



**BECS-528**

**OWNER'S MANUAL**  
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






## Chapter 1 General Descriptions















Thanks for using the Computerized Embroidery Control System of Beijing Dahao Technology Corp., Ltd. Please read this manual carefully in order to operate the machine correctly and effectively. And, you should keep well this manual for later use.

### 1-1 Warnings and Cautions






At using this product, in order to reduce the risk of fire, electricity shock or personal injury, user should follow the basic safe measures as below strictly:

<b>Notice</b>	
 Danger	During the operation, do not try to open the machine box. The high voltage contained in some parts can be deadliness. Rotating parts may cause serious injury.
 Forbidden	Don't expose the machine to humidity gas, corrosive gas, flammable and explosive gas, water, and dust.
 Forbidden	Don't restore or operate in vibration, which may cause trouble to the machine.
 Caution	Please abide all the warnings and safety requirements to ensure the security.
 Caution	LCD belongs to fragile goods. Do not use sharp materials to click on the screen.
 Caution	Pay attention to the inserting direction of the floppy / USB disk before usage. Before plugging in, please make sure if the lamp of floppy/USB disk driver is on, don't move out the floppy/USB disk..
 Caution	We will add appendix if necessary, if there is any difference between the manual and appendix, subject to the appendix.
<b>In Transportation</b>	
 Caution	Don't hold the cable when moving..
 Caution	Please abide all the warnings and safety requirements to ensure security
 Must	Overloading may cause serious loss. Please load according to the instruction on the box..



<b>Installation</b>	
 Caution	Don't jam the vent on the device. Don't plug up the machine, or it may set fire.
 Caution	Make sure the installing direction is correct..
 Caution	Don't install the machine to the position with wet gas, corrosive gas, flammable gas and explosive gas
<b>Cable Connection</b>	
 Forbidden	Don't test the insulation of the circuit loop.
 Forbidden	Never try to connect overloaded electronic device on the connector..
 Caution	Make sure the insulation cover of the cable is fine.
 Caution	Signal cable and power cable should be separated.
 Caution	All the cables should be well fixed. Don't put any strength on cables. Make sure the turning point of cable is well protected. Add pipes to increase insulation capability.
 Caution	Machine should be grounded. The resistance should be no larger than 10 $\Omega$ .
<b>Operation Direction</b>	
 Danger	Don't operating the machine when there is any damage on the protection cover
 Forbidden	When machine is running, do not touch any running part.
 Caution	Make sure the configuration of power supply is normal. Use stabilized power supply (with grounding device) when the voltage waves beyond the normal range at -10%~10%.
 Caution	In case of warning, please check out the problem. Operation can only be carried out again when problem is solved.
 Caution	The power supply has over-current protection function. There is a 3 mins time lag before the switch can be closed again.
<b>Maintenance</b>	



 Warning	If you need to open the machine cover, cut out the power supply first. Due to the capacitance contains power after power off, operator must wait one minute then he can open the machine cover.
 Caution	Circuit boards can be damaged by static. Non-professional technician can not disassemble circuit boards.
 Caution	If machine is inactive for a while, users must power on the machine regularly (once in 2 or 3 days, more than an hour for each time).
 Caution	If machine is inactive for a long time, users should have the machine checked before power on.
<b>Rejection</b>	
 Caution	Rejection should obey the rules and regulations set by national industrial electronic standards.

## 1-2 Main Technical Features

1. Operation box Screen: 8 inch TFT LCD.

2. Control Precision

The minimum of stitch form is 0.1 mm.

3. Stitch Range

The stitch range is 0.1 mm -- 12.7 mm.

4. Design Storage Capacity

The system memory can store 100,000,000 stitches.

5. Maximum of Memory Design Storage

The maximum is 800. (The maximum is 790 when the machine has been installed with letter design base.)

## 1-3 Main Functions

1. Design Input and output and software upgrade from Floppy/USB Disk

Disk includes floppy disk and USB flash disk. The floppy disk is outside of the operation box and connected via USB port. The USB port is the standard device, where user can insert the U disk.

1) Disk Input

The computer can read a variety of designs from floppy/USB disk and save them in the memory, such as TAJIMA DSB, TAJIMA DST, BARUDAN FDR (including the binary, tri-nary and Z-nary) and ZSK.





### 2) Disk Output

The designs in computer memory can be output to floppy/USB disk. The designs are output in Tajima DSB format, which can be used in internet transmission (the pattern in other format has no this function).

3) The software of BECS-528 can be updated by floppy/USB disk.

### 2. English, Chinese or Spanish/Turkish/French/Portuguese Display

The display of the system includes the shape and letters. User can select language for the letter part from Chinese, English, Spanish, Turkish, French and Portuguese. And the operation keys use logo to mark their meaning, which can be understood by the user in the world.

### 3. Display of Pattern

In this system, user can not only see the patterns within the memory and the disk, but also during the normal embroidery, user can see the embroidered shape in real time.

### 4. Color-changing Function

In the color-changing position, user can perform the manual color-changing or operate the system to change color automatically according to the preset color-changing sequence.

### 5. Mending Function

During the embroidery, this system has the sufficient methods for returning and empty feeding, which makes the mending become easier

### 6. Speed Adjustment

The max speed for embroidery can be set in advance, which will be changed automatically with the stitch length during embroidery.

### 7. Thread-breakage Detection

During embroidery, the machine will automatically stop and light the red stamp if the thread is broken or is running out.

### 8. Repetition Embroidery

When user needs embroider one pattern for many times, user can set the system in the repetition embroidery mode so as to increase embroidery productivity (can be used with cyclic embroidery). And it can do the normal repetition embroidery directly. The partial repetition, function is still reserved, but user has to create a new design through the option “Create Pattern from Para.” in the assistant management menu and set repetition embroidery on this pattern.



## 9. Cyclic Embroidery

When the machine activates the cyclic embroidery function, the machine can return to the origin automatically after completing the pattern for each time. Along with the special pattern-designing or repetition embroidery, user can increase embroidery productivity by large margin.

## 10. Batch Embroidery (Combination Pattern)

User can combine several identical or different patterns with the different scaling rate, rotating angle, pattern direction and relating displacement into one “combination pattern” which contains parameters and several single shapes. The combination pattern is attached with the extension name of PAR. User can realize the batch embroidery by embroidering this pattern.

## 11. Compiling Pattern

### A. Compiling Current Pattern

Compile the selected pattern according to the set scale rate, rotating angle and repetition to create a new pattern in the memory. This new pattern can be used for embroidery, outputting and other operations.

### B. Compiling the Combined Design

The system can compile the combined design to create a new pattern into the memory, which can also be used for embroidery, outputting and other operations.

## 12. Edition Function

User can edit the pattern within the memory by every stitch (exclude the combination pattern), which is easy for user to make the partial modification.

## 13. Appliqué Embroidery

This function can set a patch code at the color-changing code or stop code. And when the machine embroiders the appliqué code, it will halt and move frame out for appliqué (it is based on the setting of offset origin). After patching cloth, user could pull the operation bar to let the frame move back and continue embroidering.

## 14. Memory of Pattern Start Point

This function can save the start point of each pattern, so that user needn't move the frame to search the origin at embroidering the same pattern for each time.



15. Outline Embroidery, Cross Embroidery and Locating Line Embroidery

The outline embroidery is to embroider the outline of the current pattern.

Cross Embroidery is to embroider a cross at the current position.

Locating Line Embroidery is to embroider a line or several lines at current position.

16. Machine Maintenance and Debugging

This function is to easily judge the malfunctions when maintaining and testing, which includes computer testing, encoder testing, main shaft speed testing, machine parts testing and the main shaft stops at any position, etc.

17. Save Embroidery Parameters

This function is to combine the pattern with selected embroidery parameters such as color sequence, pattern direction, rotation angle and repetition, etc. to reduce the times of inputting parameters when embroider the pattern without changing the parameters.



**Chapter 2 Names of Parts on Electrical Control System**



**2-1 Operation Panel**

This is the machine's operation panel:



No.	Display	Description
1	LCD Screen	The operation will be displayed in this area
2	Memory Design Management	Press it to enter the memory design management screen, which includes “select design”, “disk input”, displaying designs and creating new designs.
3	Assistant	Press the key to enter assistant management.
4	Embroidery state switching key	Press the key to make the machine's status switch among high and low speed idling and embroidery.
5	Color-changing and start mode	Press this key to shift among auto color-changing, auto start, manual color-hanging and manual start
6	Manual color-changing	When the machine stops and the main shaft reaches the set position, press it to enter the manual color-changing screen and then press the corresponding needle number to change color.
7	Pattern Direction	Press the key to change the pattern direction
8	Manual trimming	After machine stops, click it to do manual trimming.






No.	Display	Description
9	Return to origin point	With this function, the frame can return back to the position before manual frame moving. When machine stops halfway or embroidery is finished, the frame can return back to the starting point of pattern with this function.
10	Return to Stop Point	After halting in the halfway of embroidery, press the manual frame-moving key to shift the frame out (for patching cloth). After the completion of appliqué, this function can make the frame return to the stop point.
11	Exit	Press the key to quit the corresponding operation..
12	Confirm Embroidery	Press the key to confirm embroidery or cancel embroidery.
13	Enter	Press the key to confirm the corresponding operation.
14	Blank or Add 10	Press the key to add blank or add 10 to number.
15	Spot Moving	After stop, press this button to make the motor run one lap
16	Manual Frame Moving	The direction of frame moving is the same as the direction key. The combination of directions is supported(Pressing the neighboring direction buttons will have the frame to go along the line 45° from the basic direction). Press central key to switch the frame-moving speed between high and low.
17	Speed Adjustment	Press  to reduce speed and  to increase.
18	Number Sign	Change number sign when you input number.
19	Delete	Press the key to clear the inputting or controller records.
20	Number Key	This is used for selecting menu or setting parameters.
21	Customized Button	It is used to set the parameter that is changed frequently

## 2-2 Trimming Thread

Automatic Trimming: When operations such as color-changing, frame jumping, etc. are required in embroidery, as well as at the end of embroidering, the machine can trimming thread



automatically. In the event that the machine has no trimming device or, user can trim the thread manually when the machine stops at embroidery.

Manual Trimming: This function can trim the thread via the keyboard even when the machine stops. In the main interface press "" key to display the hint window, where user can move the icon to select the trimming method ("Up & Bottom Thread" or "Bottom Thread"), Press "" key to trim thread or press "" key to quit.

### 2-3 Operation Bar and Turn Shaft Button

#### 1. Operation bar (embroidery bar under the table)

Stop status: pull the bar to right to begin embroidery (including idle running in high or low speed) and pull the bar to left to return (including idle running in high or low speed)

Running status: pull the bar to right to the end to embroider slowly and release to normal speed and pull the bar to left to stop embroidery.

#### 2. Turn Shaft Button(over the operation bar case, on the right under the table)

To press the button to make the main shaft rotate one cycle and stop at  $100 \pm 2.5^\circ$ .

### 2-4 Mending Switch

#### 1. Thread Breakage Detection Device of 3 places

There is a switch on every head of machine. When the switch is up, this head is in normal embroidery mode; when it is in the middle, this head is in mending mode; and when it is down this head is in stop mode.

#### 2. Thread Breakage Detection Device of 2 places


On every head of the machine, there is a mending switch, and it can be moved with hand to the up, middle or down position, but it can only stop at the middle or down position. When the switch is pushed to up position, the lamp is red, which hints that this head is in mending mode. In addition, while thread breaks during embroidery, the lamp is automatically changed to red and this head will turn to mending mode. When the switch is at middle position, this head is in mending mode if the lamp is red, or this head is in normal embroidery mode if the lamp is green. When the switch is pushed to down position, the lamp is off, which hints that this head is in stop mode. When the switch is pushed to middle position from down position, the lamp will be green and the head is in normal embroidery mode.

## Chapter 3 How to Start Embroidery


### 3-1 Summary

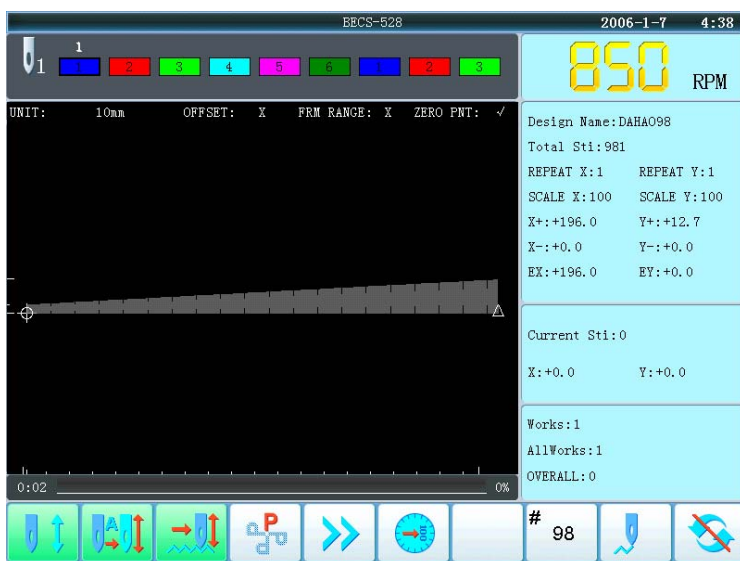
#### 3-1-1 Working Mode of System


The computer has three working modes

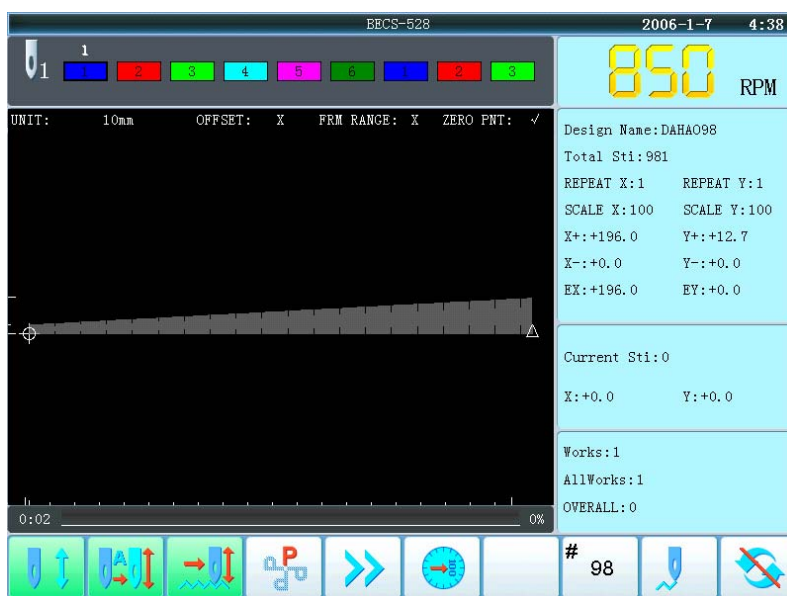
1. Preparation Mode — In order to perform the embroidery, user has to set and input the parameters in advance or select the pattern. The features of this mode are that the machine stops and the icon "  " blink.







2. Confirmation Mode — It is to confirm the parameters set before the embroidery and have the machine wait for the activation order. The features of it are that the machine stops, and the icon "  " appears.








3. Running Mode (or Embroidery Mode) —— The machine starts working. The features of it are that the machine is running, and the icons "  " is in animation show.



How to switch among the above working modes?




1. In preparation mode ( "  " blinks ), after selecting the embroidery pattern and the relating parameters, user needs firstly press "  " key, and then press  to confirm. Now the machine is in confirmation mode ( "  " appears). Then, pull the embroidery bar to right to embroider, which means the machine is in running mode.

2. In embroidery running ( "  " is displayed in animation ), pull the bar to left to stop. Now the machine is in confirmation mode (Again, pull the bar to right, the machine goes into running mode again).















3. In confirmation mode ( "  " appears), firstly press "  " key, then press  to release confirmation mode, now the machine goes into preparation mode ( "  " blinks ) .

### 3-1-2 Icons of System Status







At the bottom of LCD on main picture, there are 10 icons to show system status, which meanings are as following:

1.  : The machine is in confirmation status.
-  : The machine is in preparation status.
2.  : The machine is in auto color-changing and auto start mode.



- : The machine is in auto color-changing and manual-start mode.
- : The machine is in manual color-changing mode.
- 3. : The machine is in normal embroidery status.
- : The machine is in high-speed idling.
- : The machine is in low-speed idling.
- 4. : These 8 icons display embroidery direction of pattern.
- 5. : Manual frame-moving is in high-speed.
- : Manual frame-moving is in low-speed.
- 6. : The machine stops correctly (the main shaft is at 100 degree).
- : The machine stops at wrong position.
- : The machine is embroidering the jump stitch.
- 7. : The thread is broken.
- : The machine finishes the embroidery.
- : The machine is changing color.
- 8. 

#	98
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: The number is the number of pattern selected.
- 9. : The machine stops.
- 、、: The machine is running.
- 10. : The machine is set cyclic embroidery.
- : The machine is not set cyclic embroidery.



### 3-1-3 Descriptions of Menu Item's Status

The user interface of this computer has a lot of menus, which is quite practical. Usually, the number of a menu item (such as: ①, ②, ③, . . . , ⑩) is displayed at the front of that item, which is the serial number of the menu item. If the number is replaced by "⊗", the menu item can not be entered. (The parameter is unavailable or invalid in the current setting.) If a menu item has a "2" before it, a password is needed to enter it.

### 3-1-4 How to Embroider for the First Time?

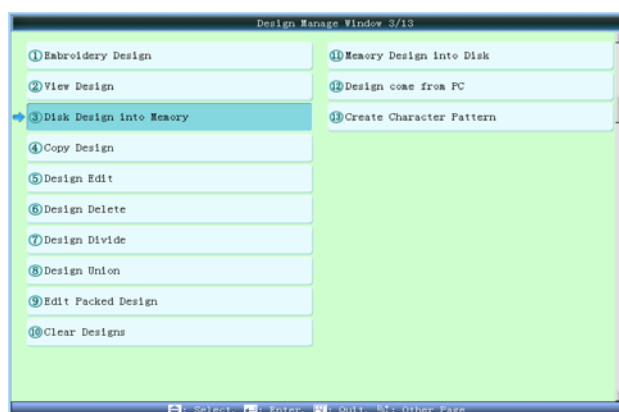
The machine embroiders according to the design in memory. Before using the machine for the first time, user needs to initialize the parameters in the system (please refer to Chapter 9-7) and then clear the memory (this operation involves the "Pattern Management", please refer to Chapter 10-10 Memory Pattern Management). After that, user can input the patterns needed via the disk. After the patterns are input, user can select a pattern in memory and confirm it for embroidery. Now, the machine goes into confirmation status. Finally, user can pull the embroidery bar to right to start embroidering the pattern.

## 3-2 Input a Design into Memory from Disk

Load pattern into memory from disk can be performed in the menu of "Memory Pattern Management"





User can input the disk pattern by using USB disk from USB port or using floppy disk through the floppy driver at USB port. The system has only one USB port, so it can be connected one floppy disk or one USB disk. You can insert or draw floppy/USB disk directly.

1. Press "⊗" key. Press move the icon to "Disk Design into Memory", and then press "ENTER" key.



2. Select a disk pattern and press "ENTER" key.



3.If refusing to use the default number provided by the system, user can input the pattern number via the keyboard. Press  to confirm the number. For wrong input, user can use  to delete the unwanted figure. After input, please press  to confirm the number. If the number you input conflicts with the number in memory, then you should input a new number and press "" key to confirm.

4.Then the pattern file begins to be transmitted from disk to machine memory, and the operation is finished.

### 3-3 Preparation before Embroidery

The contents below should be finished setting or confirmed before embroidery, in embroidery preparation status. Such as: (1) Automatic color-changing or manual color-changing, which is to change color automatically when there is color-changing code during embroidery or to change color manually after machine stops. If it is set as auto color-changing, user should also set the auto color-changing order. (2) Automatic start or manual start, which is to start automatically or manually after automatic color-changing. (3) Besides that, it is necessary to set figure direction ( see Chapter 6), the rotation angle of figure, size ratio and number of repeating embroidery.( see Chapter 9).

### 3-4 Select a Pattern for Embroidery and Confirm the Embroidery

#### 1. Descriptions of Saving Pattern's Start Point

##### (1). What is the Saving of Pattern Start Point

That means to save the start point of a pattern so that user can be waived from repositioning when embroidering the same patterns (there may be other pattern to embroider among them) for many times.

##### (2) The precondition for saving the start point of pattern

The function can be realized only when the machine has activated the function for saving the origin point of frame (the setting method of saving frame origin is shown in Section 9-5).

##### (3) The main points must be explained and noticed.

Point 1: when selecting patterns, there will be a prompt "NO ZERO POINT, CANNOT SAVE ORIGIN" if user doesn't set the origin of frame. Then, please set frame origin, and the function can be realized (see section 9-5 to know how to set the machine's frame origin.)



Point 2: If the current pattern has the start point, user can take the operation for restore the origin of pattern, which is to move the frame to the saved position of pattern origin.

Point 3: We suggest you do as the following sequence if you want to use the function of saving and restoring the pattern's origin point: Firstly, select one pattern; secondly, move the frame to find the pattern's origin point, and at last, confirm the embroidery and save the pattern's origin point according to the prompt.

Point 4: The pattern's origin point that has been found by moving the frame after embroidery confirmation will not be saved.

Point 5: If the pattern's origin point has been saved, it can be used along with the power resume function. When power is off and the frame has been moved, and when the pattern's origin point is available (if not available, set the machine's zero point again and ensure that it is same as before), user needs to release embroidery confirmation status, select the same pattern and recover the pattern's origin point. After that user can confirm the embroidery and do high-speed idling to the stop point, and finally continue the embroidery.

## 2. Explanations about saving the embroidery parameters.


When user confirms the embroidery, the machine can save pattern parameters for later usage. The parameters are: design direction, angle of rotation, X scale, Y scale, priority mode, repetition mode, repetition order, frequency of X repetition, frequency of Y repetition, X repetition distance, Y repetition distance and color-changing sequence (Note: only the parameters for the first 100 patterns can be stored/recovered).

If the design parameters of a pattern have been saved, the system will automatically recover its parameters when user selects this pattern for embroidery.

This function is very applicable when user embroiders the same pattern repetitiously without changing the parameters, so that it can reduce the times of inputting parameters and the operation mistakes.


## 3. Select a pattern for embroidery


Operation:


(1) Press "" key (in embroidery preparation mode) to enter the interface for pattern management:

(2) The icon is at "Embroidery Design.", and press "" key.




(3) In the memory pattern area of the memory pattern management interface, user can select the wanted pattern and then press .

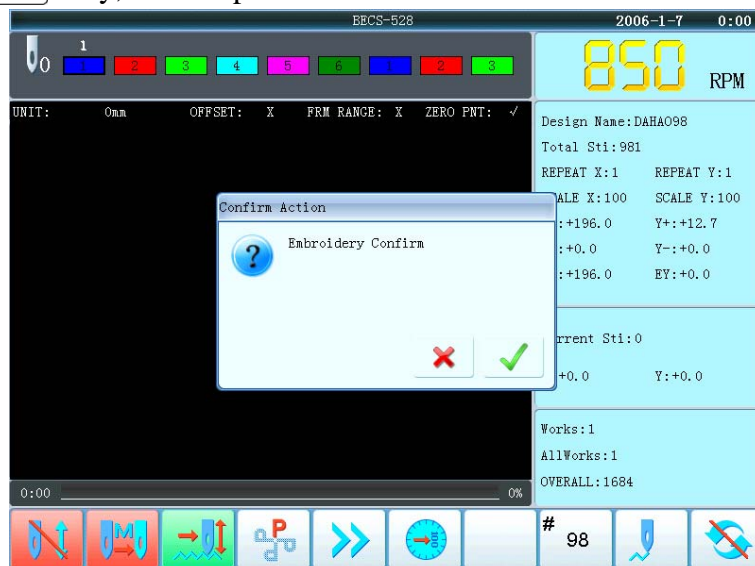
(4) Enter the interface of “Display Design Para.” and press  to select that pattern for embroidery, then the system will return to the main interface. Or user can press other key to cancel the selection.

(5) If the computer has saved the start point of pattern, the system will ask user whether to return to the start point before entering the main interface. Pressing  will directly return to the start point of pattern.



## 4. Confirmation of Embroidery

Operation:


(1) Press "" key, the computer will hint user to confirm the embroidery:





(2) In the main picture, the icon "  " appears and the machine enters into the embroidery confirmation status. Then, user can pull the bar to start embroidery. If  is pressed, the machine will be in the embroidery release mode. At this moment, the machine will not run even user pulls the bar. Beside that, the system will hint user to confirm the embroidery.

### 3-5 Normal Embroidery, Returning and Mending Embroidery

In embroidery confirmation status (the icon "  " appears), push the mending switch of machine head that will perform normal embroidery to go to the normal embroidery mode, and push the mending switch of machine head that will not embroider go to the mending mode, and then pull the operation bar to right and release it to let the machine start normal embroidery. (When you pull the bar to right and don't release it, the machine will embroider in lower speed.) During embroidery, pull the bar to left, the machine will stop.


After the machine stops, pull the operation bar to left and the frame will return to its last position along original path. Pull the bar one time, the frame return one needle step. Pull the bar continuously and the frame will return one needle step after another continuously. After the frame return 10 needle steps continuously, the frame can return continuously even when you release the bar. (This may be different according to different machine types). When the frame return continuously, release the bar and pull the bar to the left again, the frame will stop returning.

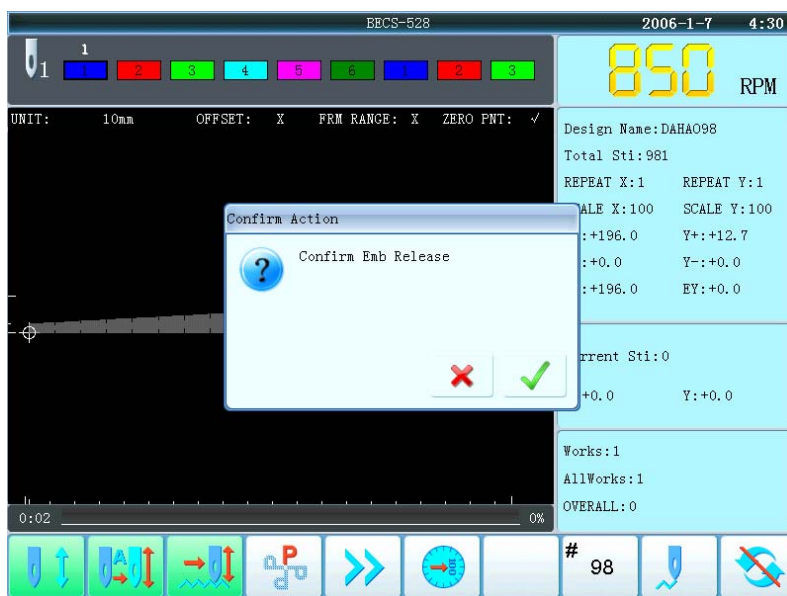
The aim of returning is usually to perform mending embroidery. After the returning stops, push the mending switch of machine head that will perform mending embroidery to go to the mending mode, and then pull the operation bar to right and the machine head will start mending embroidery while other heads keep still. When the frame goes to the point where the frame begins to return, other heads whose mending switches are in normal embroidery mode will start embroidery.




### 3-6 Release Embroidery Confirmation Status

You should release embroidery confirmation status when you want to embroider other patterns after finishing the embroidery of one pattern or to revise size ratio, rotating angle, the repetition, figure direction, or to do the operation of "Disk Management" and "Design Management".

Operation:

(1) Press " " key, (in embroidery confirmation status), the system will give the interface at below:



(2) Press " " key to release embroidery confirmation status according to the prompt (or press " " keys to cancel it), and then enter the embroidery preparation status (the icon " " blinks.).





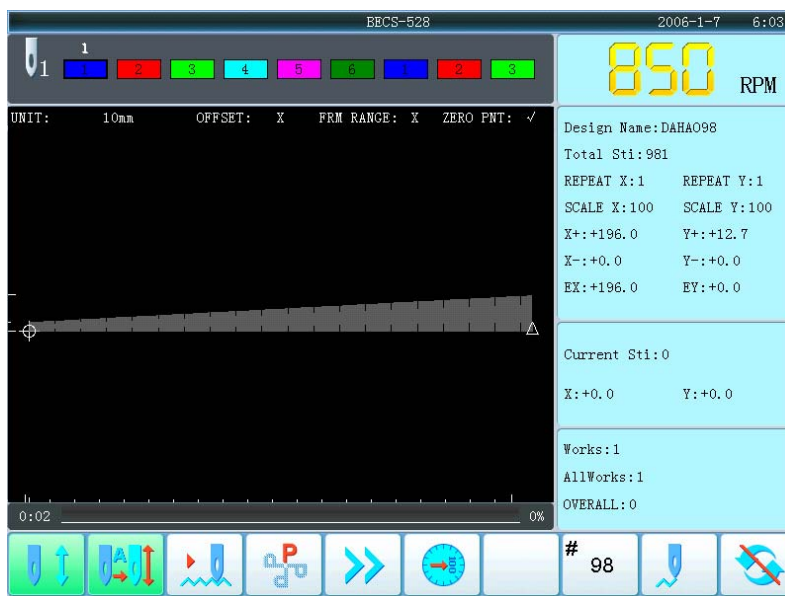
## Chapter 4 Normal Embroidery and Idling

### 4-1 Relations between Normal Embroidery and Idling

Functions as idling, returning, etc. are intended for the convenience of mending. Low-speed idling, high-speed idling or positioning idling can be used in the different positions. In the states of idling, the returning also covers low-speed idling returning, high-speed idling returning and positioning idling returning.



### 4-2 Low-speed Idling

Operation: Press "" key when machine stops until the interface appears "":

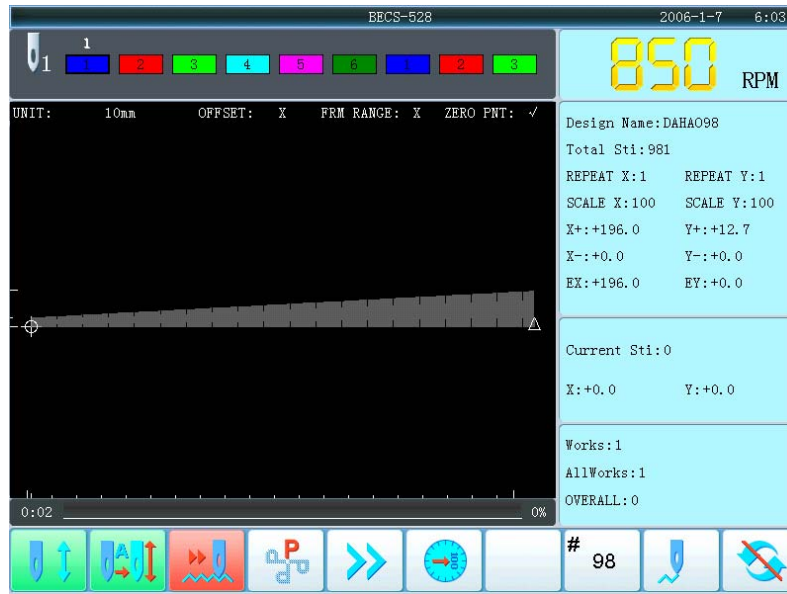


After setting low-speed idling, the main shaft remains inactive when pulling bar for normal embroidery, but the frame runs forward along the stitch trace. When pulling bar for returning, the main shaft keeps inactive, but the frame returns along the stitch trace.

### 4-3 High-speed Idling

Operation: Press "" key when machine stops until the interface appears "":





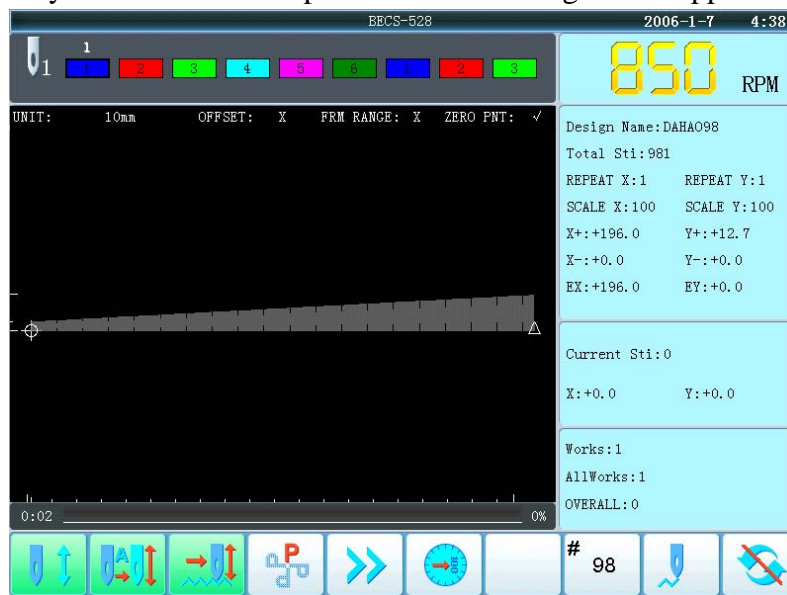


After setting high-speed idling, the main shaft and frame remain inactive, the number in the stitch counter increases. After user pulls the bar for halting, the frame moves directly to the actual position of the current stitch number. When user pulls bar for returning, the main shaft and frame keep inactive and the number in counter decreases. After user pulls the bar for halting, the frame returns directly to the actual position of the current stitch number.

### 4-4 Release of Low-speed/High-speed Idling

Operation:

Press "" key when machine stops until the following screen appears "":





This is the state of normal embroidery.

### 4-5 Positioning Idling




The positioning idling can make the frame directly run forwards (or backwards) to an assigned counting position, or to a latest color-changing position, or even to a latest stop-code position.

Operation:

(1) Press " " key (in embroidery confirmation state) to enter the assistant management interface:

(2) Press icon to move to "FRAME TO POINT (OPTIONAL)", and then press " " key. The positioning idling menu displays as following:




(3) Press "", " " key to select the desired mode of positioning idling, and then press " " key.

(4) Continue the operation for different positioning idling according to the prompts respectively.


## Chapter 5 Color-changing Operation

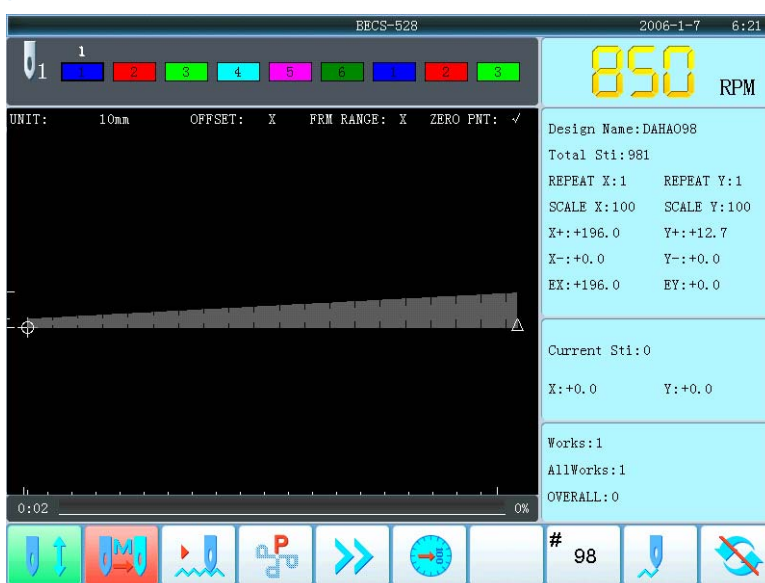
### 5-1 Manual Needle-change (Color-changing) at Stop

For the number below No.9, user can press the number keys directly to do manual color-changing operation when the machine stops. If the needle number is more than 9, for example 10, you can press "


### 5-2 Manual Color-changing and Manual Start during Embroidery

The procedure for setting manual color-changing and manual start is as follows:


Under the embroidery preparation or confirmation status, press "

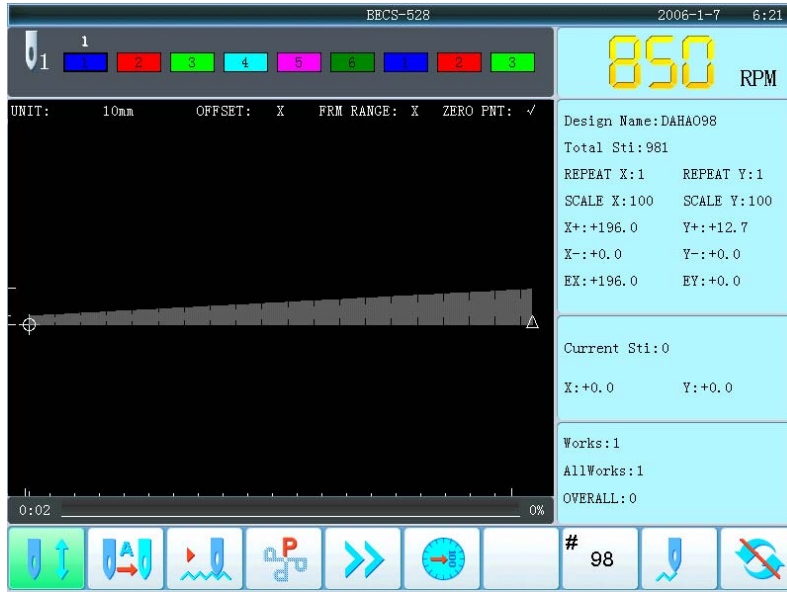


If the machine is set into manual color-changing and manual start, user should manually perform the color-changing and select the needle position before starting embroidery operation, then pull bar to start embroidery.

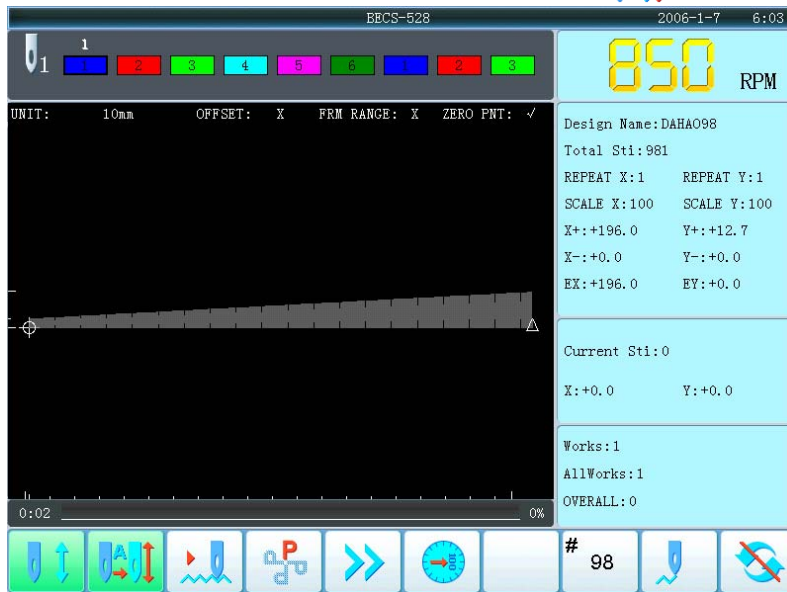
When the color-changing code is processing during embroidery operation, the machine will halt automatically and the icon "

### 5-3 Automatic Color-changing and Manual Start (or Automatic Start) during Embroidery

To set automatic color-changing and manual start, please press "



To set automatic color-changing and manual start, press "⌂" key under the embroidery preparation or confirmation status until the main screen shows "⬆️⬆️⬆️".



If the machine is set into automatic color-changing, the color-changing sequence should be set before the embroidery.

When user pulls the operation bar to start embroidery, the computer will carry out color-changing according to the needle position set in the color-changing order no matter where the current needle rod is (excluding the condition that the current needle position conforms to the needle position set in the color line), then start embroidering.

When the color-changing code appears during embroidery, the machine will automatically halt and change to the assigned needle position according to the needle number set in the color

sequence. In case of setting as automatic start, the machine will automatically continue embroidering, whereas setting as manual starting, the operator must pull the operation bar to start embroidering.

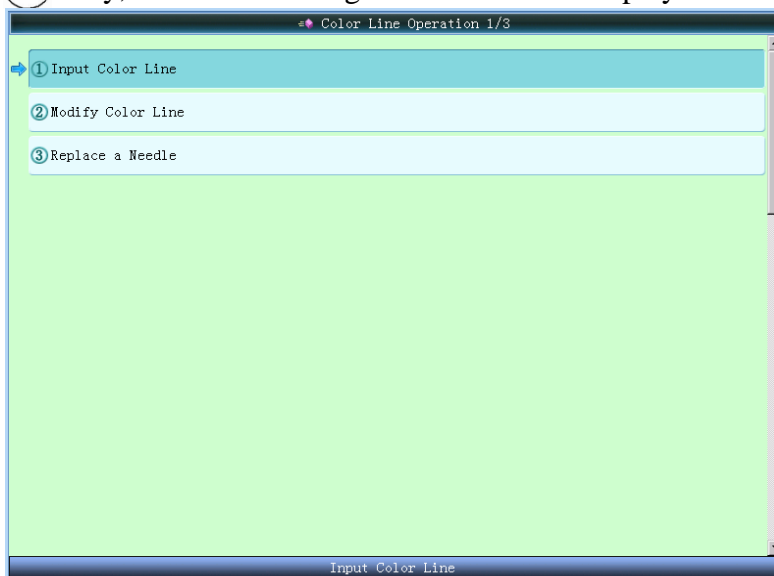
#### 5-4 Setting Automatic Color-changing Sequence (or Color Line)



The automatic color-changing sequence is intended for the machine that has been set as automatic color-changing, and offers automatic color-changing sequence.


Note: the maximum times of changing color is 980.


Operation:

(1) Press "" key, and the following interface will be displayed:



(2) if press “1” and "" key, then input color line, for example: 1,2,3,and "". All after that the color line will repeat like this: 1,2,3,1,2,3,1,2,3...


(3) If press “2” and "" key, then you can move the icon to modify the needle selected individually. Press [enter] to end.

(4) If press “3” and "" key, then you can modify the color line in whole by switching the needle number.

For example: if the color line is :1,2,3,1,2,3,1,2,3...

Select:

OLD NDL: 3 NEW NDL: 5
--------------------------



Press "" key, then the new color line will change to:1,2,5,1,2,5,1,2,5...

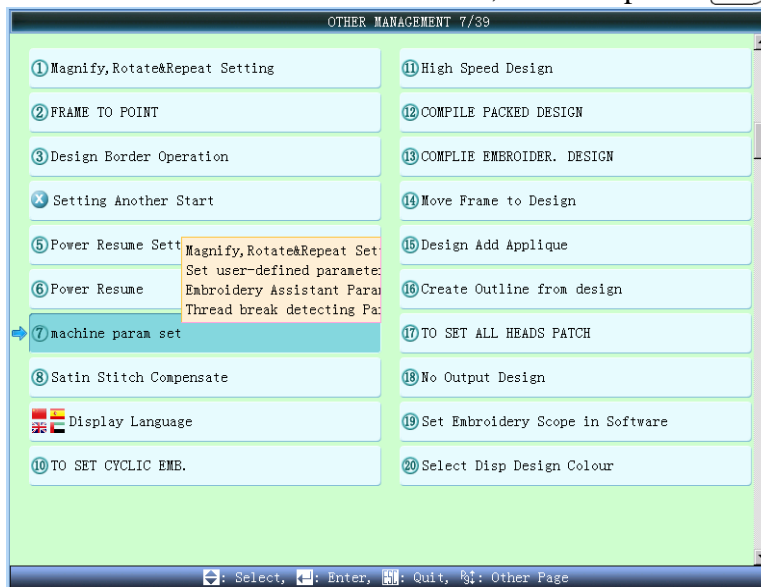



### 5-5 Memory of the Manual Color-changing

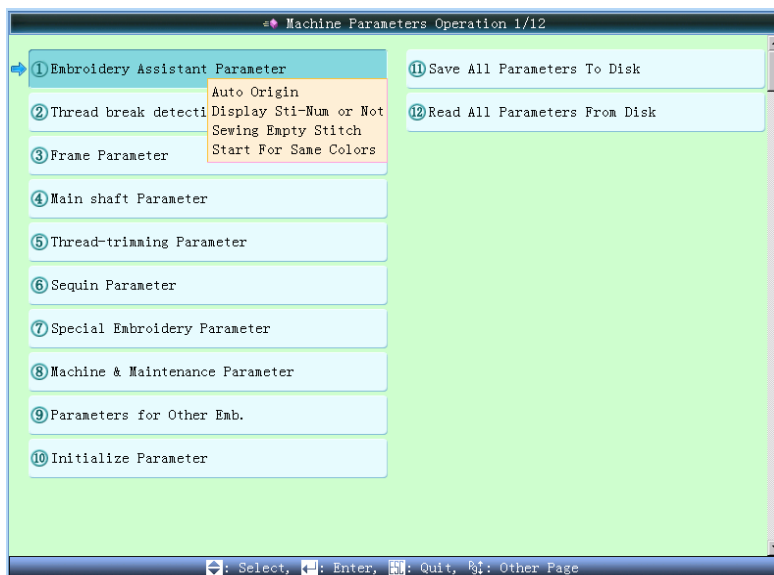
In embroidery confirmation status, if the machine carries out manual color-changing, the computer will have chance to store the manual color-changing number into color line. It functions as following: A) During embroidery, if one number in color line is wrong, you can execute the manual color-changing, and then the computer will automatically store the correct number into color line. B) For the new pattern, if you embroider a new design with the manual color-changing for the first time, then the color order for automatic color-changing is completed at same time.

Operation:

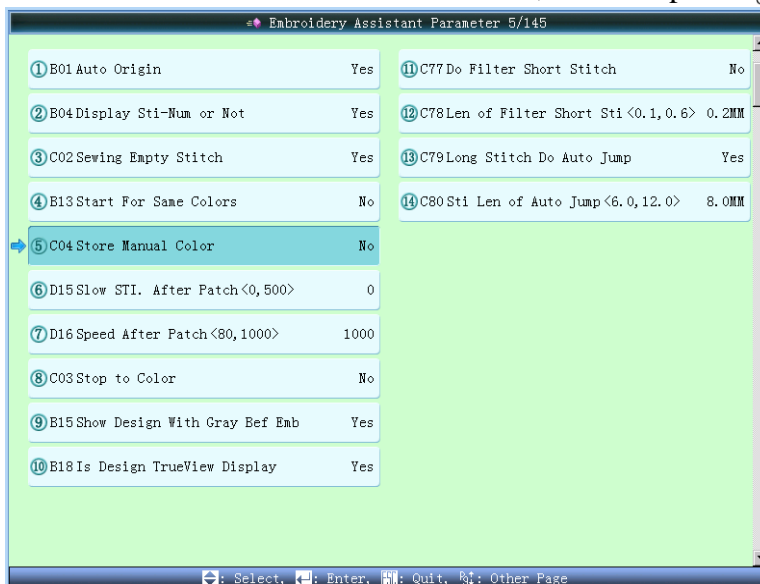
- (1) Press " " key, to enter the Other Management interface:
- (2) Move the icon to "MACHINE PARAS SET ", and then press " " key.



- (3) The icon will be fixed on "Embroidery Assistant Parameter.", then user needs press  :



(4) Move the icon to "STORE MANUAL-COLOR ", and then press " " key.






(5) Press " ", " " key to select "Y" or "N".

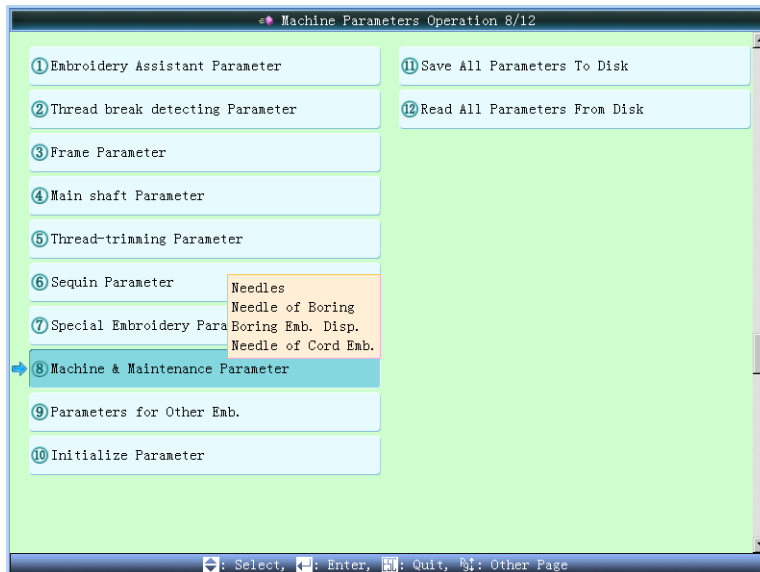
(6) Press " " key.

## 5-6 The Color-changing Speed

For the common embroidery machine, the color-changing speed is determined by the transmission ratio of mechanism so that the computer can only control the start or stop instead of the color-changing speed.

However, for the embroidery machine, whose color-changing function is driven by stepping motor, because the computer has to meet the needs of different machine on the color-changing speed, the stepping color-changing speed can be adjusted properly.


- (1) Press " " key to enter the Other Management interface:
- (2) Move the icon to "SET MACHINE PARAS", and then press " " key.
- (3) Move icon to "Machine & Maintenance Parameter" and then press " " key.



- (4) Move the icon to "COLOR-CHANGE SPEED", and press " " key.



(5) Press number key to adjust the speed value, and larger number represents higher speed.

- (6) Press " " key for confirmation.



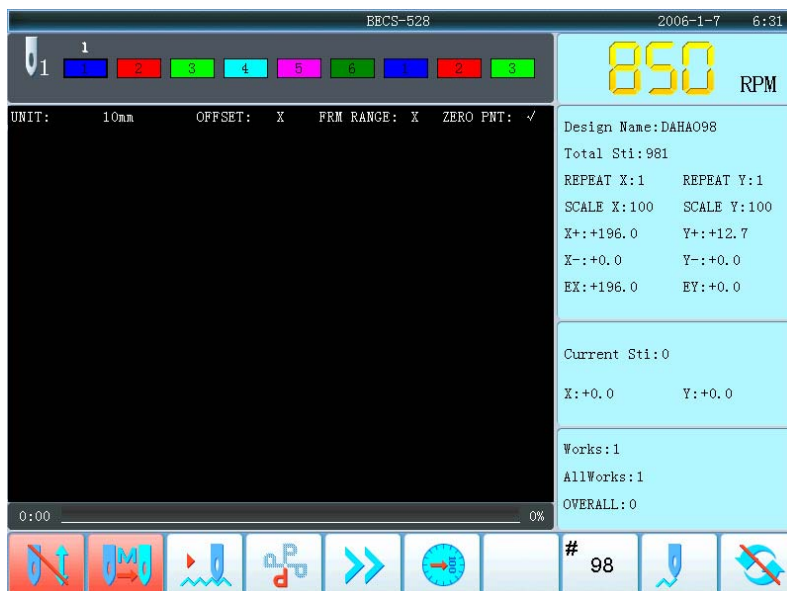
## Chapter 6 Setting Design Direction

Before embroidery confirmation, you can set the design direction for embroidering. When the display of design direction is “P”, the design embroidering direction is identical to its original direction. Take the embroidering of letter “F” as an example to explain the relations between the embroidered pattern and the design direction:

<b>Design Direction</b>	P	Q	d	Q	q	σ	b	Q	P
<b>Embroidered Pattern</b>	F	⌌	F	⌌	F	⌌	⌌	⌌	F

Operation:

Press "" key to change the design direction until the desired direction is selected.



## Chapter 7 Frame Operations

### 7-1 Manual Frame Moving

When the machine stops, press one of the four direction keys: “<<”、 “>>”、 “↑”、 “↓” , or any adjacent two of them to move the frame in eight different directions. The “>>” key is the speed-switching key of frame moving. The frame-moving speed is divided into high-speed and low-speed. When pressing the “>>>” key, the speed is changed.

### 7-2 Returning to Origin Point

With this function, the frame can return back to the position before manual frame moving. When machine stops halfway or the embroidery is finished, the frame can return back to the starting point of pattern with this function.

Operation:

A. Press “HOME” key, the menu appears as follows:



B. Press “ENTER” key to confirm the returning, or press “ESC” key to quit.

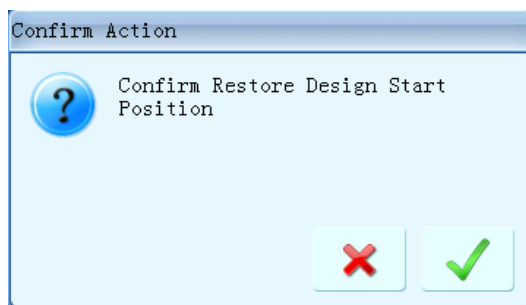
### 7-3 Restore Pattern’s Origin Point



If the origin point of this design has been saved into the computer, this function could restore the saved origin point.

Operation:

A. Press “HOME” key, the interface for returning to origin will be displayed:

B. Press move the icon to "RESTORE ORIGIN", and then press “ENTER” key to continue.





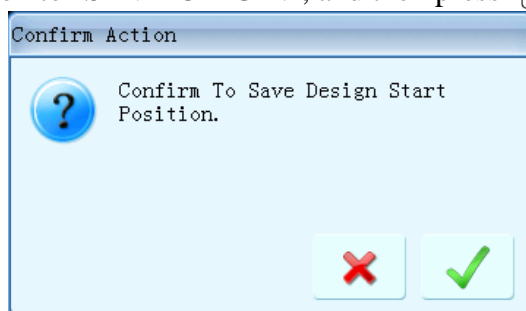
- C. Press “” to restore the origin. The system will move the frame to the save position. Press “” to cancel this operation

### 7-4 Save Pattern’s Origin Point

This function could save the origin point for the pattern.

Operation:

- A. Press “” key, the interface for returning to origin will be displayed:
- B. Press move the icon to "SAVE ORIGIN", and then press “” key to continue.



- C. Press “” to save the origin. Press “” to cancel this operation.

Note: If the origin of a pattern keeps remained, user will only have to save it for once.



Then in the following operations, user can perform the Origin Restoration at any time.

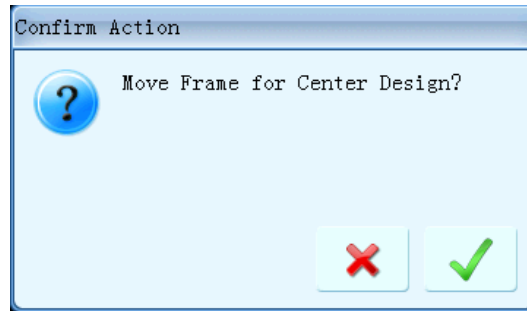
### 7-5 Auto-search of the Origin Point



This operation must be after “Setting the Embroidery Frame Range” in assistant management. (For details, read chapter 22of the manual),

This function would calculate the origin point for the selected pattern, and move the frame to the new origin point, which will make the pattern at the center of frame.

Operation:

- A. Press “” key, the interface for returning to origin will be displayed
- B. Press move the icon to "AUTO SET ORIGIN", and then press “” key to continue.





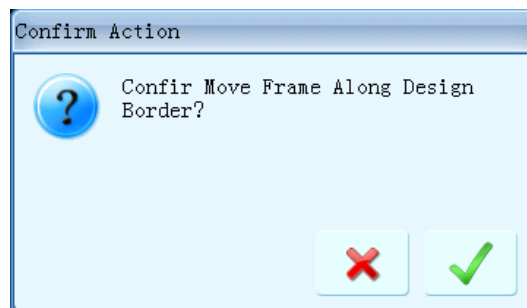
C. Press "" key to confirm the operation. The system will calculate the center of the frame and move frame to the new origin point, which let the pattern at the center of frame. Otherwise, press  to cancel the operation.



### 7-6 Moving Frame along the Border

After selecting the pattern but before starting embroidery, the frame will run along the periphery for checking whether it exceeds the limits.

Operation:

- A. Press "" key, the interface for returning to origin will be displayed:
- B. Press move the icon to "FRAME TO BORDER", and then press "" key to continue.



C. Press "" key to confirm the operation. The frame will move along with the border of the pattern. Otherwise, press  to cancel the operation

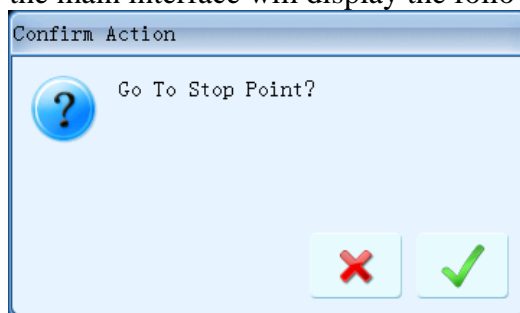
### 7-7 Return to the Stop Point


After the machine stops in the halfway of embroidering operation, user can press the manual frame-shifting key to shift the frame out (for patching cloth). After the completion of patching cloth, this function can make the frame return to the stop point.

Operation:

- (1) Press the manual frame-moving key to move out the frame (for patching cloth).

- (2) Press "" key, the main interface will display the following hint:



- (3) Press "" key to confirm the operation, or press any other key to quit.



## Chapter 8 Embroidery Speed (Main Shaft Speed)



In the process of embroidery, the main shaft speed of the embroidery machine will change by computer according to the stitch length of pattern. The low speed is intended for long stitch embroidery, whereas high speed for short stitch. However, user can set the limit speed, what is called "SETTING LIMIT SPEED". The highest embroidery speed can increase or decrease within the limit speed.

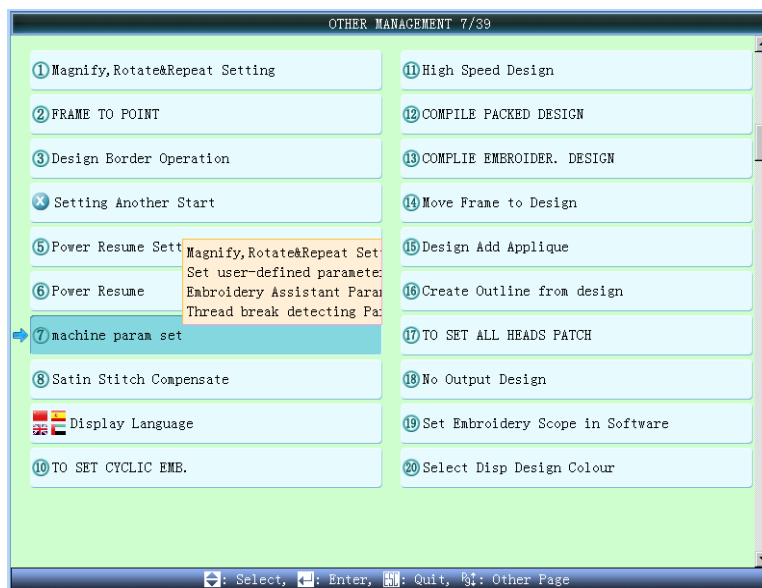
The limit speed ranges from 250 rpm to 850 rpm (Some types may have difference, for example: 1000rpm type). User can select the limit speed and do not need set superabundance. For example: in normal using, it is 750rpm, then set in 750rpm.

### 8-1 Setting the Limit Speed

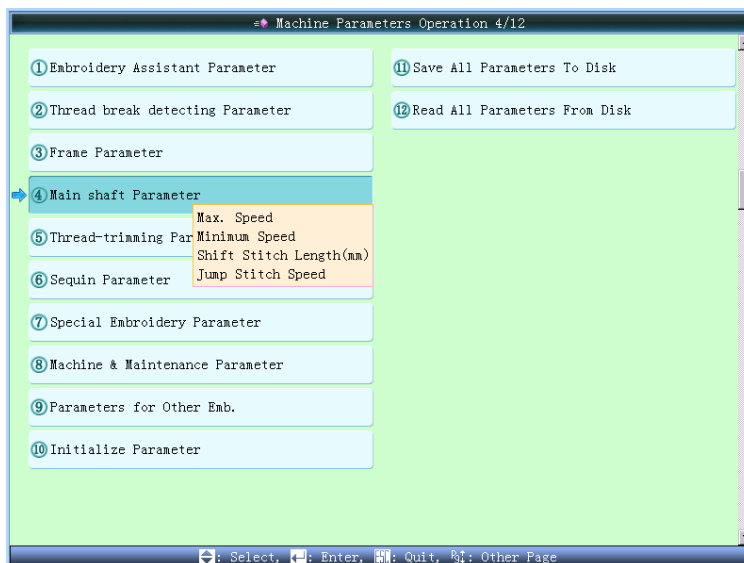
This setting specifies the limit value for the highest embroidery speed.

Operation:

- (1) Press " " key enter the interface for Other Management:
- (2) Move the icon to "MACHINE PARAS SET ", and then press " " key.



- (3) Move the icon to "Main Shaft Para.", and press " " key.



(4) The icon will be fixed on the Max Speed. Then user can press "ENTER" ..



(5) Press "↑" and "↓" key to select the speed value, and press "ENTER" key.

(6) Press "Esc" to end the setting.

NOTE: For the maximum speed, the default value is recommended.

## 8-2 Setting Embroidery Speed

It specifies the running speed during embroidery.

Operation:

(1) Press "RP" key. When pressing once the key, the speed will raise 10 rpm. When having been reached the limit speed, the speed will not raise any more.

(2) Press "RD" key. When pressing once the key, the speed will reduce 10 rpm. When reducing to 250 rpm, the speed will not reduce any more.





**Chapter 9 Assistant Operation and Setting the Parameters**

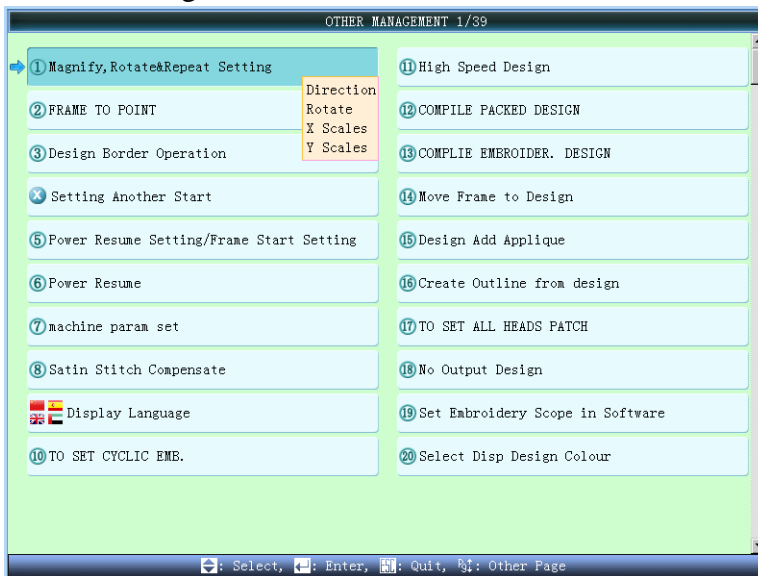
**9-1 Setting of Magnification, Rotation and Repetition**

This operation is able to set the magnification ratio (50% ~ 200%), angle of rotation (0° ~ 89°) of a pattern, as well as repetition if necessary in embroidery.

Operation: (in embroidery preparation status)

(1) Press " " key, the menu for other management will appear:

(2) The icon will be at "Magnify, Rotation & Repeat Setting", and press " " key to enter the next menu as following:








(3) Press "", " " and " " key to select the following parameters:





1) Pattern Direction (P)





Use "", "" and "" keys to finish the input. At each pressing of "" or "", the direction of pattern will change. User can press the button to find the wanted direction.



#### 2) Rotation ( $0^{\circ} \sim 89^{\circ}$ )

Use digital key, "" and "" keys to input data. This is the angle at which a pattern is rotated counterclockwise according to the selected design direction.




#### 3) X Scale (50% ~ 200%)

Use digital key, "" and "" keys to input data. This scale ratio is a transverse magnification of a pattern.




#### 4) Y Scale (50%~200%)

Use digital key, "" and "" keys to input data. This scale ratio is a longitudinal magnification of a pattern.

#### 5) Repetition Priority (X priority or Y priority)



Use "", "" and "" keys to perform the inputting. X priority presents the repetitive embroidery line by line in transverse direction during repetition. Y priority presents the repetitive embroidery row by row in longitudinal direction.

#### 6) Repetition mode (usual or partial)

Use "", "" and "" keys to perform the inputting. Usually, the repetition means that after finishing a pattern, the system will move the frame to the next position to embroider that pattern again. That is to say that the system sets the entire pattern as the repetition unit in the embroidery. Partial repetition means that after finishing the stitches of one color, the system will move the frame to the corresponding position of the next pattern to embroider the same color until this color repetition is completed, and then the system will turn to the next color until the repetitive embroidery is made with all color-stitches.

For usual repetition, user can directly perform it during the embroidery. For the partial repetition, user has to compile the pattern (please refer to Chapter 13) and select the compiled pattern for embroidery.

#### 7) X Repetition (1 ~ 99)

Use digital key, "" and "" keys to input data. The frequency of X repetition presents the number of transversal repetition, i.e. the frequency of repetitive embroidery in a line.

#### 8) Y Repetition (1 ~ 99)



Use digital key, "C" and "ENTER" keys to input data. The frequency of Y repetition presents the number of longitudinal repetition, i.e. the frequency of repetitive embroidery in a row.

#### 9) X Interval (unit: mm)

Use digital key, "C", "+/-", "M-ORG" and "ENTER" keys to input data.

X Interval presents the distance between the starting points of two adjacent patterns in transverse direction during repetition (accuracy: 0.1mm). "+" is to move frame to left while "-" is to move frame to right.

#### 10) Y Interval(unit: mm)

Use digital key, "C", "+/-", "M-ORG" and "ENTER" keys to input data.

Y interval presents the distance between the starting points of two adjacent patterns in longitudinal direction during repetition (accuracy: 0.1mm). "+" is to move frame to front side while "-" is to move frame to back side.

#### 11) Priority modes (scale priority or rotation priority)

Use "↗", "↘" and "ENTER" keys to perform the inputting. When the X scale ratio is different to Y scale ratio, and the pattern has the rotating angle, the scale priority and rotation priority can create different embroidery results.

(4) Press "Esc" to quit this operation.

(5) Press "Esc" to quit "Other Management" interface.

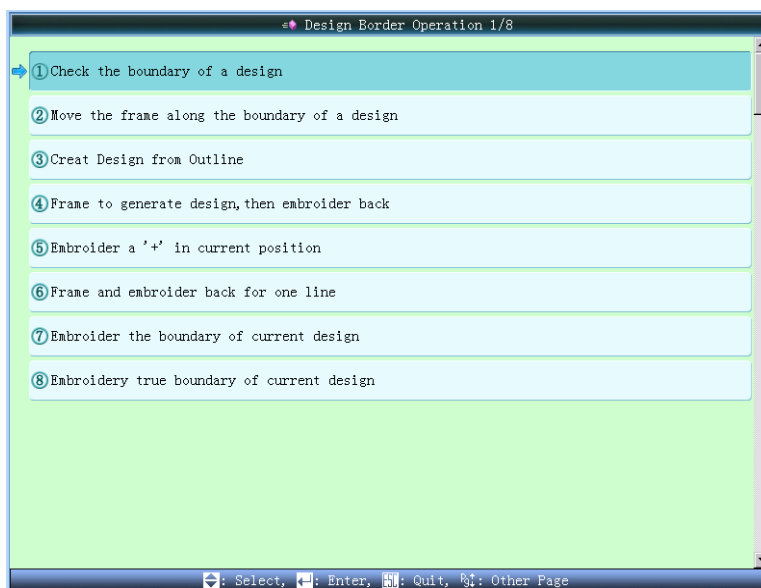
### 9-2 Frame to Point

For details, please read the concerned part in Chapter 4.

### 9-3 Operations of Pattern Periphery

Operation:

1. Press "M-ORG" key to enter the Other Management Interface:
2. Move the icon to "DESIGN RANGE'S OPERATIONS", and press "ENTER" key
3. According to the prompt, press "↗", "↘" and "ENTER" keys to complete the following operations:



### (1) Check the boundary of a design

After selecting pattern but before the embroidery, user can check the peripheral range of the pattern (The system will display the boundary data of the pattern, which are the 4 coordinates from the pattern start point to the max outline).

### (2) Move the frame along the boundary of a design




After user selects the pattern before embroidery, the frame will run a cycle along the outline of pattern for checking whether it exceeds the limits.

### (3) Create design from outline

This operation can be carried out after user selects the pattern before the embroidery, which can produce a peripheral pattern of the current pattern. The peripheral pattern can be embroidered individually.

User can achieve the outline of this pattern by embroidering the peripheral pattern. And the peripheral pattern has a central “+” line, if the length of the central “+” line is insufficient, the No. 99 pattern can be used for supplementary embroidery. The pattern No.99 is the reserved pattern which is a pattern of horizontal line. This is very convenient for embroidering the outline of pattern.

### (4) Frame to generate design, then embroider back

Operation: move the frame along the assigned paths from the current position, when meet a inflexion, press "  " key to confirm the line path; then move the frame to other positions and press "  " to finish the several linear paths. If the entire linear paths are inputted, user can press "  " to quit to the main interface. Finally, user can pull the bar directly to start



embroidering; the machine will embroider along the trace in converse direction to current position, and return to the “preparation status” automatically.

(5) Embroider a “+” in current position

Operation: User needs input the length of the cross (unit: mm), then the system will return to the main interface automatically. User can pull the bar directly to start embroidery and the machine will embroider a “+” at current position, and return to the “preparation status” automatically.

(6) Frame and embroider back for one line

Operation: Firstly, input the length of X direction (unit: mm. If it is positive, then embroider along X positive direction; if it is negative, embroider along the X negative direction); secondly, input the length of Y direction (unit: mm. If it is positive, then embroider along Y positive direction; if it is negative, embroider along Y negative direction), then the system will back to the main interface automatically; finally, user can pull the bar directly to start embroidery and the machine will embroider a right angle at current position, and return to the “preparation status” automatically.

(7) Embroider the boundary of current design



Operation: the system will create a quadrate design and return to the main interface automatically; user can pull the bar directly to start embroidery and the machine will embroider the quadrate range at current position, and return to the “preparation status” automatically.

(8) Embroider true boundary of current design

Operation: the system will create a figure design similar to the current design and return to the main interface automatically; user can pull the bar directly to start embroidery and the machine will embroider the outline at current position, and return to the “preparation status” automatically.

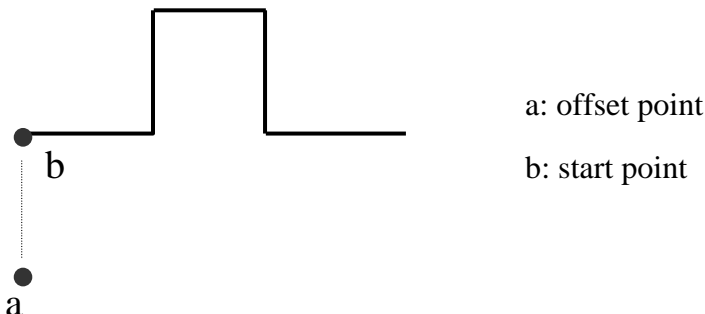
Therefore, the operation is especially convenient for positioning operation.

4. Press "" or "" key to end the operation.







5. Press "" or "" key to go to the interface of Other Management.

### 9-4 Setting the Offset Point (under Embroidery Confirmation Status)

Offset point can be a random point beyond the starting point, as shown in the following figure:




When you select a pattern and enter the embroidery confirmation status, the system will clear the offset point set in the previous time. Therefore, the correct usage of the offset point is as following:

- (1) Select a pattern for embroidering and make the machine enter the embroidery confirmation status. (Refer to Section 3-4)
- (2) Press ", ", "" and "" to move the frame to the starting point of pattern.
- (3) Press "" key to activate the interface of Other Management :
- (4) Press move the icon to "Setting Another Start", and then press "" key.



- (5) Press ", ", "" and "" to move the frame to the offset point.





(6) Press "" key to confirm.


(7) When user pulls the bar for embroidery, the frame will move from the offset point to the start point, then the machine will start embroidery. Additionally, the offset point is the standard for auto frame-out at appliqué.



### 9-5 Set Frame Protection at Power Off / Set Frame Origin(Frame Origin Memory)



Operation:

(1) Press "" key, the menu of Other Management:

(2) Move the icon to " Set Frame Protection/ Frame Origin ", and press "" key.

(3) If the function of “setting emb. frame range” has been set, the system will give a warning: “AUTO CLEAR ‘EMB. FRAME RANGE’”, and press "" key to continue.

(4) Press "" , "" keys to select manual frame origin or auto frame origin.

(5) Press "" to confirm, press "" to quit

Before setting the manual frame origin, user needs move the frame to the wanted origin position, and then press manual frame origin button. After that, the system will automatically save the current frame position as origin. For any abnormal conditions in the embroidery, like emergency stop due to the problem or the sudden power-off, in order to avoid the mistake caused by the inaccuracy of “manual frame origin”, the system will release the memory of “Manual Frame Origin”. If the frame has been moved or the machine has been repaired at power-off, user shall set the manual frame origin again at power-on.



If user wants the system to set frame origin automatically, user should press auto frame origin button. Then the system will move the frame automatically, which uses the limits switch to confirm the origin of frame. Therefore, user has to install the effective limits switch in the system before using the auto frame origin function.

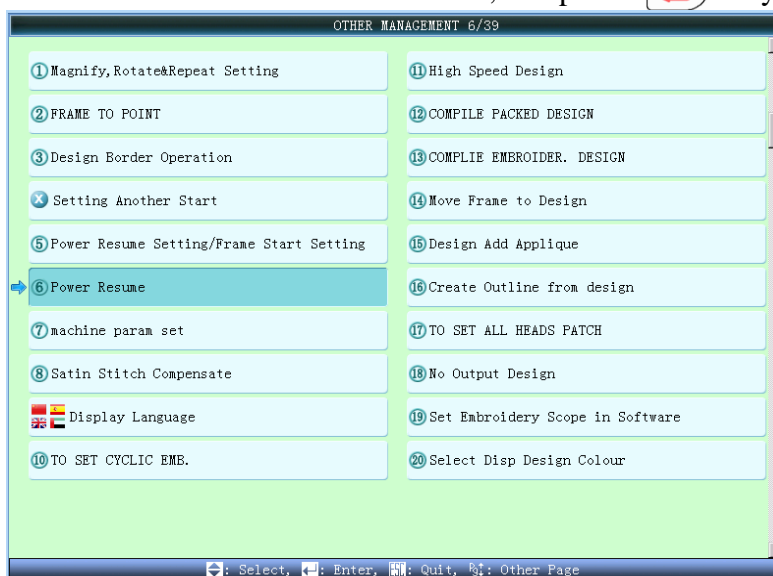
### 9-6 Frame Restoring after Power Off

In case of frame having been moved after power off, this operation can be used to restore the frame position when the power is on again. The proper performance of this operation is based on the “Set Frame Protection/ Frame Origin”(the memory of auto frame origin). In addition, if the power is off in the process of embroidery and the frame has not been moved, user also can directly pull the operation bar to continue embroidery after power-on.

It will be invalid if the operation of “setting frame zero point manually” is done. If the mark in front of the “Power-off Frame Protection” in “Other Management” menu is ⑥, it means the system is the auto setting. “⊗” means the manual setting.

Operation:

- (1) Turn the main shaft to the stopping position at 100 degrees
- (2) Press "" key to activate the Other Management Interface:
- (3) Press move the icon to "POWER RESUME", and press "" key.




(4) Continue the operation according to the prompt, and the restoration of frame position can be achieved.


(5) After the above operation, the system will return to original working status automatically.




### 9-7 Set Machine Parameters

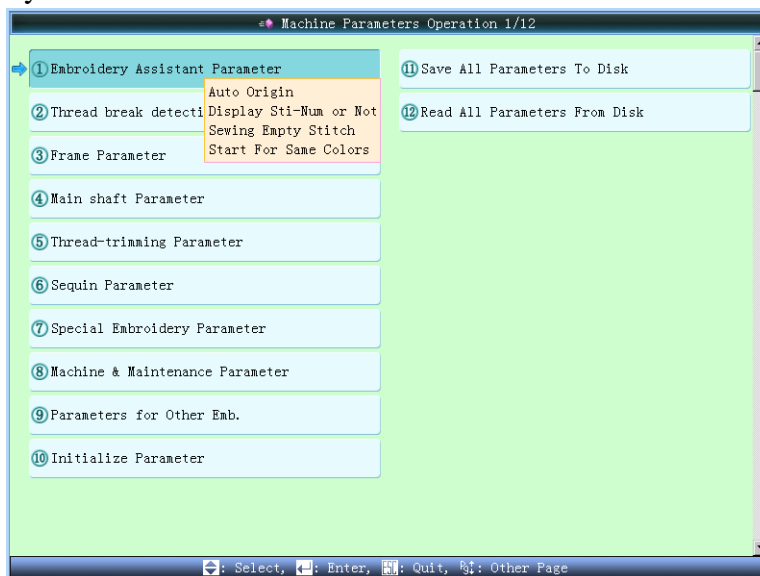
Note: For the machine having sequin function in the machine parameter setting, please refer to the sequin operation.

Operation:



(1) Press "" key in the embroidery preparation mode to activate the Other Management Interface:

(2) Move the icon to "SET MACHINE PARAS", and then press "" key to enter the interface for managing the machine parameters.

(3) Press "", "", digital keys and "" keys to enter the machine parameter. User can set each parameter according to the hints. For the relating parameter information, please refer to Appendix I, the parameter list. However, the parameters in different model may be different.




(4) Press "" or "" to quit the operation in Machine Parameter interface

(5) Press "" or "" to quit the operation in Other Management interface.

### 9-8 Compensating of Satin Stitches

This operation is able to adjust the width of the satin stitch within the pattern so that user can receive the needed effect.

Operation: (in embroidery preparation status)

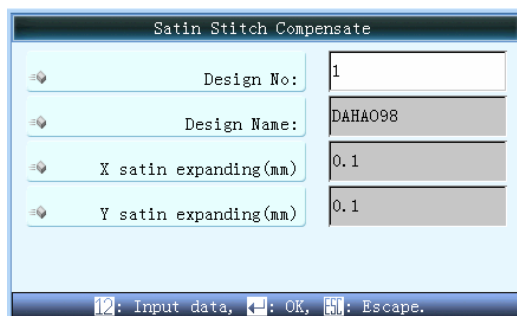
(1) Press "" key to enter the Interface of Other Management:

(2) Press move the icon to "Satin Stitch Compensate", and then press "" key.

(3) Select the pattern in the memory pattern area within memory pattern management interface.

(4) Press "" to enter the interface for adjusting the satin width.





(5) If user doesn't use the default values provided by the system, user can press to input the value.

(6) Input the X (Y) Satin Compensation, which ranges from -0.2 mm to +0.3 mm. Press to make sure. "+" is for enlarging the width, while "-" is for reducing the width.

(7) Press to adjust the satin width and save it as the new pattern, after that the system will return to pattern operation selection. Press or to abandon the adjustment of satin width and return to pattern operation interface.

### 9-9 Display Language

Operation:

(1) Press key to activate the interface of Other Management

(2) Move the icon to Display language", and then press key.



(3) Move the icon to the select the wanted language. Press to select pattern, press to quit.







## 9-10 Set Cyclic Embroidery

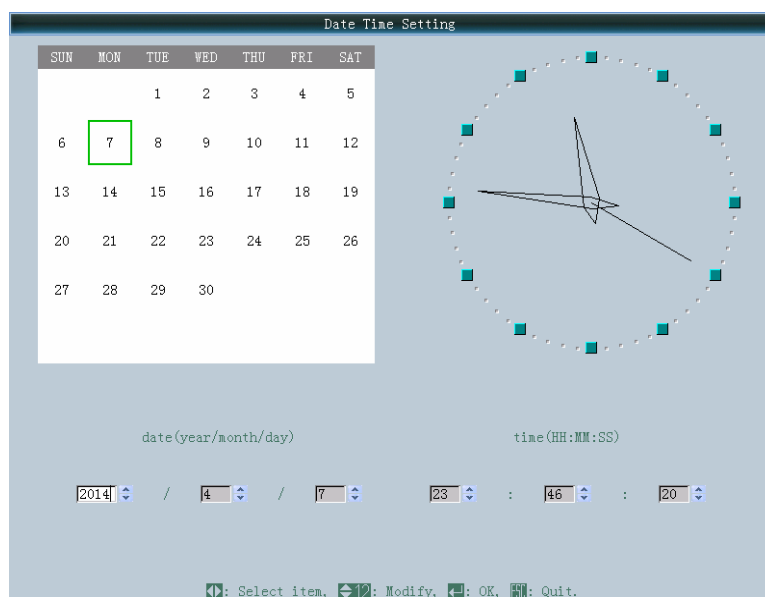
Please read the related part in Chapter 19 Set Cyclic Embroidery.







## 9-11 Set Date & Time

Date & Time of the system can be changed.

The operation is as follows:

- (1) Press " " key to enter the "OTHER MANAGEMENT" interface
- (2) Press " " or " " key to turn to the correspond page, move the icon to "Set Date & Time". At last press " " to enter the interface at below:



- (3) The number keys on the keyboard can be used to input the number. Press " " or " " to select the number. Press " " or " " to select item.
- (4) Press " " to confirm the change or press " " quit without saving.

## Chapter 10 Management of Pattern in Memory





### 10-1 Select a Pattern for Embroidery

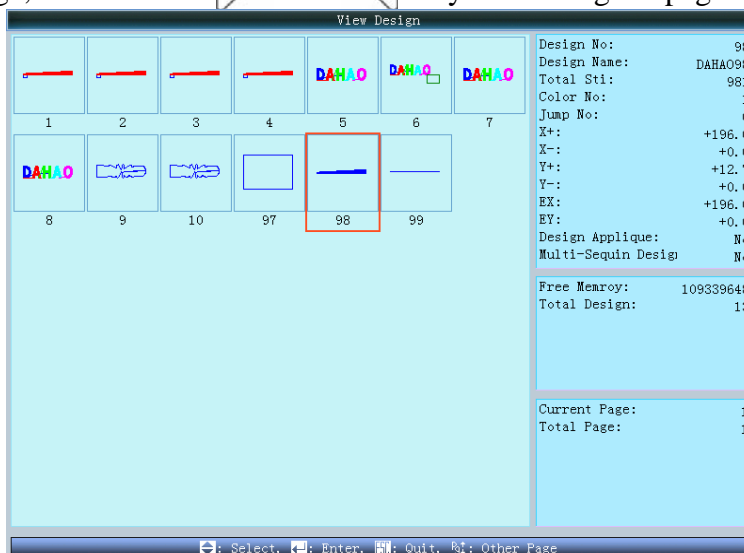
This function is to select a pattern for embroidery, please refer to Section 3-4 for the detailed operation.




### 10-2 Display Pattern in Memory

The interface for displaying the memory pattern is divided into pattern thumbnail area and hint bar. The pattern thumbnail area can display 35 patterns at most. If the memory contains more than 35 patterns, the pattern will be displayed in several pages.



Operation:

- (1) Press "" key to enter the Memory Pattern Management Interface:
- (2) Move the icon to "View DESIGN", and then press "" key.
- (3) Directory of pattern in memory is displayed on screen. In case of the directory exceeding one page, user can use "" or "" key for turning the page.



- (4) Press "", "" key to move icon, and press "" key to view the pattern in detail.

(5) The pattern preview function enables user to check the details and part of pattern, as well as the specific stitch and its value.




- (6) Press "" or "" to end the design management.

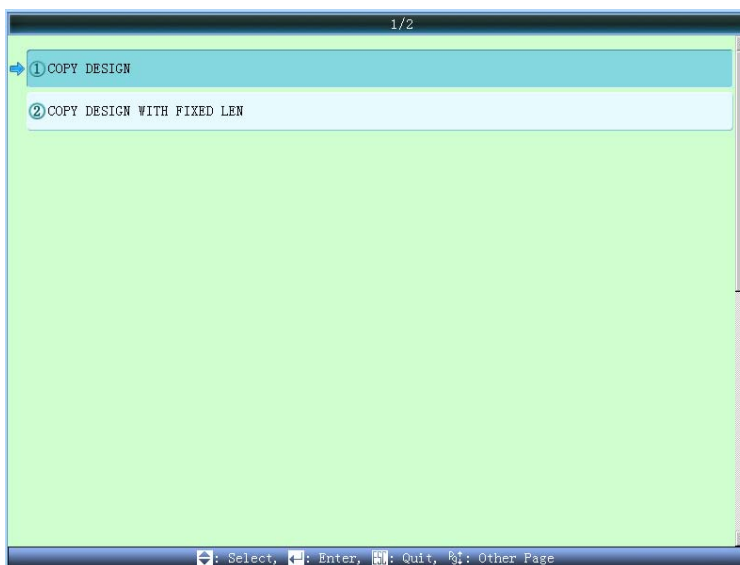
### 10-3 Input Design to Memory from Disk





This operation is similar to that in "Disk Pattern to Memory" under the Management of Disk. User can refer to section 3-2 for the detailed operation.

### 10-4 Copy the Pattern


Operation:

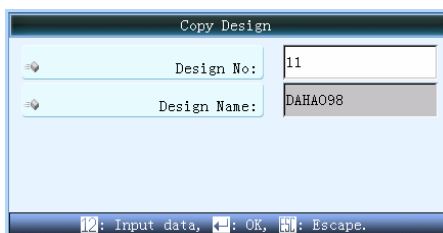
- (1) Press " " key to enter the pattern management interface:
- (2) Move the icon to "COPY Design ", and then press " " key to enter the interface for copying the pattern. Select the pattern for copy and then press " ".



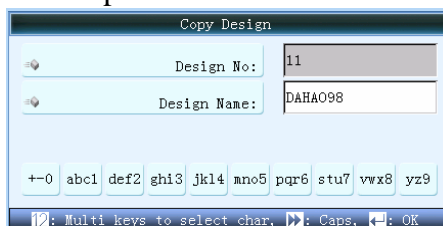
- (3) Press "", "", key to select the source pattern, and then press " " key to go to next step or press " " key to return to the menu of Pattern Management.



(4) At this moment, the system will automatically provide the min available pattern number and the default pattern name. If user doesn't want to change, please turn to item 7 directly.

- (5) If user wants to input other new pattern number, user should press " " to confirm after inputting the new pattern number.



(6) The system will automatically enter the pattern name modification area. If user want to changes the pattern name, please input the new name at here.



(7) Press “” to confirm the modification and copy the pattern. After that, the system will return to the interface for selecting pattern operation. Or press “” to cancel the copy and return to the interface for selecting pattern operation.




### 10-5 Edit the Pattern

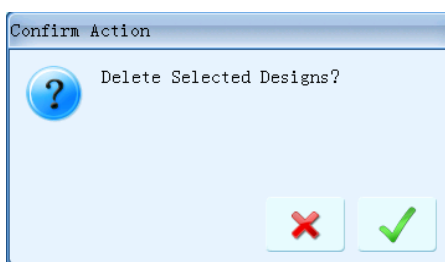
Please read the related part in Chapter 11.



### 10-6 Delete the Pattern

It is to delete a pattern in the memory.

Operation:

- (1) Press “” key to enter the memory pattern management interface:
- (2) Move the icon to "DELETE", and then press “” key.
- (3) Select the pattern, and then press “” key to enter the interface for deleting the pattern.







- (4) Press “” to delete the pattern. After that, the system will return to the interface for selecting pattern operation. Or press “” to cancel the deletion and return to the interface for selecting pattern operation.”.

### 10-7 Divide the Pattern



This operation is intended to divide the pattern in memory into two new patterns and keeps the source pattern in memory unchanged.

Operation:

- (1) Press “” key to enter the Pattern Management:
- (2) Move the icon to "DIVIDE", and then press “” key.
- (3) Select the source pattern, and then press “” key to enter the interface for dividing the pattern.
- (4) If user doesn't want to use the default value, user can input the pattern name, pattern number and stitch number of the dividing point via keyboard. After that, please press  for confirmation.

Design Divide	
Design No.1:	11
Design Name 1:	NewName
Design No.2:	12
Design Name 2:	NewName
Divide Stitches:	1547



⌨: Input data, ⏹: OK, ⏏: Escape.


(5) Press  to divide the pattern into two new patterns and return to the interface for selecting pattern division. Press  to cancel the operation and return to the interface for selecting pattern division.


### 10-8 Pattern Combination

This operation is to combine two random patterns into one new pattern. The interval between patterns is the distance between the ending position of the first pattern and the start point of the second pattern.

Operation:



(1) Press "" key to enter the pattern management interface  
 (2) Move the icon to "COMBINE", and then press "" key to enter the pattern combination interface.

(3) In pattern selection area, select two patterns for combination. Then press  to enter the pattern combination interface.


(4) If user doesn't use the default value provided by the system, he should input the pattern name, pattern number and the X(Y) interval between patterns via the keyboard and then press "" key.

Design Union	
Design No:	11
Design Name:	DAHA097
Space Between two Designs:	0.0
Space Between two Designs:	0.0



⌨: Input data, ⏹: OK, ⏏: Escape.

(5) Press "" to combine the pattern and return to the interface for selecting pattern combination. Press "" to cancel the operation and return to the interface for selecting pattern combination.

### 10-9 Editing the Combination Pattern (Packed Pattern)

The combination pattern means a pattern group packed from several (less than 99) normal patterns in memory after setting parameters, which is intended for continuous embroidery automatically according to the setting. In the interface of the memory pattern management, the combination pattern is marked with . For embroidering the combination pattern, user can create that combination pattern after edition. After returning to the memory pattern management interface, if the system is in the embroidery preparation status, user can select the pattern for embroidery. When the system is back to the main interface, user can confirm the pattern and pull the bar for embroidery. User can also compile the combination pattern into the normal pattern with the compiling function, which is easy for checking and embroidery.



Operation:

- (1) Press "" key to enter the pattern management interface:
- (2) Move the icon to "PACKED DESIGN", and then press "" key to enter the edition interface for combination pattern.
- (3) If user wants to edit the saved combination pattern, please select that combination pattern; if user wants to create a combination pattern, he could perform the following operations directly. The series number means how many patterns form the current combination pattern and which pattern is under the operation.

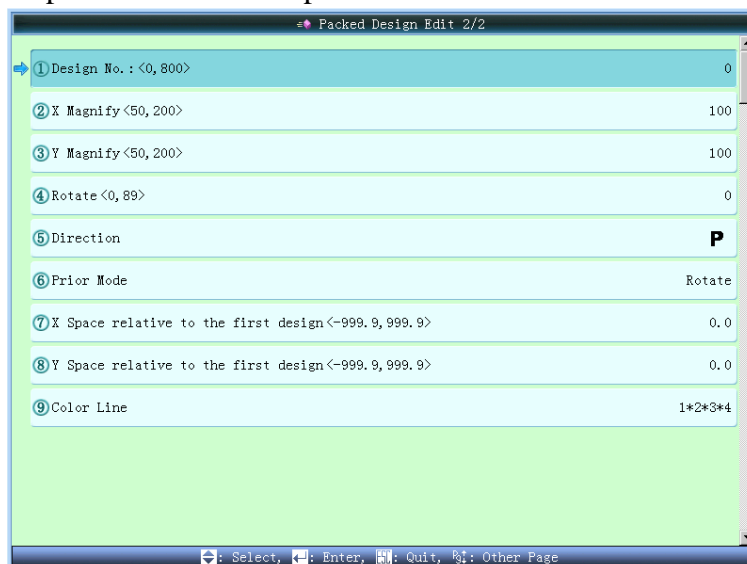



- (4) Set the parameters for the first pattern, such as number of pattern, scale ratio, angle of rotation, design direction priority mode and color-changing sequence.

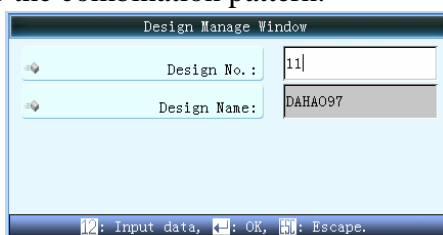




(5) Pressing " " to set several patterns for combination. User can also press  to return to change the parameters of each pattern within this combination.

If the pattern under current operation is not the first pattern, user should also set the interval between this pattern and the first pattern.



(6) Press  to save the combination pattern.





(7) Input pattern number and pattern name. Press  to save it and return to the interface for selecting the pattern operation. Press  to cancel the combination pattern and return to the interface for selecting the pattern operation.

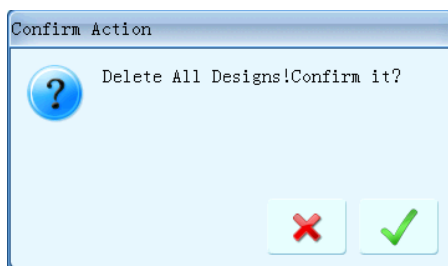
### 10-10 Clear All Patterns





This operation is intended for clearing all patterns in memory, be careful to use it!

Operation:

- (1) Press " " key to enter the Pattern Management interface:
- (2) Move the icon to "CLEAR ALL", and then press " " key to enter the interface for clearing all patterns within memory.





(3) The system asks user whether to clear all the patterns. Selecting  or press  to clear all the patterns within the memory. If user selects "" or presses "" key, the system will return to the pattern management interface.

### 10-11 Output Pattern from Memory to Disk

It stores the pattern in memory to disk in a binary format. Coordinating with the use of “Input Pattern from Memory to Disk”, this function is able to complete the operation of copying a pattern from a disk to another disk.


Operation:


(1) Insert the pattern disk, and press "" key, to enter the interface for disk management:

(2) Move the icon at "Memory Pattern into Disk", press "" key.



(3) Select the memory pattern, and press "" key.



(4) Press number keys to input the pattern name, press "" key save the pattern into disk. After saving, the system will return to the interface for disk operation. (Attention: once user starts to input pattern from memory to disk, this operation should not be stop in midway).

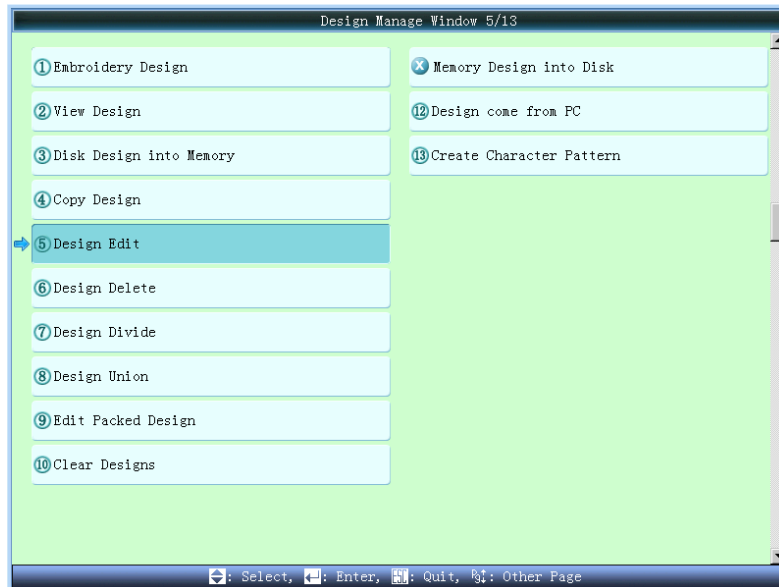
(5) Press "" key to quit the disk operation.


## Chapter 11 Pattern Edition





This function is to edit the normal pattern within the memory or create a new pattern. This function is able to edit the pattern under 50 thousand stitches directly.

### 11-1 Start Edition of Pattern

- (1) Press "" to enter the Pattern Management Interface:
- (2) Move the icon to "Design Edit", and then press "" key.

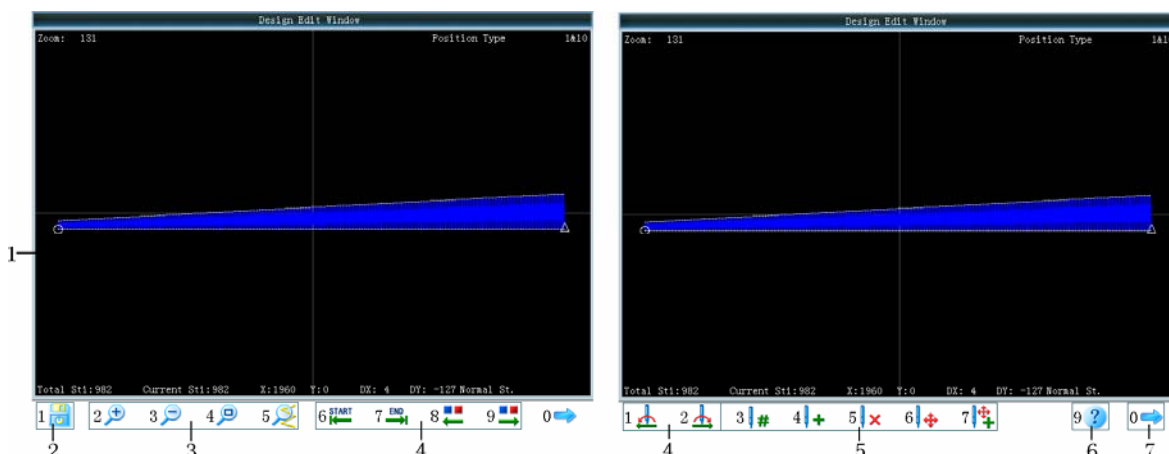


(3) Select the pattern for edition, then press "" to confirm it. The window for confirmation window.

(4) Select "" and press "" to edit the current pattern; select "" and press "" to edit the new pattern.

Note: When the selected pattern is the combination pattern, user has to set "From Combination to Basic Pattern" before editing the combination pattern.

### 11-2 Description of Pattern Edition



The pattern preview window: it is used to preview the pattern. In the image, the “o” is the current stitch. The stitch form of the current stitch is highlighted in white. The scale ratio is displayed in the upper left corner, while the stitch type (press to shift) is displayed in upper right corner. The lower part will display the detailed information of stitch form

- 1、 Window for pattern edition
- 2、 File operation: used for saving patterns
- 3、 View operation: used for scaling the image.
- 4、 Stitch-searching: it is used to position the current stitch(the stitch for editing and checking)
- 5、 Stitch-editing: it is used to change stitch code, insert stitch, delete stitch and move stitch.
- 6、 Help: press this button to enter the usage instruction interface for the buttons on the pattern edition interface
- 7、 Page key: this is to turn the page.

Note: The functions 2 ~7 should be activated via the corresponding number button.


### 11-3 File and View Operation


1 : Save current pattern to a new file

2 3 : Scale up or down the figure. The scaling ratio is 150%.

4 : This button is to scale down the pattern so as to see the entire part of the pattern. If

the pattern is smaller than the displayable range of the screen, the system will display the real size of the pattern.


5 : scale up the pattern to 450% (or 500%) to check the details of the stitch form. The current stitch will be automatically moved to the center of the screen.


9  Check the Help in the pattern edition interface


#### 11-4 Stitch-positioning and Stitch-editing

When user set current stitch to the position of certain stitch, the system will display the position of current stitch with “+” in the preview window. If the current stitch is not within the view, the system will automatically update the view and display the current stitch at the center of the view


##### 1、 Positioned Stitch

6  Move to the start position of pattern



7  Move to the end position of pattern



8  Move to the previous color-changing code


9  Move to the next color-changing code


1  Move to the previous stitch-jumping code

2  Move to the next stitch-jumping code

Pressing " or 



" 



" is to move the current stitch in high speed while pressing "



" is to move the current stitch in low speed. Pressing "

" is to shift the position types among 1&10, 100&1000, flat stitch, stop, color-changing, stitch-jumping and sequin.


##### 2、 Edit Stitch




4  + is to add a stitch in certain type at current position. Press "

" to change the type of stitch. Select "" or press "

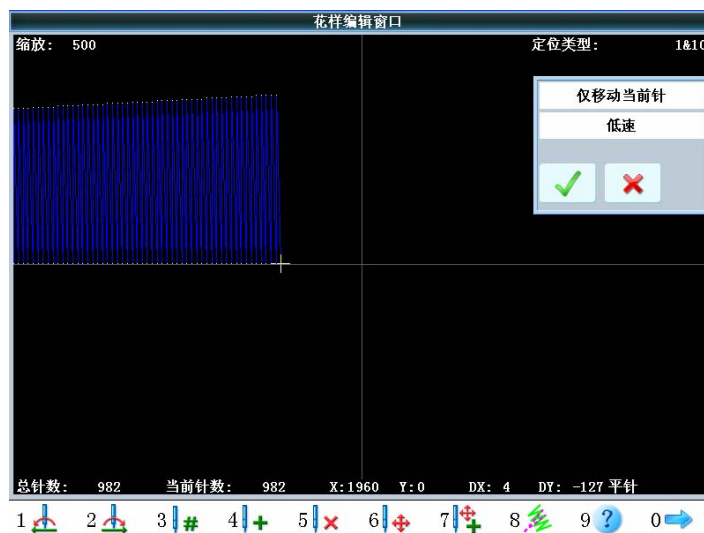
" to confirm the adding, while select  or press "


" to cancel it.


5  is to delete the current stitch.



6  is to move the current stitch. Pressing this button will have the system display “move current stitch or move current and following stitches key”, "". This button can shift between “Move current stitch only” or “Move following stitches”. Pressing the direction keys on the panel will move the position of current stitch. Press the "




" to shift the moving speed among “Low, Middle and High”



7  : Add continuous flat stitches at pattern ending

By pressing the direction key, user can move the icon to the proper position. Then user can press "" to insert a stitch. After that, user can continue to move the icon and add more stitches.



By pressing "" (in the middle of the direction buttons), user can shift the moving speed of the icon. Press the "" to shift the moving speed among "Low, Middle and High"

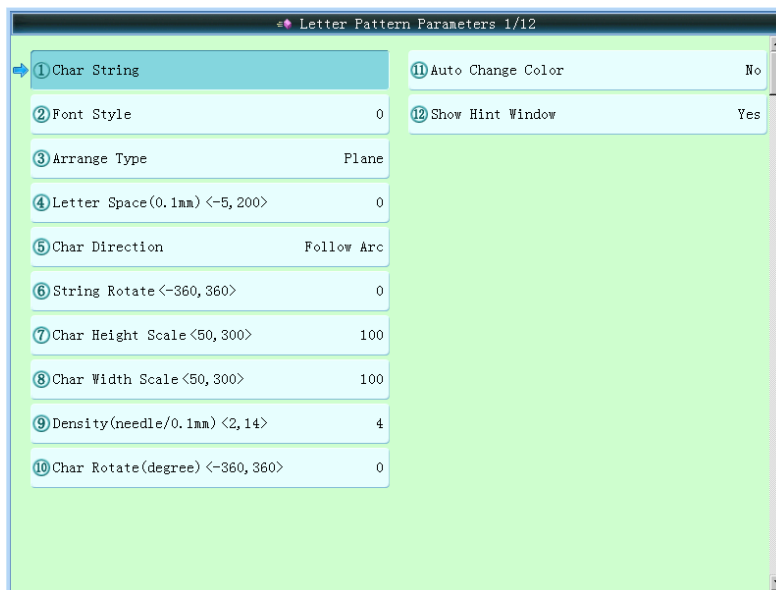
After the edition, user can press "1 " and input pattern number, as well as pattern name. Then user can press "" to save them or press "" to cancel the saving.

## Chapter 12 Operations of High-speed Pattern and Letter Patterns



User can use the font base built in the system to create the letter pattern

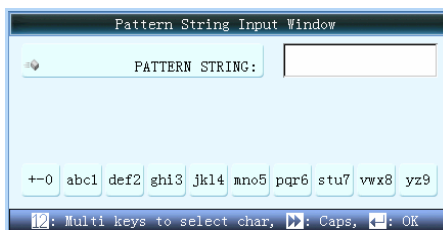
### 12-1 Enter the Letter Pattern

- 1、 Press "" to enter the memory pattern management interface
- 2、 Move icon to “Create Letter Pattern”. And press "" to enter the letter pattern operation interface.








### 12-2 Input Letter String and Basic Parameters


After activating the parameter input window, user needs move the icon to the corresponding parameter and press "" to enter the corresponding settings. After adjusting the value of a parameter, user needs press "" to save the change. The letter string input window is displayed at below:



- 1、 Char. String: the letters for embroidery
- 2、 Font Style: the font for the letter embroidered. The selected font will be used on the entire letters. The following picture is the window for selecting font. (For the adjustment of the single letter, please refer to Letter Pattern Creation).




User can press “   ” to select the font needed, then press “” to confirm it.

- 3、 Arrange Type: The arrangement method for the letters. The system supports four arrangement method in total, which are the “Horizontal”, “Vertical”, “Up Arc” and “Down Arc”
- 4、 Letter Space: the space between letters, whose unit is 0.1mm.
- 5、 Char Direction: when the letters are arranged in arc, the angle of each letter will be changed along with its position on the arc.
- 6、 String Rotate: the rotating angle of the entire letter string
- 7、 Char Height Scale: increase or decrease the height of letter
- 8、 Char Width Scale: increase or decrease the width of letter
- 9、 Density: the space between each stitch in the pattern. The lower value, the larger the density will be.
- 10、 Char Rotate: the rotating angle of each letter relating to its center
- 11、 Auto Change Color: whether to add color-changing code in front of each letter
- 12、 Show Hint Window: this item is used to set whether to display the hint information during the adjustment of the letter pattern.
- 13、 After setting the pattern parameters, user can press “” to enter the interface of “Letter Pattern Creation”, where user can adjust the letter pattern.



## (1) Interface of “Letter Pattern Creation”

The interface for creating the letter patten is shown as below: user can press  to shift among the following three interfaces.






Generally, user needs set the overall arrangement method, rotating angle, letter interval and other parameters of the letter string at first. And then, user should select the certain letter and adjust its arrangement parameters (the button on the right of the screen)

Letter Pattern Display Window: the cross in the center is the coordinate. The crossing point is the origin (0,0), and the letters will surround the origin automatically.

Note: For activating the functions in “Letter Pattern Creation” interface, user has to use the corresponding number button

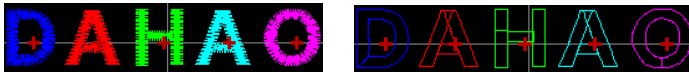
## (2) View and File Operation


1  Basic Operation of Letter String: it is used to set the basic parameters of letter string.


2   : Display/ Hide Stitch Form: the calculation speed will be up when you hide




the stitch form.








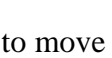
3  Scale Up: Scale up the window to check the details on the pattern

4  Scale Down: Scale down the pattern display window.



5  Actual: display the pattern in actual size. At this moment, the size of the pattern


within the screen is equal to the actual size of the pattern.

6  "Check All(Screen Size)": Scale the view to display the entire pattern for viewing

7  Window Movement: when user presses this button, the status will be displayed in dark. At this moment, user can press ", , , 

" to move the window. The letter pattern is moved along with the window.

8  Save: this is used to save the edited pattern. After user presses this button, the system will display the window for inputting the pattern name and pattern number. User can change the pattern number and pattern name according to the needs (usually, the number will not be changed.) Press "


" to save it, or press "

" to quit.


9  Help: The online help of "Letter Pattern Creation" interface

### (3) The Adjustment of Overall Arrangement

If you adjust the overall arrangement parameters after editing a single letter, the edition on that single letter will be covered.

1  "Fixed Letter Direction": when the letter string arrays in arc, the angle of letter will be fixed at the certain degree instead of changing along with its position on the



1  "Angle Tracking" : when the letter string arrays in arc, the angle of letter will be change along with its position on the arc(vertical to arc)





2 “Rad” : when the letter string arrays in arc, this will increase the radian of the standard arc .

3 “Radian Down” : when the letter string arrays in arc, this will decrease the radian of the standard arc .

4 “Counterclockwise Rotation” : the entire letter string will be rotated in counterclockwise .

5 Clockwise Rotation: the entire letter string will be rotated in clockwise .

6 Increase Letter Interval: increase the interval between letters .

7 6 Decrease Letter Interval: decrease the interval between letters .


#### (4) Adjustment Button for Selected Letters

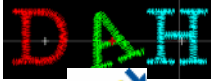
8 “Selection Shift” : it is to shift the selected letter. User can only perform this operation after selecting a letter. When the red “+” is attached to the letter center, this letter is the selected, for an example . The system will select the entire letters as default. Press this button, the first letter will be selected, then press it again to select the second, and then the third. After selecting the last letter, user can press this button to select the entire letter


Repeat pressing the button to cycle the selection order.

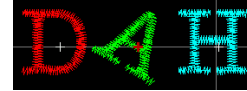
9 “Scale Up Letter” : it is used to adjust the size of the selected letter. Press "" to prolong the letter in vertical direction, while press "" to shorten the letter. "" is to widen the letter, and "" is to make letter become narrow.


1 “Move Letter” : After pressing this button, user can press "", "", "", "" to move the selected letter in the corresponding direction

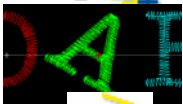
2  “Counterclockwise rotation” : Rotate the selected letter in counterclockwise direction with the letter center (the + in the letter) as the rotating center, for an example




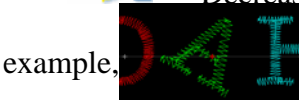
3  “Clockwise rotation” : Rotate the selected letter in clockwise direction with the letter center (the + in the letter) as the rotating center, for an example



4  “Increase Density” : Increase the satin density of the letter pattern, for an example,





5  “Decrease Density” : Decrease the satin density of the letter pattern, for an example,




6  “Horizontal Reverse” : Reverse the selected letter horizontally.




7  “Vertical Reverse” : Reverse the selected letter vertically.

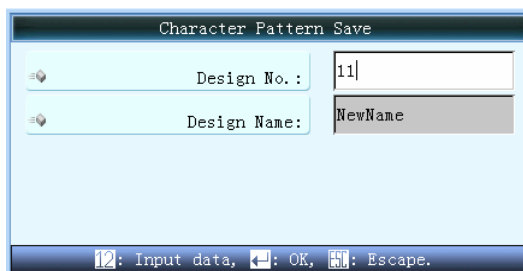
8  “color-changing Shift” : Set or cancel the color-changing in front of the selected letter object.



9  “Change Font” : Change the font of the selected letter. Press this button to activate the font selection interface, where user can select the wanted font and confirm it.

Press  to return to the interface for inputting letter pattern parameter. If user wants to change the letter string, user could press this button to return to the previous interface for change. In this moment, the entire adjustment for single letter made in this interface will be cleared.

### 12-3 Save Letter Pattern

After editing the letter pattern, user can press  键. Press  to input the pattern number and pattern name in the activated window, and then press  to save it.





Press “” to confirm the saving. If user doesn't needs edition any more, user can press “” to quit.

#### 12-4 Operation of High-speed Pattern


This operation can divide the long stitch form within the pattern into the short stitch form, so that the embroidery speed will not go down due to the long stitch



Operation:

(1) Press “” key to enter to the interface of Other Management. Move icon to “High Speed Pattern” and then press :



(2) Select the original pattern.

(3) If user doesn't use the default value provided by the system, please press “” and then use the number key to change it.

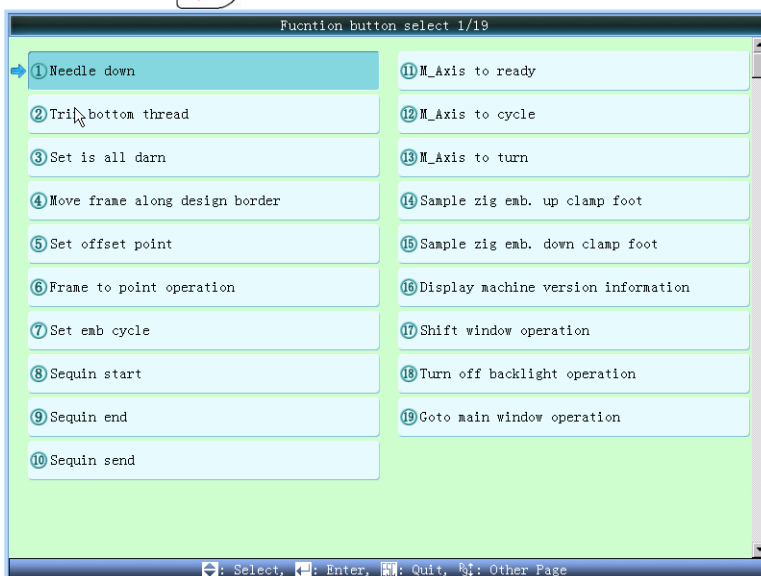
(4) Press “” to create the high speed pattern and return to the high speed pattern operation interface, or press “” to cancel the creation and return to the high speed pattern operation interface.

## Chapter 13 Customized Operation



This function should be used with the customized button **F1**, **F2** and **F3**. “Customized Parameter” is used to set the parameter that is frequently changed. When user needs to change a parameter, he could set that parameter as the customized parameter. When this parameter needs changing, user only needs enter this menu to change it without searching it in other parameters types. There are two ways for setting it, as shown in the below:

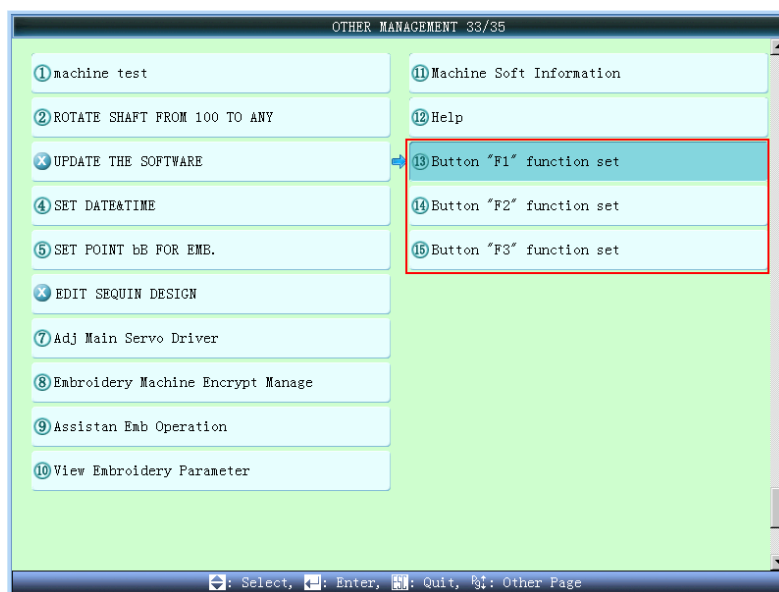
### Operation 1


Hold any customized button “**F1**”, “**F2**”, “**F3**” for 5 second. Then the interface for Other Management will be activated, where user can select a parameter as the customized parameter. After that, press “**ENTER**” to confirm.

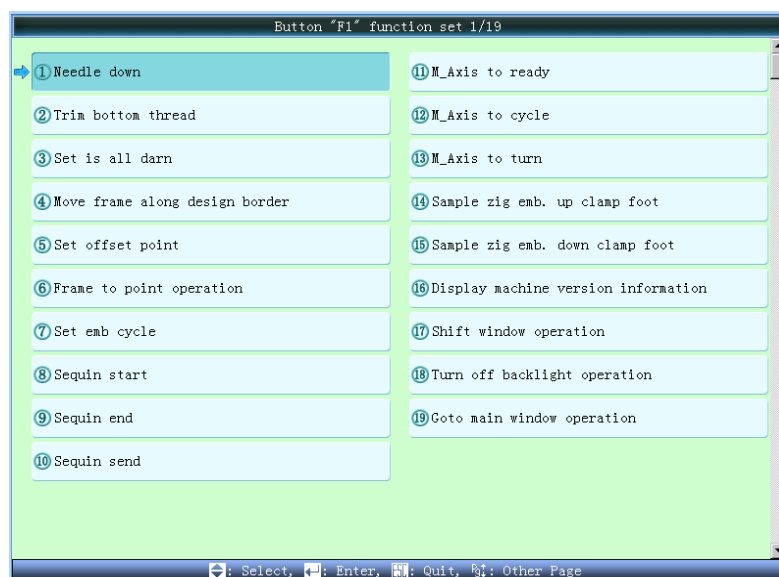






### Operation 2

- 1、 Press “” to enter the menu of Other Management. Move icon to “Button F1 Function Set” and press “” to enter the interface for selecting the customized parameter



- 2、 Select any parameter as the customized parameter, press “” to confirm it. After that, the interface will return to the interface of Other Management.



- 3、 Press “” to operate this customized parameter. For the specific setting method, please refer to the setting of the parameters in other types
- 4、 The setting methods of “、” are same to that of “”。



Note: when user enters the interface for selecting the customized parameter, the system will automatically load the saved customized parameter as default.

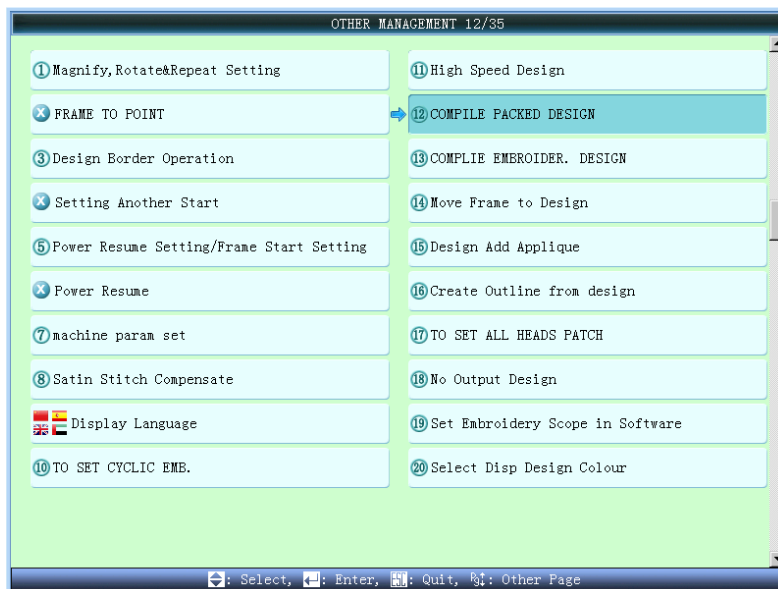



## Chapter 14 Compile the Combination Pattern and the Embroidering Pattern


### 14-1 Compile the Combination Pattern (Create Basic Pattern from Combination Pattern)

Operation:


(1) Press " and move icon to "Compile Packed Design". Then press " to enter the interface for compiling the combination pattern,



(2) The system will list the memory pattern. Select the combination pattern for compiling and press " to go to next step



(3) Press " key to confirm compiling the packed pattern, or press other key to exit.

(4) Input the number of new pattern, and the system will create the new normal pattern automatically, which is identical with the packed pattern.


(5) Press " key to go to the main interface.

### 14-2 Compile the Embroidering Pattern


Operation: (This operation is practical only when user sets scaling, rotation and repetition)

(1) Press " key and move the icon to "COMPILE EMBROIDER. DESIGN", and then press " key to enter the operation interface for creating normal pattern from parameters.

A screenshot of a software dialog box titled "Design from Parameter". It has a light blue background and a dark blue title bar. There are two input fields: "Design No:" with the value "11" and "Design Name:" with the value "Packed". At the bottom, there is a status bar with the text "12: Input data, [OK]: OK, [ESC]: Escape." and icons for input, OK, and escape.

(2) Press "" key to confirm compiling the embroidering pattern, or press other key to exit.

(3) Input the number and name of new pattern, and the system will create the new normal pattern automatically according to the current pattern number and parameters

(4) Press "" key to go to the main picture.



## Chapter 15 Initialize the System Parameters during Power-on


Some data in the system is illegal due to the strong accidental disturbance. At this moment, the program within the system will be locked by itself when user turns on the power. This problem can not be solved by repowering the machine. When user meets this situation, please initialize the machine to unlock it:

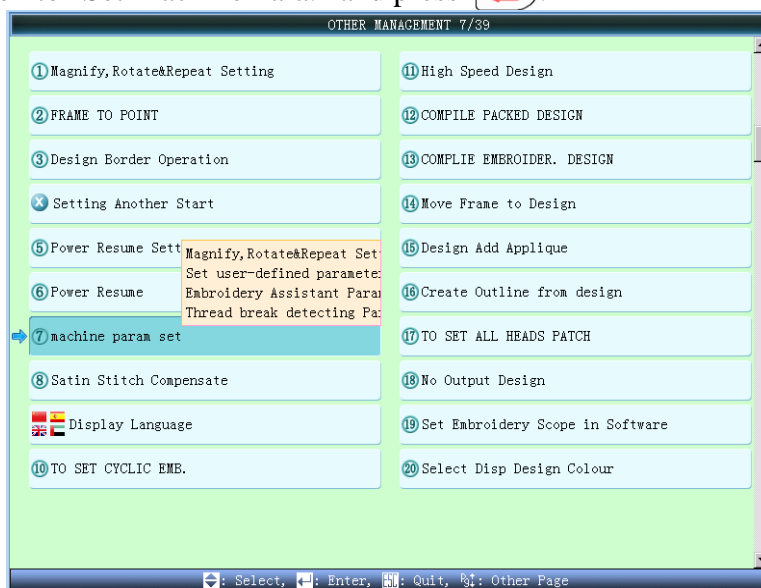
The operation for “Power-on Initialization” can be done by holding the “>>” and powering the machine. It can also be done in the Other Management interface

Operation 1:


Press and hold “>>” key before powering the machine. And then turn on the power of machine. After that, the system will enter the status for initializing the system parameter and give a vocal hint. When user releases the “>>”, the machine will enter the normal running.

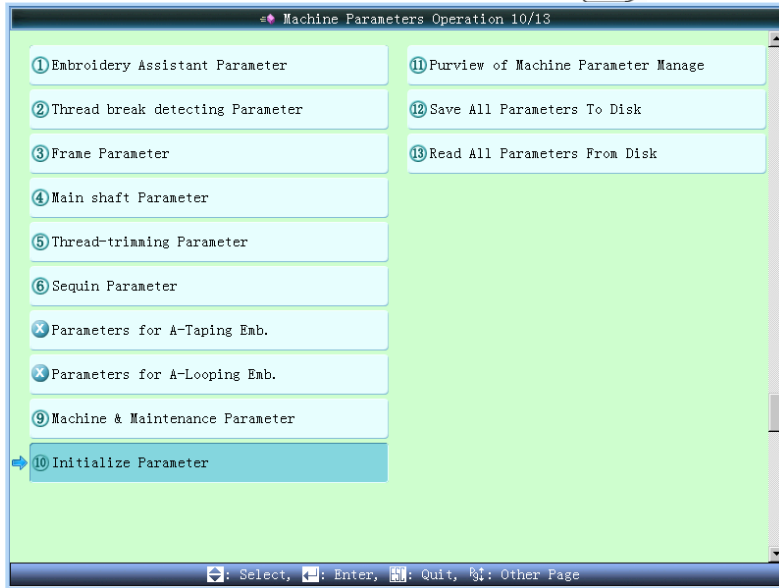
Operation 2:

- 1、 Press “☞” to enter the Other Management Interface
- 2、 Move icon to “Set Machine Para.” and press .

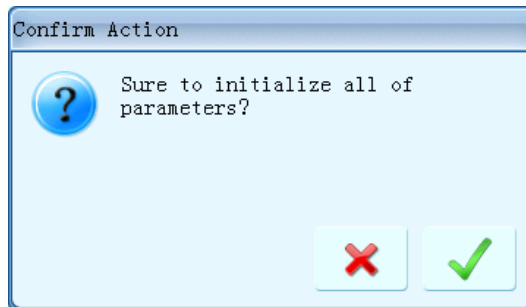




3、 Move icon to “Parameter Initialization” and press “” .





4、 Enter the operation interface for initializing the machine parameter. Press  to initialize the parameters, or press  to cancel the operation.





## Chapter 16 About Appliqué(Patching Embroidery)

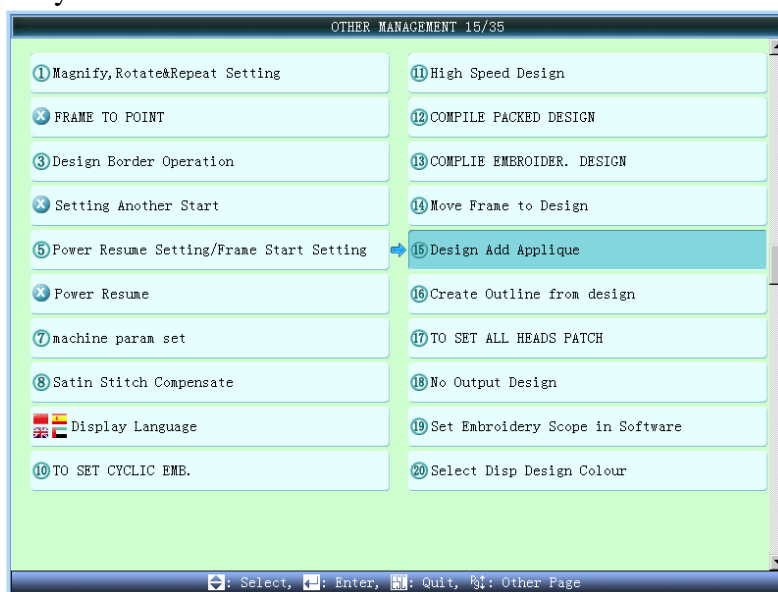
When the pattern needs appliqué , the system has two ways to realize this function, which are the manual frame-moving and auto frame-moving.


The operation method for manual frame-moving: During the embroidery, the machine will stop automatically stops at stop code. At this moment, user can press the manual frame-moving to move the frame to the proper position. Then user can stick a patch. After that, user needs press “” and “” to return to the stop point. Finally, user can pull the bar to continue embroidering.

Auto frame-moving: Firstly, user should add patch codes to the design. Then, user should select the design and set it into embroidery confirmation status. Again, user needs set the offset point for this design. Finally, user should pull the bar for embroidery. The machine will pause at a stitch of appliqué code and automatically shift the frame to the offset point, which will let user stick a patch. User can pull the bar to continue embroidering after sticking the patch.

The operation of adding appliqué codes to a design is as following:

- (1) Press "" key and move the icon to "ADD PATCH CODE TO DESIGN", and then press "" key.



- (1) Select the pattern for adding appliqué code.
- (2) According to the prompt, user needs set the frame-out or not at each color-changing code and stop codes.
- (3) Press "" key to go to the main interface.

## Chapter 17 Turn the Main Axis at 100 Degree Manually



Warning: the operation will rotate the main shaft, and the operator should pay attention to it.

### 17-1 Turning the Main Shaft Manually

If necessary, you can turn the main axis and make the main shaft stops at 100 degree or rotate one circle slowly by manually pressing the keys as following:

- (1) Press "" key and the following operation menu will appear:

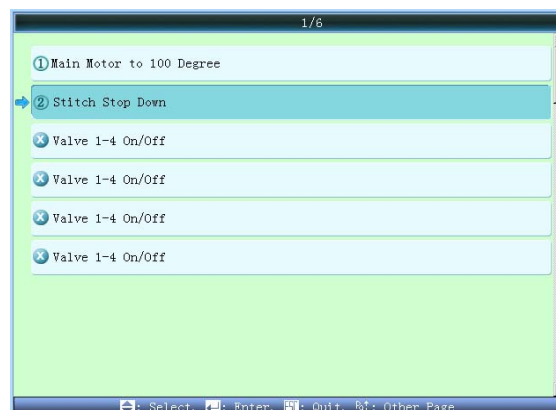


- (2) Press "" key to turn the main axis at 100 degree, or press "" to quit.


### 17-2 Needle Down Operation

This function is used for quilt embroidery. When the needle is in the down position, the embroidery material is fixed and then its position over frame can be changed.

- (1) Press "" key to display the following interface:





- (2) Select the option “LET NEEDLE DOWN” and press “



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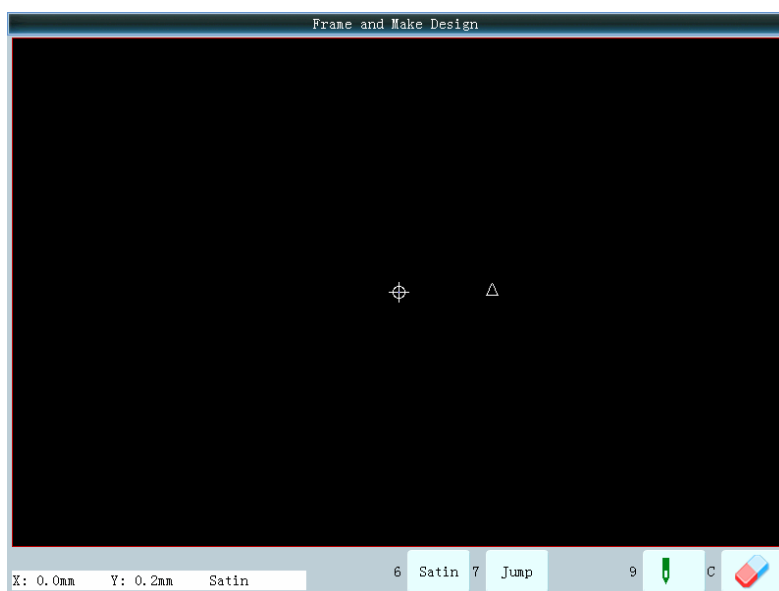





## Chapter 18 Move Frame to Make a New Design


Sometimes, user wants to embroider a mark of a design before embroidering it so as to determine the standard line of pattern. The function of “Shift the Frame to Make a New Design” can create such a design, and you can select the new design to embroider the boundary.


Operation:


- (1) In embroidery preparation status, move the frame to the starting point of pattern.
- (2) Press " key and move the icon to "FRAME TO MAKE DESIGN", and then press " key to enter the interface for creating the pattern.



- (3) Press   or the corresponding number keys to shift the properties of the stitch (Satin Stitch or Jump Stitch). Move the frame along the boundary of desired design by pressing the manual frame-moving button. Press  or the corresponding number button at each turning to confirm the trace.

- (4) After the edition, user can press  “” in order, and the system will give new pattern name, pattern number and so on.

- (5) According to the prompt, input the number (the system will also provide a number automatically) and name of the new pattern, and press " key to create the new pattern.



- (6) Press " key to abandon current operation and go to the previous interface.

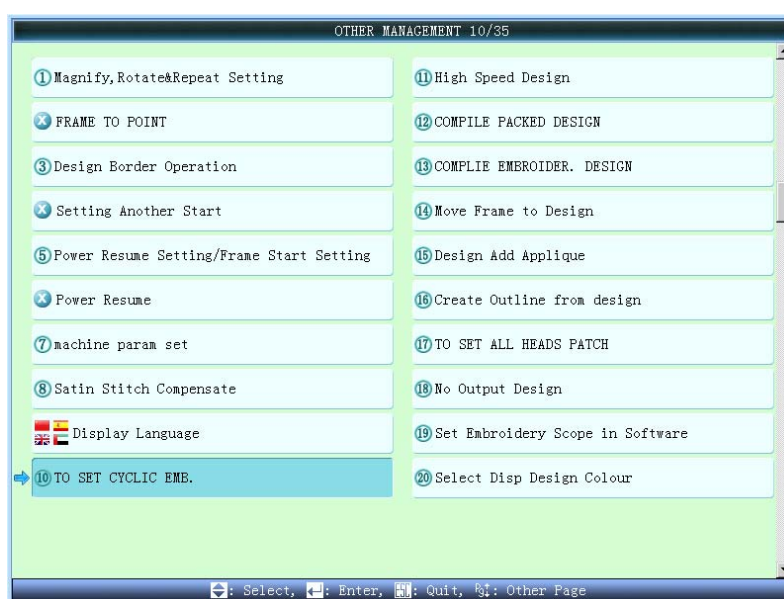
## Chapter 19 Set Cyclic Embroidery


When the machine is in cyclic embroidery, the computer will make the frame return to the starting point and the machine will start embroidering the pattern for another time without pulling the bar after the machine has finished embroidering the pattern for once.

This setting will increase the productivity of embroidery in actual usage.

Operation of setting or canceling of the cyclic embroidery:

(1) When the machine is not in cyclic embroidery status, user can press "0" key and  key and "0", and then select "To Set Cyclic Emb" and press :



(2) The system will return to the main interface, and the machine is in cyclic status. And the mark for cyclic embroidery  will be displayed at the lower right corner of the main interface.

(3) When the machine is in the cyclic embroidery status, if user enter the "To Set Cyclic Emb" again, the system will cancel the setting on the cyclic embroidery and clear the cyclic embroidery mark.





## Chapter 20 No Pattern Output


### 20-1 Summary

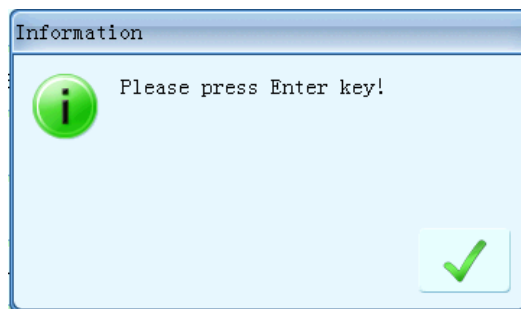
The function will prevent the pattern in memory from being copied illegally. In case the user of machine has set a password (four-figure number) for "NO OUTPUTTING DESIGN", other people can not execute the operation of "OUTPUT (DSB)" in disk management menu without inputting the password. If the user wants to do the operation, he must cancel the password for "NO OUTPUTTING DESIGN".


### 20-2 Set "NO OUTPUTTING DESIGN"

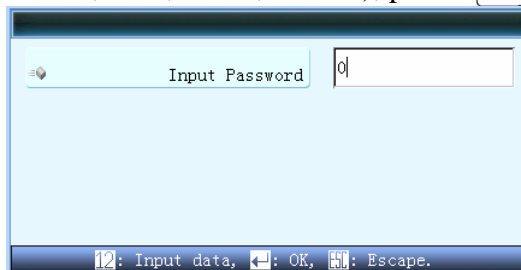
Operation:

(1) Press " key to enter the Other Management interface. And move the icon to "NO OUTPUTTING DESIGN", and then press " key.

(2) The system will hint user "Please press Enter Key". Press " key to confirm the operation.



(3) At this moment, the system will ask user to input the password. User need Input a 4-digital password (except for "0", "00", "000", "0000"), press " key to finish.



### 20-3 Cancel "NO OUTPUTTING DESIGN"

Having set a password, user can do the steps in section 22-2 and input the password to cancel it.

In addition, the computer will cancel the password automatically after user performs the operation of "CLEAR ALL" in design management menu.





## Chapter 21 Testing

Note: only the experienced maintenance technician is permitted do this operation. The operation in this Chapter involves some mechanical works, so the operator shall be careful

### Encoder Test:

By rotate the main shaft, user can test the zero pulse (0PL), A phase pulse (APL) and B phase pulse (BPL) of the encoder and check their values.

### 21-1 Main Shaft Speed Testing

This operation is to display the set speed and real speed comparatively thorough turning the main shaft, so as to debug the main shaft board.

### 21-2 Mechanical Part Test

This operation is to test bar switch, limit switch, head solenoid, thread-trimming solenoid/motor, thread-holding solenoid, thread-catching solenoid/motor and thread-breakage detection device and sequin-lifting device (for the machine with sequin function) etc.

### 21-3 Turn the Main Shaft to Any Angle


This operation is to turn the main shaft from 100 degree to any angle to maintain and test machine conveniently.

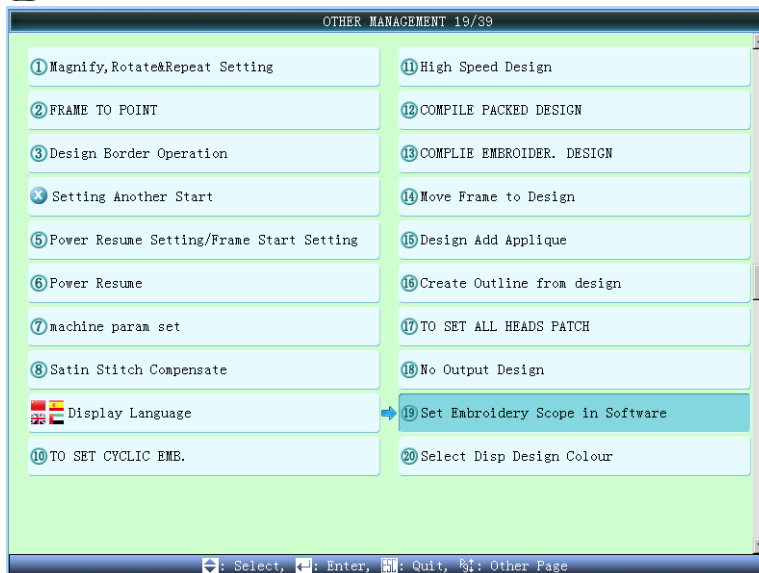



## Chapter 22 Set Embroidery Frame Range

The function is to set the range of the embroidery frame, so as to ensure the pattern is embroidered within the frame range.

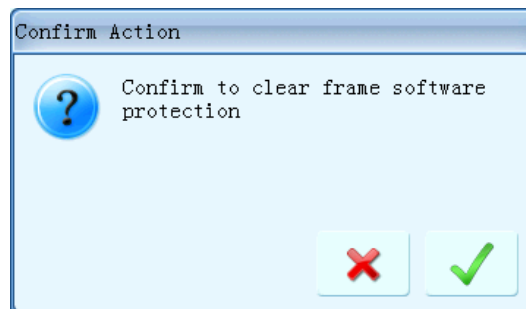
Operation:

- (1) Press " key to enter the interface of Other Management:

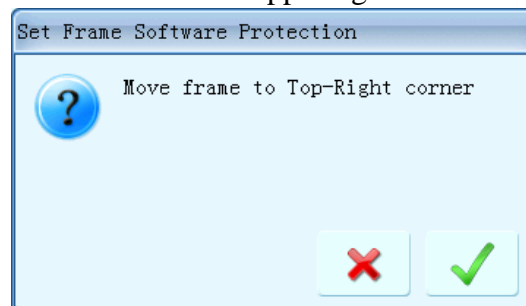


- (2) Move the icon to "SET EMB. Scope in Software", and then press " key.


(3) If user has set the software protection, the system will hint user to clear the original setting.



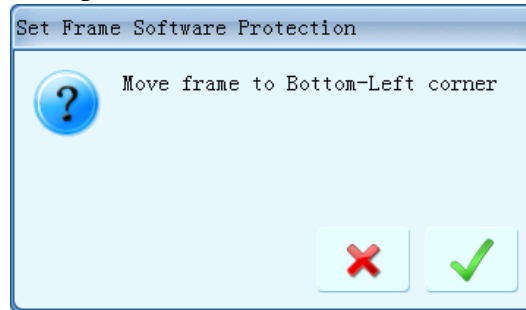
- (4) Press " to set the coordinate at upper right corner.






Use the frame-moving button on the panel to move the frame and set the top-right point of the soft limits. Press  to confirm it

- (5) Move the frame and input the coordinate of the bottom-left point of soft limits



Use the frame-moving button on the panel to move the frame and set the bottom-left point of the soft limits. Press  to confirm it

- (6) The system will remember the software protection on the frame.

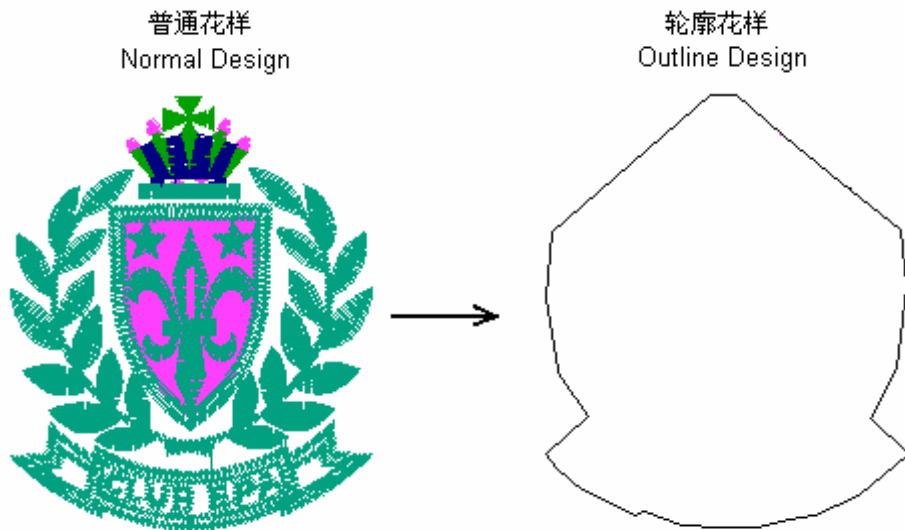


## Chapter 23 Create Outline Pattern

### 23-1 Summary




This function is for generating the outline design for a normal design, which can be used to dig a hole and fix the embroidering cloth.

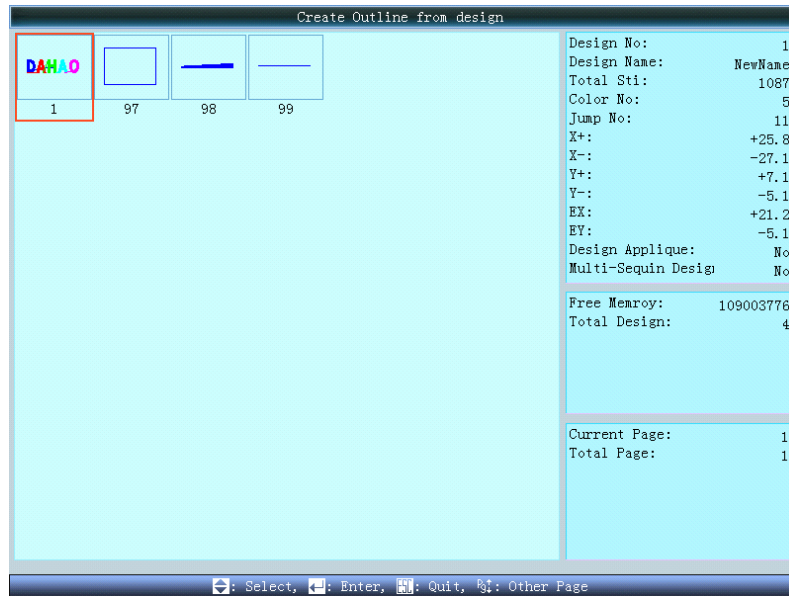
For example:



### 23-2 Create the outline design

Operation:

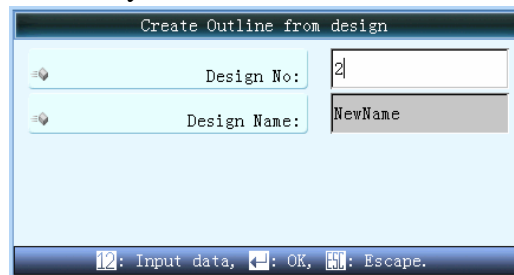
- 1、 Press ""key, and enter "Other Management". Move the icon to "Create Outline From Design" and press "" key.
- 2、 Select a normal pattern and press ".





3、 If user doesn't want to use the default name provided by the system, user can press



and input the design No via keyboard.





4、 Press “” to create the outline pattern and return to the interface for selecting pattern operation; press “” to abandon the operation and return to the interface for selecting the pattern operation.

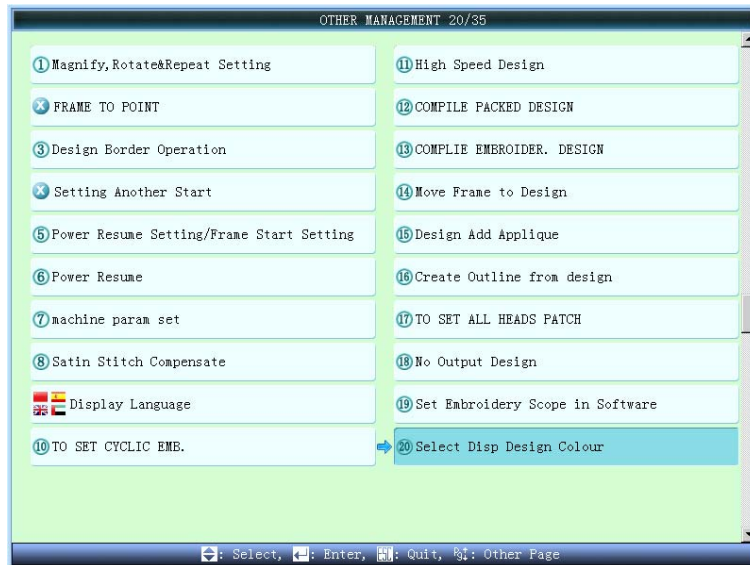







## Chapter 24 Select Pattern Display Colors

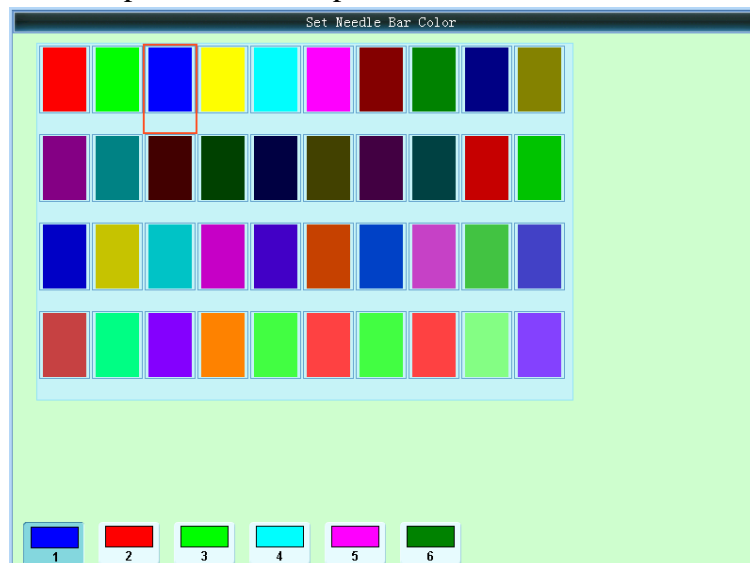
This function is to set the display colors of stitches. The user can set the display color according to the real thread color, so as to display the stitch trace as same as the real thread. .


Operation:

1. Press "
  2. Select "SELECT DISP DESIGN COLOR" and then press "
- adjusting screen.



3. Display the stitch position color in the bottom of the interface. User can press     to select the color and press "
- Then the display color of the stitch position is set. Repeat the above operation to set color for each needle.



4. After setting the display of each needle, press "





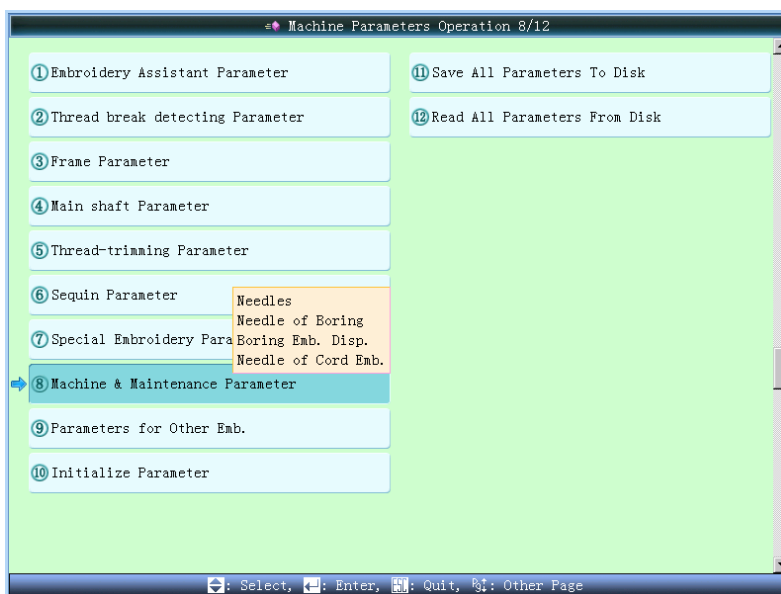
### Chapter 25 Sequin Embroidery Operation


Note: operations and parameters in this chapter are only for machines with sequin embroidery function.

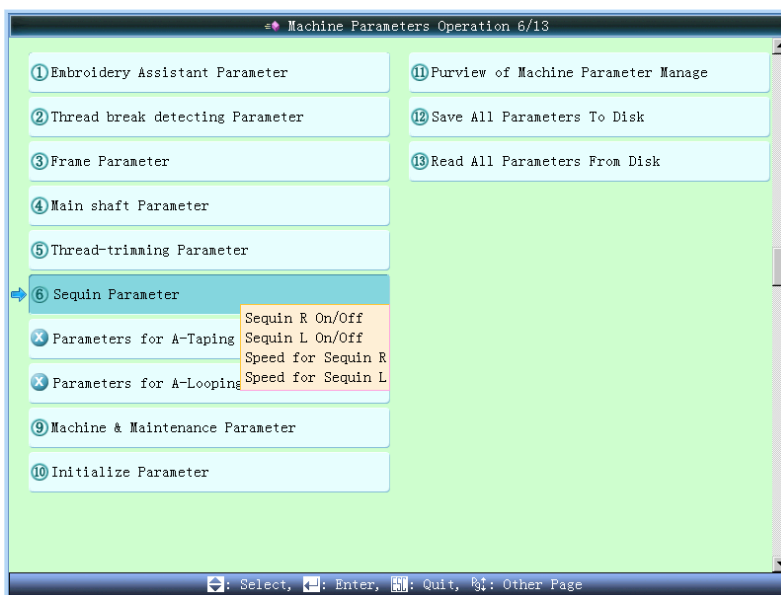
#### 25-1 Parameter Setting for Sequin Embroidery

Operation:

1. Press "  " under embroidery preparation status, and enter the menu of "OTHER MANAGEMENT". Then user needs move icon to "Set Machine Para." and press  .



2. Move icon to "Sequin Parameter" and press  to enter the interface for setting the sequin parameters .





3. Press “” or “” to exit the menu “SET MACHINE PARAS”.
4. Press “” or “” to exit the menu “OTHER MANAGEMENT”.

Note: Refer to Appendix 1 for the Parameter List.

### 25-2 Manual Operation of Sequin Embroidery

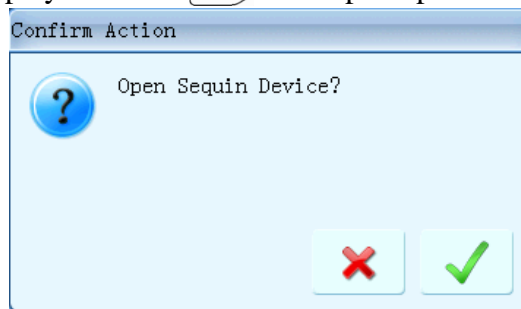
This function is only available for the sequin embroidery machines. Operations include “SET SEQUIN” , “CANCEL SEQUIN” and “SEND SEQUIN”

When the embroidery needle position is on the sequin needle position, the manual operation of sequin embroidery is as follows:

- (1) Press the key “” to activate the manual operation menu as below:





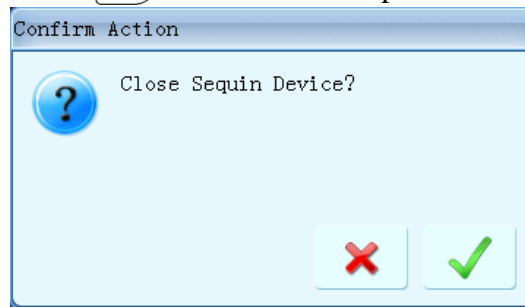
- (2) Press the key select “SET SEQUIN” and press “” . The interface of “Open Sequin Device” will be displayed. Press to drop the pressers.










(3) Move icon to “CANCEL SEQUIN” and press “”. The interface of “Close Sequin Device” will be displayed. Press  to lift the entire pressers.



(4) Move the icon to “SEND SEQUIN” and press “”. At this moment, pressing  will have the devices, which are not off, to send a sequin (the presser is at down position). Press “” to exit.





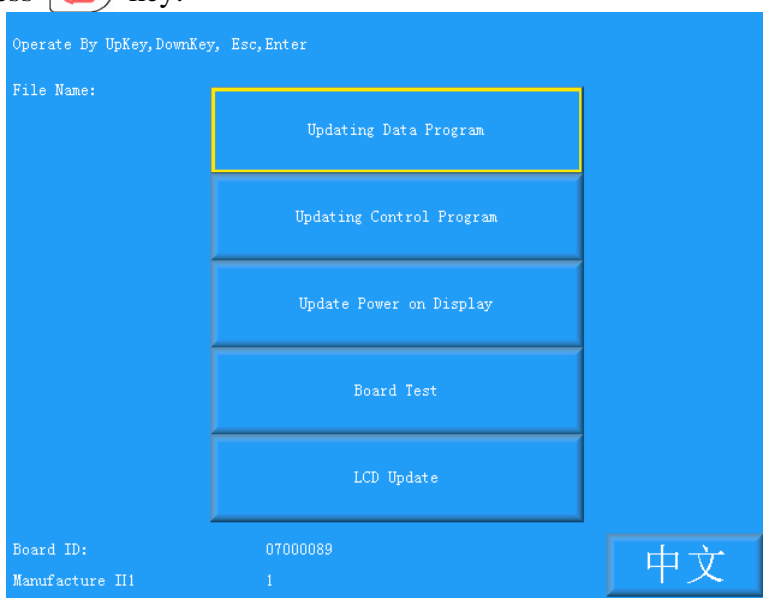
## Chapter 26 Instruction of Main Software Online Update

The operation for updating the main software can be done in the Update interface or in the Other Management interface

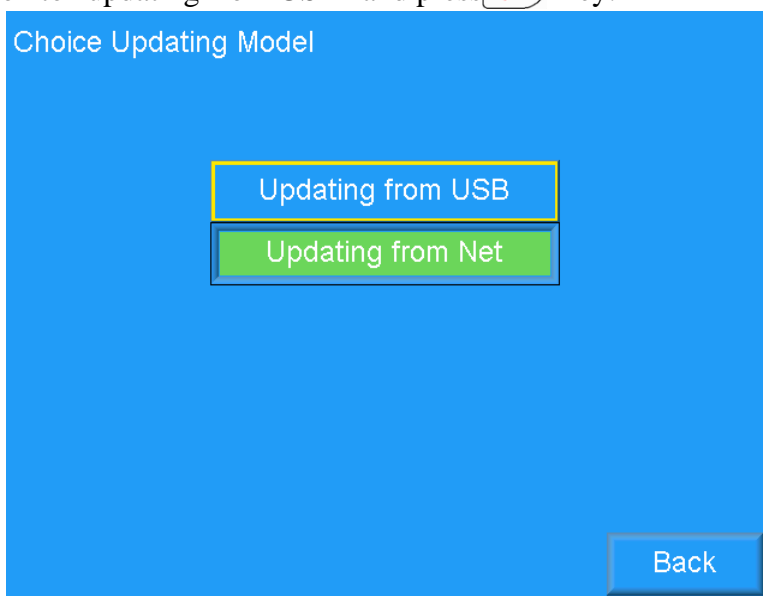
### 26-1 Update the Upper Machine:

Operation 1:


- 1、 Hold the button “”, at the same time turn on the power.
- 2、 The screen shows the update interface, Move icon to “updating data program” and press  key:

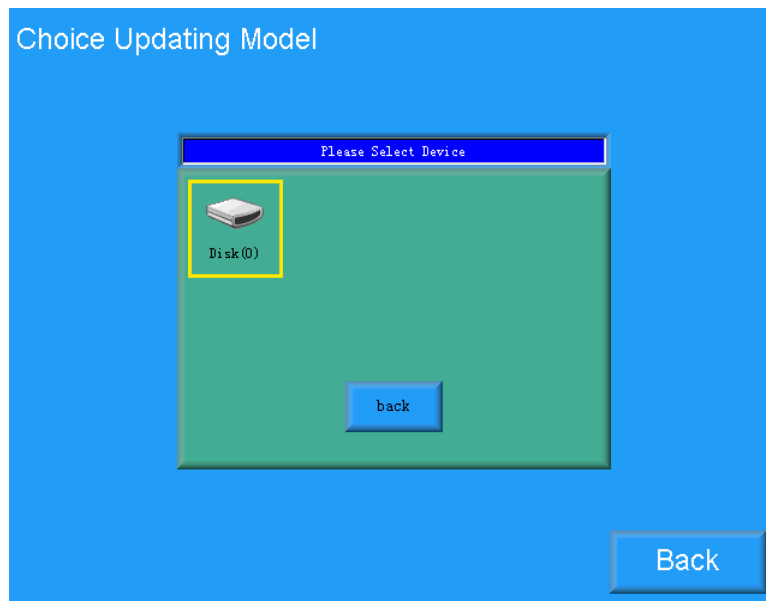



- 3、 Move icon to ”updating from USB” and press  key:

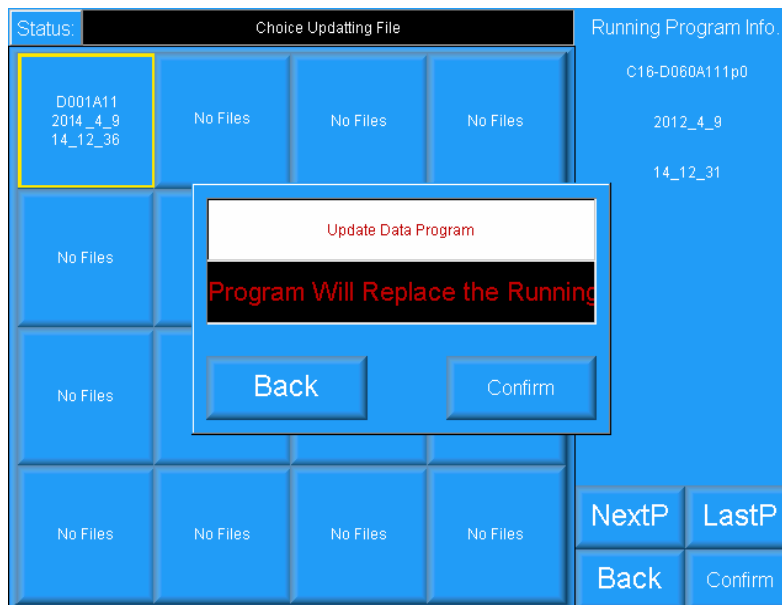




4. Select the inserted USB disk, then press  key:



5. Enter the interface and select the update software, then press  to confirm the updating :





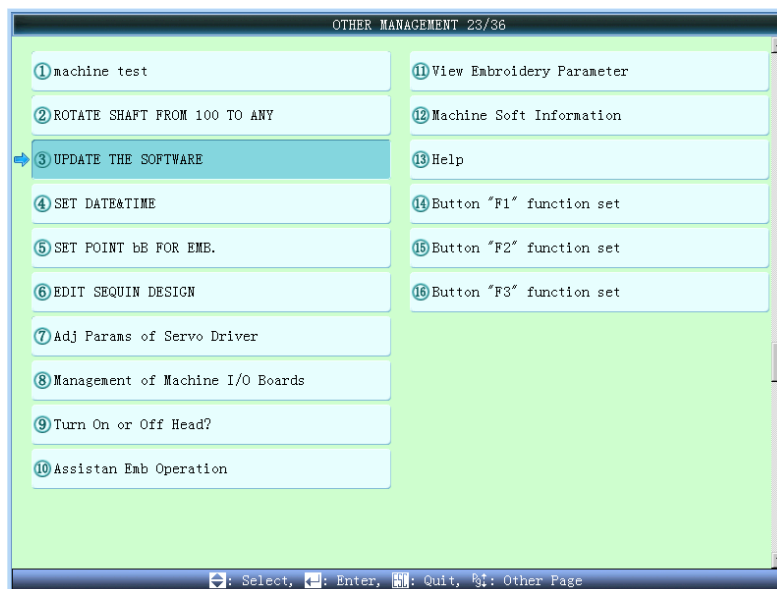


6. The screen will show “restart” when update is finished. Please turn off power:




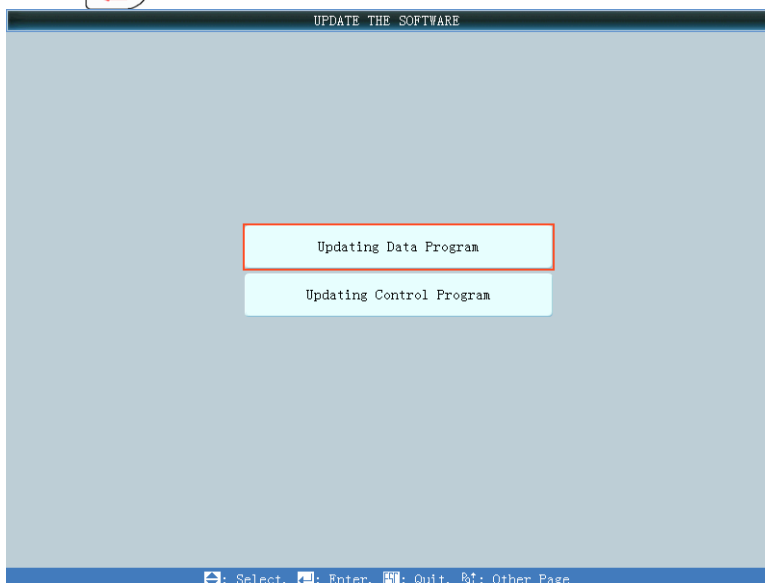
#### Operation 2:


1. Press  to activate the Other Management Interface
2. Move icon to “Update the Software” and press  .

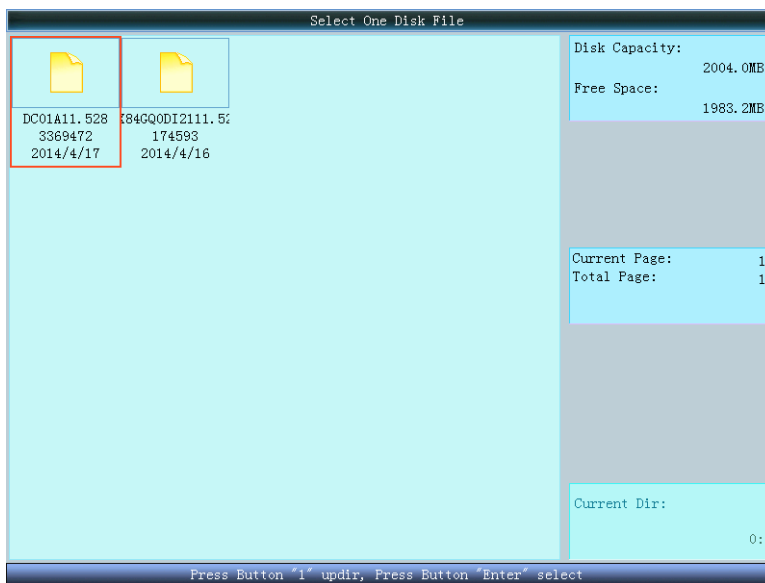




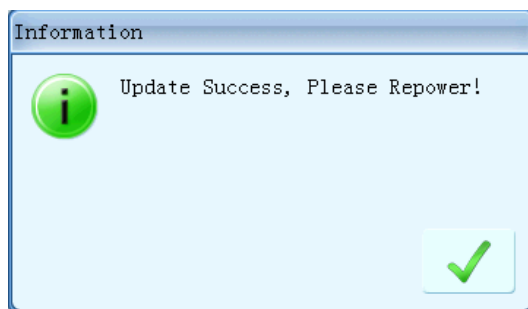
3. Enter the interface for selecting the update type, then select Data Program Update and press “”.



4. After entering the interface, user can select the update software and press “” to confirm.





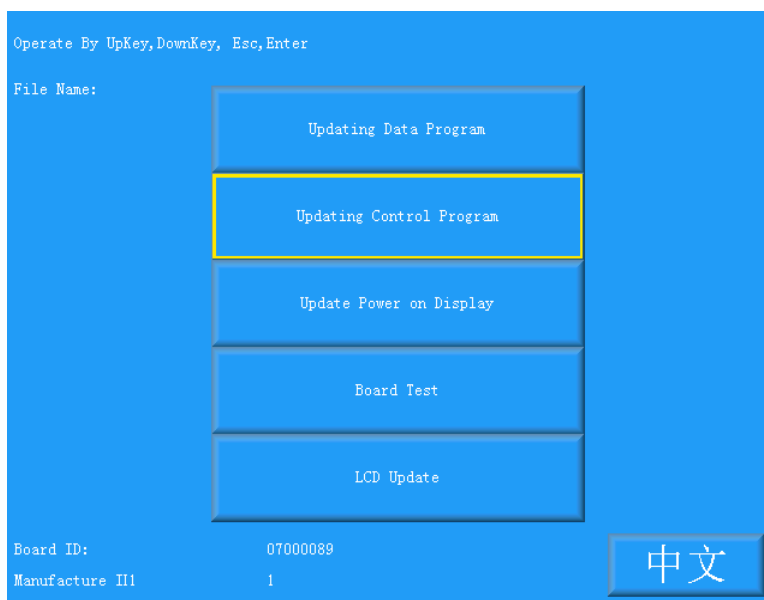
5. The screen will show “restart” when update is finished. Please turn off power:



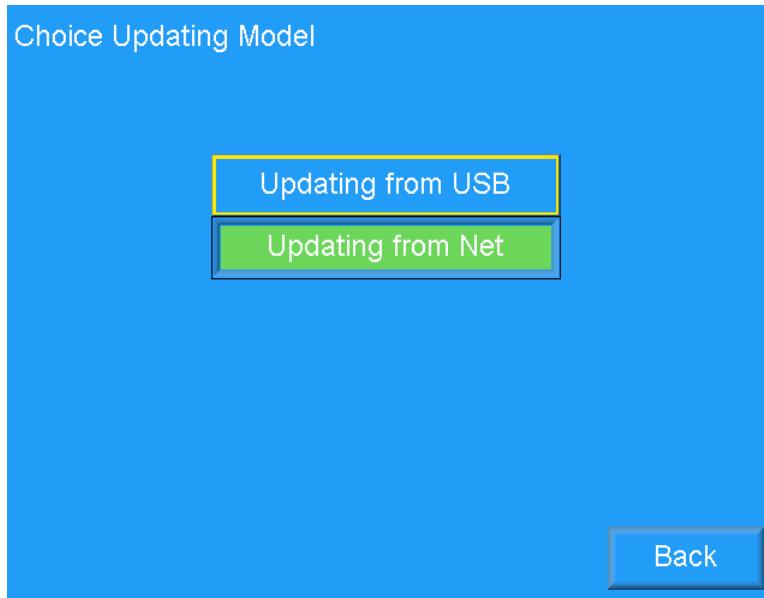
## 26-2 Updating control program (Down Machine)

### Operation 1

- 1、 Please press the button“”, at the moment turn on the power:
- 2、 The screen shows the following picture, select the second “updating control program” and press  key:

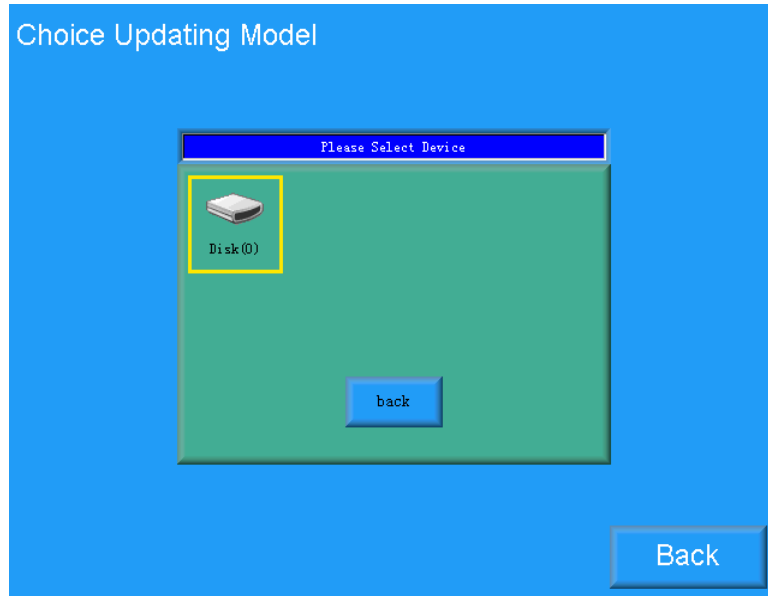


- 3、 Select the “updating from USB” , then press enter key:

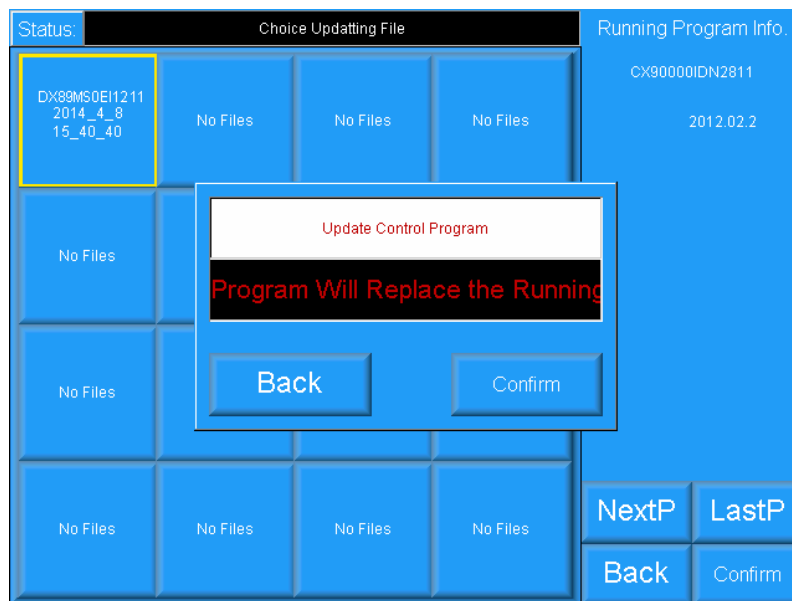




- Select the inserted USB disk , then press enter key:



- Select the control software file, press enter key to confirm the updating:

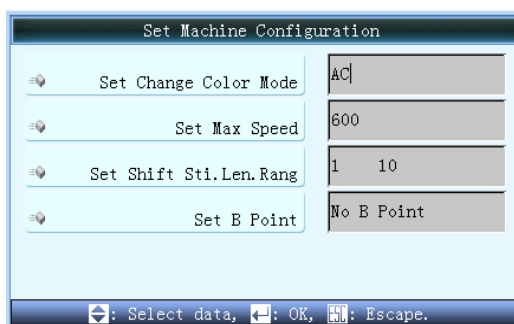







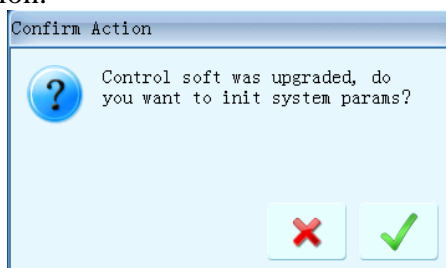
6. The screen will shows “restart” when updating is finished, please turn off power and restart:



7. Turn off power and restart the machine. After the system is initialized , the interface for “Set Machine Configuration” will be displayed.






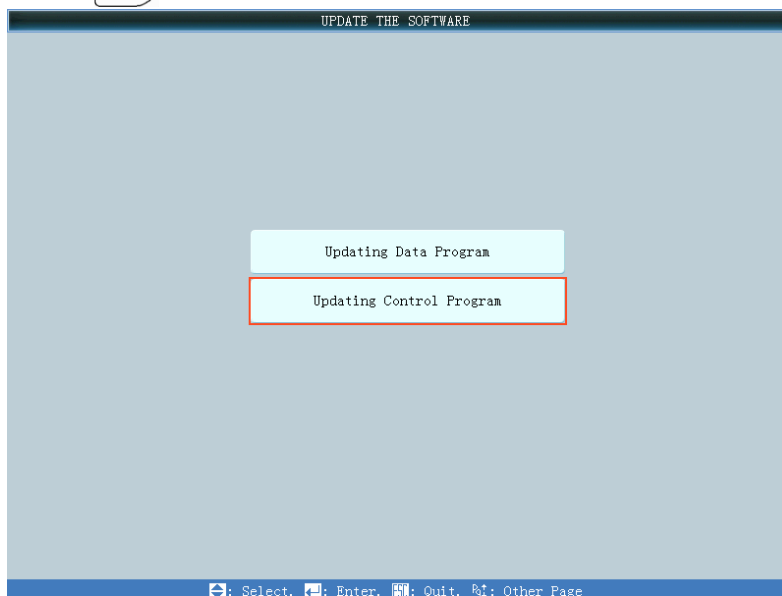
8. After setting, user can press “”. Then the system will display “Please Repower the Machine”.
9. Repower the machine. Then the system will give the hint for initializing the parameter. Press “” to initialize the parameters; press “” to quit the initialization.




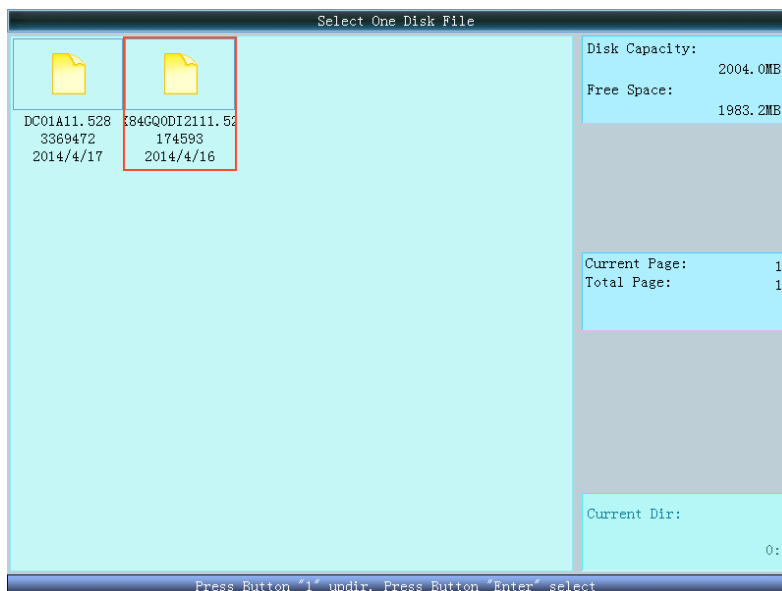


## Operation 2:

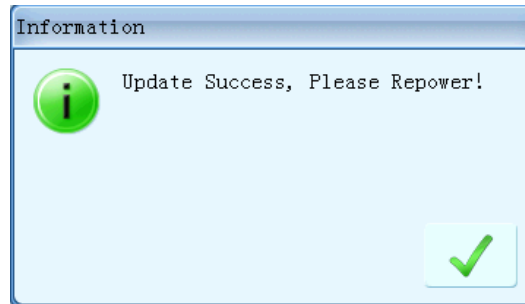
- 1、 Press “” to activate the Other Management Interface
- 2、 Move icon to “Update the Software”, and press “” .
- 3、 Enter the interface for selecting the update type, then select Control Program Update and press “” .



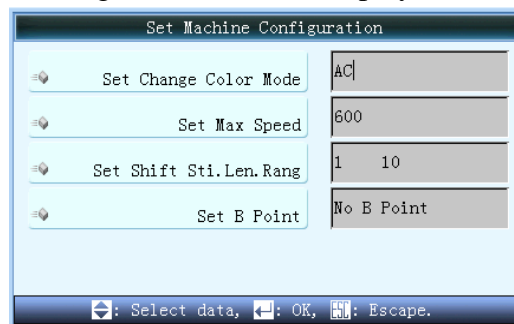
- 4、 Enter the interface and select the update program and press “” to confirm the update.






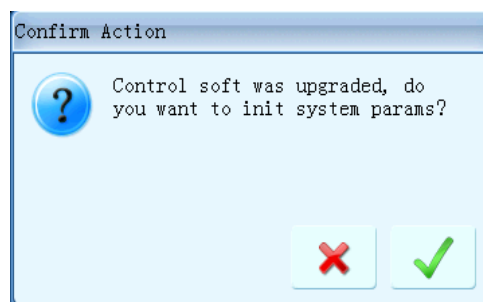
5. When the update is finished, the system will display “Restart”. The system will be restarted.



6. Turn off power and restart the machine. After the system is initialized, the interface for “Set Machine Configuration” will be displayed.



7. After setting, user can press “”. Then the system will display “Please Repower the Machine”.
8. Repower the machine. Then the system will give the hint for initializing the parameter. Press “” to initialize the parameters; press “” to quit the initialization.





### Appendix I Parameter Setting List

\*\* “Sti.” For stitches; “Emb.” For embroidery; “T. B.” for thread-breakage; “No.”

for the needle number of machine heads

Number	Name	Recommended Value	Range of Setting	Note
Magnify, Rotate& Repeat				
A03	Direction	P	<input type="checkbox"/> p <input type="checkbox"/> a <input type="checkbox"/> d <input type="checkbox"/> r <input type="checkbox"/> q <input type="checkbox"/> s <input type="checkbox"/> b <input type="checkbox"/> a <input type="checkbox"/> p	A03
A02	Rotate	0	0~89	Control the rotating angle of design
A01	X&Y Scales	100/100	50%~200%	Control the scale ratio of the design in X/Y direction
A06	Rep. Prior	X Prior	X prior, Y prior	
A05	Rep. Mode	Normal	Normal, part	Not used
A07	X&Y Reps	1/1	1~99	
A08	X&Y Interval	0.0/0.0	-999.9~+999.9	
A04	Prior Mode	Rotate	Rotate, Scale	
Customized Parameter (set it according to needs)				
Embroidery Assistant Parameters				
B01	Auto Origin	Yes	No, Yes	
B02	To Do Cyclic Emb.	No	No, Yes	Whether to automatically repeat embroidery at end. It often coordinates with repetition or special punched design.
B04	Display Sti-Num or Not	Yes	No, Yes	
C02	Sewing Empty Stitch	No	No, Yes	If “Yes”, the machine will omit the empty stitches (needle moving without embroidering), so as to avoid the empty dropping. If “No”, the empty stitches won’t be omitted.
B13	Start for Same Colors	Yes	No, Yes	Whether to start in color-changing



## Appendix I Parameter Setting List

Number	Name	Recommended Value	Range of Setting	Note
				way when the later needle position is same to the former one in color-changing order.
C04	Store Manual Color	No	No, Yes	If “Yes”, manual color changing is stored in the color-changing order. After embroidery, the setting will automatically change to “No”.
D15	Slow STI. After Patch	0	0~500	
D16	Speed After Patch	Max. Speed	80~Max. Speed	
C03	Stop to Color	No	No, Yes	Change stop codes into color-changing codes at loading disk design. It's specialized for some countries/regions.
B15	Emb Show Background	Yes	No, Yes	
B18	Is Design TrueView Display	Yes	No, Yes	
C78	Length of Filter Short Stitch	No	No, 0.1mm~0.6mm	It is available for the Dahao All-servo high-speed machine. It will be effective only when user confirm the embroidery again.
C80	Stitch Len of Auto Jump	6.0mm	6.0mm~12.0mm	The same as above
Thread-breakage detection Parameter				
B05	T. B. Detect	Yes	No, Yes	



Number	Name	Recommended Value	Range of Setting	Note
B11	Sti. Not T.B. Detect	8 stitch	0 stitch ~15 stitch	
B06	Stop machine after T.B. detect	Yes	No, Yes	
B07	Pull bar after T. B.	No	No, Yes	
B08	T. B. Back Sti.	0 stitch	0 stitch ~7 stitch	It is unavailable for some machine types.(in sequin, this parameter will not be performed)
B09	Patch Count	2stitch	1 stitch ~10 stitch	How many stitches to mend before the thread break point
B10	Speed Down After Patch	Down	No Change, Down, Stop	
B14	To Set All Heads Patch	No	No, Yes	If "Yes", all unclosed heads do patching when at mending.
B12	T. B. Detect When Jump	No	No, Yes	
C27	Detect T. B. Mode	wheel	spring, wheel	
C28	STI. For Filter T.B.	2 stitch	1 stitch ~10 stitch	
C67	Sensitivity of Upper Thread	1	1~15	
C68	Sensitivity of Under Thread	1	1~15	
C69	Filter Sti. For Upper Thread	1 Sti	1~10 Sti.	
C70	Filter Sti. For Under Thread	1 Sti	1~10 Sti.	
C90	T.B. Device Type	spring	spring、 wheel, spring + wheel、	
C91	Machine Head Motor Angel	0	0~10	
Frame Parameter				
S13	Fram Curve Y	F4	F1~F6	
B03	Over frame by Step	No	No, Yes	



## Appendix I Parameter Setting List

Number	Name	Recommended Value	Range of Setting	Note
C15	High Frame-Shift Speed	16	1~30	
C16	Low Frame-Shift Speed	12	1~30	
D13	Speed When Over frame	16	0,1,2...30	
C74	X direction Frame Angle A	230	230~280	It is fit for high-speed machine using Dahao servo-motor driver.
C75	X direction Frame Angle B	235	230~280	The same as above.
C76	Y direction Frame Angle A	235	230~280	The same as above.
C85	Y direction Frame Angle B	235	230~280	The same as above.
C49	X Backlash Correction	0.0MM	0.0~1.0	
C50	Y Backlash Correction	0.0MM	0.0~1.0	
<b>Main shaft Parameter</b>				
C07	Max. Speed	850	250, 300, 350, ...,850	
C09	Minimum Speed	400	250,300,350...600	
C08	Shift Stitch Length ( mm )	4.0(All-servo high-speed machine)	1.0~10.0(common type machine), 3.0~6.0(All-servo high-speed machine)	When the stitch length is longer than the set value, the machine will lower the speed.
C10	Jump Stitch Speed	600	400~750(common type machine), 400~1100(All-servo high-speed machine)	Set the rotation speed for jump stitch.
C13	Set Run Speed	80	80,90...150	
C12	Startup Stitches	2stitch	1 stitch ~9 stitch	Set the number of slow stitch before acceleration.



Number	Name	Recommended Value	Range of Setting	Note
D02	Startup Acce.	15	1,2,3...30	Increase the value to bring a quicker speedup after pulling the bar.
C25	Set Break Para.	5	0~30	Range: 0~30. When the main shaft motor is an electromagnetic motor, the value is usually set as 9. When it is a servomotor, the parameter is usually set as 5-7.
C24	Main Motor Para.	4	0~30	The parameter is invalid when it's a servomotor. When it's an electromagnetic motor, increase this parameter value to avoid main shaft vibration during braking. Usually it's set as 1.
C14	Speed of Slow Emb.	80	80 (rpm)、 the value of the minimum speed	
D14	Stop Ok bef. Pull Bar	Yes	No, Yes	
D10	Ratio of AC Induction	0	-15% ~ +15%	The parameter is used when the main shaft uses induction motor. If the value is incorrect, the set rotation speed will be different from the virtual speed.





## Appendix I Parameter Setting List

Number	Name	Recommended Value	Range of Setting	Note
C05	Value for Thick Cloth	0	0~3	
C26	Posi.Para. Of Needle Down	15	0~30	
D53	Lock Shaft When Stop	No	No, Yes	
<b>Thread-trimming Parameter</b>				
C17	Turn Off Trimming	No	No, Yes	
C01	Jump & Trim	3 Stitch	No Trim, 1 Sti.~7 Sti.	
C20	Lock Stitch. When Trim	Yes	No, Yes	
D49	Lock Stitch Num Bef Trim	2	0~2	
D48	Lock Stitch Len Bef Trim	0.7	0.3~2.0	
C18	Length of Trim	3	1~8	1 is the min trimming length and 8 is the max trimming length.
D05	Speed When Trimming	80	80,90,100...250	
D04	Speed after Trim	Common:60~150; Out:80; No Cut:80	60,70,80...150	The parameter sets the rotation speed for lock stitch.
C11	Stitches After Trim	3 stitch	1 stitch ~7 stitch	
C19	Lock Num. After Trim	2	0~3	Set the lock stitch number when pulling the bar for embroidery after setting the trimming.
C21	Length of Lock Sti. (mm)	0.6	0.3~1.5	
D06	Spin Rounds for Brake	1	1,2	2 for most machines, 1 for mini type or



Number	Name	Recommended Value	Range of Setting	Note
				machines with servo control main shaft motor.
C23	Action after Trim	Frame Y	Frame X, Frame Y, Move Needle	
C22	Frame after Trim	No	No, Yes	
D03	Set Hold Startup Para.	-4	-4~3	
D07	Check Trim is OK	No	No, Yes	
D08	Hook Angle Adj.	100	0~200	Set the hook angle by motor. When user increases the value, the hook angle is moved backward.
D32	Is cutting Machine	No	No, Yes	
C81	Cutting Start Angle	3	0~20	It is fit for the machine using stepping-motor for trimming thread.
C82	Cut return angle adj	4	0~30	The same as above.
C83	Cut keeper return angle	0	0~99	The same as above.
C84	Hold voltage adj	1	1~3	The same as above.
C92	Trim Angle At Stop	100	86,100	
C93	Thread Holder A.M. At Cut	B	A, B, C	



## Appendix I Parameter Setting List

Number	Name	Recommended Value	Range of Setting	Note
C94	Thread Holder A.M. At Start	B	A, B, C	
C71	Adj. Solenoid Volt For Nipper	1	1~10	
Sequin Parameter(JF type)				
C31	Speed for Sequin R	850	350~850	
C32	Speed for Sequin L	850	350~850	
D25	Sequin R Adj. Angle	0	-15~15	
D26	Sequin L Adj. Angle	0	-15~15	
C33	Auto Start for Sequin	No	No, Yes	
D27	Time of Sequin Action	2	0~15	Range: 0~15. For the machine using valve to control presser, this parameter needs setting at 2~3; for the machine with stepping motor to control presser, this parameter needs setting at 4~5.
C34	Sequin Off after T.B.	No	No, Yes	It is used to control the position of the sequin device after the thread-breakage.



Number	Name	Recommended Value	Range of Setting	Note
C56	Sequin Ind. UpDown	No	No, Yes	
B17	Up Valve When Jump & Nocut	Yes	No, Yes	
D99	Bead-breakage Detection Sensitivity	0	0~10	
D54	Motor Number of R Sequin	无	1, 2	
D55	Set 3MM of R Sequin	Dual-way 11.7 degree	Single-way 6~40 steps; Dual-way 6~40 steps	
D56	Set 4MM of R Sequin	Dual-way 11.7 degree	Single-way 6~40 steps; Dual-way 6~40 steps	
D57	Set 5MM of R Sequin	Dual-way 18.0 degree	Single-way 6~40 steps; Dual-way 6~40 steps	
D58	Set 6.75MM of R Sequin	Dual-way 21.6 degree	Single-way 6~40 steps; Dual-way 6~40 steps	
D59	Set 9MM of R Sequin	Dual-way 36.0 degree	Single-way 6~40 steps; Dual-way 6~40 steps	
C57	A Size&Color of R Sequin	5mm yellow	3/4/5/6.75/9mm Yellow/Purple/Blue/Green/ Red/ Golden/ Silver/Cyan	
C58	B Size&Color of R Sequin	5mm blue	3/4/5/6.75/9mm Yellow/Purple/Blue/Green/ Red/ Golden/ Silver/Cyan	
D60	Sequin Gap Num of R Sequin	No	No, 1,2	
C65	Valve Time of Right Sequin	0	0~5	
D61	Motor Number of L Sequin	1	1, 2	
D62	Set 3MM of L Sequin	Dual-way 11.7 degree	Single-way 6~40 steps; Dual-way 6~40 steps	



## Appendix I Parameter Setting List

Number	Name	Recommended Value	Range of Setting	Note
D63	Set 4MM of L Sequin	Dual-way 11.7 degree	Single-way 6~40 steps; Dual-way 6~40 steps	
D64	Set 5MM of L Sequin	Dual-way 18.0 degree	Single-way 6~40 steps; Dual-way 6~40 steps	
D65	Set 6.75MM of L Sequin	Dual-way 21.6 degree	Single-way 6~40 steps; Dual-way 6~40 steps	
D66	Set 9MM of L Sequin	Dual-way 36.0 degree	Single-way 6~40 steps; Dual-way 6~40 steps	
C61	A Size&Color of L Sequin	5mm yellow	3/4/5/6.75/9mm Yellow/Purple/Blue/Green/ Red/ Golden/ Silver/Cyan	
C62	B Size&Color of L Sequin	5mm blue	3/4/5/6.75/9mm Yellow/Purple/Blue/Green/ Red/ Golden/ Silver/Cyan	
D67	Sequin Gap Num of L Sequin	No	No, 1,2	
C66	Valve Time of Left Sequin	0	0~5	
<b>High-speed System Parameters</b>				
E28	High-efficiency Mode	No	No, Yes	Only when this parameter is set at "Yes", can user set the following four parameters.
E29	Flat Head Num.	15	1~128	
E30	Flat Head Interval (mm)	330	100~600	
E31	Frame Width Y (m)	0.8~1.2		
E32	Efficiency Level	10%	30%, 20%, 10%	
<b>Parameter for A-Taping Emb.</b>				
D80	Check A_ZIG'LOO SING-MOTOR	Yes	No, Yes	
D81	A_ZIG great efficiency	5	1~5	



Number	Name	Recommended Value	Range of Setting	Note
	mode			
D86	A_ZIG EMB. R ON/OFF	No	No, Yes	
D87	A_ZIG EMB. L ON/OFF	No	No, Yes	
D88	A_ZIG EMB. ON/OFF TIME	1	0~ 5	
D90	A_ZIG SWING ANGLE	100	0~ 125	
D91	A_ZIG MAX SPEED	700	300~ 850	
D92	A_ZIG HAS LOOSING- MOTOR	No	No, Yes	
D93	LOOSING- MOTOR PARAM	5	0~ 15	
D94	A_ZIG 5 SWING ANGLE	0.2	-10.0~ +10.0	
D95	A-TAPING right origin position	0	0~ 100	
D96	A-TAPING left origin position	0	0~100	
D97	A-TAPING Up & Down Detect	No	No, Yes	
Parameter for A-Looping Emb.				
C86	Do A-Looping Emb.	No	No, Yes	
C88	Needle for A-Looping Emb.	0	0, 1~N	
C89	Jump & Trim for A-Looping Emb.	7 Sti.	No Trim, 1~ 7 Sti.	
C87	Height for A-Looping	1	1~ 15	



## Appendix I Parameter Setting List

Number	Name	Recommended Value	Range of Setting	Note
	Emb.			
Machine & Maintenance Parameter				
D01	Needles	6	1,2...15	Set the value according to the machine situation. E.g. the value should be 9 for 9-needle machine. If the value is different from the machine needles, the color-changing will be abnormal.
C29	Needle of Boring	No	No, 1~ N	N is the needle number of machine
C30	Boring Emb. Disp.	0	0mm,12mm	
D17	Needle of Cord Emb.	No	No, 1, N	N is the needle number of machine
D18	Speed for Cord Emb.	400	300,310,320...600	
D11	Adjust Head Solenoid	0	0,1,2...30	
D12	Color-Change Speed	12	0~30	It's valid only when the color-changing motor is stepping motor. The larger the value, the faster the color changes.
D43	CloseBack Light time	No	No, 2mins, 5mins, 10mins, 15mins	
C40	No Output Design	No	No, Yes	
C41	Server Port	1600	1~9999	It is used for



Number	Name	Recommended Value	Range of Setting	Note
				setting sever port when it is connected to PC.
C42	MAC Address	112233445566	001111111111~0099999999 99	It is used for setting the MAC address of embroidery machine network card. The address is different at different machines.
C43	IP Address			It is used for setting machine address when machine connects to PC. It is different among different machines.
C44	Server IP			It is used for setting the IP address of sever when machine connects to PC.
C45	Subnet mask			It is used for setting the subnet mask of machine IP address when it connects to PC.
C46	Gateway			It is used for setting the gateway of machine when machine connects to PC.
D68	Machine Head Num	20	1~80	
E45	Head Interval	162.5	-400.0~-1.0, +1.0~+400.0	
D98	Head Combination Emb Set	No	No, Yes	
D89	Frame Range Head Number	3	1~80	





## Appendix I Parameter Setting List

Number	Name	Recommended Value	Range of Setting	Note
E1	DIP1	3	0~255	
E2	DIP2	3	0~255	
E3	DIP3	3	0~255	
E4	DIP4	3	0~255	
X/Y Parameter for Servo Frame Adjustment (X parameter, available for all-servo high-speed machine)				
	Embroidery Param	300	93~650	
	Frame-moving Param 1	260	93~650	
	Frame-moving Param 2	13	6~50	
	Parameter 1	30	10~50	
	Parameter 2	30	10~50	
	Parameter 3	30	10~50	
	Parameter 4	30	10~50	
	Parameter 5	30	10~50	
	Parameter 6	30	10~50	
	Parameter 7	30	10~50	
	Parameter 8	30	10~50	
	Parameter 9	30	10~50	
	Parameter 10	30	10~50	
	Parameter 11	30	10~50	
	Gear Backlash compensation	20	0~50	
	CMR	50	0~100	
	CMD	1	1~255	
X/Y Parameter for Servo Frame Adjustment (Y Parameter, Same as X Parameter)				



## Appendix II Instruction of System Level Mistake

At present, the 528 model may give 2 system-level warning at start-up: the one is “Data Abort”; the other is “Start Abort”. During the process of running the data program, the system may give the warning “Data Abort” instead of the “StartAbort”. These two warnings can be seen at the upper left corner of the screen like “数据异常” & “启动异常”. We will give the explanation of these two errors:

### 1. “Data Abort”

This means the CPU occurs the internal and unrecoverable mistake. At present, what we can do is just to restart the computer. And has no other solutions.

### 2. “StartAbort”

This phenomenon may have two causes, one is not updating the data program, the other is the chip on mother board is damaged. Therefore, the solution of it is to re-update the data program. If the problem still exists after the update, please replace the mother board.



## Appendix III Make Special Multi-Sequin Design

### 1、 Dahao special multi-sequin design principle

The normal design making system identifies a sequin code as a jump stitch, but it can not distinguish sequin combinations in one stitch position. For instance, it can not recognize it's a sequin A or B at one stitch position. Dahao special multi-sequin design-making principle is to add a few jump stitch codes after the original sequin code ( jump stitch or stitch length is less than 0.1mm )to indicate sequin combination, thus achieve the embroidery of overlapped sequin on one stitch position. For instance, "A+C" means overlap sequin of A and C.

Rules are as followed:

The value of sequin A is 1, we use 1 sequin code.

The value of sequin B is 2, we use 1 sequin code plus 1 jump stitch.

The value of sequin A+B is 3, we use 1 sequin code plus 2 jump stitches.

The value of sequin C is 4, we use 1 sequin code plus 3 jump stitches.

The value of sequin A+C is 5, we use 1 sequin code plus 4 jump stitches.

The value of sequin B+C is 6, we use 1 sequin code plus 5 jump stitches.

The value of sequin A+B+C is 7, we use 1 sequin code plus 6 jump stitches.

The value of sequin D is 8, we use 1 sequin code plus 7 jump stitches.

The value of sequin A+D is 9, we use 1 sequin code plus 8 jump stitches.

The value of sequin B+D is 10, we use 1 sequin code plus 9 jump stitches.

The value of sequin A+B+D is 11, we use 1 sequin code plus 10 jump stitches.

The value of sequin C+D is 12, we use 1 sequin code plus 11 jump stitches.

The value of sequin A+C+D is 13, we use 1 sequin code plus 12 jump stitches.

The value of sequin B+C+D is 14, we use 1 sequin code plus 13 jump stitches.

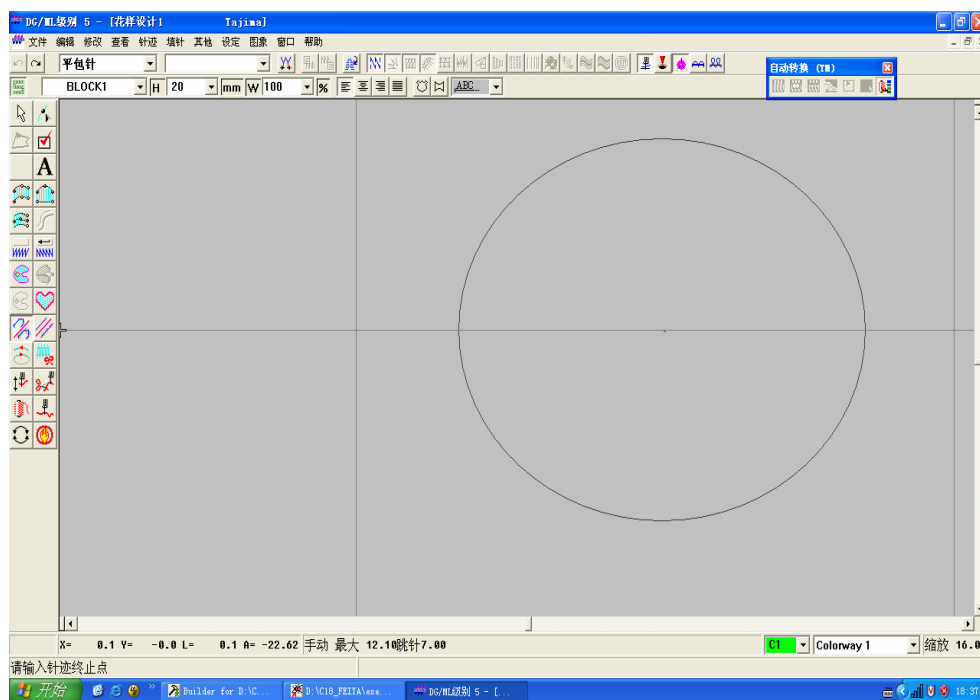
The value of sequin A+B+C+D is 15, we use 1 sequin code plus 14 jump stitches.

### 2、 Make Motif for multi-sequin

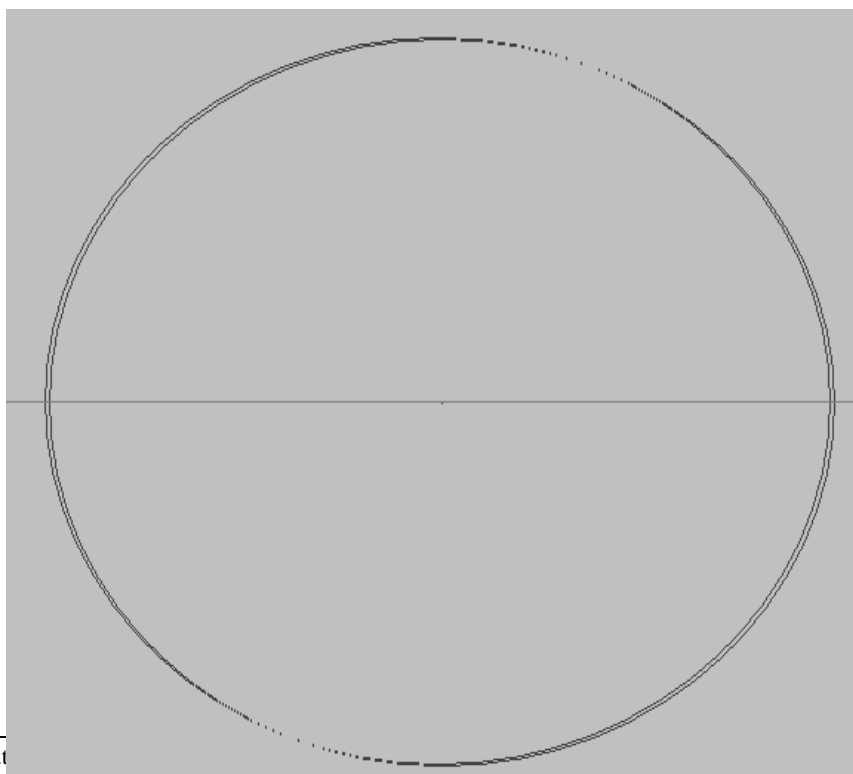
By using the function of making Motif, we can easily input sequin or sequin combinations. Example: A, B, A+B, C, A+C, B+C, A+B+C, D, A+D, B+D, A+B+D, C+D, A+C+D, B+C+D, A+B+C+D, etc.

We here take sequin B designing as an example.

- 1) Open any design making software. Firstly, we zoom in the blank to certain scale ( it is for easily inputting sequins in a same place ) and enter sequin status.
- 2) Input a sequin.

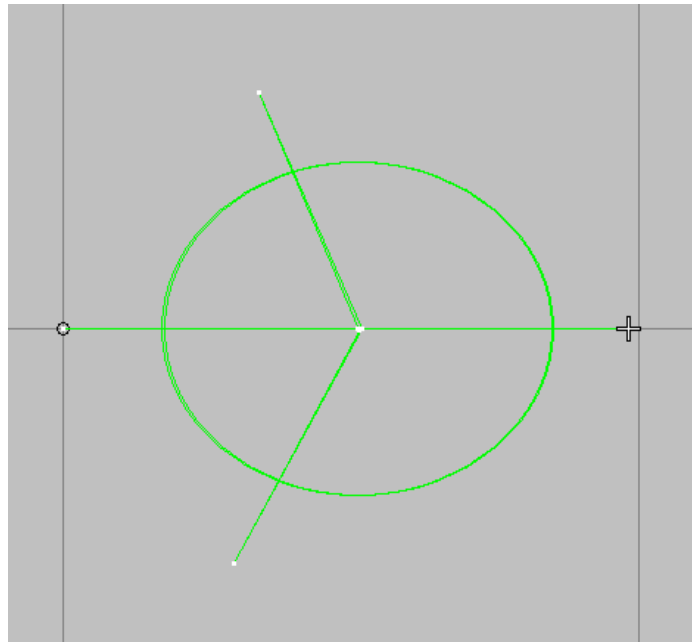


- 3) Since the value of sequin B is 2, we should put 2 sequins in here, which means, we have to add another sequin.

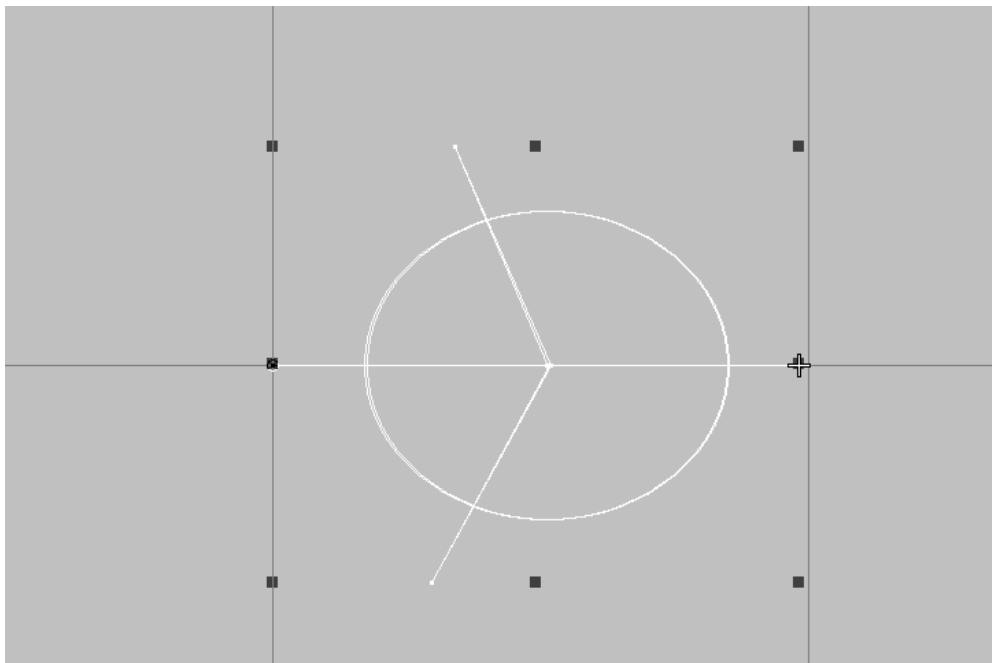




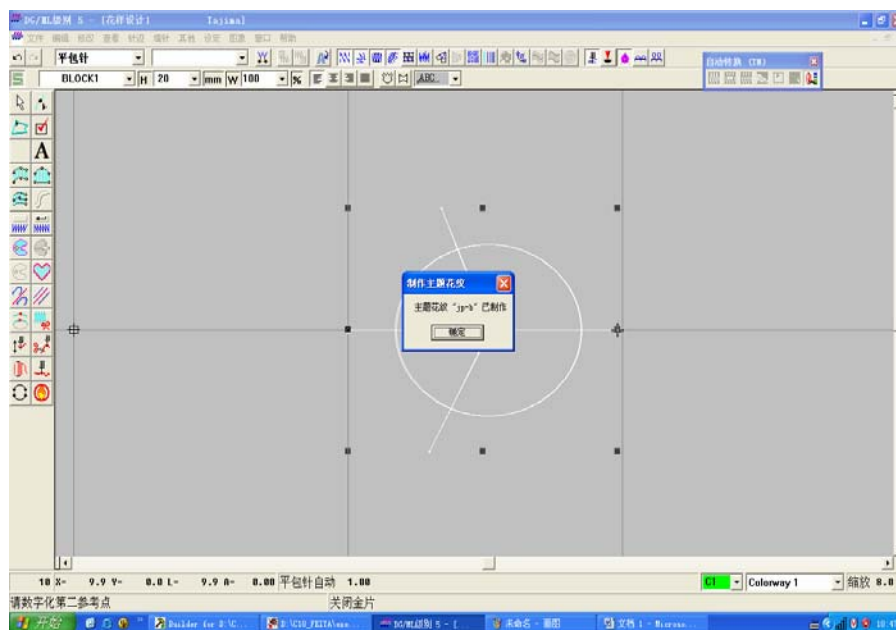
- 4) Continue to type in other single-stitches.



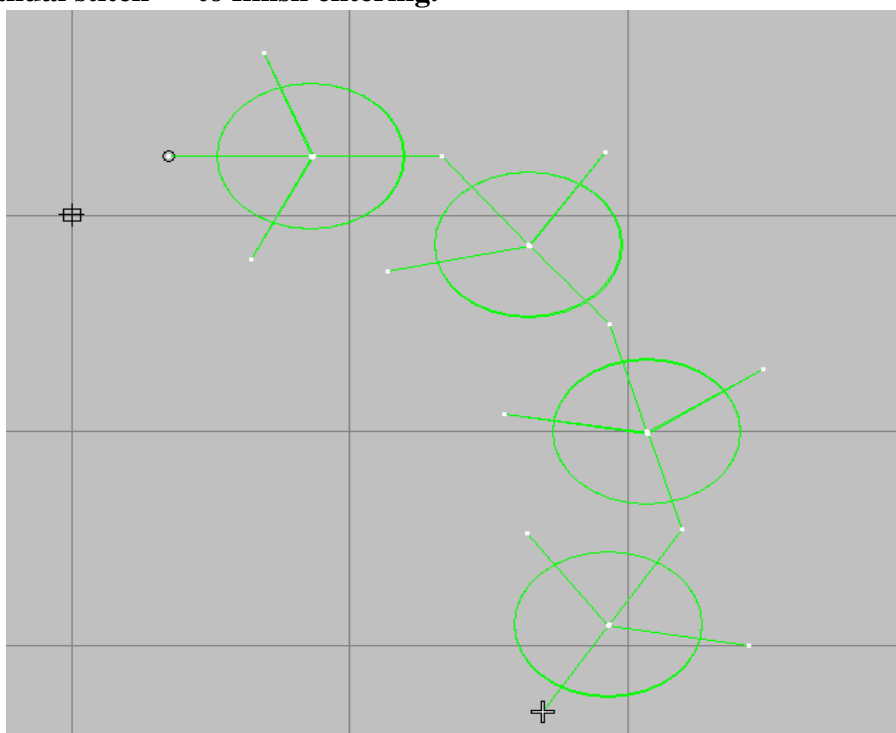
- 5) You can see “stitch list” shows 2 sequins as the following image.
- 6) Select all stitches.

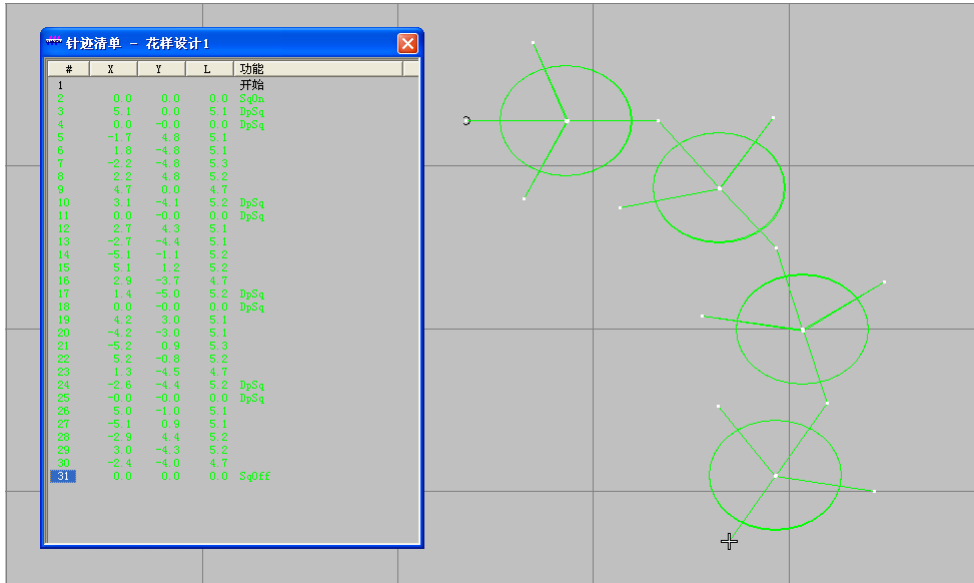


- 7) Making Motif, group is JP, name is JP-B
- 8) Input two reference points.



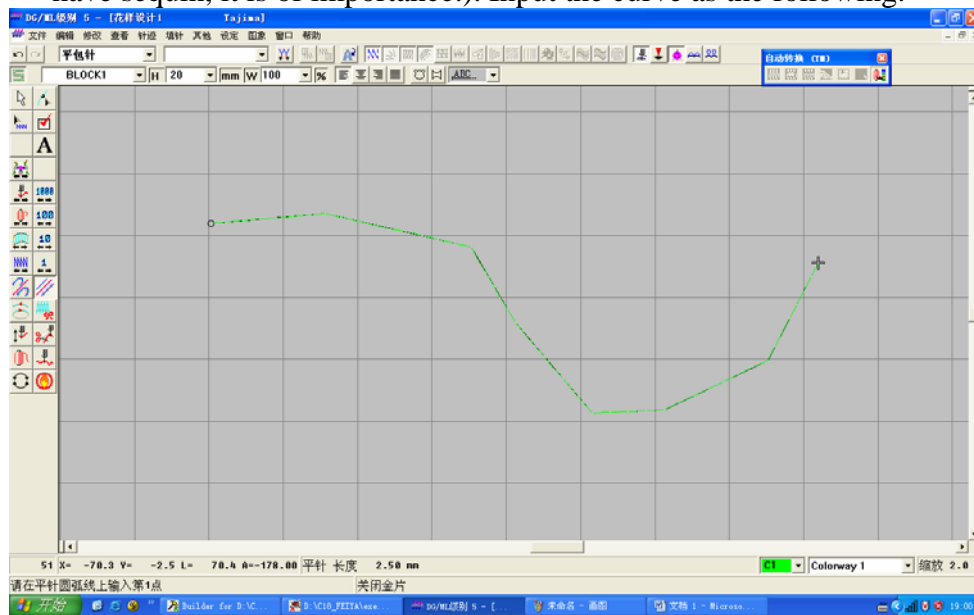
- 3、 Single needle multi-sequin, you can use “Stitch form -> Motif -> Apply” . Then “manual stitch” to finish entering.



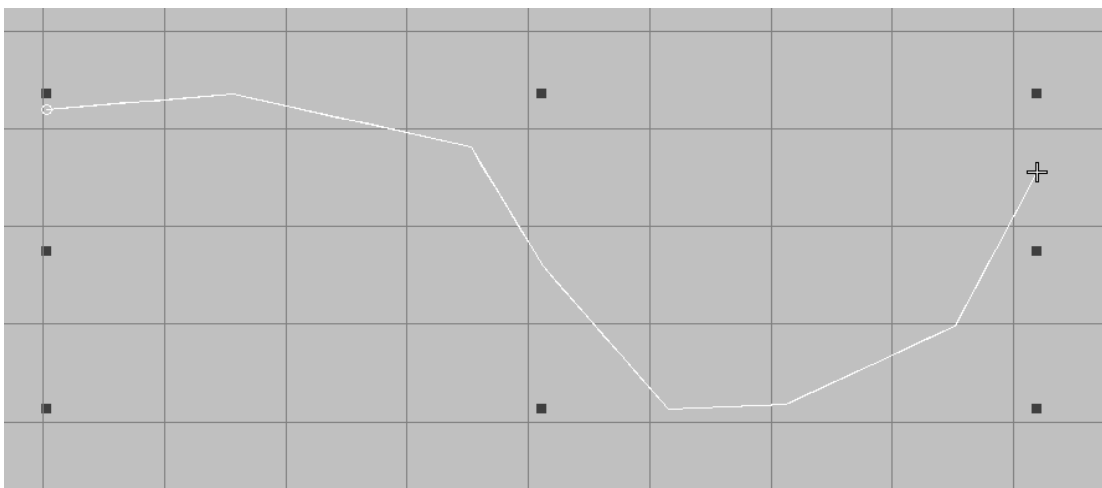


#### 4. Others (curve) can apply trace too.

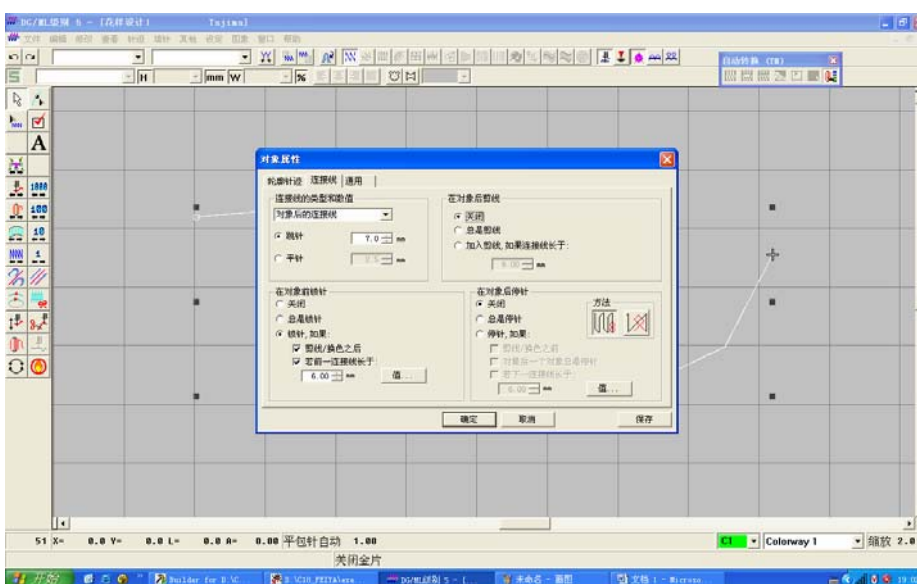
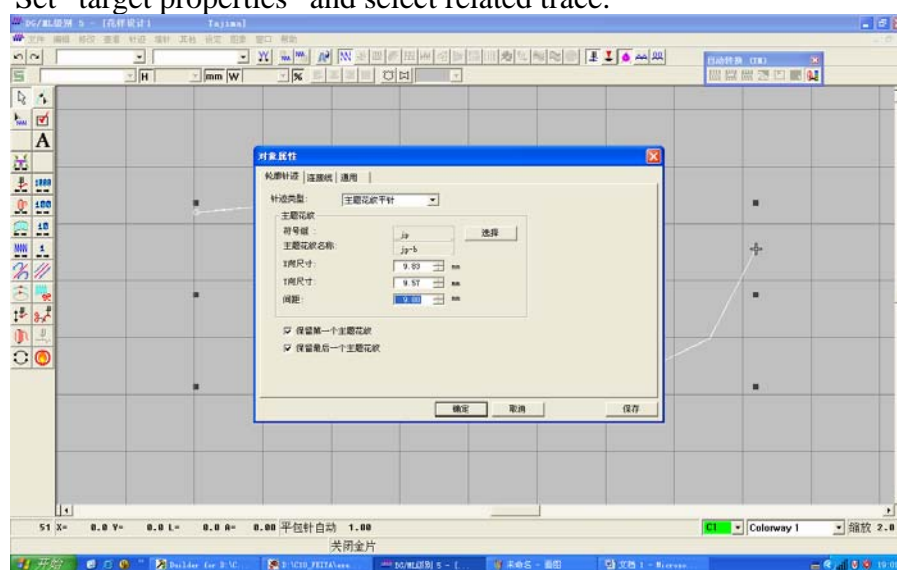
1) Click sequin button to enter "sequin status" (this is to ensure all the curve section have sequin, it is of importance.). Input the curve as the following.



2) Select a target.

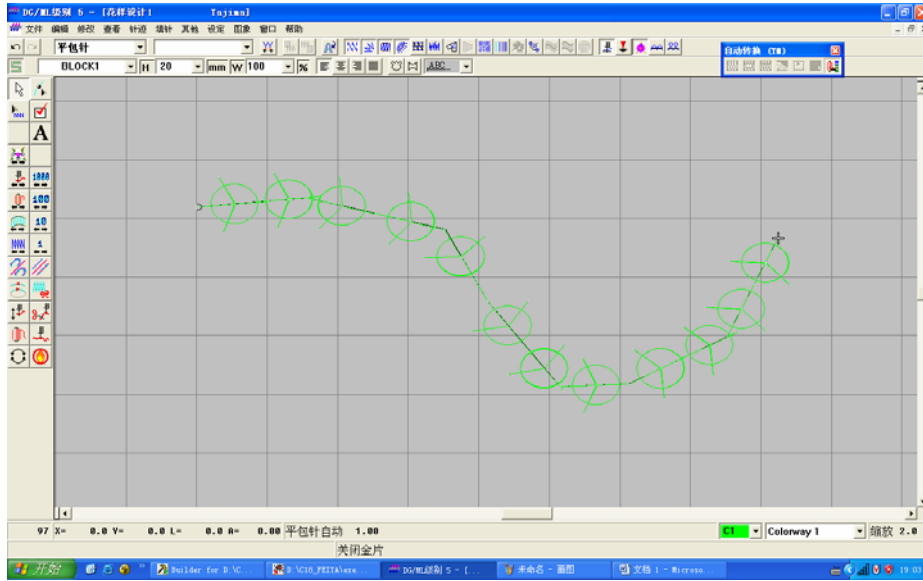


3) Set “target properties” and select related trace.



4) “Multi-sequin” input is finished.

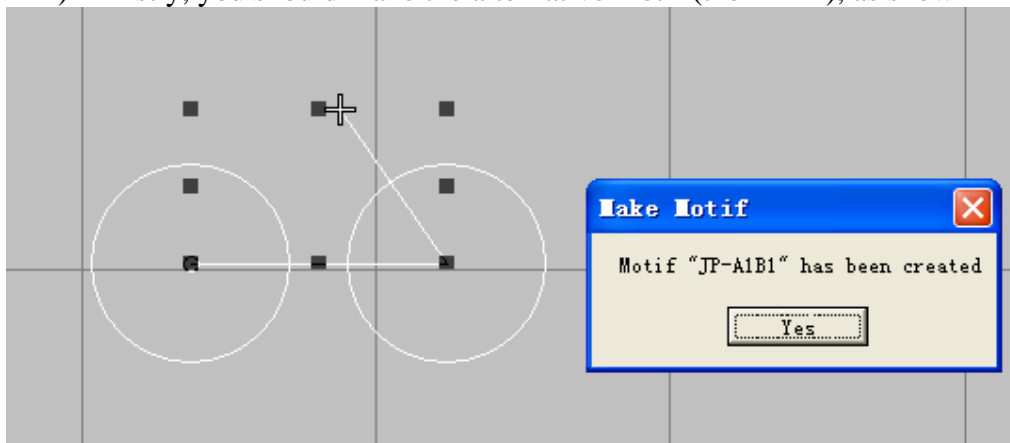




### 5、 Make alternative sequin design

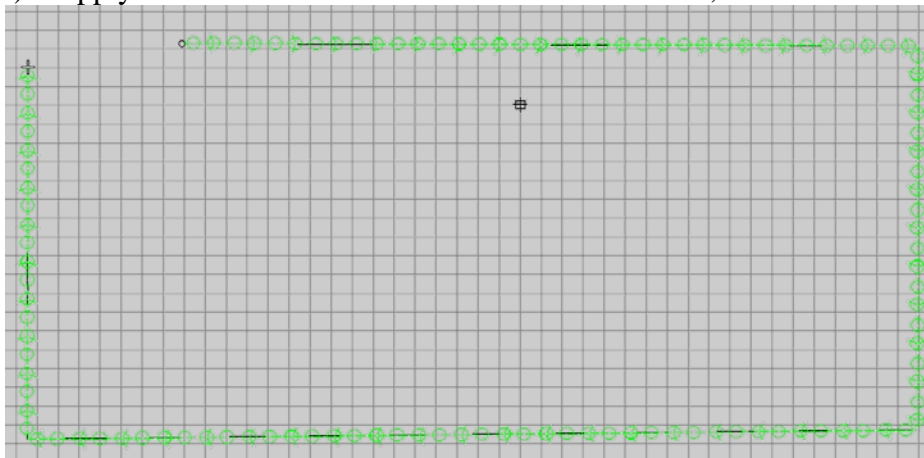
This is to realize the embroidery of different sequin alternatively. For instance, alternative A1B1 embroidery can realize embroidery effect of A, B, A, B...

1) Firstly, you should make the alternative motif (the A1B1), as shown in below:





2) Apply the above motif to achieve alternative A1B1, as shown in below.



#### 6. Design maker should build up design data base

Now we have sequins: 3MM, 4MM, 5MM, 6.75MM and 9MM. while the first needle position can have 4 sequin delivery devices at most. So we can get the following 15 combinations: A,B,AB,C,AC,BC,ABC,D,AD,BD, ABD,CD,ACD,BCD,ABCD.

The design data base should be the combination of the above sequin sizes and sequin groups.

If there are two sequin delivery devices A and B, and A design document uses 3MM sequin and 5MM, the design data base should contain 3MM-A base, 5MM-B base, and 5MM-AB base. While the other design uses 4MM and 6.75MM, then the design data base should contain 4MM-A, 6.75MM-B and 6.75MM-AB.

If there are three sequin delivery devices A, B and C, and A design document uses 3MM, 4MM and 6.75MM, the design data base should contain 3MM-A base, 4MM-B base, 4MM-AB base, 6.75MM-C base, 6.75MM-AC base, 6.75MM-BC base and 6.75MM-ABC base. While the other design data base uses 3MM, 6.75MM and 9MM, the design data base should contain 3MM-A base, 6.75MM-B base, 6.75MM-AB base, 9-C base, 9-AC base, 9-BC base and 9-ABC base.

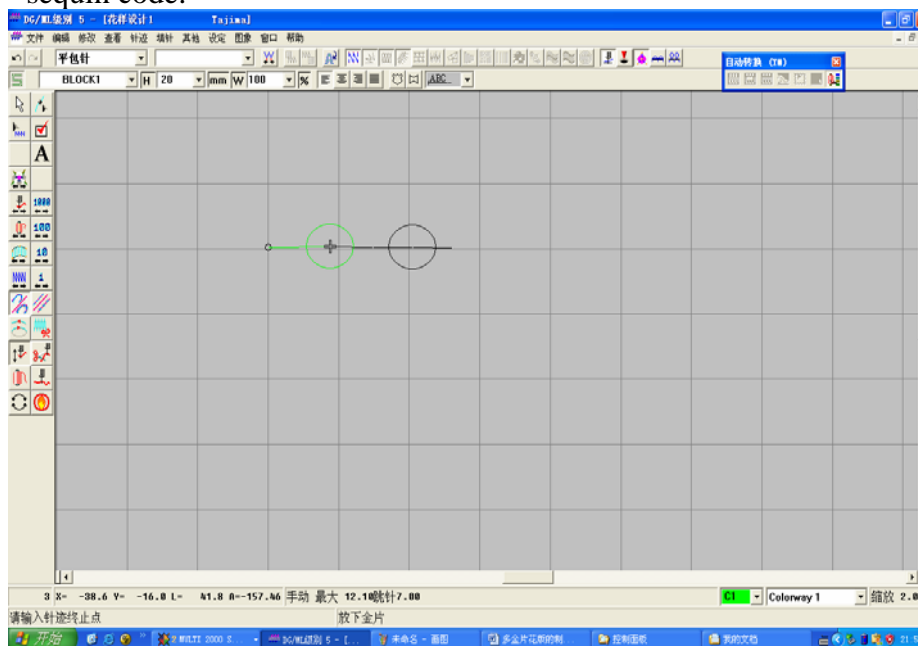
Other sequin design data bases are formed in the same principle.

The alternative sequin design data base should combine single and overlap sequins. For instance, 3MM-A sequin base and 4MM-AB sequin base can form alternate sequin of 3MM-A & 4MM-AB, which achieves embroidery effect of A, AB, A, AB...

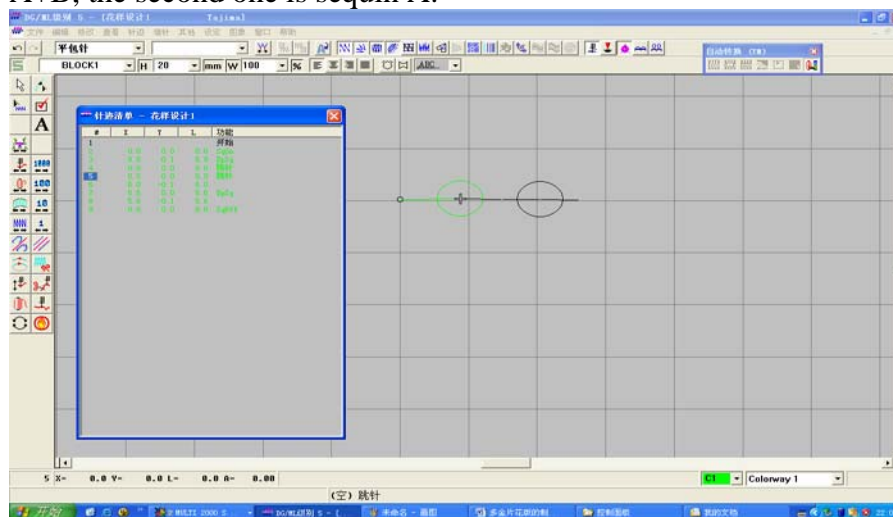
**7、 Turn normal sequin design to Dahao special sequin design**

According to the above rules, we just need insert some jump stitch after “sequin code”, so that we can change the original sequin code to “multi-sequin code”.

- 1) If you want to change the first sequin code to A+B sequin code, you need to locate to that stitch first ( its character is to put down the sequin ) .
- 2) Right click “insert jump stitch” twice to insert two jump stitches after the original sequin code.



- 3) You can see the stitch list as the following image. The first sequin is overlap A+B, the second one is sequin A.



Save as the TAJIMA DST document.



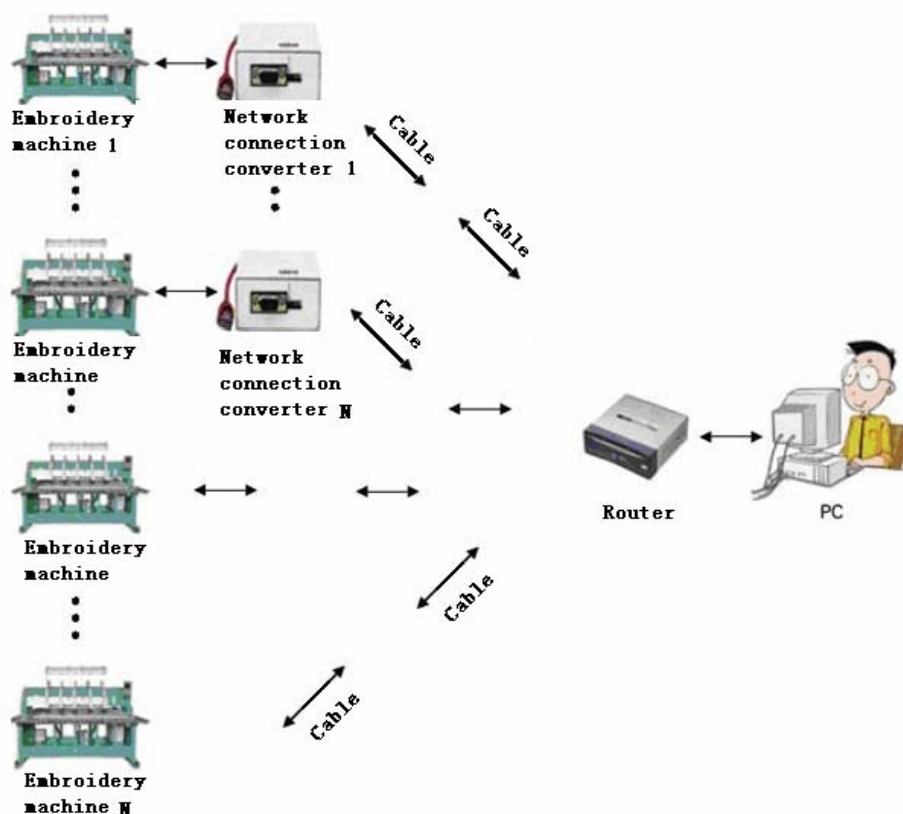
## Appendix IV Network Connection of Embroidery Machines

The network management function enables to realize the communication among computers, remote real-time supervision on machine working status and batch download.

### 1. Network Function and Characters

- (1) Embroidery Machine Supervision: Check the current status (on or off) of the entire embroidery machines; check the detailed information of one embroidery machine (including embroidery parameters, mechanical parameters and so on).
- (2) Embroidery Design Management: Input the local designs, classify the designs, check the designs, transfer the designs to the embroidery machine, check or delete the designs in memory of embroidery machine.
- (3) Embroidery Machine History Inquiry

### 2. Conditions for Realizing Network Functions



- (1) PC
- (2) PC Software, like EmbNetServer & EmbClient;
- (3) Cable, hub (or switch) and other network tools;



- (4) Dahao network connection converter and the serial port cables;
- (5) Dahao computerized embroidery machine(at present, this function is supported by 1x2, 2x2, 1x8, 2x8, xx6, 322, 、 528, x9S, Ax8 and Cx8 series) and the corresponding main software that supports this network function.

### 3. Network Function Application

With the different methods for network connection, the network functions are divided into two types, which are NET-03 Type and Network Port Type.

- (1) NET-03 This type is to realize the network function by using the serial port 232 on mother board. (Use direct network cable to realize network connection)
- (2) Network Port Type: This type is to realize the network function by connecting the PC to network port directly. ( The cross network cable is needed for connection ) .

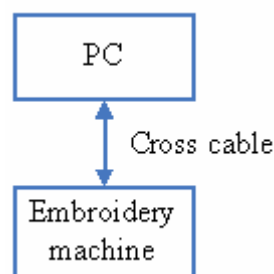
### 4. Procedures for Installation & Debugging

- (1) Ensure the connections of mother board, hub, Dahao network connection converter, embroidery machine computer serial port or network port are ok. And make sure the communication is unhindered;
- (2) Set the IP address of PC;
- (3) Set IP, server address, port number and other parameters of embroidery machine computer.
- (4) Run server software EmbNetServer
- (5) Run the client software EmbClient

### 5. The ways to construct network

- (1) One PC directly connected to one embroidery machine

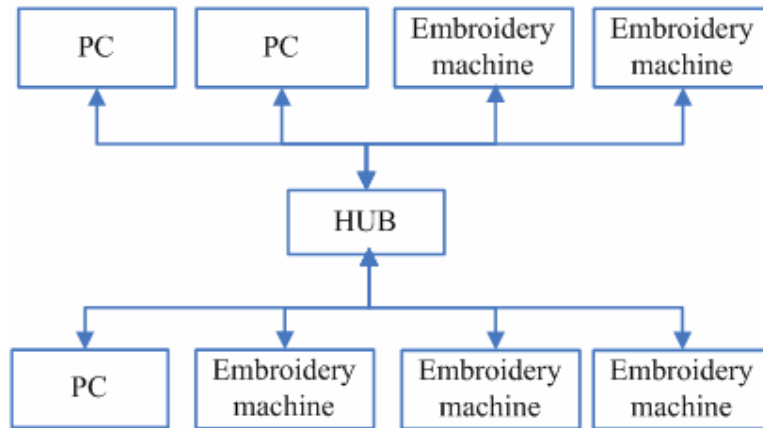
In this situation crossover cable is used to link the network interface of PC to the network interface of embroidery machine.





(1) PC and embroidery machine linked by HUB

In this situation straight-through cable is used to link PC with HUB.



(2) Connect the two networks in “2 ” through HUB

6. Setting the network parameters of embroidery machine

(2) MAC address of embroidery machine

Set MAC address of NIC of embroidery machine. Each embroidery machine has its sole address. The range of this parameter is 000000000000~00FFFFFFFF.

(3) IP address of server

This parameter has to be the IP address of the PC installed with EmbNetServer. This address can be found in the display window of EmbNetServer.

EmbNetServer installation and use refer to the CD information with embroidery machine.

(4) Server port No.

This parameter value is the port number used by EmbNetServer. The number can be found in the display window of EmbNetServer.

(5) IP address of embroidery machine

Set the IP address of embroidery machine when it's linked with PC. The IP addresses of embroidery machines can't be repeated. In one sub network the network numbers of embroidery machines and PCs have to be the same. And their computer numbers have to be different.

(6) Subnet mask

Set the subnet mask of IP address of embroidery machine when it's linked with PC. In one sub network the subnet masks of embroidery machines and PCs have to be the same.



(7) Gateway address

If embroidery machines are in the two different sub networks, the gateway address has to be set. Otherwise there's no need to set it.

7. Making Ethernet cable

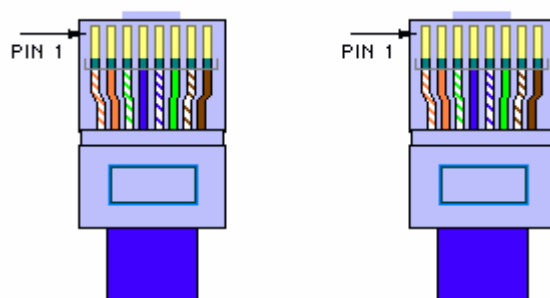
(1) Making straight-through cable

The pins in the two terminals of twisted-pair cable have to be in one-to-one correspondence. If the first pin of one terminal is green, the first pin of the other terminal must also be green. The twisted-pair cable made in this way is usually called "straight-through cable".

Connection:

Pin number	1	2	3	4	5	6	7	8
Pin color	orange white	orange	green white	blue	blue white	green	brown white	brown

Shown in the following picture:



One terminal

The other terminal

Usage: a. Link switch or HUB to router

b. Link computer (including server and workstation) to switch or HUB

(2) Making crossover cable

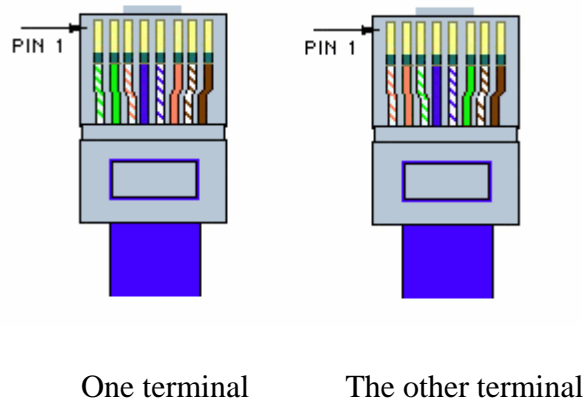
1 - 3, 2 - 6 crossover connection: Twisted-pair cable has 4 pairs of pins (8 pins). Only 4 pins are used in network, namely the first, second and third, sixth pins. They are used for receiving and sending signals. The connection rule is: the first pin of one terminal is connected to the third pin of the other terminal, and the second to the sixth. Other pins are connected to the corresponding pins. Cable made in this way is called "crossover cable".



Connection:

Pin number	1	2	3	4	5	6	7	8
corresponding Pin number	3	6	1	4	5	2	7	8
Pin color	white green	green	white orange	blue	white blue	orange	white brown	brown

Shown in the following picture:



Usage:

- a. Connection between switches through UPLINKS interface
  - b. Connection between HUB and switch
  - c. Connection between HUB and HUB
  - d. Direct connection between 2 PCs (NIC to NIC)
  - e. Connection between interfaces of Routers
  - f. Connection between ADSL Modem (Ethernet interface) and NIC of PC
8. Notes for network setting parameters

(1) MAC address

In physical transmission of network bottom level, the computers are recognized by physical address (MAC). So it's necessary to keep the uniqueness of MAC address. When the first two digits of MAC address are not zero, some network equipments regards it as illegal MAC address and the equipment can't be linked to the network. So the first two digits of MAC address must be zero.





### (2) IP address

#### 1) Definition of IP address

IP also called Internet address is the logic address for solely marking the computers in internet. Every computer in the internet relies on the IP address to mark itself. It's like we find the phone by the phone number in the phone book. In one network the IP address must be unique.

#### 2) Form of IP address

One IP address includes 4 decimal integers portioned by decimal points. Each integer is in fact composed of 8 binary numbers. So the maximum of each integer is 255 and the minimum is 0.

#### 3) Structure and classification of IP

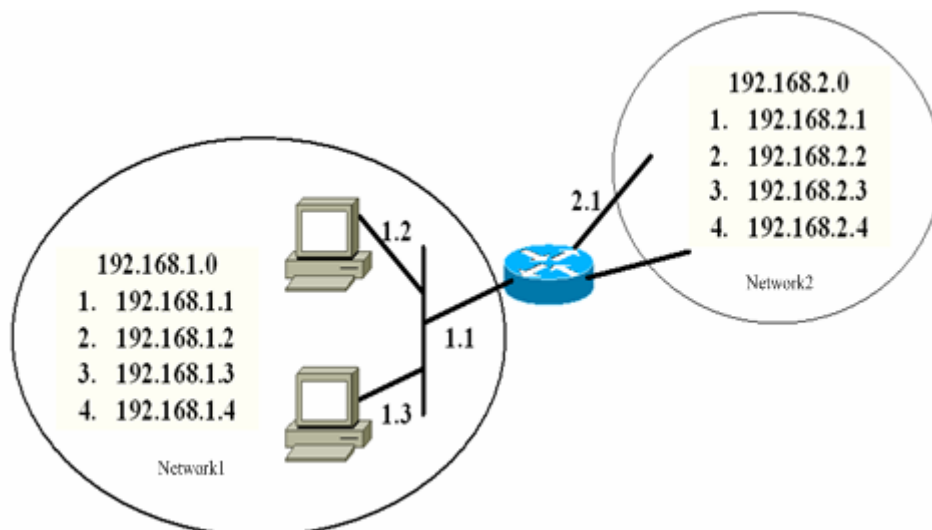
The four numbers of IP address can be divided into 2 parts. One is network number for marking the network. Another is computer number for marking the specific machine in one network. IP addresses are divided into 3 kinds: A, B and C.

A: the first number represents network and the following 3 numbers represent computer.

B: the first two numbers represent network and the following 2 numbers represent computer.

C: the first three numbers represent network and the last one represents computer.

Use the following example to explain the network number and computer number of C type.





Network	Network number	Computer number
1	192.168.1	.1
1	192.168.1	.2
1	192.168.1	.3
1	192.168.1	.4
2	192.168.2	.1
2	192.168.2	.2
2	192.168.2	.3
2	192.168.2	.4

### (3) Subnet mask

To show how the network number and computer number are divided, subnet mask is used to tell in one IP address which part is for network and which part is for computer. It's regulated that "1" is for network part and "0" is for computer part. IP address and subnet mask combine to tell in which network the computer is. So the subnet mask is very important. If it's wrong, it will get the wrong network address. Therefore the same network number must be set with the same subnet mask.

### (4) Gateway

It's the IP address of the router which is in the same subnet of the computer. As in the followed picture, if one data packet is to be transmitted to a computer in network 2, this data packet has to be sent to the router linked to us. It's like in sending by post you only need to deliver a letter to postman instead of delivering by yourself. So when the computers are not in the same network segment, the gateway also has to be set properly in setting computers. Otherwise computers don't know where to deliver the data packet.

