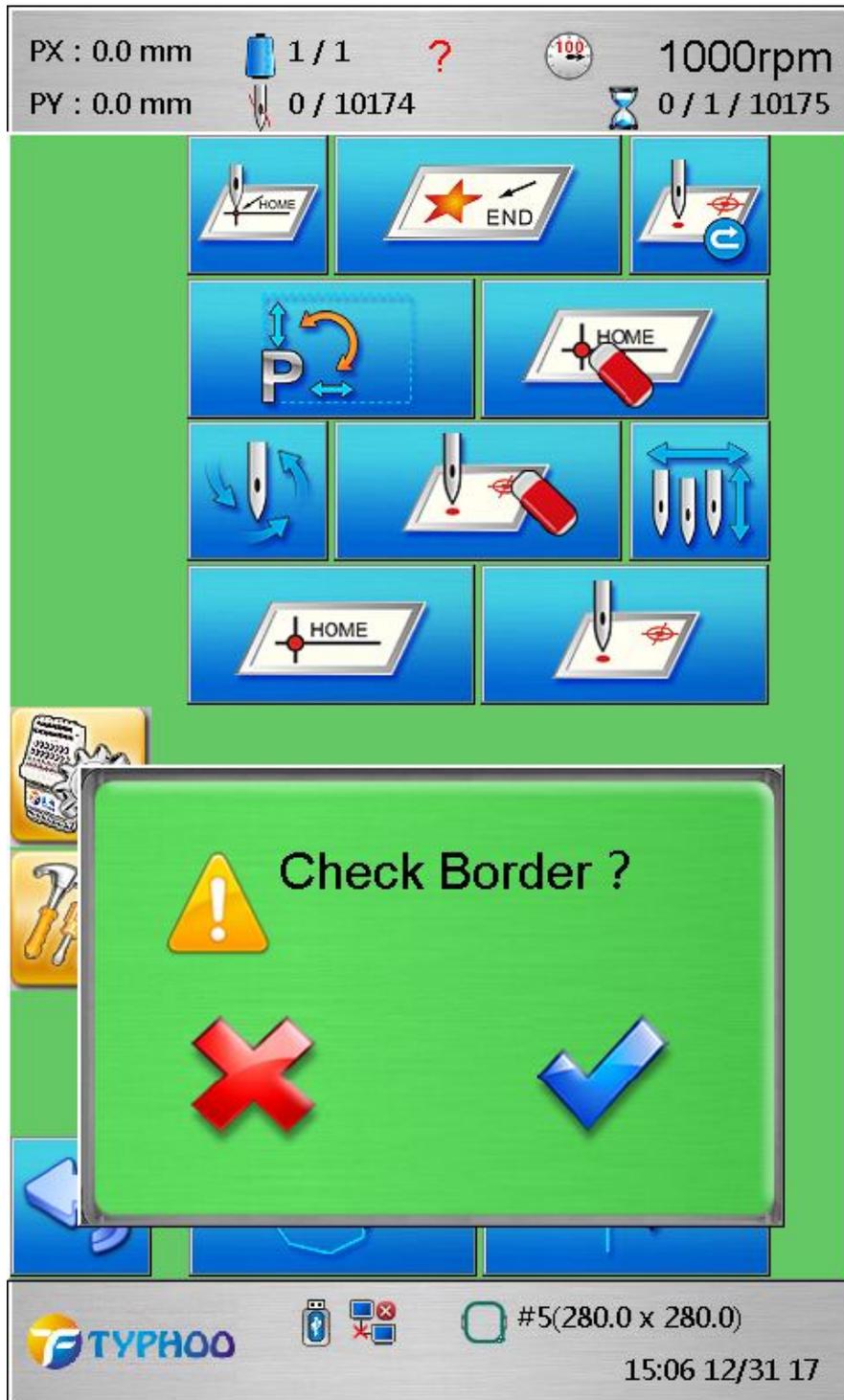


Figure 7-2

After press , the limit checking will be starting. The frame will start to move from the start point and the LCD monitor will prompt error if the coverage is not enough. At this time, customers shall view whether the dimension of the embroidery machine is suitable for this pattern embroidery. Or, customers can complete the embroidery by changing the patterns.

## 7.2 Software limit

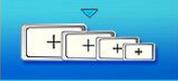
This function is to set the embroidery range of frame through software, making the embroidery range lower than the setting value so as to protect the embroidery.

Under the status of Embroidery Ready, press the  key to enter the Auxiliary

Function, and the LCD monitor displays as the figure 7-3 shows:



Figure 7-3

Press  .the interface will display as the figure 7-4 shows:

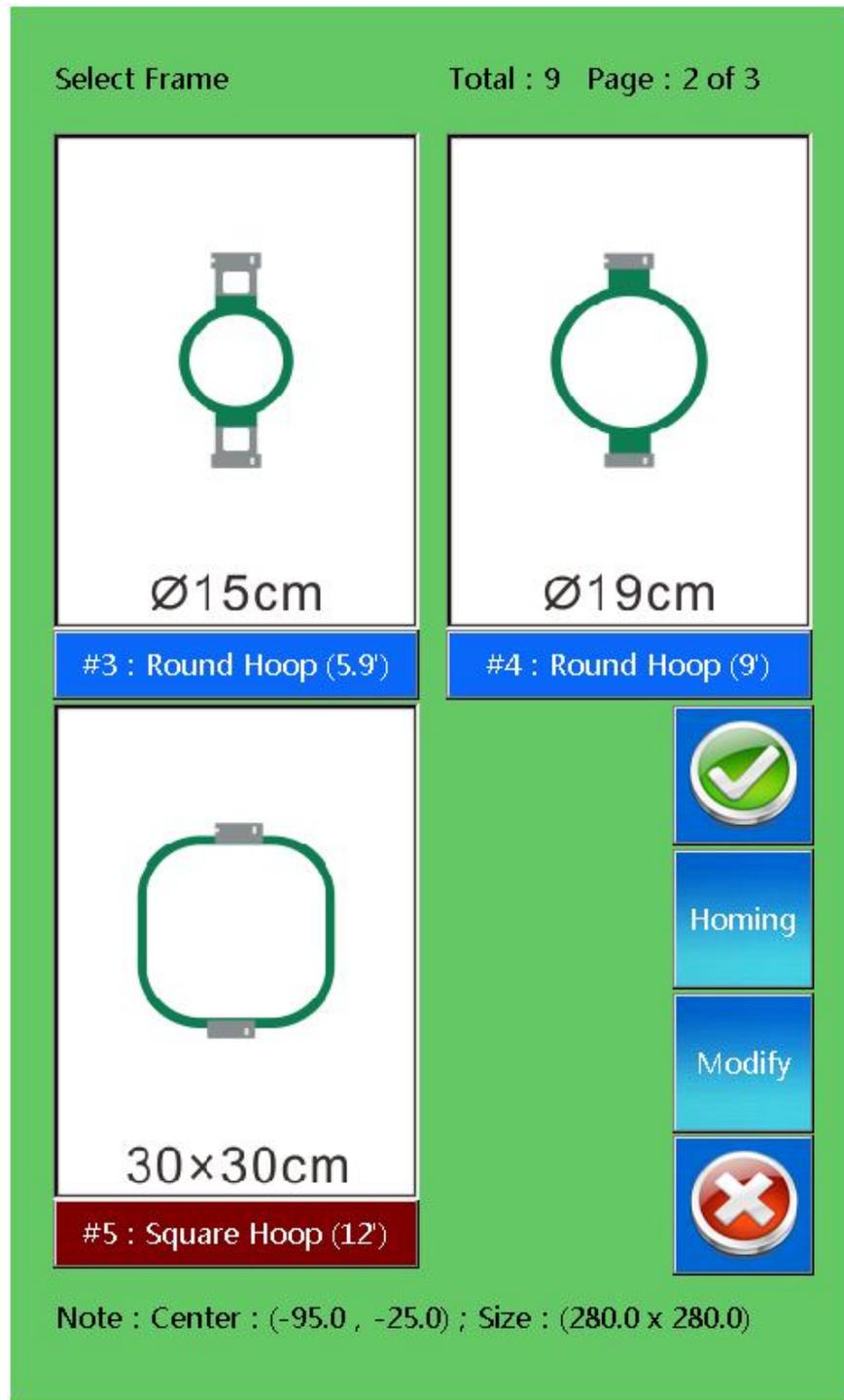


Figure 7-4

Choose a right frame the same as fitted on the machine, then press the  to confirm. The system will display: Return to original point? Figure 7-5



Figure 7-5

Press  the system will return to the original point and will move to the center. The software limit setting is finishing.

## **Part Eight How to Fast Position to One Certain Stitch of the Pattern**

To make the machine fast position to one certain stitch of the pattern, customers can perform the function of Position Idling, making the frame forward or return either to the position of a certain stitch, or to the position of the previous color change.

See the operating method as follows:

When stopping the machine, all information using touch slide interface mode switching, In the main interface between Embroidery and Idling screen, and the LCD monitor displays as the figure 8-1 shows:

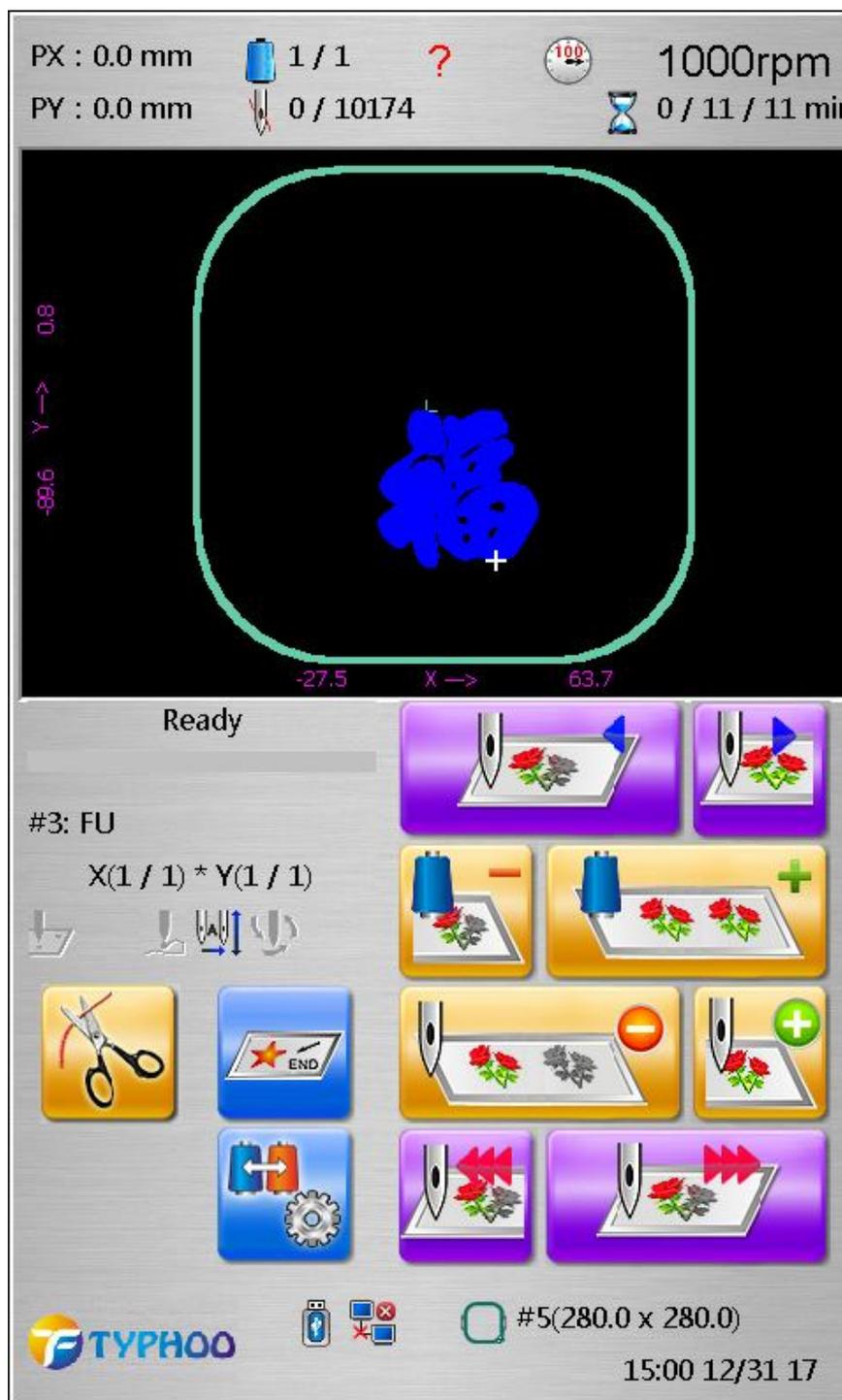


Figure 8-1

Press the  key to select Forward According to Stitches or the 

key to select Return According to Stitches, then the system will prompt the message that Input the stitches for forwarding/turning. Customers shall input the stitches by pressing the

number keys. After pressing the  key, the corresponding frame entering and returning operations will be done. And the forwarding and returning stitches are the stitches input by the customer.

Press the



key to select Forward According to Colors or press the



key to select Return According to Colors, and then press the



key, the

frame will forward to the next color change code or return to the last color change code.

 **If there is a need to forward or return the frame at a large scale (for two or more colors), then it is strongly recommended that customers choose frame forwarding or returning according to colors. Limit the range to one color and then position to the specific embroidery repairing position by using forwarding or returning according to stitches or low speed idling. In this way, the working efficiency and precision can be improved and problems of pattern off-position and color sequence disorder will be avoided.**

## Part Nine Operations of Color Change

### 9.1 Manual Color Change

In the system of embroidery machine, a thread of one certain color is fixed to pass through one needle bar. When the embroidery pattern needs to change among several colors back and forth, then machine will have to switch among the corresponding needle bars. **Manual Color Change** is defined as the process of manual operation that interferes with the embroidery machine from changing one needle bar to another.

It is accessible to press the corresponding number keys to do manual color change under the status of Embroidery (when the machine is not at work).



## 9.2 Set Manual Color Change and Manual Start

1. Under the status of Embroidery Ready, press the  key to set the Current Color

Change Mode and Current Start Mode. See the figure 9-1:



Figure 9-1

2. Press the mode of you want. At this time, the color change setting completes and the machine will return to the status of Embroidery Ready.

### **9. 3Automatic Color Change Sequence Setting**

Please look to the operations in 5.4 for reference.

## Part Ten Operations of Trimming

The trimming operation can be done both manually and automatically.

### 10.1 Manual Trimming

Usually, there is a need to trim the bottom and upper thread when changing color, moving frame at a large scale or stopping embroidery. At this time, the technicians can do the trimming themselves by operating the machine. The operating method is as follows:

When stopping embroidery, press the



key to do trimming if necessary, then

the machine will trim automatically.

### 10.2 Automatic Trimming

The machine will lock stitch and trim when encountering skipped stitch, color change and pattern completing during embroidery. The machine will trim automatically if the parameter Machine Trim or Not and also the machinery parts has the trimming function.

## Part Eleven Operations of Lifting Speed

The speed of main shaft can be adjusted either during operating or when stopping at the status of Embroidery. See the figure 11-1:

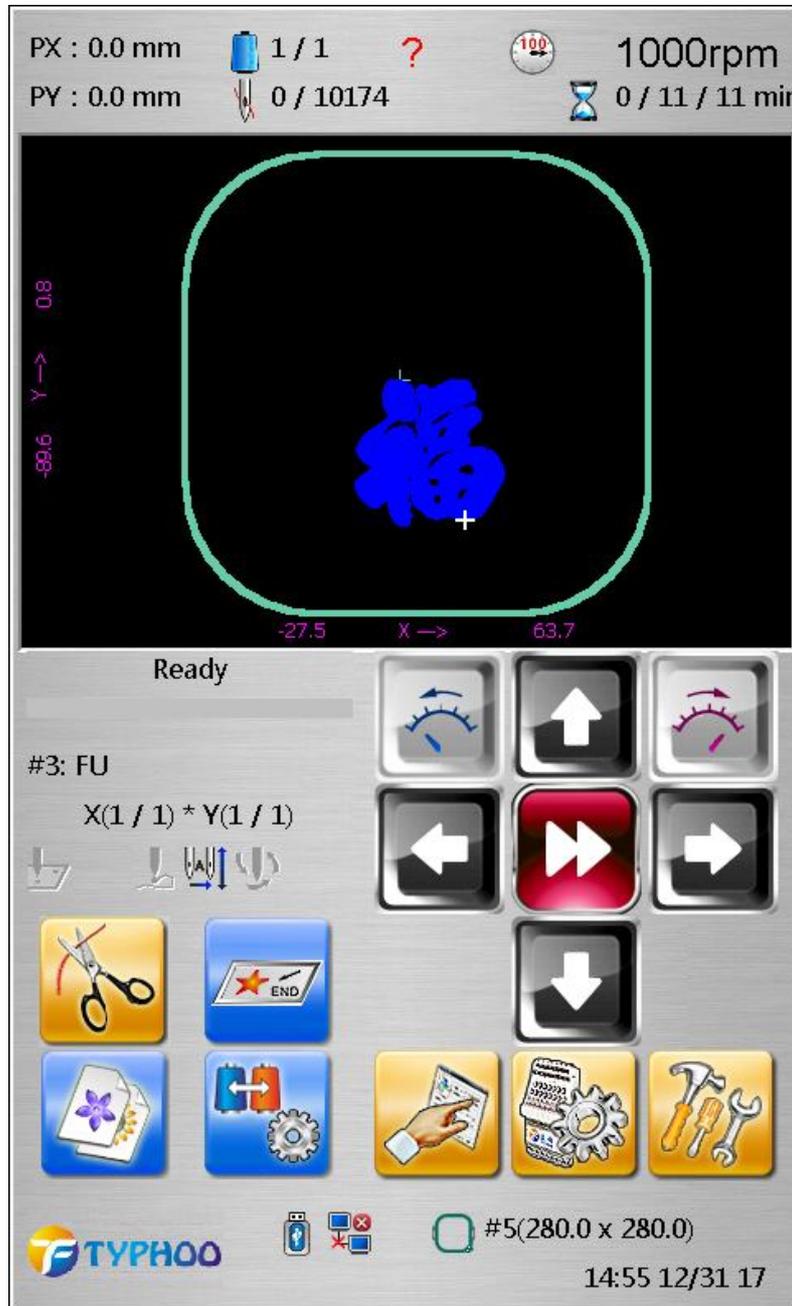


Figure 11-1

Press the key of speed switches, we can adjust the speed of machine.

When the above figure displays , it means that acceleration and deceleration can be done at 50 rpm each time by pressing here.

When the above figure displays  , it means that acceleration and deceleration can be done at 10 rpm each time by pressing here.

During stopping or operating, press the  key to accelerate the speed of main shaft; press the  key to decelerate the speed of main shaft.

**Note: The maximum speed that the acceleration can reach up to is the value of the Current High Speed in Speed Setting, which is under the interface of Parameter Setting.**

## Part Twelve Operations of Frame Moving

### 12.1 Manual Frame Moving

Under the status of Embroidery, press the frame moving keys



on the operating panel, then the frame will be moved to the

corresponding directions. When there is a need to do manual positioning, and then press the key of speed switch to change the speed of frame moving. And please note that the main shaft shall stop at the zero position at this time.

### 12.2 Move Frame to Stop Point

After the machine is stopped during the process of embroidery, if there is a need to manually move the frame and to continue embroidery from the previous stop point, then customers can perform the operation Return to Stop Point. At this time, the frame will be moved to the Stop Point directly, and it won't be off the normal position during the later embroidery.

See the operating method as follows:

Press  See the figure 12-1:

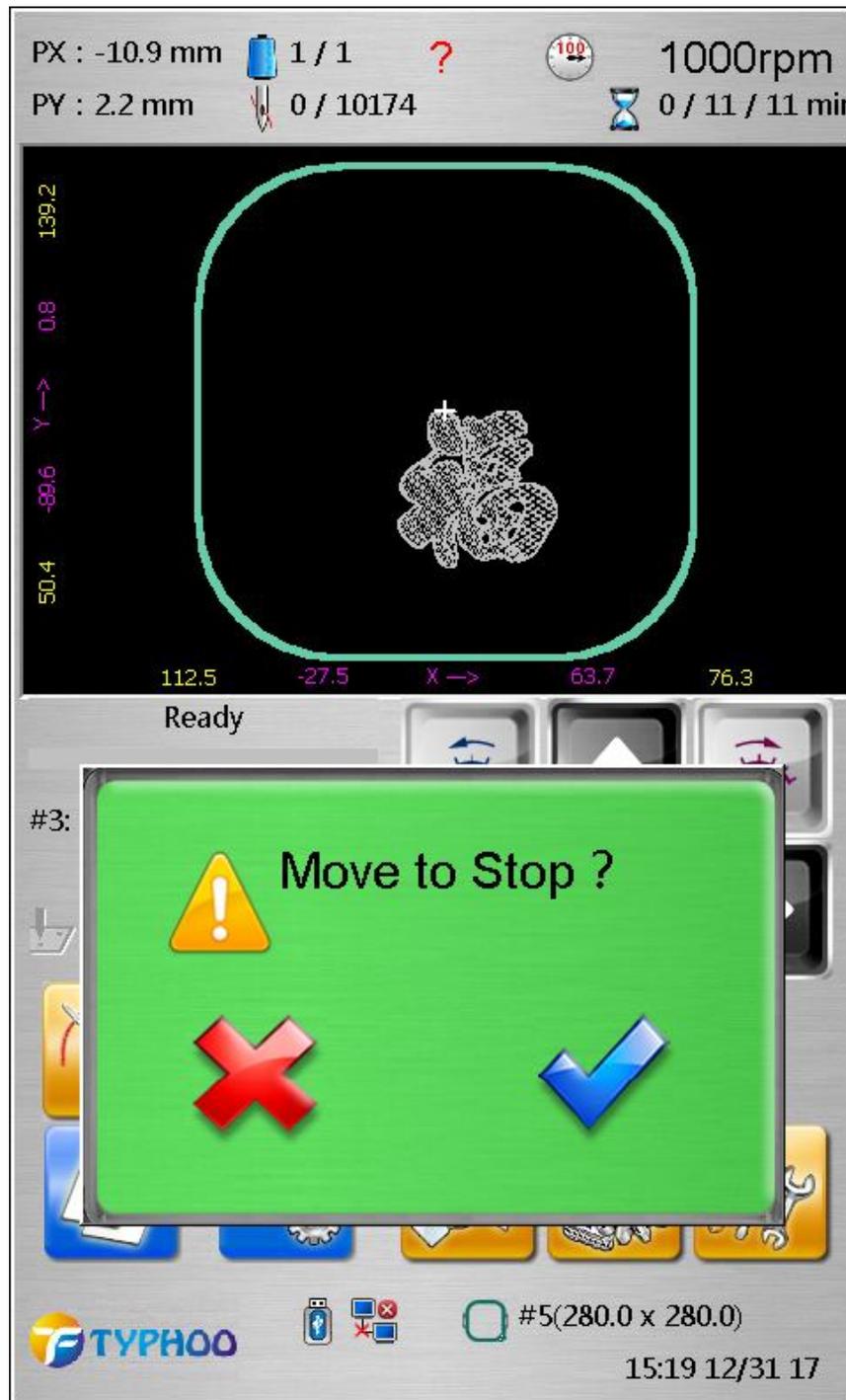


Figure 12-1

Press the  key, then the frame will be moved directly to the last stop point at height speed. Then we press the starting Button, the machine will continue embroidering.

 **Please mind your physical security when performing this function.**

### 12.3 Move Frame to Start Point

When the frame is not at the start point, it needs to start embroidery from the start point,

then we can perform the function of Return to Start Point, making the frame fast move to the start point of the pattern and clearing the coordinate automatically. Please note that the start point shall be set before performing this function.

See the detailed operation as follows:

We press  See the figure 12-2:



Figure 12-2

Press the



key, then the frame will be moved to the start point of the pattern at

high speed, and the coordinate will be cleared automatically at the same time, making the pattern start embroidery again from beginning.



**Please mind your physical security when performing this function.**

## 12.4 Move frame to offset point

When the frame is not shifted position, but need to go to the offset point, you can use the manual rotary offset point function, so that the frame will move quickly to spend edition offset position, easy to make the next step.

See the detailed operation as follows:

Press the



key, and the LCD monitor will display Return to Back offset Point.

We press



.See the figure 12-3:

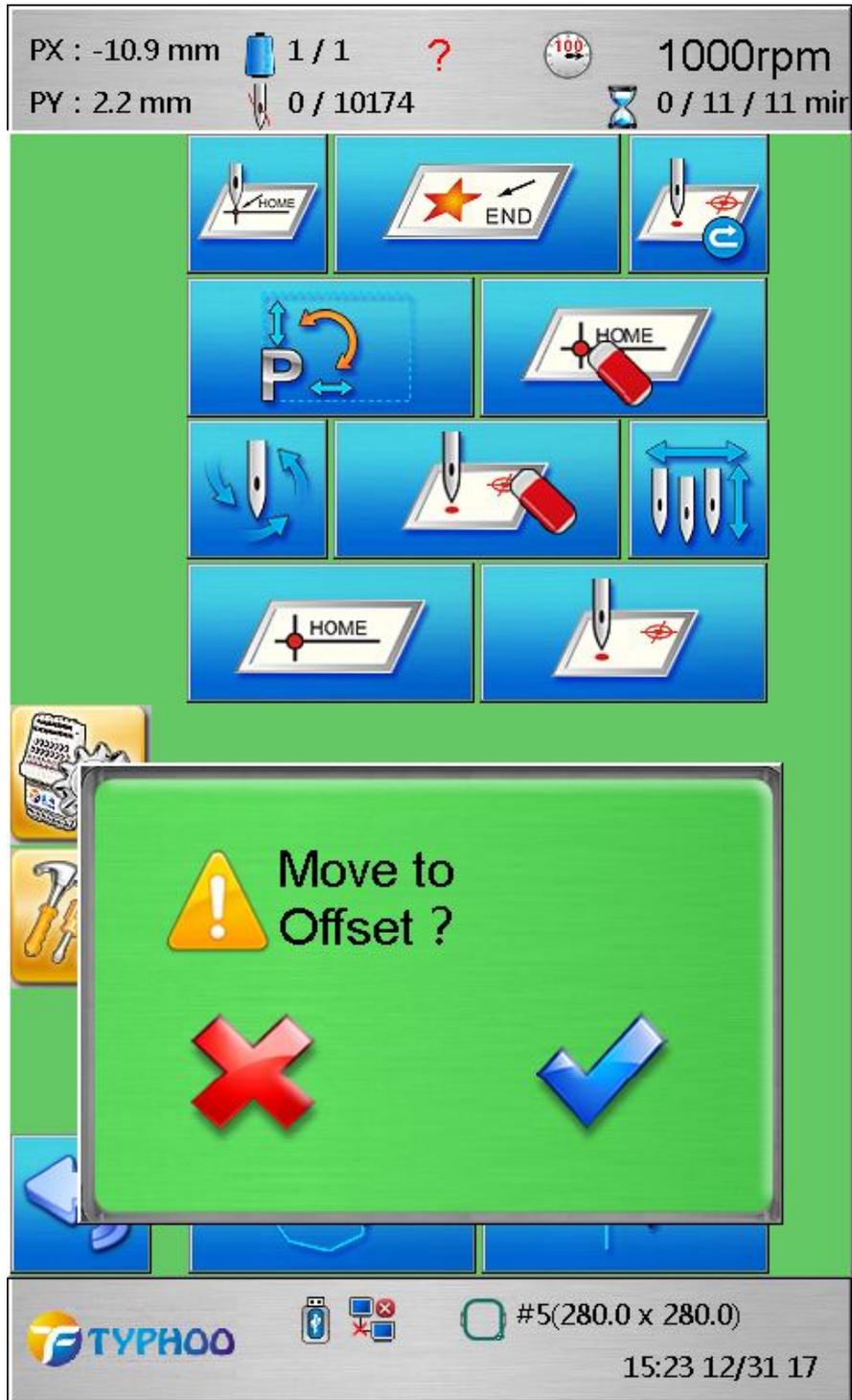


图 12-3

Press the  key, then the frame will be moved to the Back offset point of the pattern at high speed.

 Please mind your physical security when performing this function.

 If you do not define the offset point, this function button will fail!

## Part Thirteen Micro to Zero Position (100°)

The main shaft sometimes didn't stop at the zero position (100°) due to system breakdown or other reasons, making the embroidery operate abnormally while it is working. At this time, we can use the micro function to make the main shaft go back to (100). See the operation method as follows:

Then press the key



, the main shaft will jog to the 100 degree

and stop. Then the machine can embroider normally.

## Part Fourteen Operations of Origin

The origin is regarded as the absolute frame position. When the frame wasn't moved due to external reasons, customers only have to set the origin once and then the system will memorize it. The position of start point is memorized compared to the position of origin.

 **Attention shall be paid to physical security when performing the functions in this chapter.**

### 14.1 Start Point Setting

1. We press , the monitor will switch to the status of ready embroidery. We press



. See the figure 14-1



Figure 14-1

2. We press the  key to confirm and set the current frame position as the start point of the pattern.

### 14.2 Erase the origin of pattern.

Function: we erase the origin of a pattern that had set. The system will not memory the starting point of the pattern after we do that. The operation of this function is as following:

We press  to enter status of ready embroidery. At this time press the menu of



.then press the key  to confirm. And the operation is finished.

### 14.3 Offset point setting

Also known as the offset point or patch starting point, any point of origin outside the pattern, as shown in Figure 14-2. When the frame came to the offset point, leaving the embroidery work area, easy to operate patch. After the operation is complete, direct drive button, the frame will be automatically returned to continue embroidering position and automatically start embroidering.

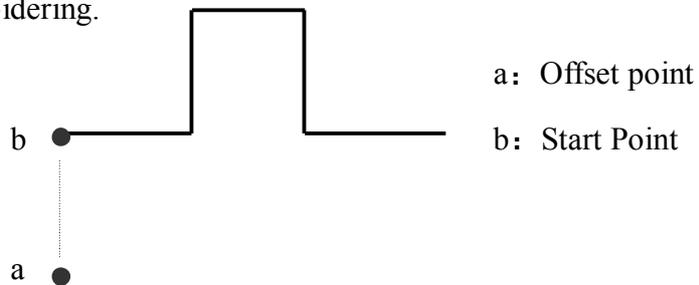


Figure 14-2

1. We press , the monitor will switch to the status of ready embroidery. We press



. See the figure 14-3



Figure 14-3

2. We press the  key to confirm and set the current frame position as the Offset point of the pattern.

#### 14.4 Erase the Offset point of pattern.

Function: we erase the Offset point of a pattern that had set. The system will not memory

the Offset point of the pattern after we do that .The operation of this function is as following:

We press  to enter status of ready embroidery. At this time press the menu of



.then press the key  to confirm.And the operation is finished.

## Part Fifteen How to Perform Cycle Embroidery

During the process of embroidery, if there is a need to keep embroidering one pattern, then it can be done through setting cycle embroidery. When the setting is finished, the machine will automatically embroider from the start point of the pattern after the previous pattern is embroidered.

The operating method is as follows:

1. We press the  key to enter the status of embroidery ready. Press the menu of



`Parameter Setting` and then The LCD monitor will prompt to the cycle confirming.

See the figure 15-1:

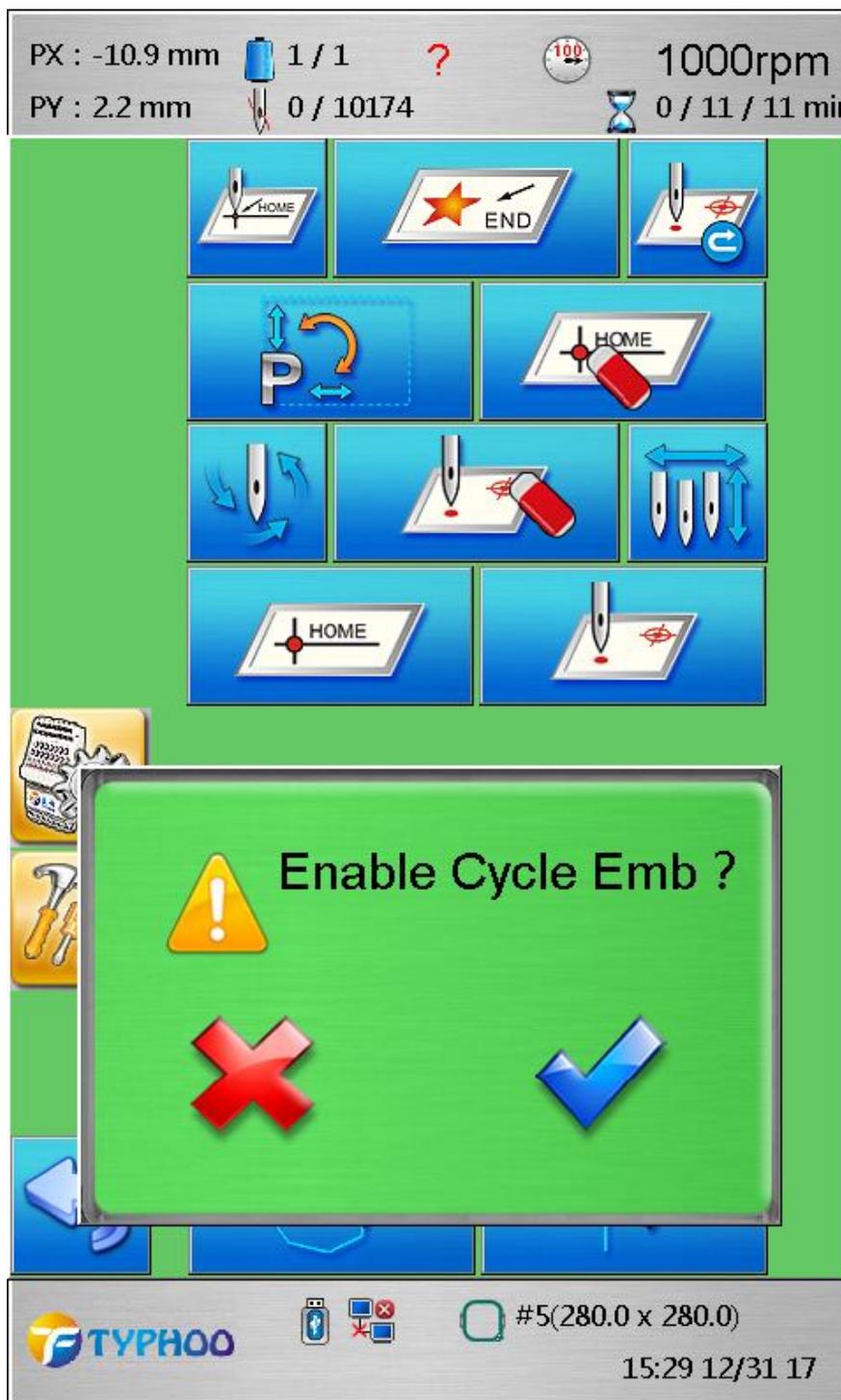


Figure 15-1

2. Press the  key to confirm, the setting is finished. And then the monitor will be display as following, and at the same time the  will be on at the bottom of monitor. See the figure 15-2:

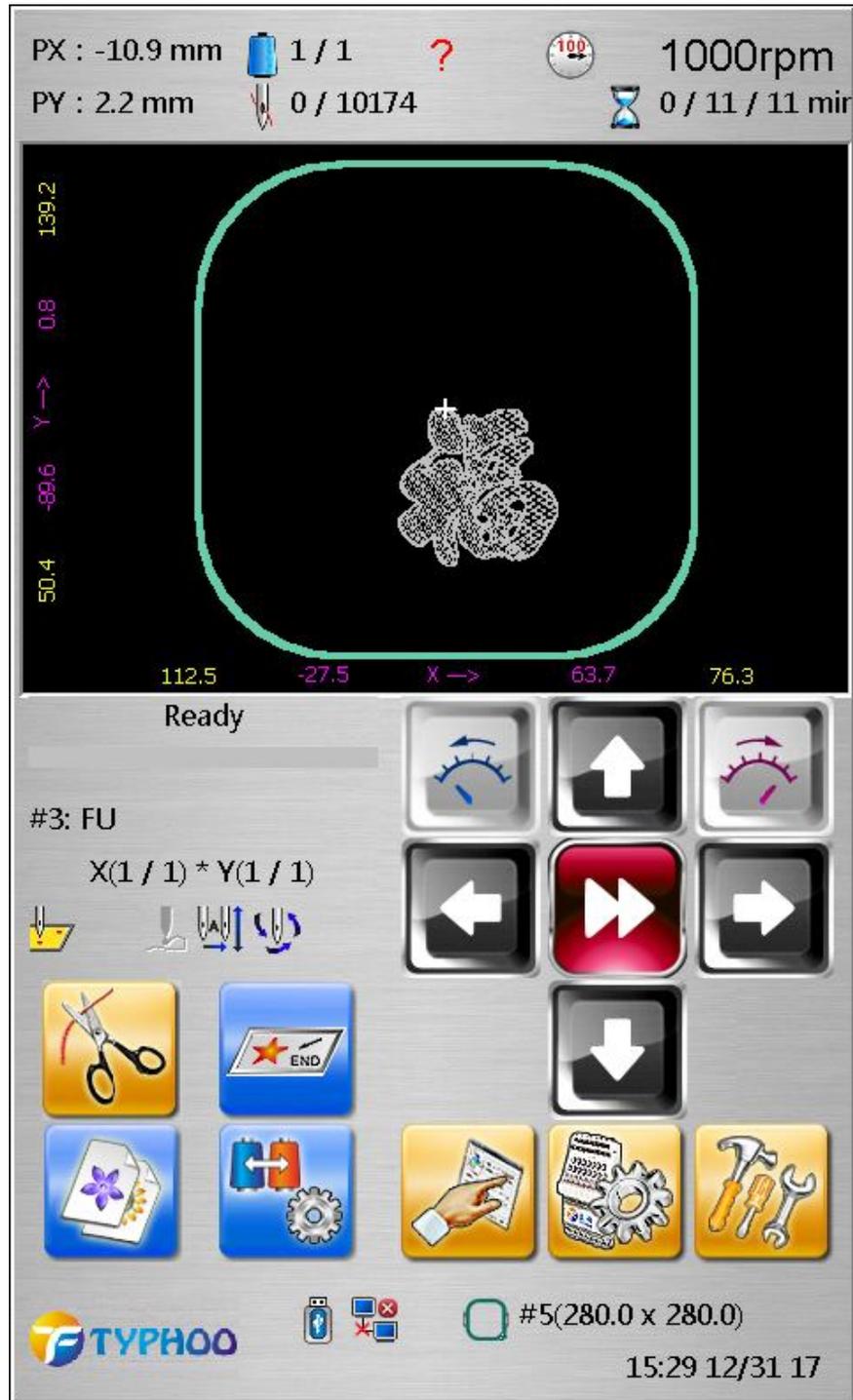


Figure 15-2

## **Part Sixteen Operations of Embroidery Repairing**

The operation of Embroidery Repairing is needed when there is thread breakage or embroidery missing caused by some reasons during the process of embroidery. The purpose of repairing the missing embroidery is to avoid inferior-quality products or waste products. According to the demand, embroidery repairing can be realized though shortcut needle withdrawing method or positioning needle withdrawing method.

### **16.1 Shortcut Needle Withdrawing**

Shortcut needle withdrawing, according to different situations, can be realized through three ways, i.e., withdrawing under normal condition, low speed idling and high speed idling.

#### **16.1.1 Withdrawing of the Needle under Normal Condition**

Under the Stop status, press the Stop button to withdraw the needles. When the needle is withdrawn to the desired position, press the Stop button once again to stop withdrawing needles.

#### **16.1.2 Low Speed Idling**

Under the Stop status, we slide on the monitor with finger to switch till the LCD monitor displays as the figure 16-1 shows:

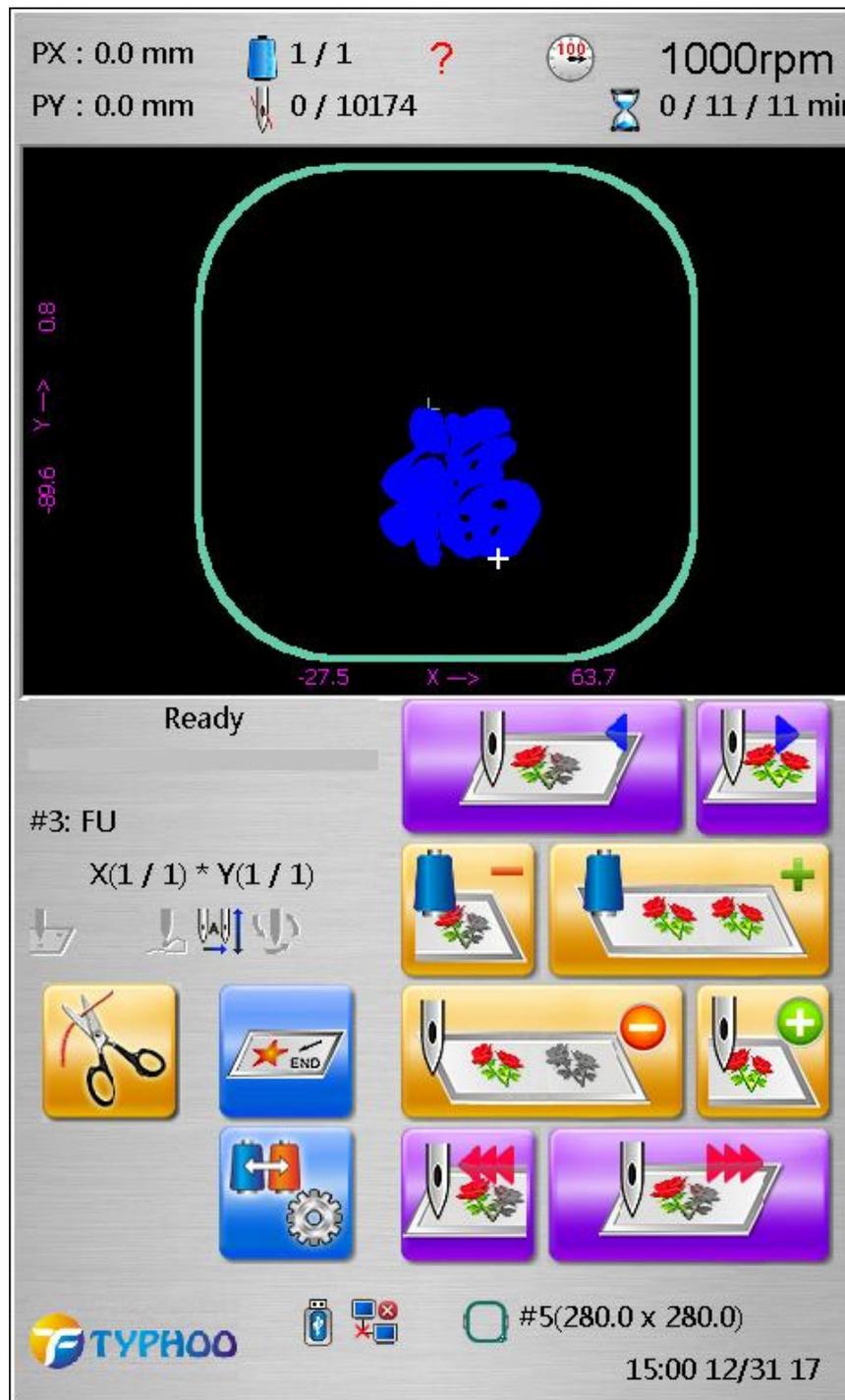


Figure 16-1

We press the key  of  or firmly with finger until the frame withdraw or forward at low speed along the stitches of the pattern(the withdrawing stitches is displayed in gray.). When it move to the needing position,we take off the finger from LCD, and press the start button,the machine will run again along the stitches of pattern.

### 16.1.3 High Speed Idling

Under the Stop status, we slide the message position of LCD monitor displays turn to Status of idling.seeing the figure 16-1

We press the button  of or  firmly. At the same time, the

pattern is idling that display on monitor (the forward or withdraw stitches is displayed in gray.)

If the data of stitches come to the position we want, then we take off our finger from LCD to stop idling. The frame will directly return to the actual position of the current stitches by high speed at once. We can restart the machine at this time.

### 16.2 Positioning Needle Withdrawing

Compared to high speed idling, positioning needle withdrawing will more precisely. For the specific realizing method, please look to Part Eight How to fast position to certain stitch of the pattern for reference.

## Part Seventeen Pattern Management

Press the  key to enter the status of Pattern Management when the monitor is at the status of Embroidery Ready, After that, the LCD monitor displays the function list of Pattern Management . See the figure 17-1:



Figure 17-1

The Pattern management is divided into five part. We press any dish on it to enter correspond function operation.

1.  : Delete the pattern in memory.
2.  : Edit the pattern in memory.
3.  : Combine two or more patterns into one.
4.  : Divide one pattern into two according to the stitches.
5.  :the outer frame of a pattern will be provided by system automatically.

### 17.1 Pattern Deletion.

We press the key of  to do it when the machine is at the status of Embroidery Ready.

The LCD monitor displays all patterns in memory .we can touch one or more position of patterns that will be deleted,then press ,LCD will display as following figure17-2



Figure 17-2

We press the  to delete the chosen patterns. the system will switch to the status of System Management automatically at once.

## 17.2 Pattern Edit

In the function of Pattern Edit, customers can edit the pattern already existed in memory, or edit to generate a brand new pattern. Specifically, customers can perform operations of stitch edit, block copy, and block moving, etc. But we use it unusually.

Under the status of Embroidery Ready, press the key of  to enter operation. The

LCD will display every stitches data of pattern as following figure 17-3:

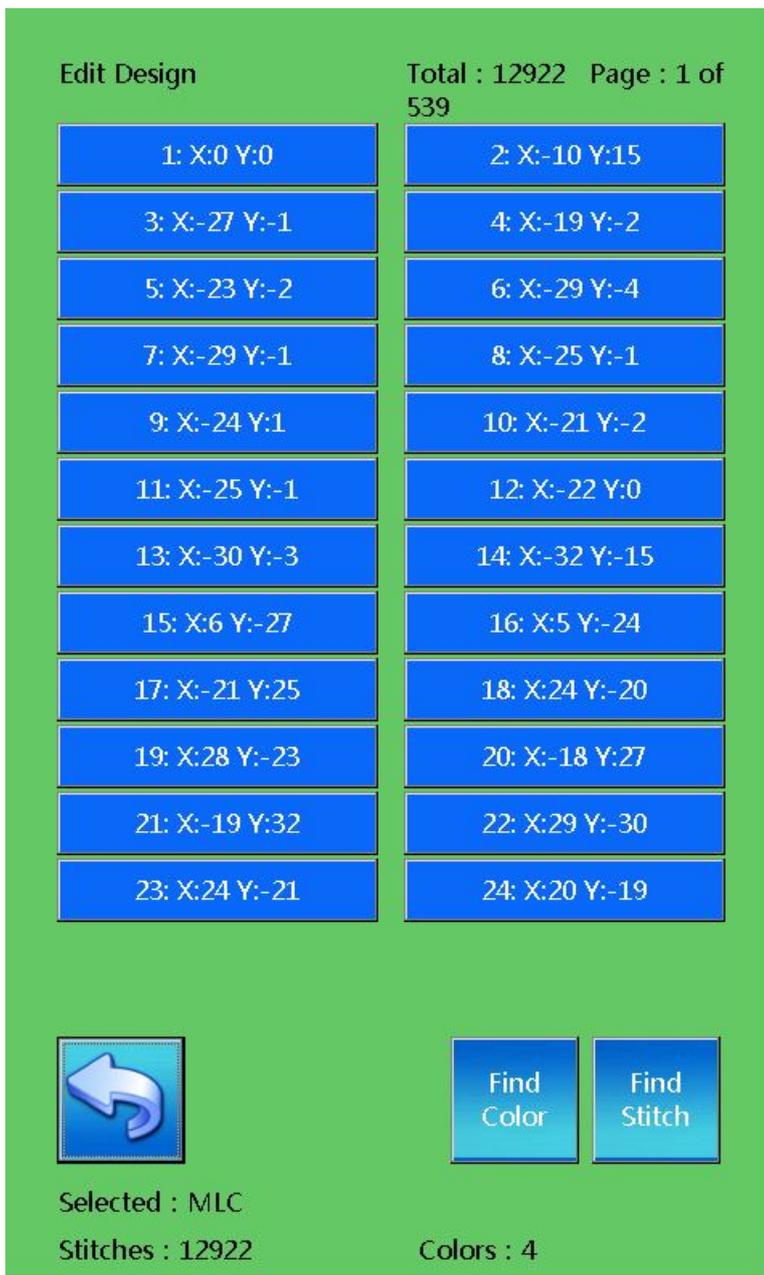
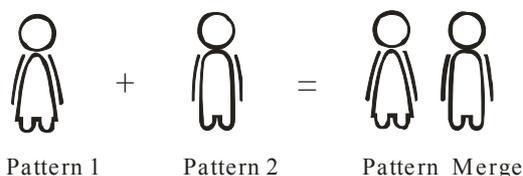


Figure 17-3

### 17.3 Pattern combination



For example:

Under the status of Embroidery Ready, press the key of  and enter the operation. We can take no more than twenty pattern to combine See the figure 17-4

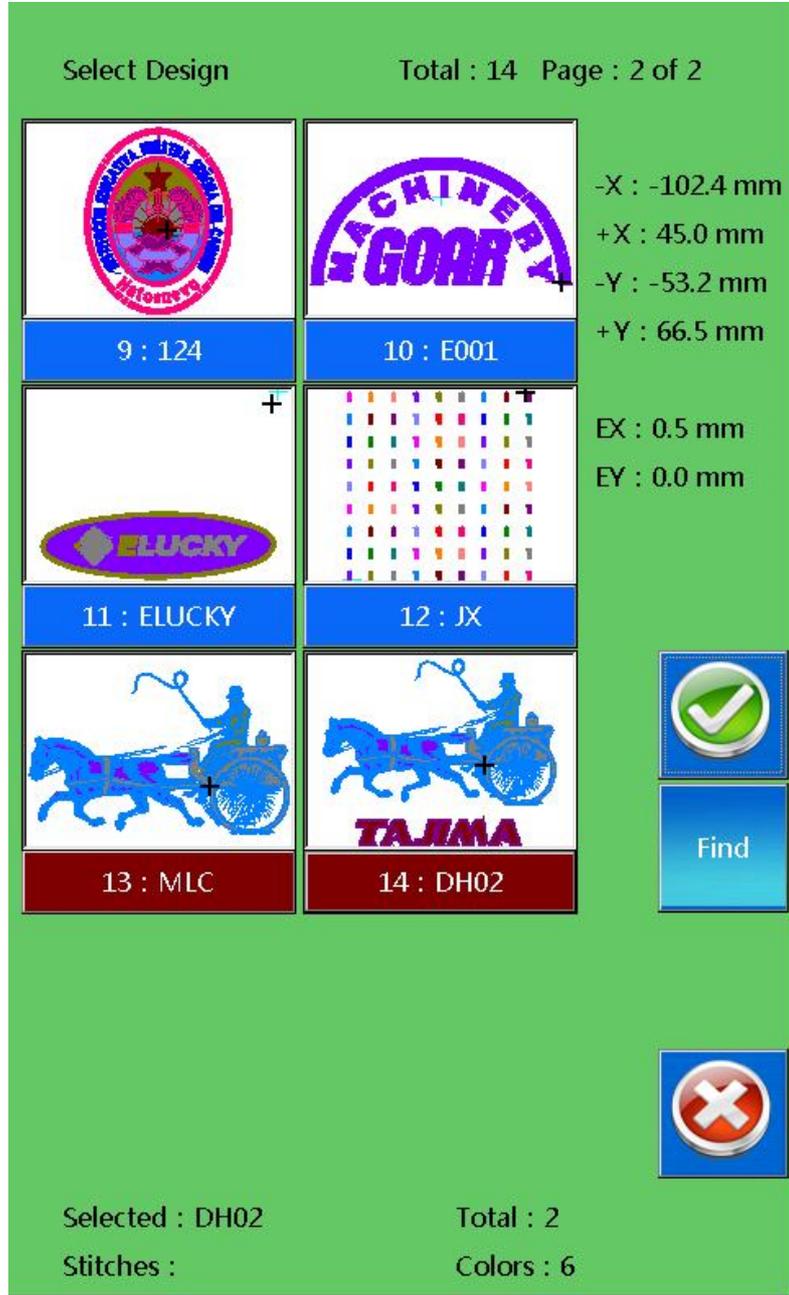


Figure 17-4

We shall press the , then The LCD will display to following figure17-5

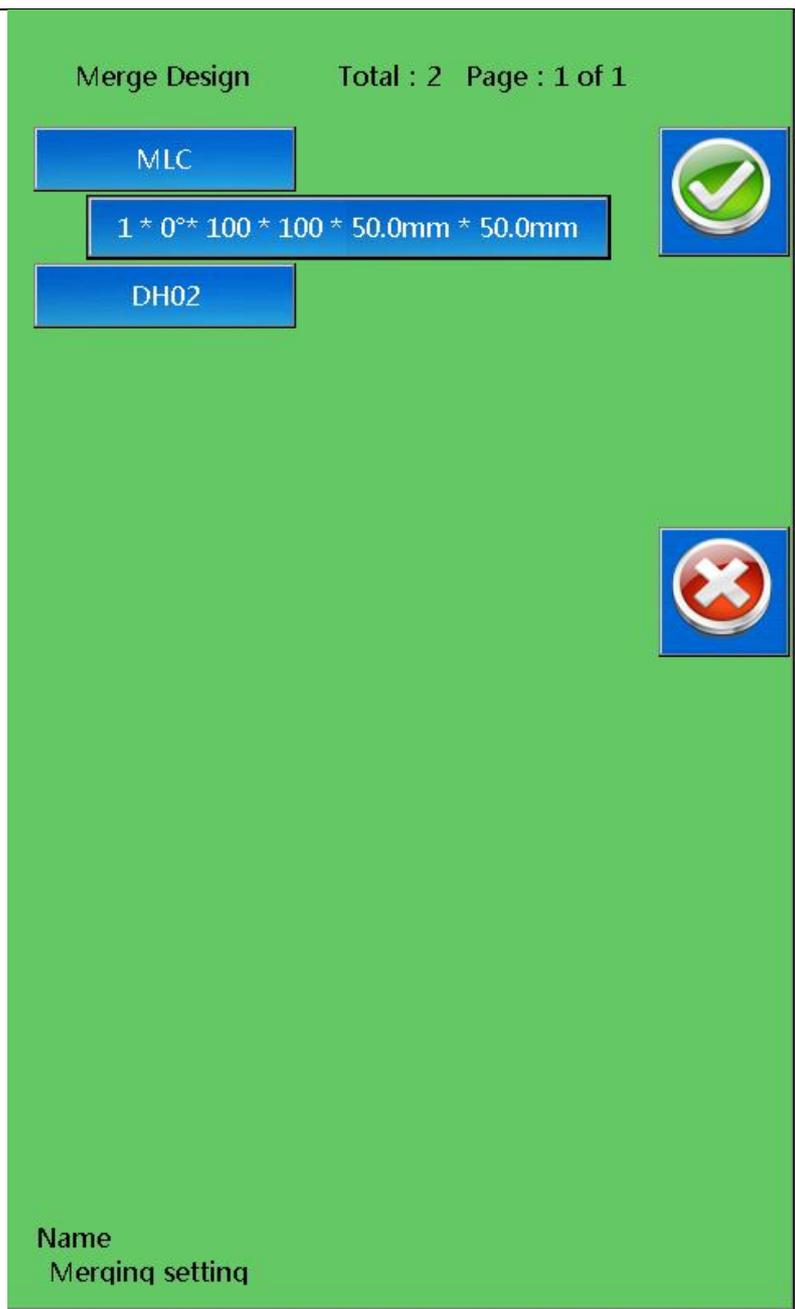


Figure 17-5

The X and the Y distance value are the horizontal and vertical distances between the start point of current pattern and that of the first pattern start point in this combination, but not the horizontal and vertical distances of the previous pattern start point; when inputting value of distance, if the distance is positive, it indicates that the first compounding is on the right top of primary pattern; and if the distance is negative, it indicates that the first compounding is at the left bottom of primary pattern.

In this status ,we can input X/Y intervals to confirm every patterns position.When the

setting is finish,we press  to confirm.And a new pattern will be produce.then the system will return to the status of system management.See the figure 17-6

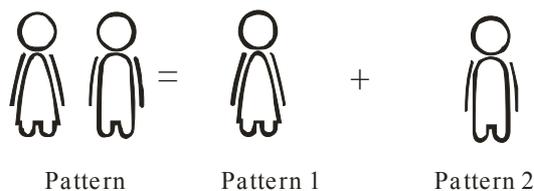


Figure 17-6

### 17.4 Division

This function is to divide any of the patterns in memory into two new patterns and keep the origin pattern the same.

For example:



The operations are as follows:

Under the status of Embroidery Ready, press the key of . enter the status of Pattern division. Select a pattern that will be divided, then the system will prompt to input dividing point of pattern. see figure 17-7

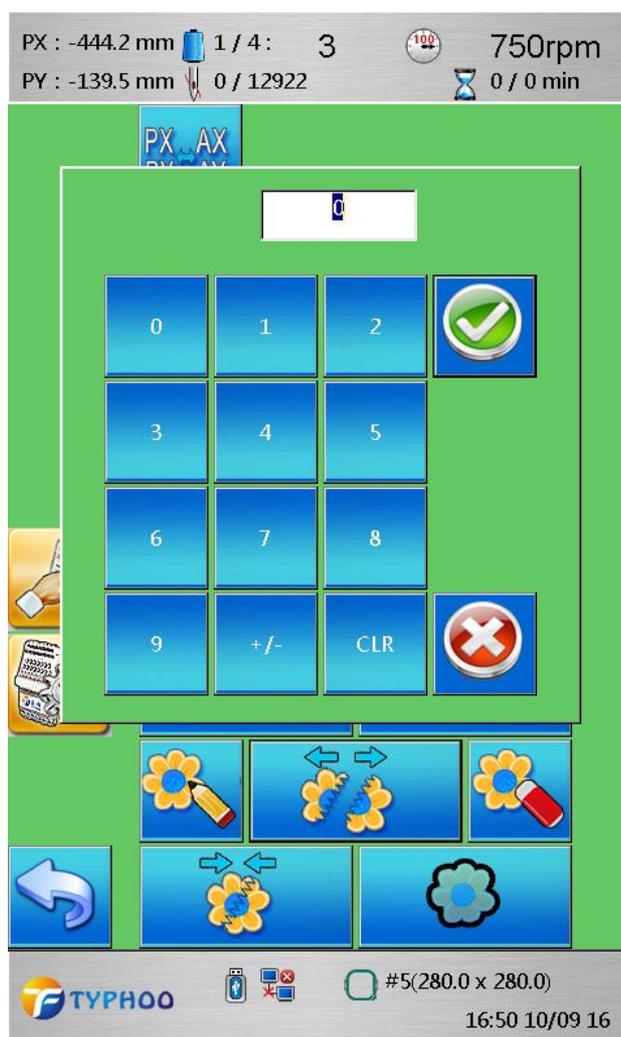


Figure 17-7

Press the number keys to input the division point of the pattern (which is the stitch of the first pattern after division) and then press  to confirm. The pattern is divided, then the system will provide the two new pattern names and numbers automatically. The system goes back to Pattern Management after division.

### 17.5 Making Outer Frame

It is dependent on the data of pattern memory in the system. It is make for embroidery working.

We press this key of  at the status of System management ready. Select the pattern we need, the system will prompt us to confirm, we confirm it. After a while, it is finished. And the monitor will return to the status of system management. it will displayed as following figure 17-8

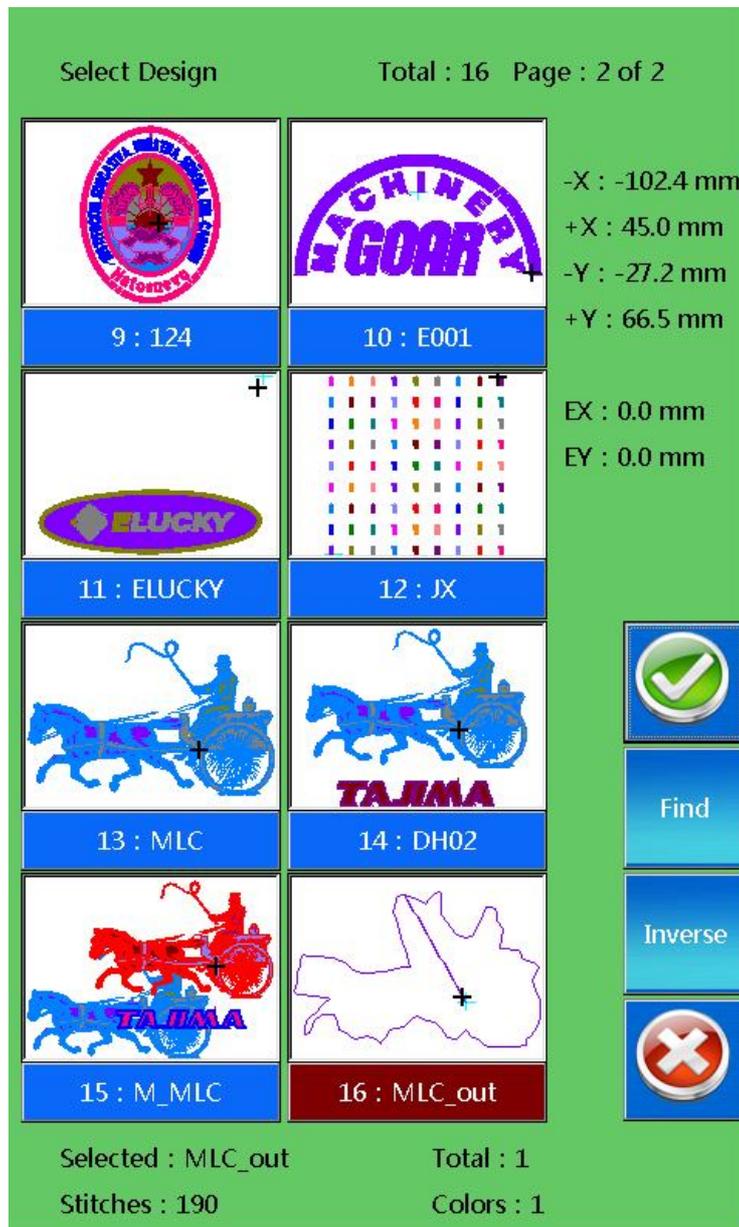


Figure 17-8

## Part Eighteen Disk Management

Press the  key to enter Disk Management at the status of Embroidery Ready.

After that, the LCD monitor displays the function list of Disk Management . See the figure below:



Figure 18-1

The functions are as follows:



: Input the pattern from the U disk (the USB floppy) into memory.



: Output the pattern in memory into the U disk (the USB floppy).

 **When U disk is inserted and recognized, U disk icon  is lit, it can operate U disk management, otherwise the function is disabled. Figure 18-1 shows U disk is not inserted, the function is disabled.**

### **18.1 Disk Reading**

Please look to Part Four How to Input Pattern for reference.

### **18.2 Disk Writing**

Under the status of Disk Management, press key of the  to select the U Disk Writing function, then the system will enter the menu of Pattern Management and the pattern in memory will be displayed on the LCD monitor . See the figure 18-2:

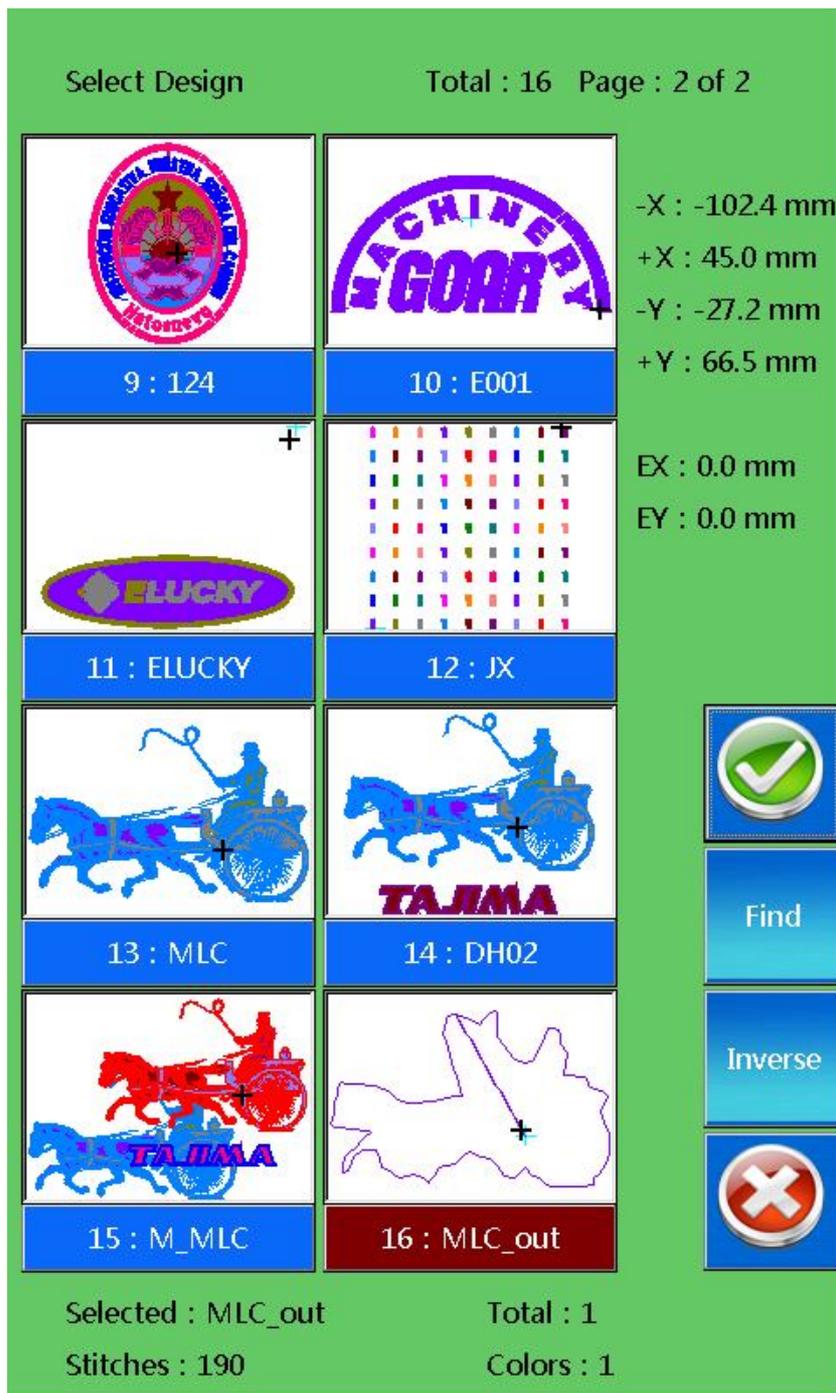


Figure 18-2

Press the position of any patterns, Then press , the system will prompt the operation to be confirm. displays as the figure 18-3 shows:



Figure 18-3

Press the . Then the system will start to output the pattern in memory into the U disk. The displaying will return to status of System management.

💡 At this time, the names that patterns had inputted will not be changed in the U disk.

## Part Nineteen te Parameter Setting

Press the key of  to enter the Ready Function when the monitor is at status of

System Management. There are two kind of parameters can be seated in it. One is works setting, another is machine setting . See the figure of 19-1:

Press the number buttons to directly change color.

Press the "", The spindle goes to the angle of the stitched fabric, enter "Batch

embroidered" mode. You can now move the frame, the system will not alarm. Jog spindle exits "Batch embroidery."



Figure 19-1

### 19.1 Process parameters and machine settings

There are two types of parameters can be set, respectively, the process parameters, machine settings.

**The role of the parameters and parameter list in the appendix section to see the twenty-third.**

Press the "" button, LCD display as shown in Figure 19-2:

Process Para	Total : 16	Page : 1 of 1
1. Jumps changing to trim :	3	
2. Check thread break :	No	
3. Thread sensing level :	2	
4. Auto back stitches :	0	
5. No check stitches :	5	
6. Check at jumping :	No	
7. Same color auto run :	Yes	
8. Auto back to start :	Yes	
9. Auto slow stitch :	4.0	
10. Long stitch mode :	Slow	
11. Auto jump step :	6.4	Last Default
12. Frame moving speed :	Middle	
13. Slow when jumping :	Fixed	Next
14. Auto trimming :	Yes	
15. Length of trimmed :	Middle	
16. Jogs after trimming :	3	

Figure 19-2

If we press the  for entering. It will be need a entering orders,then changing the machine parameter will be assumed. Otherwise the parameter cannot be changed, but we

can look it. See the figure 19-3:

Machine Set		Total : 20	Page : 1 of 2
1. Jogs at begin :	2		
2. Speed of jogging :	80		
3. High speed limit :	1000		
4. Lowest speed :	400		
5. Speed when jumping :	400		
6. Angle when frame moves :	230		
7. Frame moves Compen. :	0		
8. Spindle stop Compen. :	4		
13. Needle of Boring :	0		
14. Offset at Boring :	No		
17. Filter small step :	No	Last	Default
18. Stop convert color :	Yes		
19. Locks at trimming :	1	Next	
20. Locks after trim :	1		
21. Speed at trimming :	80		
23. Accel. of spindle :	3		

Note: You can modify the parameters!

Figure 19-3

Press the any key of parameters listing on it for setting. After setting is finished,we press



to confirm, we press



to unchanged . Then the displaying will return to Ready

Function.



**Continuous click the parameter name, you can also change the parameter values.**

## **19.2 Backup needle bar**

Set a Needle needle position to another original backup in case the original embroidery needle position interrupt, the system automatically change color to the backup start embroidering needle position.

In the machine in standby mode, press the "", enter the settings backup needle bar.

As shown in Figure 19-4:

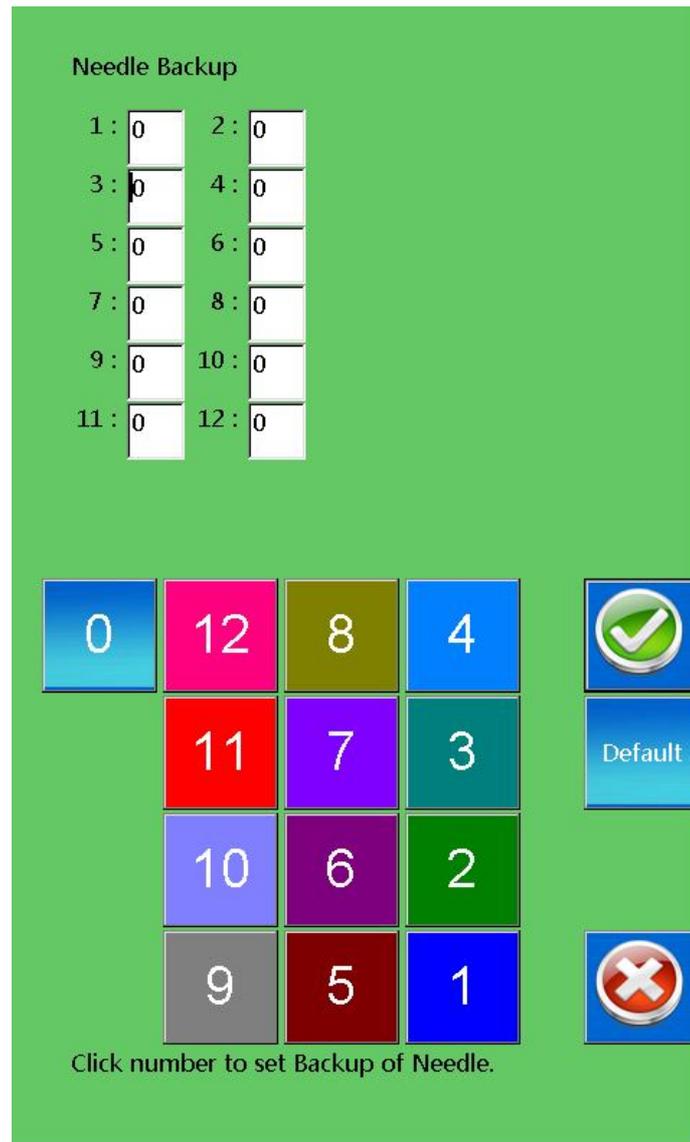


Figure19-4

Reference to the original needle bar, edit box is the backup of the needle bar. Backup needle bar is 0, indicating no backup. Press to confirm and return to "machine ready state."

 **In the Backup continue embroidering needle position, you can break the needle threading in the original position. Embroidery efficiency is improved.**

### 19.3 Needle-bit color settings

You can set the color of each machine needle position, so you can display the pattern in simulated time, more realistically show the final embroidery result.

In the machine ready state, click on the "" to enter the setting interface. As shown in Figure 19-5:

Click to select the needle position number, then click the left color, immediately refreshes

the selected needle-bit color. Slide up and down the message area, you can switch the color of the page, there are 32 512 kinds of colors to choose from. Click on the color  Confirm needle position and direct return to the main screen. Then take effect when analog display pattern.



Figure19-5

### 19.4 Scissors return (cut the bottom line)

When the machine is not in place in the embroidery scissors appear during the time, or when you want to cut the bottom line alone, you can use this feature.

Operating method: In the main interface, Press  to enter the "machine ready" state,

according to ", Press  to confirm, scissors, cut the bottom line of the operation and return to its original position.

 **In the process of embroidery, do not arbitrarily change the parameter value or entry and choose to spend version related operations, or they may cause unusual embroidery.**

## 19.5 Frame zero point function

Machine embroidery frame itself is absolutely mechanical origin, no software setup, but in some cases, you can not use a mechanical origin, and the frame set by the user origin, can operate this function.

1、 set the frame origin:

In the machine ready state, press "." As shown in Figure 19-6:

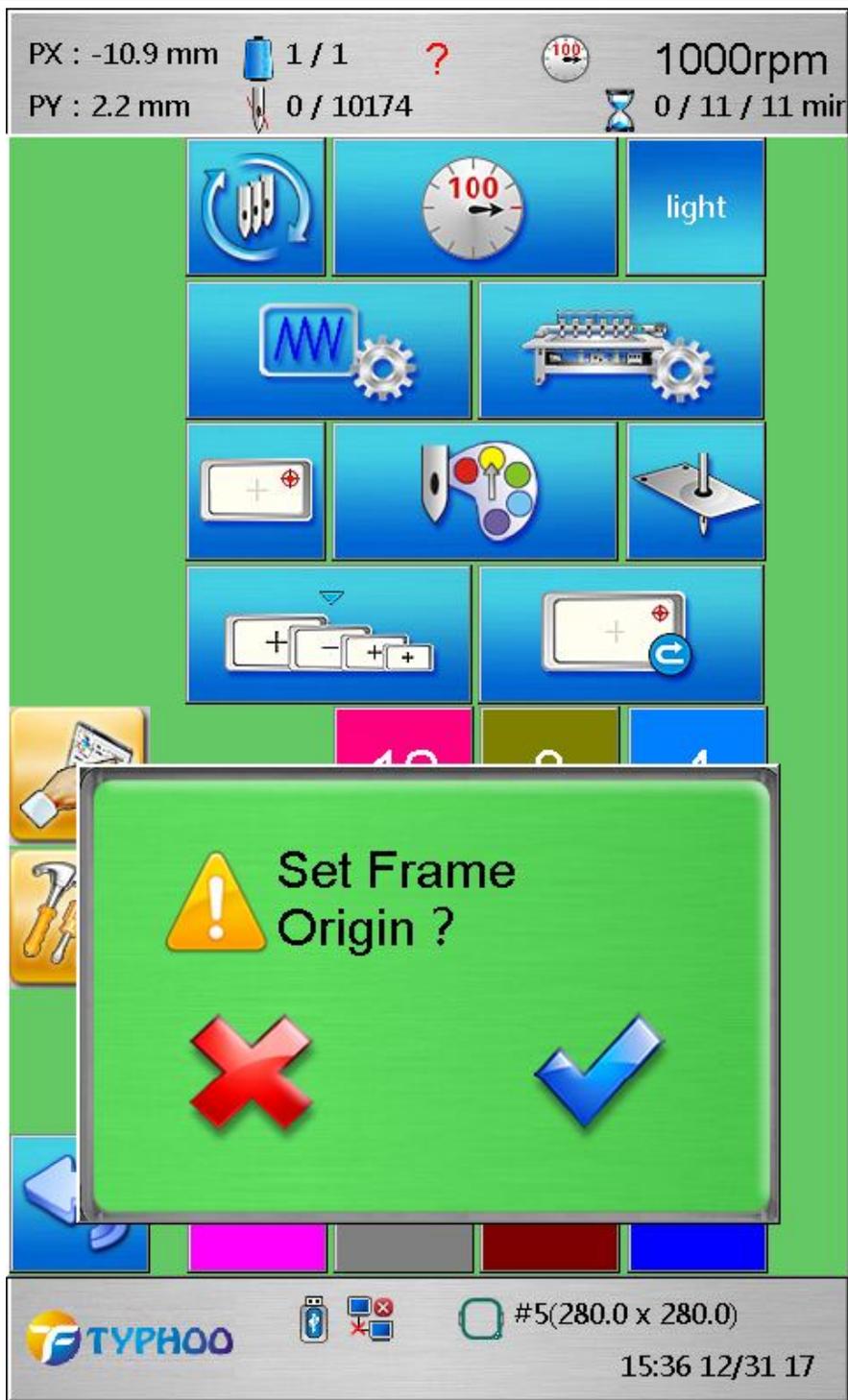
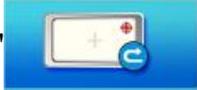


Figure19-6

Press  to confirm the origin of the current point is the frame of the machine, and return to the machine ready state.

2、 Back to the origin of the frame:

In the machine in standby mode, press the ." As shown in Figure 19-7:

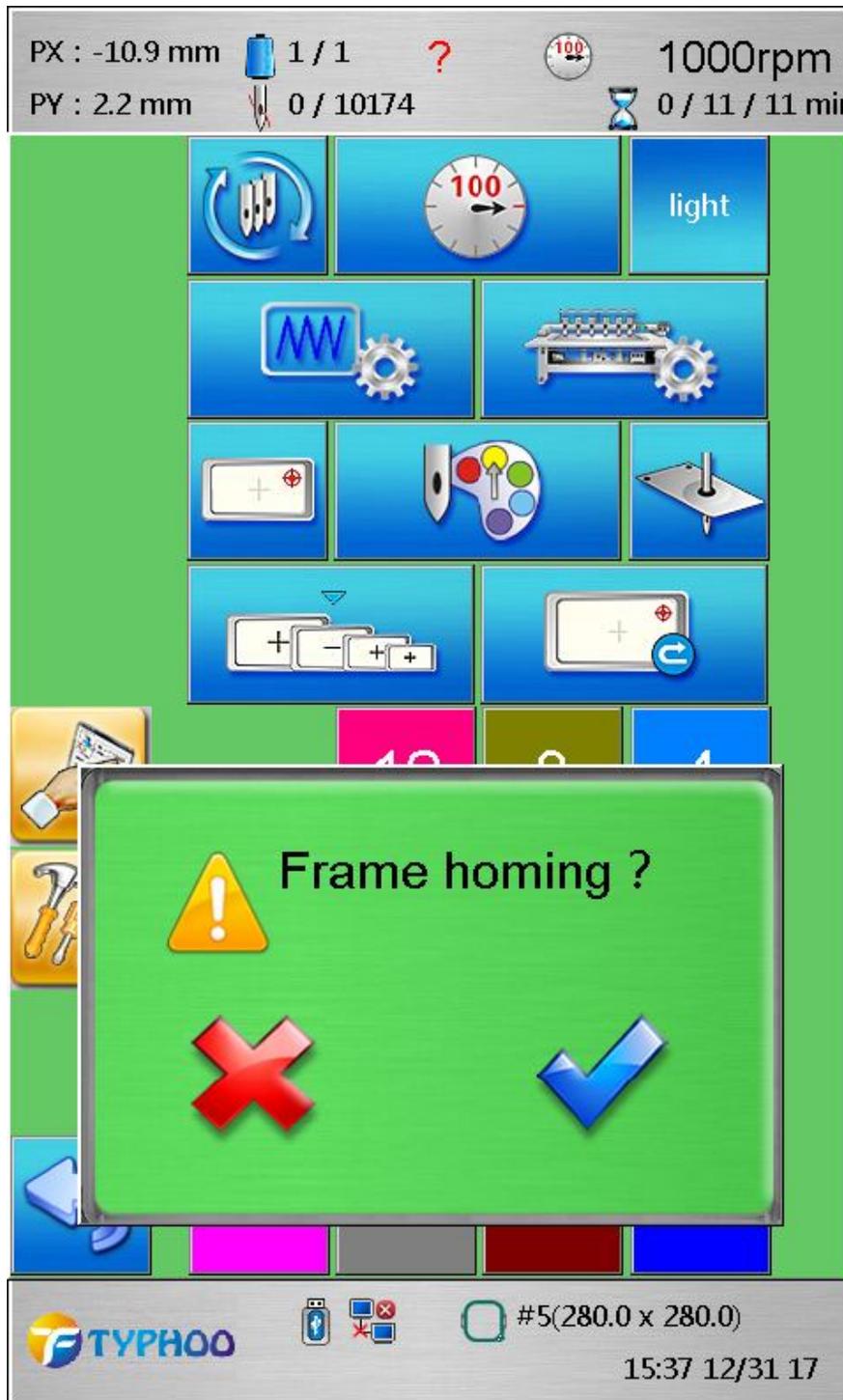


Figure19-7

Press  to confirm the origin of the machine to go to the frame, and immediate action, and return to the machine ready state.

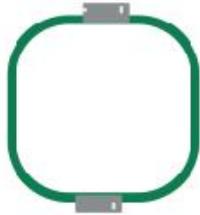
 **It recommends that authorized users to use this function, or may cause machine damage or personal injury!**

## 19.6 Modify the frame feature

The feature is the size of the frame and center coordinates, select a specific embroidery frame each time the system according to the characteristics of the frame, automatically set the soft limit boundary and and moved to the center of the frame. It has a default setting when the frame feature factory. The system supports the user to modify the frame feature according to their own needs.

In the machine ready state, click on the "" to enter the selection screen, and then click the "Modify" button to enter the specified characteristics of the frame modification interface. As shown in Figure 19-8:

Select Frame Total : 9 Page : 2 of 3

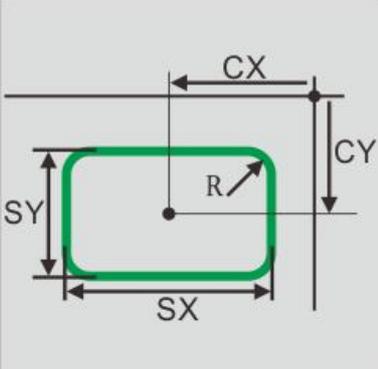
 <b>Ø15cm</b>	 <b>Ø19cm</b>
<b>#3 : Round Hoop (5.9')</b>	<b>#4 : Round Hoop (9')</b>
 <b>30x30cm</b>	
<b>#5 : Square Hoop (12')</b>	


Note : Center : (-95.0 , -25.0) ; Size : (280.0 x 280.0)

Select Frame Total : 9 Page : 2 of 3

Modify Frame



CX: 6.0  
CY: -101.0  
SX: 280.0  
SY: 280.0

0	1	2		
3	4	5		Default
6	7	8		
9	+/-	CLR		

Note : Center : (6.0 , -101.0) ; Size : (280.0 x 280.0)

Figure19-8

Click  Confirm modify the data, and you are prompted to "calibrate the frame origin?", He confirmed, the frame will automatically find the origin, and moved to the center of the frame.

 **Proposed changes characteristic of the frame after calibration origin, to ensure the safe operation of the machine!**

 **Authorized users to use this function, or may cause machine damage or personal injury!**

---

## Part Twenty Embroidery Pattern

There are two statuses for the embroidery pattern, i. e., **the Embroidery Ready Status and the Embroidery Status**. Under the status of Embroidery Ready, customers can make some changes to the basic parameter setting of embroidery, like pattern change, repetition, color change sequence, and so on. Under the status of Embroidery, customers can perform the

functions related to embroidery; After selecting pattern, we press the  to enter the running status.

### The status of Embroidery Ready

Press  enter to the status of Embroidery Ready . The LCD will display as the 20-1 shows:



change.

### **20.1 Change Setting**

Please look to the operations in 5.2 Pattern Change Setting for reference.

### **20.2 Repetition Setting**

Please look to the operations in 5.3 Pattern Repetition Setting for reference.

### **20.3 Color Change Setting**

Please look to the operations in 9.2 to 9.4 Color Change & Start Method Setting for reference.

### **20.4 Needle Bar Setting**

Please look to the operations in 5.4 Automatic Color Change Sequence Setting for reference.

## Part Twenty-one Embroidery position View

Embroidery view the location of auxiliary functions, There are embroidered patterns borders, embroidery various open bit line and other operations:

### 21.1 Embroidery pattern border

Click "", the system prompts to set embroidery stitch length (mm), as

shown in Figure 21-1. You can now modify the stitch length.



Figure 21-1

Click  After confirming the stitch length, the system prompts you to confirm the border embroidery, Figure 21-2:



Figure 21-2

Press  to confirm and enter the border embroidery state. As shown in Figure

21-3. And the function button click interface can complete the appropriate actions, including driving, parking. Click on "Return embroidery pattern", the exit border embroidery state, return to the main screen embroidery pattern.

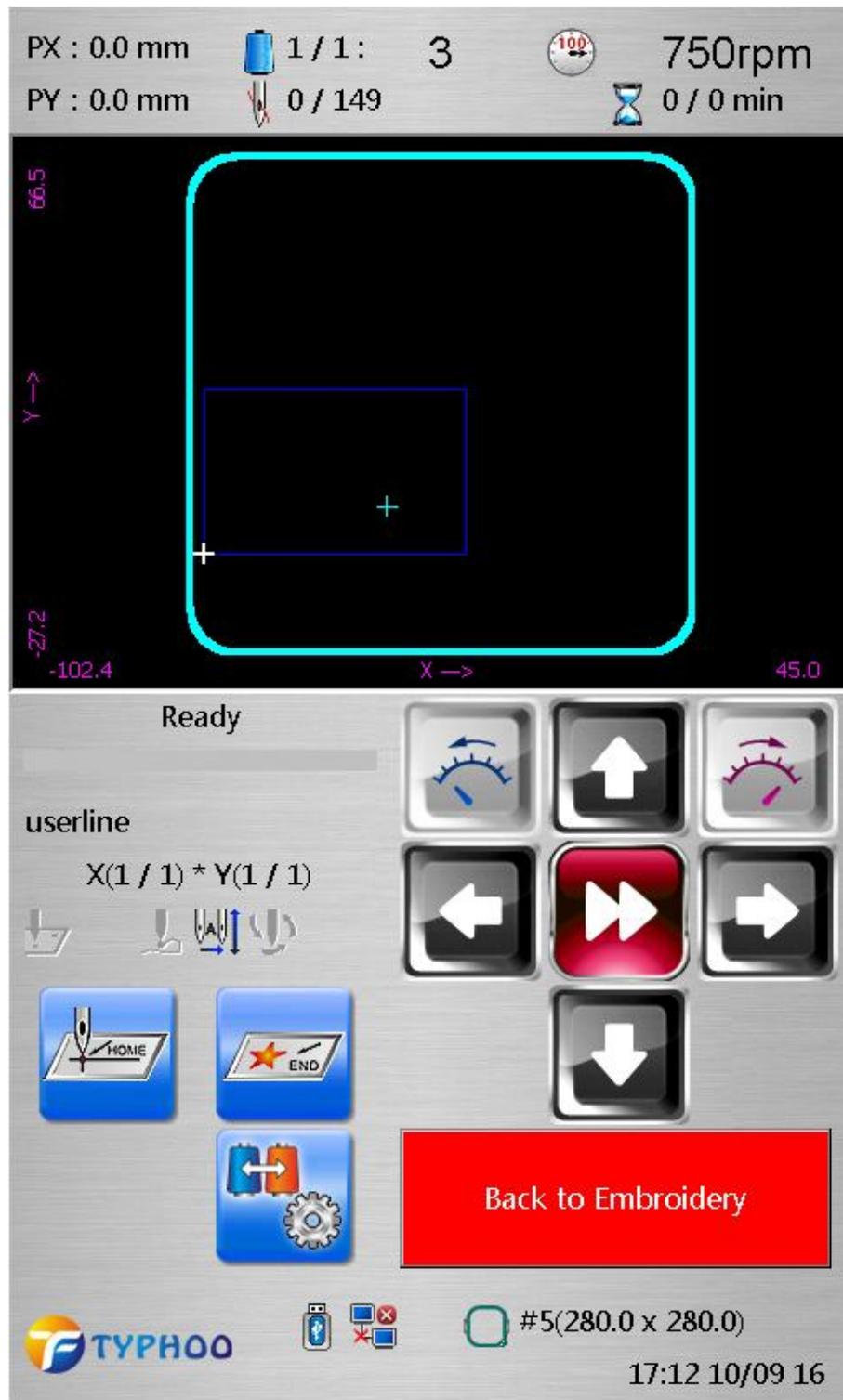


Figure 21-3

## 21.2 Embroidered rectangular lines and cross lines

At right angles to the line and crosshair are special fast open bit lines. In the pattern ready

state, press "" or "" are set to enter the corresponding line interface. As shown in Figure 21-4:

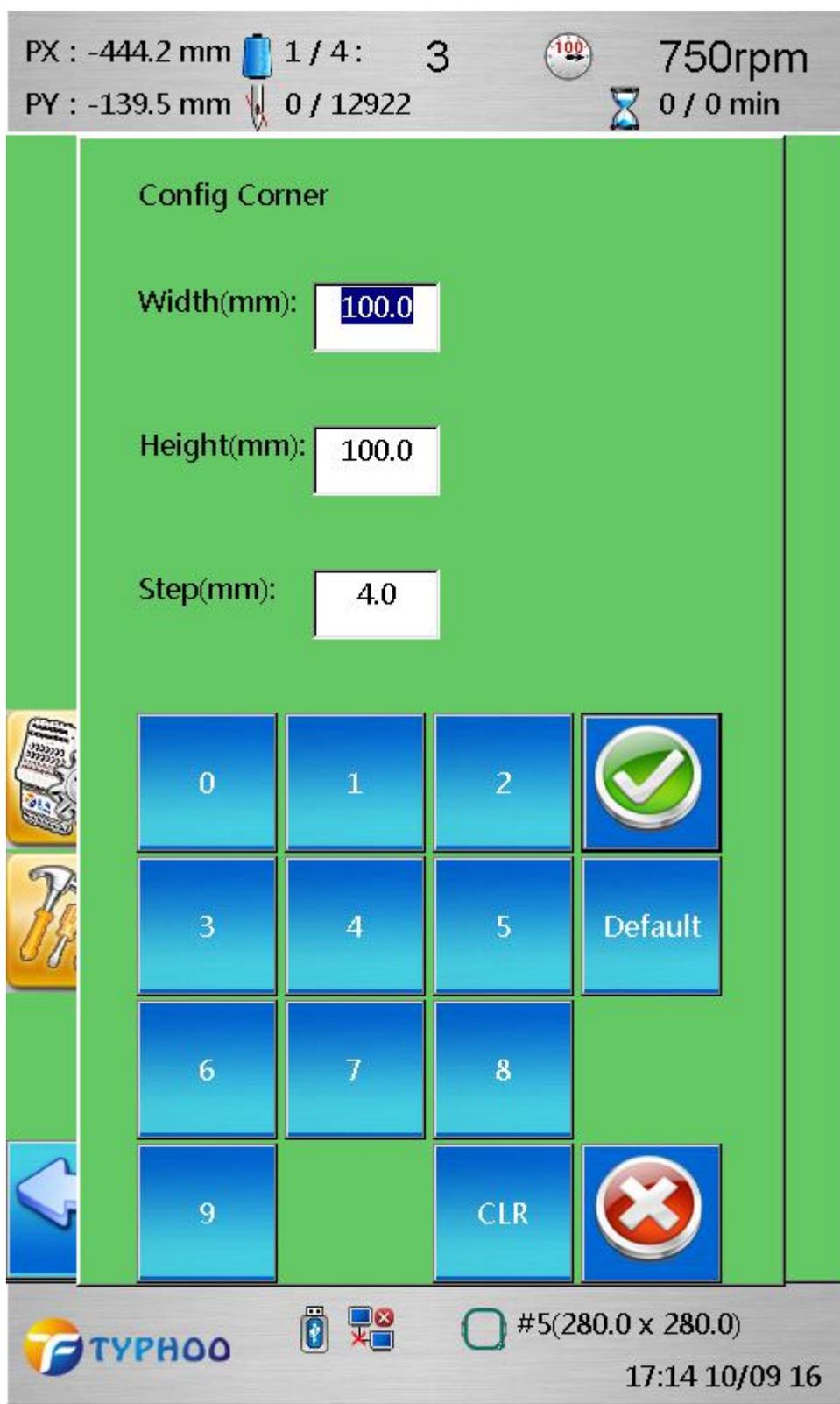


Figure 21-4

Click  OK to enter special open bit line embroidery state, shown in Figure 21-3. At this mode of operation with the same embroidery frame, see 21.1.

## 21.3 Embroidered open bit line

Common open bit line is determined by frame-shift in the pattern ready state, press



" into the frameshift setting interface, shown in Figure 21-5:

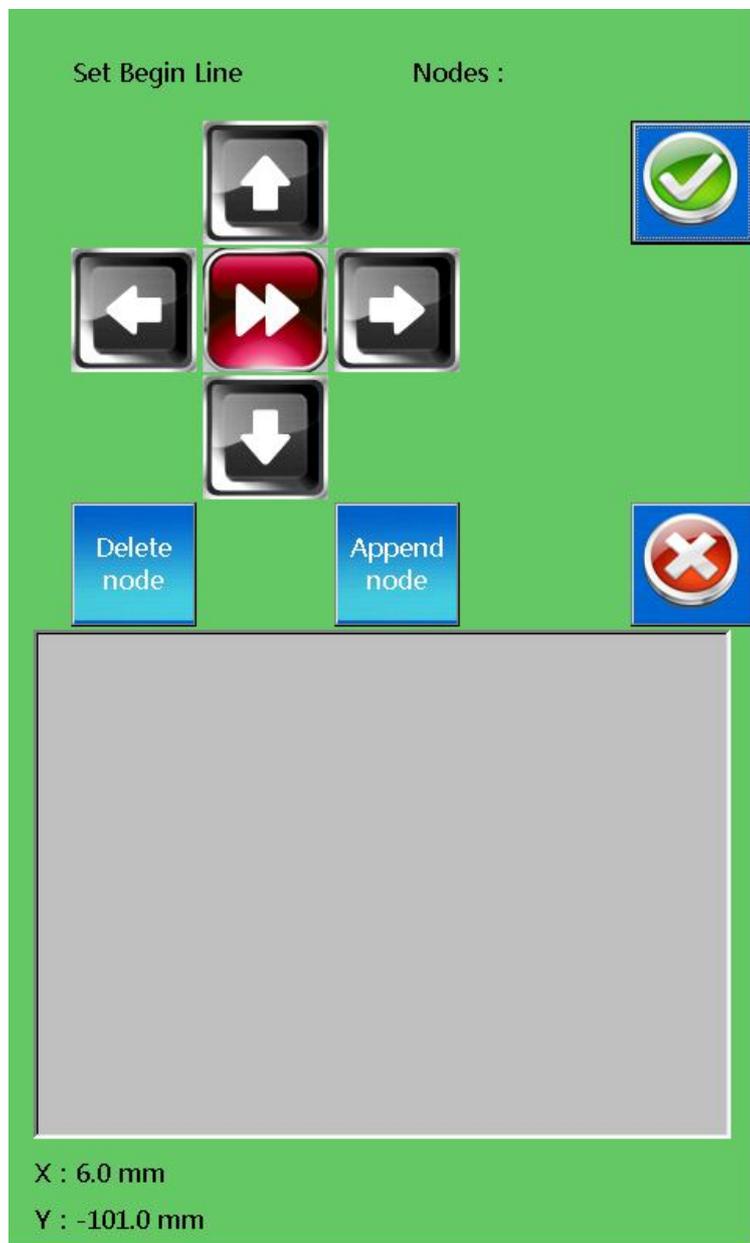


Figure21-5

Click on "additional nodes" or "delete node" may take appropriate action on the node common open bit line. Frameshift determine the open bit line, press  to confirm and enter stitch settings interface, shown in Figure 21-1. Confirm again into the general open bit line embroidery state, shown in Figure 21-3. At this mode of operation with the same embroidery frame, see 21.1.

 **Section above operation will cause the frame to move suddenly, please pay attention to personal safety during operation.**

## Part Twenty-two System Function

This function is mainly used to do system testing, version viewing and system updating.

Under the status of Embroidery Ready, press the  key to enter the menu of System

Function. See the figure 22-1:



Figure 22-1

---

## 22.1 Coordinate display

Coordinate system shows two coordinate systems: the pattern coordinate system and machine coordinate system. The origin of the coordinate system of the pattern is the pattern origin, and its coordinates are displayed as (X: / Y :); the origin of the machine coordinate system is the coordinate origin of the frame, the coordinates are displayed as (AX: / AY :).



Click on "PX AX PY AY", you can switch between the two coordinate systems. Coordinate machine coordinate system shown in Figure22-2:





Figure22-3

### 22.3 Check the pin number

When embroidery production, in order to facilitate management, need to look at a period of time the total number of stitches in embroidery or embroidery for some time to clear the total number of stitches. Operation is as follows:

Press "" button to enter the pin number search function, LCD display as

shown in Figure 22-4:



Figure22-4

If you need to be cleared, according to the LCD prompts by "total number of stitches is

cleared, Press the key  cleared.

## 22.4 Set User Password

Authorized administrators can modify the machine settings, others do not. Passwords can be set to ensure that only authorized personnel can modify the machine core parameters.

Function

Press the key “”, LCD Prompt: “Enter password:”, You can modify the

interface after entering the correct password. As shown in Figure 22-6:

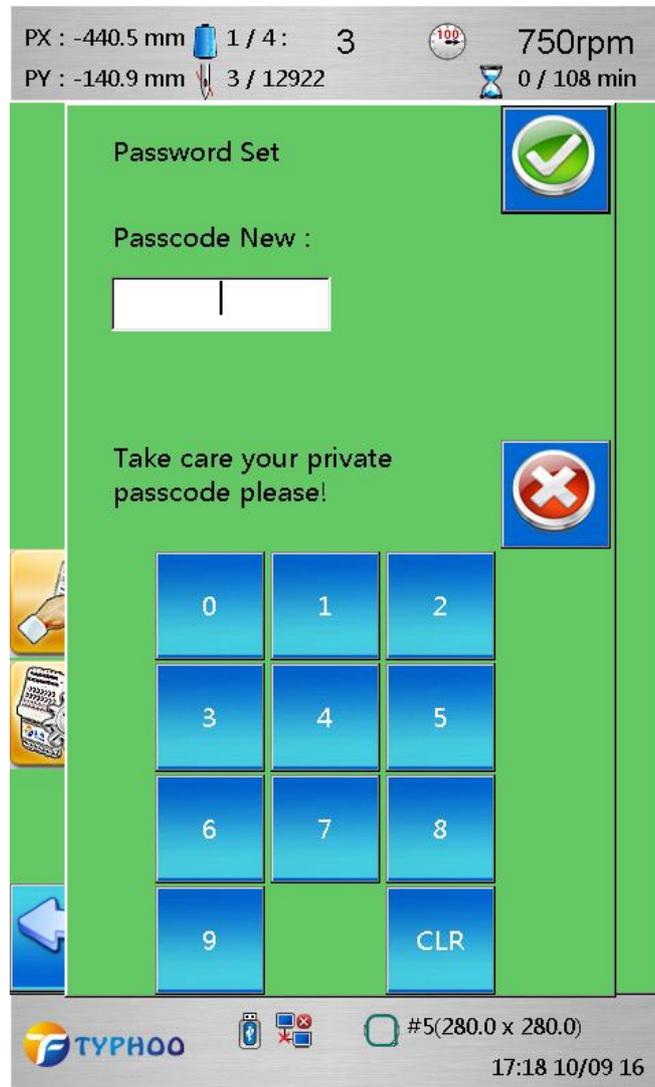


Figure 22-6

Press the number keys to enter a new password, Press the key  Set up. Press the

key  Do not change the settings and exit.

 **Keep in mind that an authorized officer password!**

## 22.6 Network Settings

This function can set the system Ethernet port, and connections to the server.

 **The same LAN, the same number can not exist two machines, otherwise it will lead to conflict, not networking.**



Click on "Network Connections" to enter the interface shown as 22-7:



Figure22-7

Press the key  Set up. Press the key  Do not change the settings and exit. Server IP address provided in this case are:192.168.1.2, Server port is:5478, The machine's serial number is 9.

## 22.7 Test Machine

**Note: This feature is necessary under the guidance of the supplier or professional use, do it themselves! Otherwise, the devices may not work properly.**

## 22.8 Version

In the menu of System Function, press the



and select the Version item, then

customers can look up the version information of the system.

## Part Twenty-three How to set up Alternation embroidery

In the embroidery, some flower version of the color is more, in the two models above the machine, we can use Alternation embroidered to solve this problem, directly with two heads to embroider with a flower version, embroidery color is directly two Head separately installed, in the embroidery process does not re-match the color of the case, the color type directly doubled. When Alternation embroidery is embroidered, the flat embroidery head (head 1) and the fulcrum (head 2) are embroidered with the same embroidery frame. When the embroidery frame is selected, the embroidery frame is calibrated with the current head.

### 23.1 Configure Alternation embroidery

Only two heads of the head machine can use Alternation embroidery. In the main interface, press the  key to enter the menu of System Function, Press the "Test Machine", Enter the user password, as shown in Figure 23-1

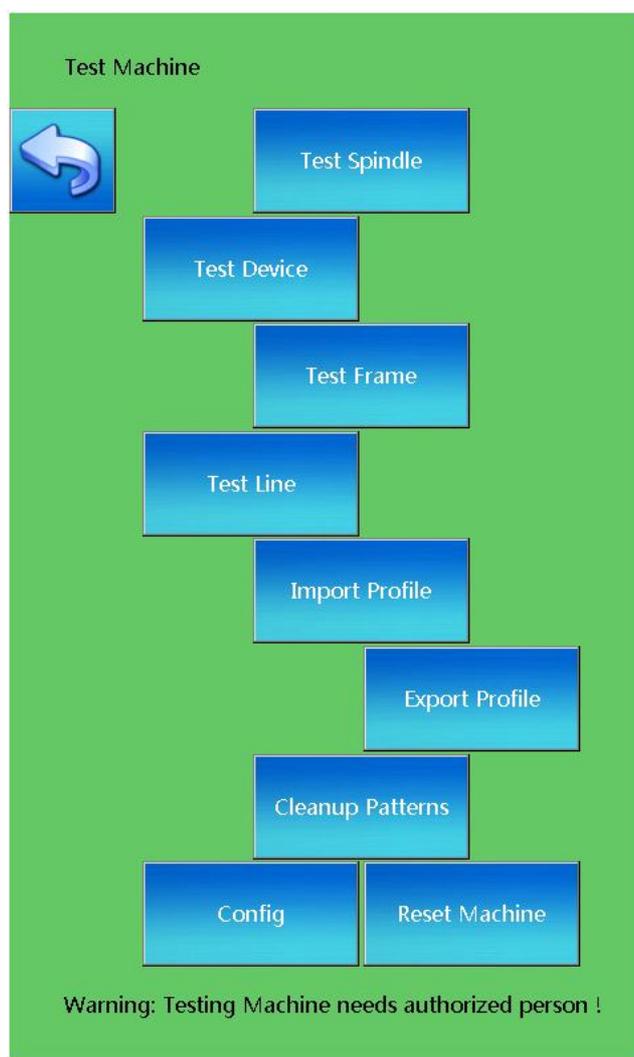


Figure 23-1

Press the "Config", as shown in Figure 23-2





Figure 23-2

Select the "Alternation" (check that the selected successful), set the corresponding excessive distance (that is, the relative position between the two pin pinhole value).

up Alternation embroidery

## 23.2 Use Alternation embroidery

The machine supports the Alternation embroidery, Users can turn this feature on and off at any time.

### 23.2.1 Head Select

In the system management interface, Press the menu of `Head Select`, See the figure 23-5:



Figure 23-5

Can be directly selected.

Note: After the switch head embroidery frame will automatically correspond to the nose calibration.

### 23.2.2 Automatic Color Change Sequence Setting

Under the status of Embroidery Ready, we shall press



key. See the figure 23-6:

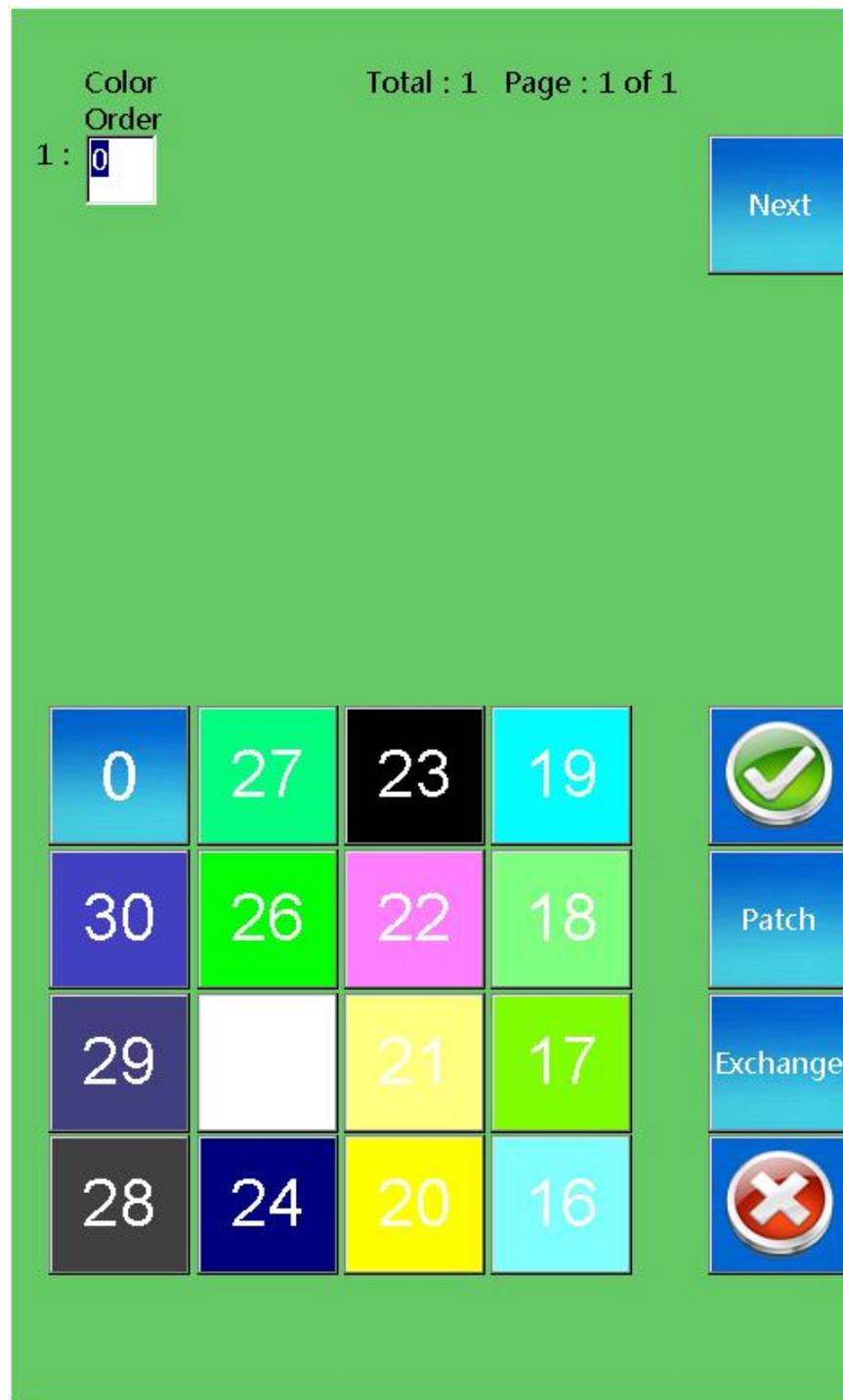


Figure 23-6

Please look to the operations in 5.4 for reference. Alternation embroidery can select head.

## Part Twenty-four Letter embroidery

The system supports 26 case letters and 0 to 9 character combinations for automatic embroidery, press the  key to enter the menu of System Function, Press the



Letter Embroidery", See the figure 24-1:

**Letter Embroidery**

Input Character	<input type="text"/>	
Arrangement Mode	Horizont	
Font Type	1	
Scaling	X : <input type="text" value="100"/>	Y : <input type="text" value="100"/>
Satin Density	<input type="text" value="100"/>	
Change Color	Yes	
Interval	X : <input type="text" value="0"/>	Y : <input type="text" value="0"/>
Rotation Angle	<input type="text" value="0"/>	


Help information:

Figure 24-1

embroidery

---

Select the settings separately.

- 1. Input Character:** Click into the input character interface
- 2. Arrangement Mode:** Arranged in three horizontal, vertical and circular arc, where the arc can be set from the point, the middle and end.
- 3. Font Type:** Support 28 types of characters, you can press the numeric keys to enter the type you need.
- 4. Scaling:** Support horizontal and vertical zoom, zoom ratio range of 50% -200%.
- 5. Satin Density:** The satin density ranges from 50% to 200%.
- 6. Change Color:** Whether to change color.
- 7. Interval:** Set the character horizontal and vertical interval.
- 8. Rotation Angle:** The rotation angle range is 0-359 degrees.

Such as the input character "TYPHOO", select the circular arrangement. See the figure 24-2:



Figure 24-2

Press " " OK, enter the preview interface, See the figure 24-3:

embroidery



Figure 24-3

In this interface, you can visually modify the characters. Modify the keys defined as follows:



**Left turn**



**Right turn**



**Horizontal zoom**



**Horizontal shrink**



**Vertical zoom**



**Vertical shrink**



**Choose from left to right**



**Choose from right to left**



**Forward toggle character type**



**Reverse toggle character type**



**Move the characters horizontally right**



**Move the character horizontally to the left**



**Character vertical upward movement**



**Character vertical down movement**

Press " " OK, Generate embroidery version. Press " "cancel, Return to the previous interface.

## Part Twenty-five Appendix

### Parameter Table

	Name	Unit Name	Value range	Default
Process Para	Jumps changing to trim	stitches	0~9	3
	Check thread break		Yes, No	No
	Thread sensing level		1~6	3
	Auto back stitches	stitches	0~9	0
	No check stitches	stitches	0~9	5
	Check at jumping		Yes, No	No
	Same color auto run		Yes, No	Yes
	Auto back to start		Yes, No	Yes
	Auto slow stitch	mm	3. 0~10. 0	4.0
	Long stitch mode		Jump, Slow	Slow
	Auto jump step	mm	6. 4、 8. 0	6.4
	Frame moving speed		High, Low,Middle	Low
	Slow when jumping		Fixed,Auto	Fixed
	Auto trimming		Yes, No	Yes
	Length of trimmed		High, Low,Middle	Low
Jogs after trimming		1~8	3	
Machine Set	Jogs at begin	stitches	0~6	2
	Speed of jogging	rpm	80~200	80
	High speed limit	rpm	500~1200	800
	Lowest speed	rpm	250~600	400
	Speed when jumping	rpm	250~600	400
	Angle when frame moves	degrees	220~280	250
	Frame time compensation		-5%~5%	0
	Spindle stop compensation		0~9	4
	Needle of Boring		0~15	0
	Offset at Boring		Yes, No	Yes
	Filter small step	mm	0~0. 4	0
	Stop convert color		Yes, No	Yes
	Locks at trimming	stitches	1~6	2
	Locks after trim	stitches	0~3	1
	Speed at trimming	rpm	60~300	80

	Angle when trimming		0~9	5
	Accel of spindle		0~9	5
	Speed of Color Changing		1~6	3
	Auto search origin		Yes, No	No

Figure 25-1

**Table of Error and Simple Troubleshooting Approach**

<b>Errors</b>	<b>Simple troubleshooting approach</b>	<b>Errors</b>	<b>Simple troubleshooting approach</b>
+X Limit	Manually moves the frame in opposite direction or check the limit switch of this direction.	Hook/Trim Err	Manually reposition or change approaching switch
-X Limit	Manually moves the frame in opposite direction or check the limit switch of this direction.	Pattern database Err	Re-input pattern
+Y Limit	Manually moves the frame in opposite direction or check the limit switch of this direction.	No USB	Insert USB
-Y Limit	Manually moves the frame in opposite direction or check the limit switch of this direction.	Write USB Err	Change USB
Color-change Overtime	Lock the mechanical part of color change or signal wire not to connect with motor wire terminal or damage driver board.	No pattern in USB	Change USB
Needle Err	Turn the mechanical part to normal position or change potentiometer of needle.	Not at the zero position	Re-inching , check if hole of zero position board blocked or adjust brake parameter
Motor Err	Check the power supply of main motor and signal wire or change motor and driver.	Motor X Err	Adjust or change frame driver
Motor Inverse	Connect main motor wire in correct sequence.	Motor Y Err	Adjust or change frame driver

Figure 25-2