



# BECS-C19

(General Unit)

Version: 2012-01

## OWNER'S MANUAL

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## Index

Chapter 1 General Descriptions .....	1
1-1 Warnings and Cautions .....	1
1-2 Main Features.....	3
1-3 Technical Specifications .....	8
Chapter 2 Operation Instruction .....	9
2-1 Configuration and Direction of the Control Panel .....	9
2-2 Instruction of Control Panel.....	10
2-3 Instruction of the Main Screen.....	11
2-4 Notes on Menu State .....	18
2-5 How to Input Numerals, Letters and Symbols.....	18
2-6 Moving of the cursor.....	18
2-7 Flow Chart of Embroidery .....	18
2-8 Normal Embroidery, Returning and Patching.....	25
2-9 Relations between Normal Embroidery, Idling and Position Idling.....	26
2-10 Operation Bar and Turn Shaft Button .....	27
2-11 Thread break detect and mending switch.....	28
2-12 System's Working States.....	29
Chapter 3 Disk Management .....	30
3-1 Disk Choosing.....	30
3-2 Design Preview .....	32
3-3 Select One or Several Designs .....	34
3-4 Design import.....	35
3-5 Design Export .....	37
3-6 Folder Operation .....	38
3-7 Deleting Objects in Disk (Including Design Files and Folders) .....	38
3-8 Formatting a Disk.....	39
Chapter 4 Memory Design Management .....	41
4-1 Memory Design Management Screen and Other Memory Design Operation Screens ..	41
4-2 Select One or Several Designs .....	44
4-3 Selecting a Design for Embroidery .....	45
4-4 Design View.....	45
4-5 Copy the memory design .....	47
4-6 Deleting the memory design .....	48
4-7 Design add applique.....	49
4-8 Satin stitch compensate.....	52
4-9 Edit packed design .....	52
4-10 Design divide .....	55
4-11 Combine the designs .....	55
4-12 “High speed design”.....	56
4-13 Create design from packed.....	57
4-14 Design from parameter.....	57
4-15 Frame and Make Design .....	58
4-16 Create outline from design.....	59



- 4-17 Copy design with varied switch length..... 60
- 4-18 Setting design parameters ..... 60
- 4-19 Design come from PC..... 61
- 4-20 Network Management Function ..... 62
- Chapter 5 Managing of Parameters..... 65
  - 5-1 Normal Parameters ..... 65
    - 5.1.1 Design directions ..... 66
    - 5.1.2 Setting of rotate..... 66
    - 5.1.3 Setting of X-scale ..... 67
    - 5.1.4 “Rep. Prior” ..... 68
    - 5.1.5 “Rep. Mode” ..... 69
    - 5.1.6 “X&Y Repts” ..... 69
    - 5.1.7 “X&Y Interval” ..... 69
    - 5.1.8 “Prior Mode” ..... 69
  - 5-2 Setting of other embroidery parameters ..... 70
    - 5.2.1 Setting Procedure for Other Parameters ..... 71
    - 5.2.2 Introduction of Some Functions of General Parameters ..... 72
  - 5-3 Set User-defined parameter ..... 75
  - 5-4 Purview of Machine Parameter Manage..... 77
    - 5.4.1 Unlock/Change the administrator password ..... 78
    - 5.4.2 Machine Administrator cancels machine lock ..... 79
    - 5.4.3 Administrator reset (or save) optimize parameter..... 80
    - 5.4.4 Change the factory password ..... 85
    - 5.4.5 Unlock the factory password ..... 85
    - 5.4.6 Factory Save/Reset Parameters..... 85
  - 5-5 Initialize Parameters ..... 85
  - 5-6 Save all parameter to disk..... 86
  - 5-7 Read all parameter from disk..... 89
  - 5-8 Adjust Parameters of X & Y Servo Drivers ..... 91
    - 5.8.1 Set the parameter ..... 92
    - 5.8.2 To inquire servo driver status..... 92
    - 5.8.3 Write driver parameters ..... 92
    - 5.8.4 Restore default driver parameters ..... 92
- Chapter 6 Assistant Operation ..... 93
  - 6-1 Assistant embroidery operation ..... 93
    - 6.1.1 Resume Design Start..... 93
    - 6.1.2 Save design start ..... 94
    - 6.1.3 Auto to start position..... 94
    - 6.1.4 Stitch stop down..... 95
    - 6.1.5 Setting another start ..... 96
    - 6.1.6 Set B Point ..... 97
    - 6.1.7 Operation on AFC, Sequin and Coiling Devices ..... 99
    - 6.1.8 Upper thread hold operation ..... 99
  - 6-2 Other assistant operation..... 99
    - 6.2.1 View Embroidery Parameter..... 100



6.2.2	View Statistics Information .....	101
6.2.3	Power resume setting/ frame start setting.....	102
6.2.4	Power resume .....	103
6.2.5	Set embroidery scope in software.....	104
6.2.6	Set system clock .....	105
6.2.7	Language Choice .....	106
6.2.8	Machine Soft Information .....	106
6.2.9	Help .....	107
6.2.10	Machine Test .....	107
Chapter 7 Other Operation .....		110
7-1	Operation on color-changing order .....	110
7.1.1	Input Color Line .....	110
7.1.2	Modify color line.....	111
7.1.3	Replace a needle.....	111
7.1.4	Set color of showing design .....	112
7-2	Design border operation.....	113
7.2.1	Check the boundary of a design .....	113
7.2.2	Move the frame along the boundary of a design .....	114
7.2.3	Create design from outline .....	115
7.2.4	Frame to generate design, then embroider back .....	115
7.2.5	Embroider a “+” in current position .....	116
7.2.6	Frame and embroider back for one line.....	117
7.2.7	Embroider the boundary of current design .....	118
7.2.8	Embroidery true boundary of current design.....	119
7-3	Positioning Idling .....	119
7.3.1	Go ahead stitches.....	120
7.3.2	Go back stitches .....	121
7.3.3	Next Color Code.....	121
7-4	Reset X/Y Displacements .....	121
Chapter 8 Memory Design Edit.....		123
8-1	Start Editing Design .....	123
8-2	Design Edits Operation .....	124
8.2.1	Summarize.....	124
8.2.2	Document and View Operation .....	125
8.2.3	Key for Positioning Stitch and Editing Stitch.....	125
Chapter 9 Letter Design .....		127
9-1	Enter Letter Design Operation .....	127
9-2	Enter Char String and Basic Parameter.....	127
9-3	Character Pattern Save .....	133
Chapter 10 JF type sequin embroidery .....		134
10-1	Brief introduction on sequin embroidery .....	134
10-2	Embroider sequin .....	135
10-3	Input sequin design .....	136
10-4	Sequin design edit .....	136
10-5	Parameter setting about multi-sequin embroidery .....	140



10-6 Change color order and set sequin mode ..... 145  
10-7 Manual operation of sequin embroidery ..... 149  
10-8 Debugging multi-sequin embroidery ..... 150  
10-9 Sequin mending ..... 151  
Chapter 11 Directions on Coiling, Taping and Zigzag Embroidery ..... 152  
11-1 Function Introductions ..... 152  
11-2 Main Technical Details ..... 153  
11-3 Parameters and parameter setting ..... 153  
11-4 Relative Operations of Special Embroidery ..... 156  
    11.4.1 Shift between Lock Stitch Head and Special Head ..... 156  
    11.4.2 M Axis Operation of Taping Embroidery ..... 158  
    11.4.3 Operations of Clamp Foot ..... 159  
11-5 On Debugging Special Embroidery ..... 159  
11-6 Steps on Special Embroidery ..... 160  
11-7 Mechanical Category and Driving Mode Choice of Special Embroidery Machines . 160  
Chapter 12 Instruction on Operating High-Efficiency System ..... 164  
12-1 Descriptions of Parameters in High- Efficiency Mode ..... 164  
12-2 Setting of Software for High-Efficiency Mode ..... 164  
Chapter 13 Updating Control Program ..... 169  
13-1 Update data software ..... 169  
13-2 Updating control program ..... 173  
Chapter 14 Updating Peripheral Equipment Program ..... 177  
Appendix I Parameter Setting List ..... 183  
Appendix II Directions on USB operations ..... 195  
Appendix III Error Information And Instruction of System Level Mistake ..... 196  
Appendix IV Making of Special Multi-Sequin Design ..... 199  
Appendix V Network Connection of Embroidery Machines ..... 208

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## Chapter 1 General Descriptions

Thanks for using the Computerized Embroidery Control System of Beijing dahao Technology Corp., Ltd. It is appreciated that you do read this manual carefully in order to operate the machine correctly and effectively. Besides, you should keep this manual for future use.

### 1-1 Warnings and Cautions

<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.
 Forbidding	Don't expose the machine to humidity gas, poisonous gas, water, and dust.
 Forbidding	Don't restore or operate in vibration, which may cause trouble to the machine.
 Notice	Please abide all the warnings and safety requirements to save life.
 Notice	LCD belongs to fragile goods. Do not use hard materials to click on the screen.
 Notice	Before plugging in, please make sure if the lamp of floppy disk driver is on, don't move out the floppy disk..
 Notice	We will add appendix if necessary, if there is any difference between the manual and appendix, subject to the appendix.
<b>In Transportation</b>	
 Notice	Don't hold the cable when moving..
 Notice	Please abide all the warnings and safety requirements to save life.
 Force	Overloading may cause serious loss. Please load according to the instruction on the box..
<b>Installation</b>	
 Notice	Don't jam the vent on the device. Don't plug up the machine, or it may set



	fire.
 Notice	Make sure the installation direction is correct..
 Notice	Don't expose the machine to humidity gas, poisonous gas, water, and dust.
<b>Cable Connection</b>	
 Forbidding	Don't test the insulation of the circuit loop.
 Forbidding	Never try to connect overloaded electronic device on the connector..
 Notice	Make sure the insulating of the cable is fine.
 Notice	Communicating cable and power cable should be separated.
 Notice	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 insulating capability.
 Notice	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 surface..
 Forbidding	When machine is running, do not touch any running part.
 Notice	Make sure the configuration of power supply in normal. Use stabilized voltage power supply when the voltage rebound is between -10%~10%.
 Notice	In case of warning, please check out the problem. Operation can only be carried out again when problem is solved.
 Notice	The power supply has over-current protection function. There is a 3 mins time lag before the function can be used again.
<b>Maintenance</b>	
 Warning	If you need to open the machine cover, cut out the power supply first. Duo to the capacitance after power off, operator must wait one minute till he can open the machine cover.
 Notice	Circuit boards can be damaged by static. Non-professional technician can not disassemble circuit boards.



 Notice	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).
 Notice	If machine is inactive for a long time, users should have the machine checked before power on.
<b>Rejection</b>	
 Notice	Rejection should obey the rules and regulations set by national industrial electronic standards.

## 1-2 Main Features

### 1. LCD display

It offers delightful operation and easy learning. The beautiful screen display turns everyday work into joyful experiences.

### 2. Shutdown of LCD Display

Following measures were taken in order to extend the LCD life: LCD will turn off automatically in case of no operation in 10 minutes (the time can be changed in parameter setting). A touch of the screen or the task-shifting key will reboot the LCD.

### 3. Super-Large Memory Capacity

The memory capacity reaches 16 million stitches, in which 400 designs can be restored. Its super-large memory capacity can meet demands of different customers.

### 4. Maximum One Million Stitches for 1 Design

At present a single design in the system has the maximum of 100,000,000 stitches and 250 times of automatic color changing.

### 5. Multi-Task Parallel and Free Shift among Tasks



During embroidering, actions like design input & output, preparation for the following designs and modification of parameters can be carried out. Flexible shift among tasks can be realized by using the task-shifting key.

### 6. Storage of Frequently Used Parameters and Color-Changing Order for Each Design

Design will be saved along with its parameters, color-changing orders and needle bar colors. System can memorize the operational details for each design. Users can set parameters for a design during the embroidery process of the previous design, which will help saving time and improving efficiency. More importantly, it is one basis to realize network management.

### 7. Group Management of Parameters

Parameters can be divided into groups based on their functions. The last two groups of parameters can be restored, recovered and the machine with password-setting function can be password-protected.

### 8. Input & Output Using USB

Except for DOS, FDR and ZSK format, customers can use USB disk for data transfer. USB disk supports DIR operation, which is easy for design management. For each directory, system supports operation on 400 designs or sub-directory. There is no limitation between directory levels. Design formats like DSB, DST, ZSK and FDR can be loaded.

### 9. Input of Several Design Files at One Time

Both floppy and USB disks support multi-design input under one directory.



#### 10. Input design through network, color-changing order, etc.

Network connector is available, which help user input design, color-changing order, patch sewing, etc.

#### 11. Network Function

A surveillance LAN can be built by using the connectors and linked to the factory LAN, which realizes network management, improve production efficiency and reduce possible mistakes. It's the best choice of embroidery equipment for enterprises to take the modern enterprise management. The explanation is appendix V.

#### 12. Patch Embroidery

This function can set a patch code after the color code or stop code, and when the machine embroiders the patch code, it will halt and move frame out for patching. After stick a patch, user would pull the operation bar to let the frame move back and continue embroidering.

#### 13. Break Adjusting

For various machines, this function can make the machines stop correctly, which means that the main shaft stops at 100 degree.

#### 14. Starting Point Saving

This function can save and store the start embroidering point of each design, instead of repeating moving frame manually to find the design origin when selecting the same design.

#### 15. Mechanical Maintaining and Testing



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

### 16. Multi-Language Support

The system supports Chinese / English / Espanol / Turkish and so on language.

### 17. Design Output

Design can be output and saved into floppy disk or USB disk. Adoption of TAJIMA's binary system enjoys the advantage of data transmitting through the World Wide Web (other formats may not be transmitted directly).

### 18. Repetition Embroidery

The machine can increase embroidery productivity by repetition embroidery, which can also be used with cyclic embroidery.

### 19. Cyclic Embroidery

The machine also can increase embroidery productivity by using cyclic embroidery function, by which the machine automatically returns to the origin point and starts the same embroidery design again when finishing the design one time.

### 20. Design Compiling

#### (1) Compiling the Data of Selected Design to Generate New Design

Users can compile any design according to zoom ratio, rotate angle, normal repetition or partial repetition to generate a new design and save it in the memory card. The newly generated design can be used for embroidering, output or other



operations.

## (2) Compiling the Combined Design

System can compile the pre-set combined design to generate a new one and save it to the memory card. The newly generated design can be used for embroidering, output or other operations.

## 21. Letter Design

There are altogether 28 letter-bases. Users can make groups and change the letter order according to different tasks. This operation is simple and easy managing.

## 22. Design Editing

By using this function, users may insert, modify or delete certain stitch at the selected point. New designs can be created by this function too.

## 23. Speed Adjusting

The highest speed for embroidering can be set. During the process of embroidering, speed changes automatically as long as the needle interval changes.

## 24. Thread Trimming

Thread trimming can be manually controlled. Trimming acts automatically at the end of embroidery process or color changing.

## 25. Thread Break Detect

In case of thread break or running out of bottom thread, machine stops and warning lights start to blink.

## 26. Color Changing

At the color changing point, user can either act color changing manually or let the



system do according to the preset order automatically.

### 27.Special Embroidery

BECS-C18/C19 computerized embroidery owns special embroidery functions (coiling, taping and Zigzag embroidery).

### 1-3 Technical Specifications

1. Maximum design saving quantity: 400 designs
2. Memory capability: 16 million stitches
3. Screen resolution: 640\*480
4. Network transfer speed: 10Mbps
5. Data transfer mode supported: floppy disk, USB disk and network
6. Stepping Precision: minimum stepping precision is 0.1mm
7. Stitch range: from 0.1mm to 12.7mm

## Chapter 2 Operation Instruction

### 2-1 Configuration and Direction of the Control Panel

#### A. Configuration of the Control Panel



##### 1. LCD Screen

C18/C19 adopts high-luminance LCD display.

##### 2. Main USB Interface

USB disk can be plugged in for data input/output. The external floppy driver is also connected by USB interface.

##### 3. Serial Port to Link PC

Its serial port can be connected with PC for design transmission.

##### 4. Network Interface

C18/C19 has two key functions: network supervision and design data transfer. Network interface is used for network communications..

#### B. Direction in Using the Floppy Disk

This external floppy driver uses USB interface. Make sure the plug-in direction is correct. Try to avoid using force with incorrect plug-in direction, or it may destroy the floppy driver and disk.

C. Direction in Using the USB Disk

Please pay close attention to electrostatic phenomenon. Don't forget to discharge before plugging in/out the USB disk.

USB disk features plug-in direction. Users should avoid plugging out during writing or loading data, because it may result in loss of data. We highly recommend users to check the data integrity in case of data missing.

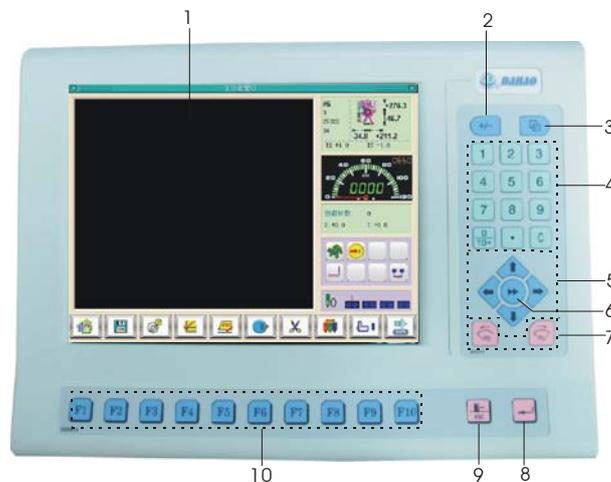
Note: During the process of USB format, sudden loss of electricity or plugging out the disk may break down the USB.

D. Direction of Network Connection

Preset the network parameters before the connecting. Otherwise other machines in the network maybe can't communicate.

2-2 Instruction of Control Panel

The key on the keyboard cooperate with LCD. If you want to operate function in any menu on the LCD, just push relative shortcut key on the keyboard. The state of that key will be shown on the screen.



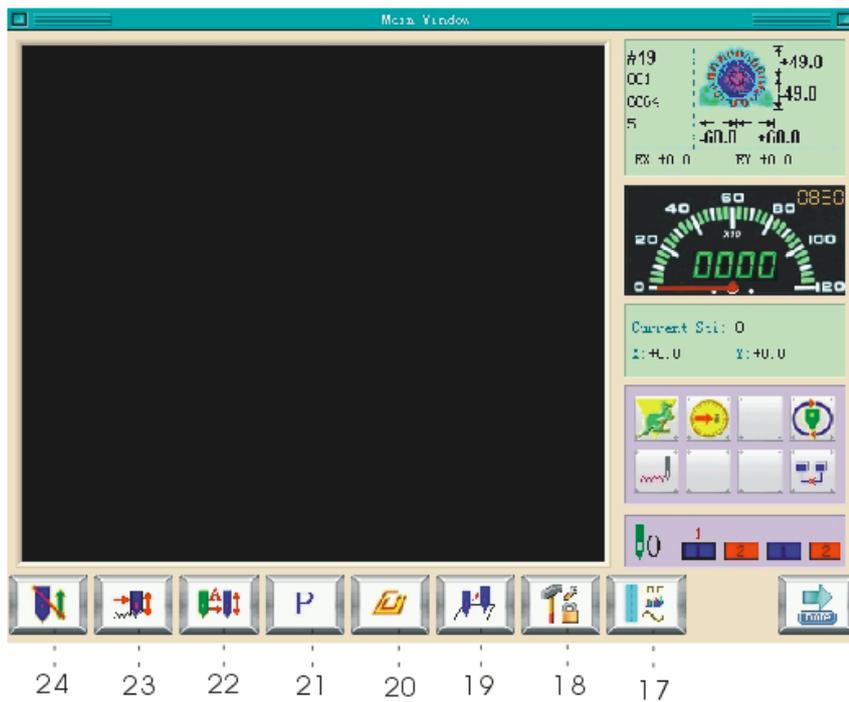
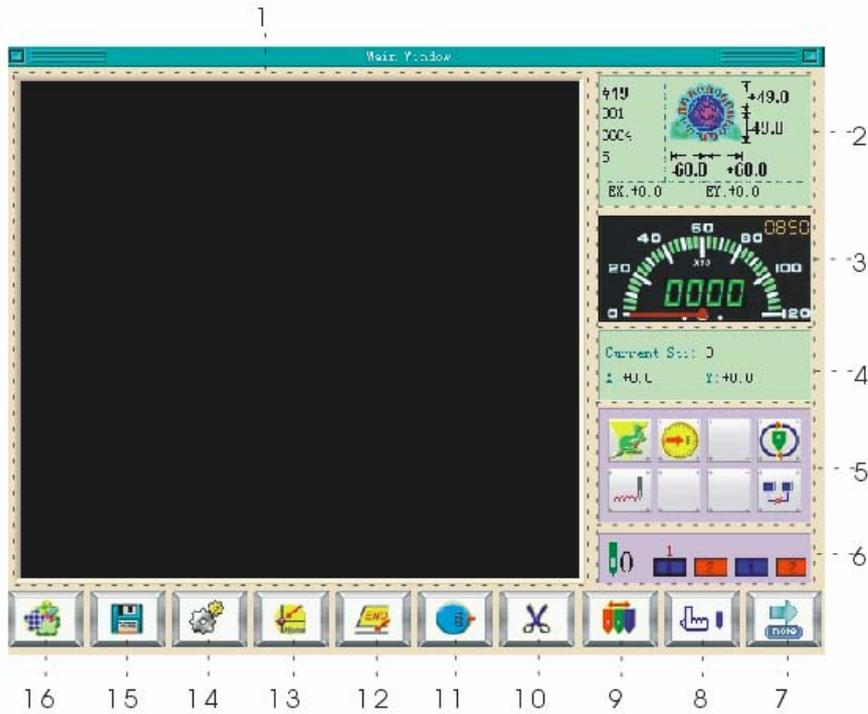
Number	Name	Description
--------	------	-------------



Number	Name	Description
1	LCD	Displays every operation.
2	+/- shift	To show plus & minus of inputted number.
3	Task Shift	If the user opens several screens, he can shift among the screens by this key.
4	Digital key	It is used for selecting menu or setting parameter.
5	Manual Frame Moving	In operation the direction of frame-moving is the same as the direction key. The combination of directions is supported, namely pressing the nearby 2 direction keys will move the frame in the 45 degree between the two directions.
6	Speed Shift of Manual Frame-moving	Press this key to switch the frame-moving speed between  (high speed) and  (low speed).
7	Speed adjust	Push the button  or  to reduce or increase the embroidering speed.
8	Confirm	To confirm certain operations.
9	Exit	To exit certain operations.
10	Function select	Push the function keys within this area to select function menus.(Note: If you press the keyboard in the main screen area twice ,it means correspond to enter and to exit. )

### 2-3 Instruction of the Main Screen

Note: Press the button  can shift between the following two pages.



No.	Display	Name	Description
1		Real time tracking	Embroidery stitch forms or design previews are displayed in this area.
2		Design information	Related design information is displayed in this area.
3		Main shaft speed	The set and actual speed can be viewed in this



No.	Display	Name	Description
			area.
4		Current stitch form information	The current stitch form information is displayed here.
5		Machine state information (follow the order of left to right, top to bottom)	Frame moving speed ( use  to shift between low speed  and high speed  )
			Main shaft state ( running  , stop in position  , not stop in position  )
			Embroidery state ( thread break  , finish  , color changing  , jump  , pull bar to stop  )
			Cyclic embroidery  , none cyclic embroidery
			Assistant embroidery state lockstitch/special embroidery (lockstitch  , sequin  , etc.)
			Off-set point 
			Assistant embroidery mode 
			Network state ( disconnected  , connected  , successful register  )
6		Color changing and current stitch position	
7		Next group of function key	Press this button to shift among different function groups
8		Assistant embroidery	Design origin, needle stops down, offset point, sequin, special embroidery, etc.

No.	Display	Name	Description
		operation	
9		Set color changing order	Main shaft stops to 100°  , press this key; after that, system goes to the color-changing order menu, press relative number to act color-changing.
10		trimming	After stopping, press this key to select to trim upper or lower thread.
11		Turn the main shaft at 100° manually	If the main shaft doesn't stop at 100°  ; Press the key and then the main shaft will arrive to this position  .
12		Go to stop point	When the machine stops, press the key “Manual Frame-moving” to move the frame (e.g. in case of patching). Then press this key and the frame will automatically return to the stop point of the current design.
13		Go to start point	When the machine stops, press it, the frame will automatically return to the start point of the current design.
14		Machine parameter management	Press this key to enter into machine parameter setting and operations.
15		Disk management	Press this key to enter disk management, including operations of floppy disk and USB.
16		Design management	Press this key to enter into design manage window, including embroider design, input design to memory, show design, generate design, etc.



No.	Display	Name	Description
17		Special embroidery mode	Press this key to enter into manual shifting special embroidery window.
18		Other assistant management	Press this key to enter other assistant management like clock setting and help.
19		Positioning idling	In embroidery confirmation status, press this key to do the operations of positioning idling.
20		Design border operation	Press this key to enter design border operation window
21		Change design direction	Press this key to shift the design direction among 8 directions.
22		Manual color-changing manual start	In this state, press related needle position key to select a position. Pull bar to start embroidering. When meet color-changing code, machine stops automatically,  appears. Then you should act manual color-changing. Type in the position you need, pull bar to start embroidering ( manual start ) .

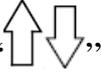
No.	Display	Name	Description
		Auto color-changing manual start	<p>If you set machine to auto-color-changing, you should first set needle color-changing order</p> <p>(press the key  in the main screen) .</p> <p>During embroidery, no matter where the current needle locates, system will act color-changing according to this order. When you meet color-changing code, machine will stop automatically and change to the needle position that already set. If you set auto start, machine will start automatically; if you set to manual start, pull bar to start.</p>
		Auto color-changing auto start	
23		Normal embroidery	<p>System is now in normal embroidery state. When you pull bar, the main shaft rotates, frame moves along the design trace. Pull bar to go back, machine idling back in low speed. When machine stops, press this key to shift to low speed idling  .</p>

No.	Display	Name	Description
		Low-speed Idling	<p>The machine is currently in low-speed idling status. When pulling the bar for normal embroidery, the main shaft remains inactive and the frame advances along the stitch trace.</p> <p>When pulling the bar for returning, the main shaft remains inactive and the frame returns along the stitch trace. When the machine stops, click this key to switch to high-speed idling status .</p>
		High speed idling	<p>System is now in high speed idling state. Pull bar but main shaft and frame don't move, stitch increasing; pull bar to stop, the frame goes to the real position of the current stitch. Pull bar to back, main shaft and frame don't move. Stitch decreasing. Pull bar to stop, the frame goes back to the real position of current stitch. When machine stops, press this key to change to preparing state .</p>
24		Embroidery preparing state	<p>Embroidery preparing state, you can select design, set parameter, etc. this key to confirm to change machine state from preparing state  to confirm state .</p>
		Embroidery confirm state	<p>Embroidery confirm state, you can pull bar to embroider. When machine stops, press this key to confirm to release confirm state  and back to preparing state .</p>

## 2-4 Notes on Menu State

If one menu is labeled the mark “” or “”, this indicate that this menu can not be accessed and modified. While if one menu is labeled “” or “”, it indicates that this menu can be accessed and modified. If there is a “”, then this parameter can be modified only if the relieving the password first.

## 2-5 How to Input Numerals, Letters and Symbols

For some menu, press the key “” to enter into setting (optional), press “” to shift options, press “” to confirm.

To type in number, you can press “” to enter radix point, press “+/-” to enter negative number. When there are several digits or letters on one key, you can press the key until you get the number or letter you want. For example, press

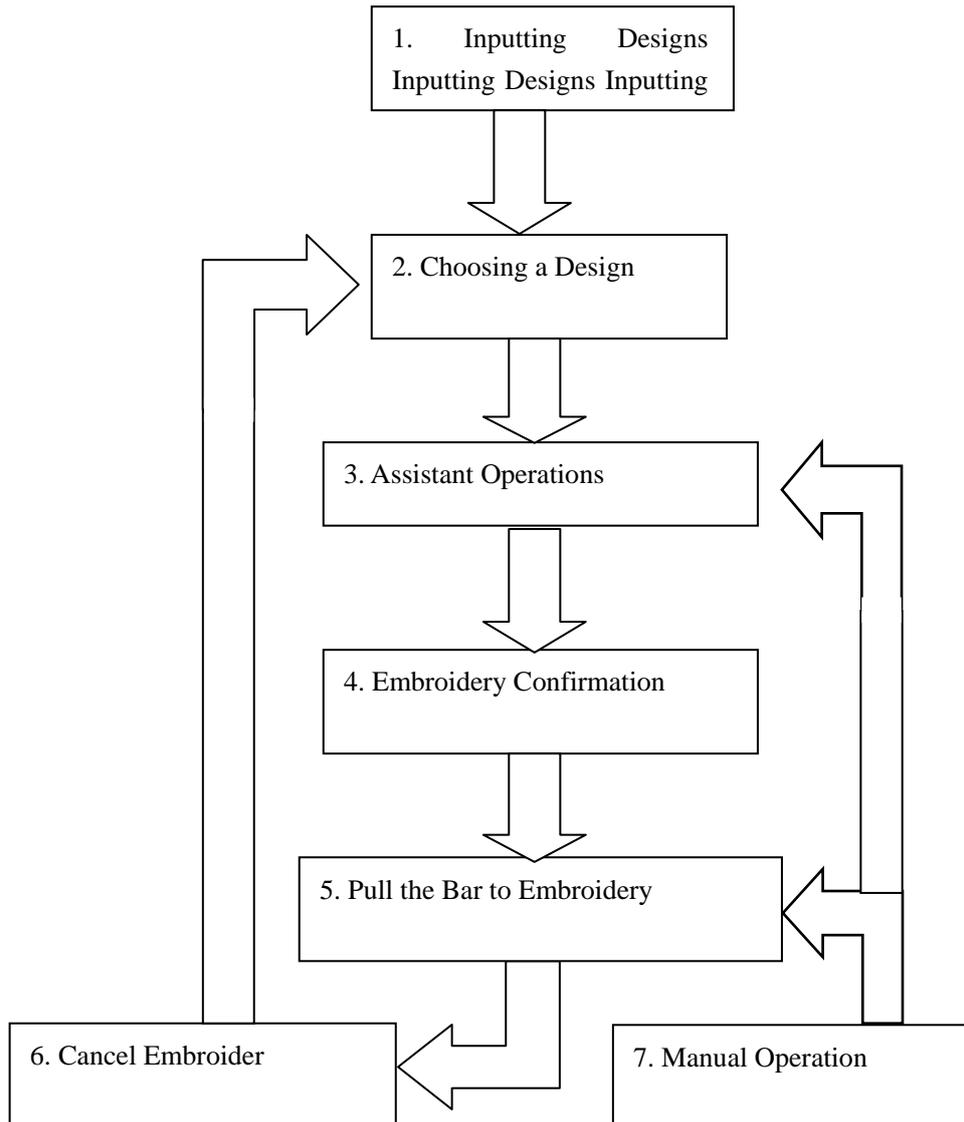
 trice, then you can get “I”. “” is used for shifting capital letters and small letters. “” is used for deleting the last letter you typed in.

## 2-6 Moving of the cursor

The cursor of this computer is displayed as “”. You can press “” or relative digit number to move the cursor to the option. Press “” or “” for a while, the cursor will move consecutively among each option.

## 2-7 Flow Chart of Embroidery

The machine embroiders based on the designs in its memory. The following is the basic Flow Chart of Embroidery.



### A. Import Designs

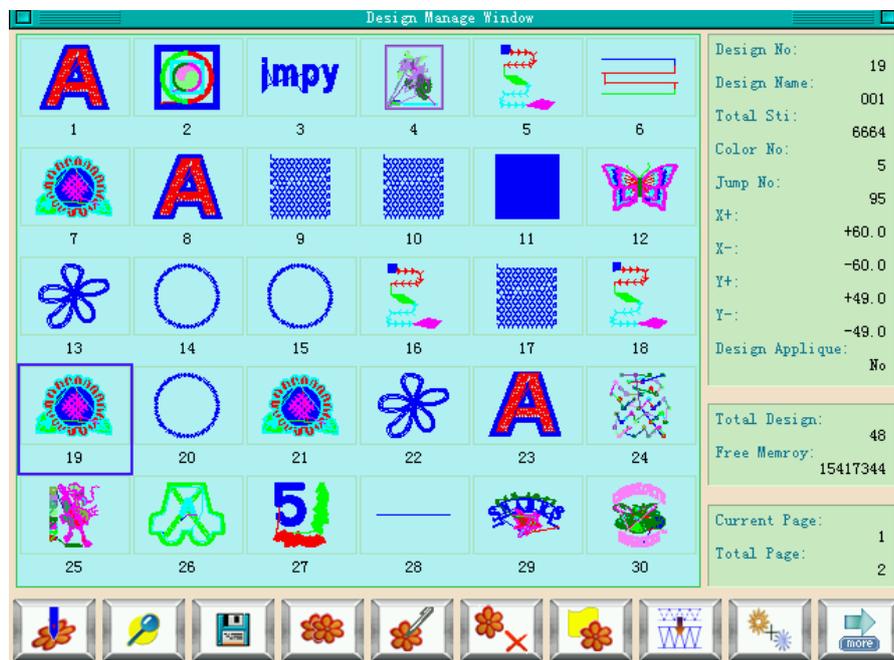
The user can import designs through network, floppy disk or USB disk. Only with  state it's possible to transmit designs by network. For USB operation (disk operation), click  in the main screen to enter into the “disk management” screen. You can also input designs by using “” in the design management screen.

### B. Choosing a Design

If the design management screen is not opened, click  in the main screen to

enter it. If the screen is opened but the current window stays at another function screen, press the blue task switch key on the panel to enter the design management screen. Only in the status of “” it is allowed to choose design for embroidery.

- a. After enter into design management, press “” to select a design, then press “” or “”.



- b. If the design's start point has been saved, the prompt “Move frame to start point” will appear when entering the main screen. Click  and the frame will automatically return to the start point.

### C. Assistant Operation

After choosing the design, the user will enter the main screen, and he can do the needed assistant operations before embroidery.

- a. Set repeat, rotate and magnify——click “” then “” to enter the parameters management screen



- b. Set applique embroidery—click “” to enter the design management screen and click “” to set applique according to prompts.
- c. Show the range of embroidery design, move frame along the boundary design, embroider along the design range, embroider one cross, embroider one line, embroider the design outline—press “” to enter the assistant operation screen
- d. Auto to start position—press “” to enter into assistant embroidery operation menu. Please note that this function is to locate the design in the center of the frame area as preset in soft limit. If you want set soft limit area, press “” to enter into assistant management menu.
- e. Save design start—click “” to enter the assistant operation screen.  
Note: The origin point has to be set before saving the start point. If you want to set the origin point, click “” and enter the “assistant management Operations”.
- f. Set cyclic embroidery—click “” to enter the parameter management screen. Move cursor to “Embroidery assistant parameter” and press . Then select Sewing Para1 B02 and set according to prompts.

#### D. Embroidery Confirmation

- 1) The user can click  after finishing assistant operations. Press  in the followed prompt and  (embroidery preparation) will change into  (embroidery confirmation), which means that the machine has entered the embroidery confirmation status.

If “” is chosen, the machine will remain in the preparation status. Pull the



bar and the machine will not run and a prompt will appear to ask the user to confirm embroidery.

2) Setting another start

After embroidery confirmation, if needed, click “” to set another start according to the prompts. Note: It’s of no effect to set another start after starting embroidery.

3) Setting the Way for Color-Changing and Starting

In the main screen, click “” (or “”, “”), the state will switch among  (auto color-change, auto start),  (auto color-change, manual start) and  (manual color-change, manual start).

4) Setting Normal Embroidery and Idling

Click “” (or , ) in the main picture and the state will switch among  (normal embroidery),  (low-speed idling) and  (high-speed idling).

E. Pull the Bar to Embroider

Operation bar embroidery bar is installed under the table

1) Stop Status:

Pull the bar right to begin embroidery (including low and high speed idling)

Pull the bar left to return (including low and high speed idling)

2) Running status:

Pull the bar right to the end to embroider slowly and release to normal speed.

Pull the bar left to stop embroidery (including low and high speed idling).

## F. Manual Operation

### 1) Manual Trimming

When the machine stops, click  in the main screen. Follow the prompt and select a trimming mode (“trim top & bot.” or “trim bottom”). Then click  to trim, or click “” to exit trimming operation.

### 2) Manual Frame-Moving

When the machine stops, press the keys (“” is the speed key for manual frame-moving. Press “” to switch between  (high speed) and  (low speed).

### 3) Clearing the Frame Coordinates

When the machine stops, click “” then click “” to clear the XY displacements displayed in the main screen. The function can be used with manual frame-moving.

### 4) Manual Color-Changing

When the machine stops, you may type in needle position number in the main screen to enter the manual color-changing screen. Then press the needle number for color-changing, and the machine head will automatically move to the corresponding needle position.

### 5) Turn the Main Shaft to 100° Manually

Usually the main shaft is needed to stop at 100° when needle/color-changing,

frame-moving and beginning embroidery. The user can manually turn the main shaft at 100° when it hasn't reached there. Click “” in the main screen and then choose “” in the followed prompt to carry out the function.

After the operation, the icon  (main shaft not in the right position) will be replaced by  (main shaft in the right position).

#### 6) Go to Start Point

In the main screen click  and choose  in the followed prompt. Then the frame will return to the start point.

#### 7) Go to Stop Point

Click  in the main screen and choose  in the followed prompt. Then the frame will return to the stop point.

#### 8) Positioning Idling

Use this function after embroidery confirmation. Positioning idling enables the machine to move to the designated position without embroidering according to the user's requests. Click  in the main screen then the user can set the positioning idling of needle number, color-changing code and stop code.

#### 9) Let Needle Down (The Needle Stops at the Designated Low Position)

This function is intended for quilt embroidering. Click  in the main screen and then the option “Let needles down”. When clicking , the needle will prick into the embroidery cloth and a prompt will appear. After releasing the cloth (cloth has to be separated from the frame), move the frame to the designated position and click . After this operation, the needle is still down. When the



cloth is placed on the frame again, click  to turn the main shaft to 100° manually.

### 10) Manual Operations of Automatic Frame Changer (AFC), Sequin and Special Embroidery

The machines are equipped with devices for AFC, sequin and special embroidery.

For such machines, click  and then select this option to enter the concerned menu. Click the corresponding keys according to the prompts.

#### G. Embroidery Release

When the machine stops, click . Choose  in the followed prompt and  (embroidery confirmation) will change into  (embroidery release).

#### 2-8 Normal Embroidery, Returning and Patching

In embroidery confirmation status (the icon  appears), push the patching switch of machine head (that will perform normal embroidery) to the normal embroidering mode, and push the patching switch of machine head that will not embroider to the patching mode, and then pull the operation bar to right and release it to let the machine start normal embroidery. (When you pull the bar right and don't release it, the machine will embroider in lower speed.) During embroidering, pull the bar 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 returns 10 needle steps continuously,

the frame can return continuously even when you release the bar. (This may be different for different machine types). When the frame return continuously, release the bar and pull it left again, the frame will stop returning.

The aim of returning is usually to perform patching embroidery. After the returning stops, push the patching switch of machine head that will perform patching embroidery to go to the patching mode, and then pull the operation bar to right and the machine head will start patching embroidery while other heads don't. When the frame goes to the point where the frame begins to return, other heads whose patching switches are in normal embroidering mode will start to embroider.

2-9 Relations between Normal Embroidery, Idling and Position Idling Functions as idling, returning, etc. are intended for the convenience of darning. Low-speed idling, high-speed idling or positioning idling can be used as needed in embroidery. In the status of idling, the returning can be low-speed idling returning, high-speed idling returning or positioning idling returning.

In the main screen, you may press  , ( ” or  ”) to switch among  ” (normal embroidery),  ” (low speed idling) and  ” (high speed idling).

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.



After setting high-speed idling , the main shaft and frame remain inactive, the count increases based on a unit of 100 stitches. After pulling the bar for halting, the frame moves directly to the actual position of the current count. When pulling bar for returning, the main shaft and frame keep inactive, but the count decreases. After pulling the bar for halting, the frame returns directly to the actual position of the current count.

The positioning idling can move the frame directly forwards (or backwards) to a designated position, or to a latest color-change position, or even to a latest stop-code position. In the main screen press  and the user can select forward/backward positioning idling by stitches, color change code or stop code. After the system returns to the main screen, pull the bar forward/backward to complete the positioning idling.

## 2-10 Operation Bar and Turn Shaft Button

### 1. Operation Bar (Embroidery Bar under the Table)

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

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

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

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



## 2-11 Thread break detect and mending switch

Based on working different principles, thread break detect have three methods: thread take-up spring type, thread winding wheel (chopper wheel) type and mixed type.

For thread take-up spring type, it warns thread break by detecting connection of take-up spring and contact point. When thread breaks, the spring will close to the contact point. In normal condition, this detecting type reacts sensitive to face thread breakage, but can hardly detect bobbin thread run-out. In case you change the embroidery thread, or thread tension changes, you need to adjust spring pressure between the take-up spring and contact point. When the spring pressure is too large, there will be False Positive; when the spring pressure is too small, there will be False Negative.

For thread winding wheel type, it judges thread break by detecting the winding wheel angle. It reacts very sensitive in case of face thread breakage; in most cases of bobbin thread run-out, the consumption of face thread will reduce, as a result, system will judge by statistic method and send out warning. Though it can almost avoid False Positive, it is not as sensitive as the spring-type.

For the mixed type method, the two can complement each other with their advantages, which results in sensitive and stabilized detecting effect.

No matter which method you use, there is one switch and one status light on each machine head. There are three positions to switch but only two positions can be locked. When you switch to the down side, status light does not shine, which means the head stops. When you switch to the middle, status light is green, which means the head is now in normal embroidering. In case of thread break, machine stops and status light on that particular head turns out red. System automatically

changes to mending mode on that head. If you want to set a single head to mending mode manually, you can switch to the upper side, which can not be locked. When you loose the switch, it returns to the middle. At meantime, status light on this head will turn out red to indicate that mending mode available on this head.

## 2-12 System's Working States

The machine has three working statuses:

1. Preparation status —— preset parameters; choose embroidery designs and other preparation work
2. Embroidery confirmation status —— confirm the parameter settings to enter the quasi-running status
3. Embroidery running status—— embroidering

How to switch among the above work statuses?

In preparation status ( is displayed), after selecting pre-embroidery design and setting the parameters, first press "" key, and then press "" key, now the machine is in embroidery confirmation status ( is displayed). Finally, pull the embroidery bar to right to embroider, which means the machine is in embroidery running status ( is displayed).

In embroidery running status ( is displayed), pull the bar left to stop, now the machine is in embroidery confirmation status (Again, pull the bar right, the machine goes into embroidery running status).

In embroidery confirmation status ( is displayed), first press "" key. And then press "" key to release embroidery confirmation status. Now the machine enters preparation status ( is displayed).

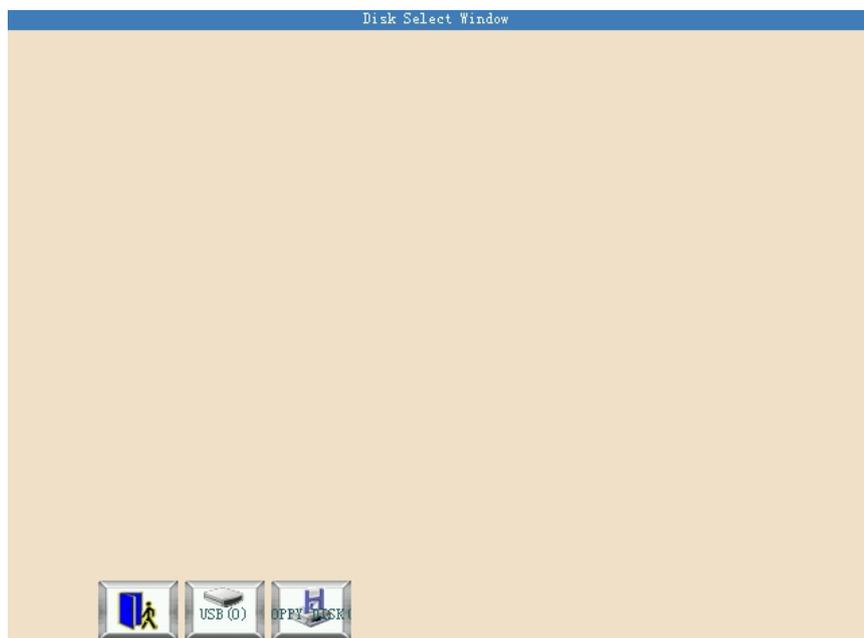
## Chapter 3 Disk Management

In disk management, users can input the designs in the disk to machine, and vice versa; meanwhile, users can enjoy some common disk managing actions, like erasing file, formatting disk, etc. Floppy disk and USB disk are both supported. Users can save design data based on different types. The system recognizes formats like DOS, FDR and ZSK. However, FDR and ZSK files are read only. Design formats like DSB, DST and DSZ can be read. For data output, design will be saved as DSB format.

### 3-1 Disk Choosing

Since the system support more than one storage device, please choose the objective disk.

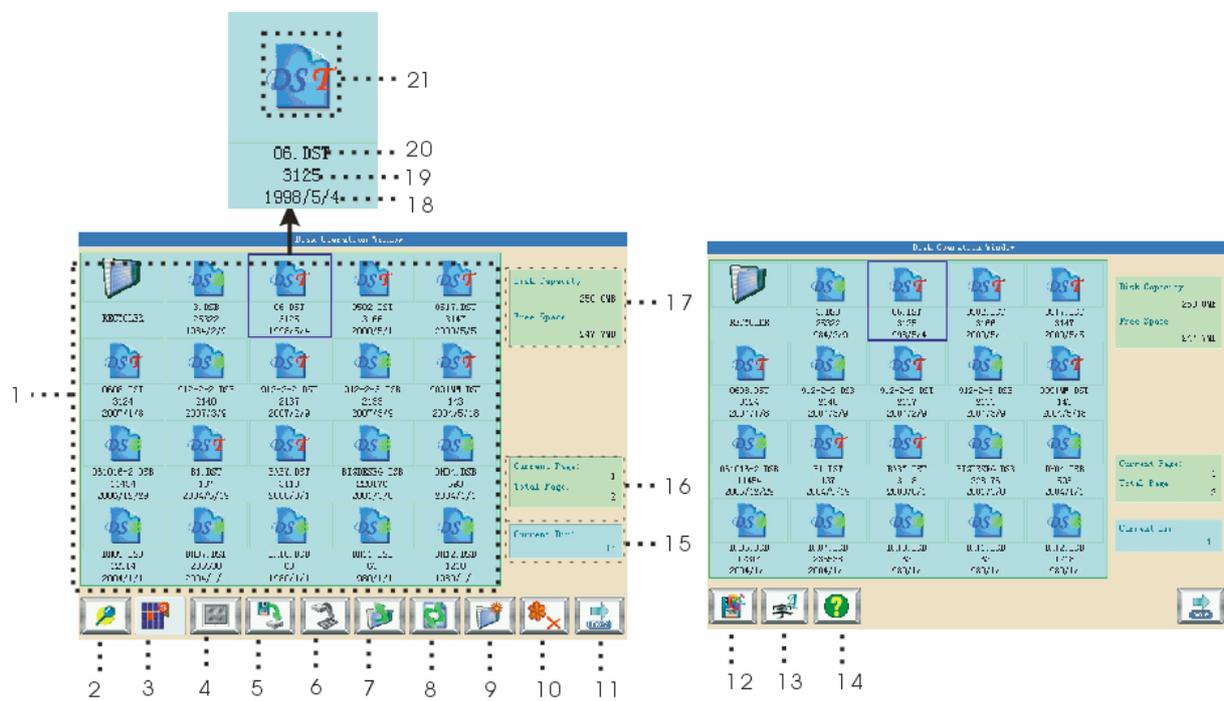
1. Click  in the main screen
2. The system shows the current disk. Select the disk intended for further operation. Press “” or “” to exit.





In this window all the storage devices will be displayed. Their information includes the icons, words and numbers. The icon is the device type.  Means USB disk and  means floppy disk. The words are the volume name of the disk and the number in the brackets is for the disk's digital symbol.

3. Enter the Disk Management Screen.



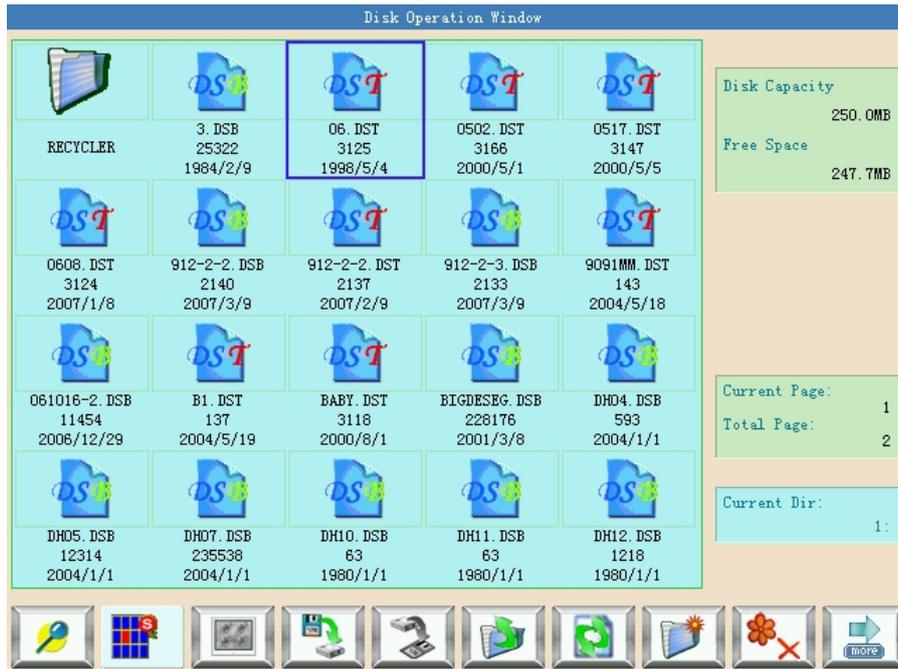
Press  to switch between the two pages; press  to show designs in next page; press  to change to other design pages.

Number	Icon	Name	Description
1.		File List	Display the design files and folders of the disk in icons. It's used to select files
2.		Preview of designs	Display the selected file and its information
3.		Single- selection /Multi-selection	 Switch between single- selection and multi-selection

Number	Icon	Name	Description
4.		Select all	Select all the items in the current folder, only in the multi-selection mode
5.		Design input	Input design from disk to memory
6.		Design output	Output design from memory to disk
7.		Back up one directory	Go back up one directory
8.		Refresh the disk	Refresh current disk directory
9.		Create new directory	Create a new directory on current disk
10.		Delete document	Delete the selected documents
11.		Format disk	Format the current disk
12.		Monogramming	Operations relating to monogramming
13.		Help	Display the help menu.
14.		Current route	
15.		Page information	The current page and the total page number
16.		Disk space information	Show the total space and remaining space information
17.		Design file date	This is empty if it's not a design file.
18.		Design stitch number	It displays the stitch number of the design. (This is empty if it's not a design file.)
19.		Names of the objects	Names of the files or folders
20.		Icons of the objects	 for folder  for files of DSB form  for files of DST form

### 3-2 Design Preview

- Use “” to select the design in the disk management screen.



Design files and folders are shown by icon in the list. One page of the list contains 20 items. Turn pages to look for designs in another page. You can also use



to find design in other pages. The selected object has a blue frame.

## 2. Press Design Preview Key



The system reads the data from the disk and displays the design's image according to a certain ratio. At the same time the design's information and color-changing number will be displayed.

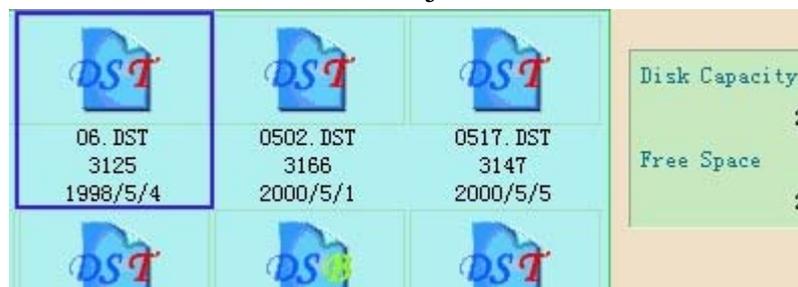
Note: More than one design is allowed to select for preview. Selecting more than

one design refer to chapter 3.3.

### 3-3 Select One or Several Designs

Before preview, input and deletion of files, the objective design has to be selected first. The user can select one object for one time, and can also select several objects for one time to improve efficiency.

1. Press “ ” to Select the Object



By default the first object in the page is selected while others are not selected.

Press “ ” to select a design and the icon and word information of the selected design are showed in the blue square.

2. Press the Switch Key of Single/Multi-Selection

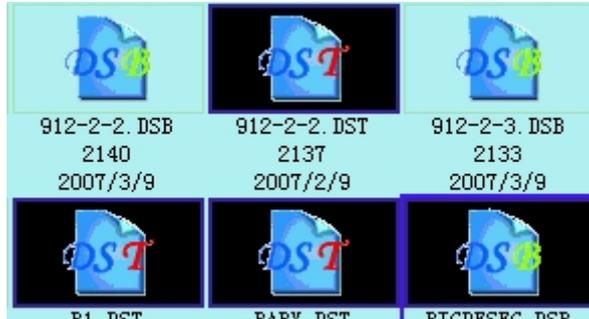


When selecting the objects, the system is in single or multi-selection mode. In the single selection mode, one object is selected for one time and selecting another object will automatically cancel the last selection. Press the switch key to switch between the two modes. In the multi-selection mode the user can select several objects. In the single selection mode the switch key shows when in the multi-selection mode it shows .

3. Select More Than One Object



In the multi-selection mode, you may press “” to move to the object and then press  to select it. Repeat this operation to select more than one object. And you can press  cancel the selection.



4. Press  to select all the objects in the current folder

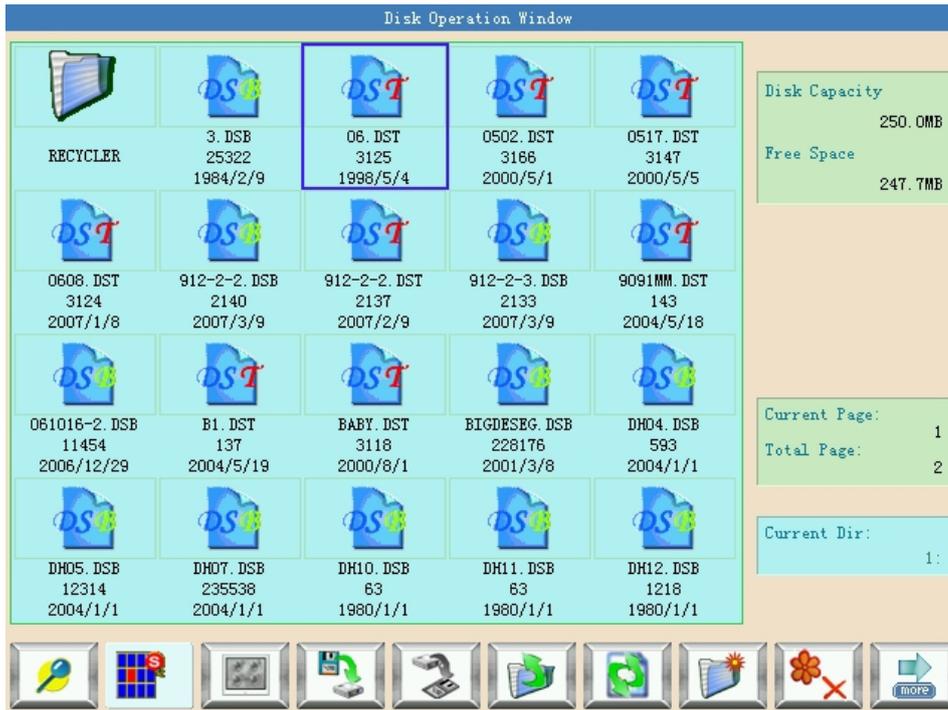
The key is effective only in the multi-selection mode.

### 3-4 Design import

To input the design data in the disk to the machine's memory, the user has to select files from one or more disks first, and then input the design number and name for the file to be saved.

1. Select one or more files in the disk

2. Click the design input key 



The system asks the customer to input design number and name for system saving.

3. The user inputs the design number and name.



The system provides the minimum available design number as the default value. The customer can use the small panel on the right to change the value. When several designs are input for one time, the user can only input the number of the first design.

To modify the design number and name, click the object item in the left window and modify it in the right window. After the modification click the modification

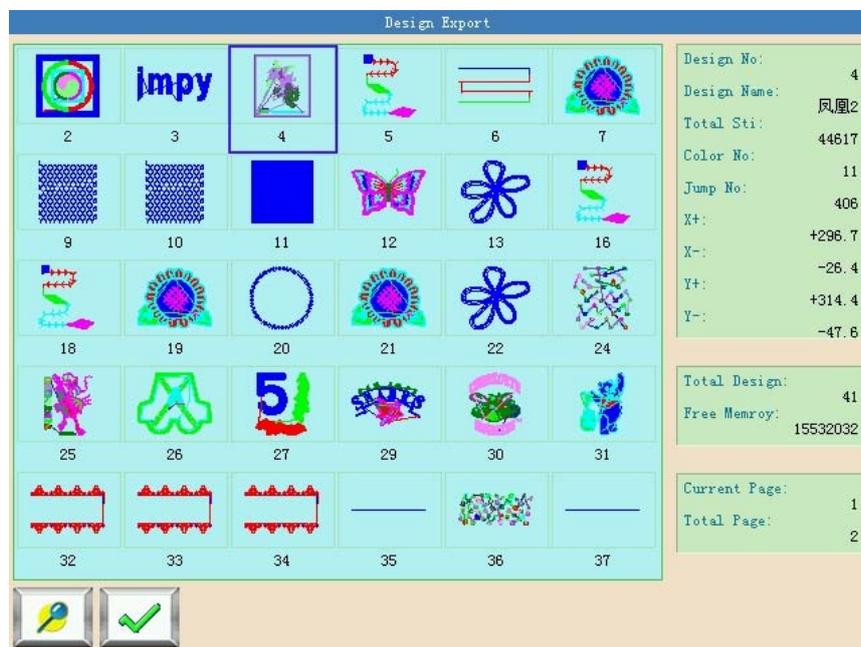
confirmation key “”, and the results will be save.

4. Click the confirmation key “”

### 3-5 Design Export

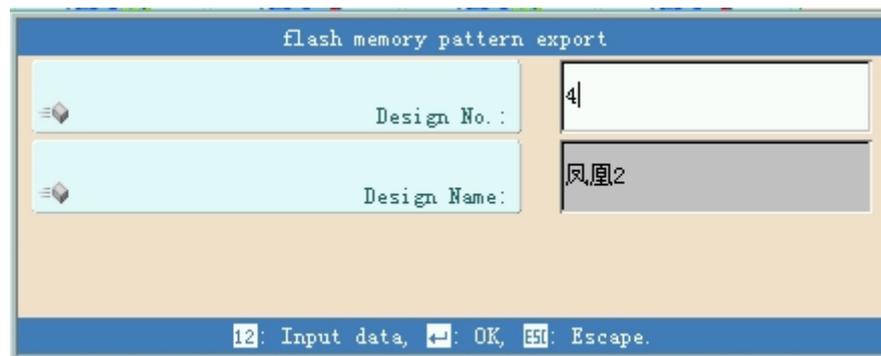
The user can output the design data in the system memory to the current disk.

1. Click the design export key 
2. Select the design in the memory intended for output



The system displays the list of designs in system memory. The user selects the designs intended for output, and then click .

3. Input of the design name for disk saving



The system uses the design name in system memory as the default design name in



disk.

To change the design name in disk, first select the item in the left window, and then change it in the right window. After the changing, press  to save the result.

4. The system returns to the disk management screen.

During the above operation, you can press “” if you want to exit.

### 3-6 Folder Operation

1. Enter the directory

Select the directory and press “”. The system reads the item list of the directory and refreshes the screen.

2. Return to the higher directory level

Press the key “” to return to go back up one directory and the screen will be refreshed.

3. Make a new directory

Press the key “” and the system will ask to type in new directory, press the key  to build a new directory. System refreshes the current directory list.

### 3-7 Deleting Objects in Disk (Including Design Files and Folders)

1. Select one or more objects (See 3.3)

2. Click the deleting key “”

3. The system asks the user to confirm the deleting operation



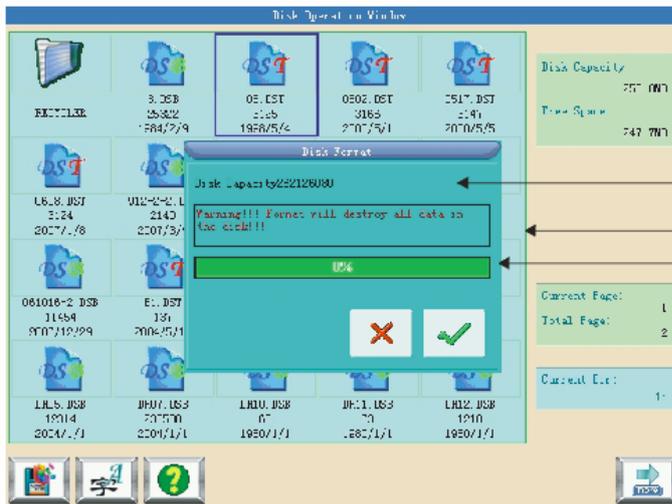
4. press the key to delete; press “ ” to exit.

Note: If the user chooses to select a folder, the system will delete all the files and sub-folders in this folder. If a file has the property of “only read” or “disk write protection”, the file will not be able to delete.

### 3-8 Formatting a Disk

1. Select the disk device for formatting (read 3.1 for reference)

2. Click the function key



Disk capacitance of system identifying

Alarm information of disk formatting

Format schedule displaying

The system will change to the Format Disk screen, which is to display the storage information of the current disk, alert information for disk formatting and formatting process bar as well as Start and back button.

3. Click the Key “ ”



The system will begin to format the disk and show the speed with a process bar.

After formatting the system will display the prompt to show formatting success.

Click the returning key to return to the disk management screen.

Note: the system will format the disk in DOS format.

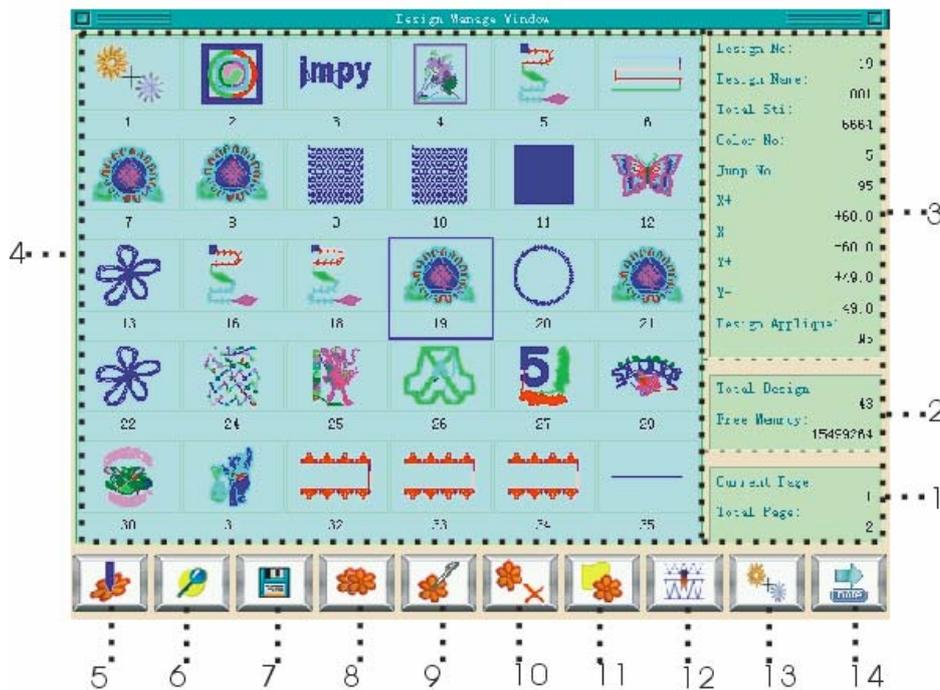
## Chapter 4 Memory Design Management

Memory design management includes selecting embroidery designs, setting designs and operations to create designs.

### 4-1 Memory Design Management Screen and Other Memory Design Operation Screens

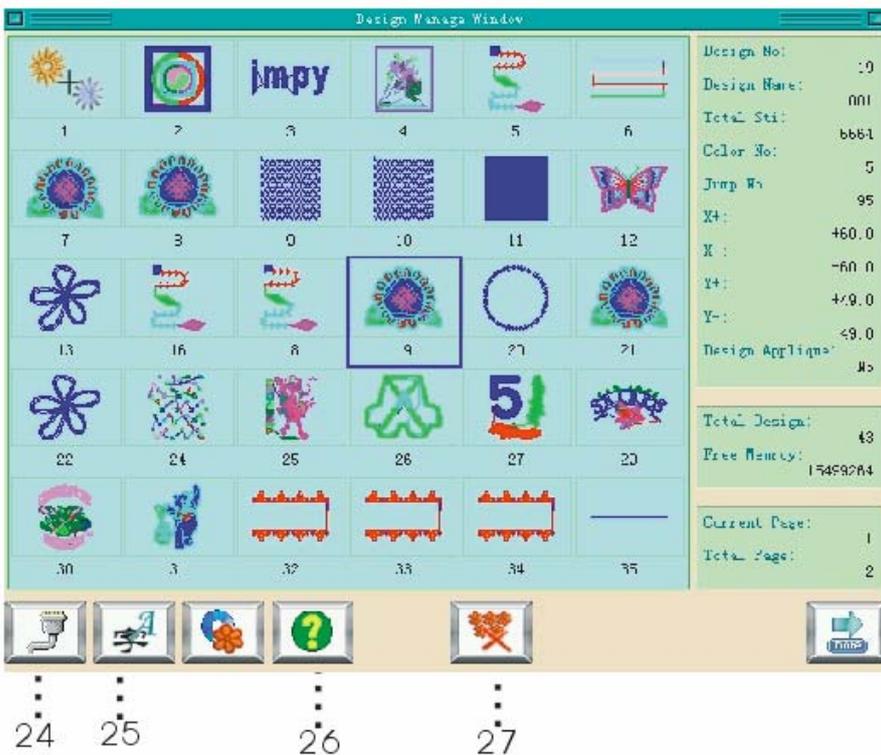
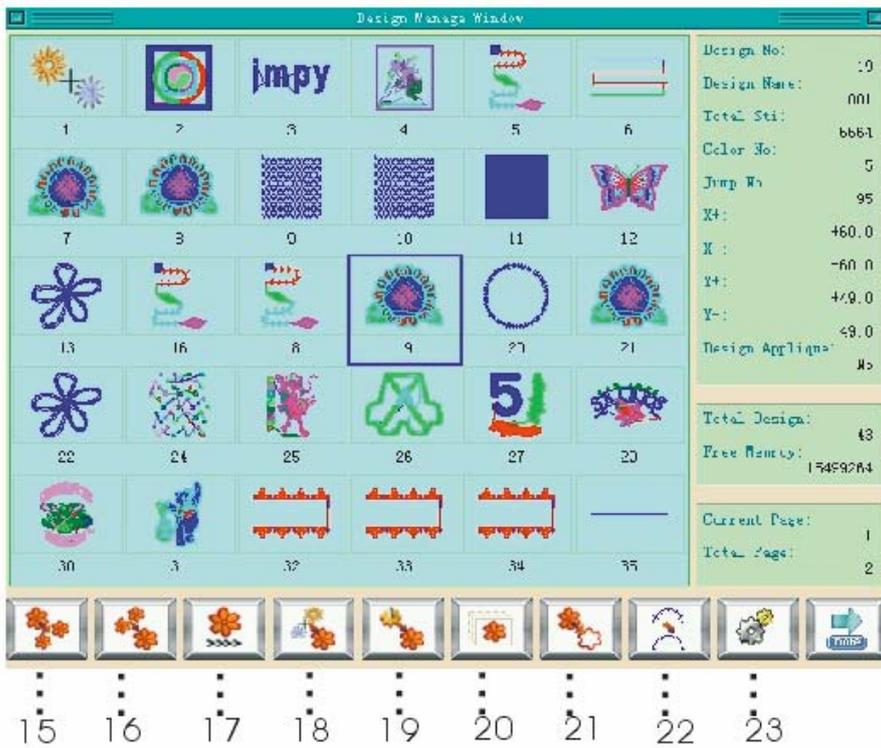
Click  in the screen to enter the memory design management window.

The memory design management window includes: design image display area, navigation and pagination area, information area, menu and memory design management operation area. The design image display area can show 25 designs at most, beyond that more pages are needed. Navigation and pagination area can help switch to the designated page. The memory design management operation area is to preview designs and set their order.





# Chapter 4 Memory Design Management



Press the key  to shift among three pages; press  to show designs in next page. Press   to change different design page.



Number	Icon	Name	Description
1		Page information	Show the current page and total page information.
2		Total design and memory information	To show the amount of total design and memory information
3		Design information display	Display the detailed information of the selected design.
4		Design browsing	Design will be showed in icon mode. This is for design selection
5		Select design	In the embroidery preparation, press the key to rework selected design parameter screen, then confirm design parameter and use the selected design as embroidery design.
6		Design preview	Preview the design's details, scale up/down, move or imitate the design.
7		Disk operation	Please refer to chapter 3
8		Copy the selected design	Press this key to enter into design copy window
9		Design editing	Editing the current design or new design, please refer to chapter 8
10		Delete design	Press this key to delete the current design
11		Set applique design	Press this key to set applique design
12		Satin stitch compensation	Set satin stitch compensation in memory
13		Packed design edit	Press this key to enter into combined design editing
14		Design divide	To cut one design into two
15		Design union	To combine two designs into one
16		Generate high speed design	Press this key to enter into high-speed design generating

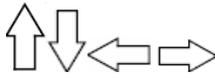
Number	Icon	Name	Description
			window
17		Create design from packed	This function is to generate standard design from combined designs
18		design from parameter	Generate design by parameter
19		Frame and make design	
20		Create outline from design	
21		Copy design with varied stitch length	Copy design from setting stitch length.
22		Setting design parameters	
23		Design come from PC	
24		Letter pattern parameters	See chapter 9
25		help	
26		Delete all designs	Press this key to delete all memory design.

See following specifications for each operation. Press the key “  ” to go back to the memory design management menu.

## 4-2 Select One or Several Designs

Before any operation on designs, you must select the target designs. You can operate on one design every time or operate on several targets in one time to raise efficiency.

1. Press  to select the targets.

By default the first item in the page is selected. Press  key or the design number key to select others. The icon and words of the selected target appears in the blue squares.

2. Select the items one by one



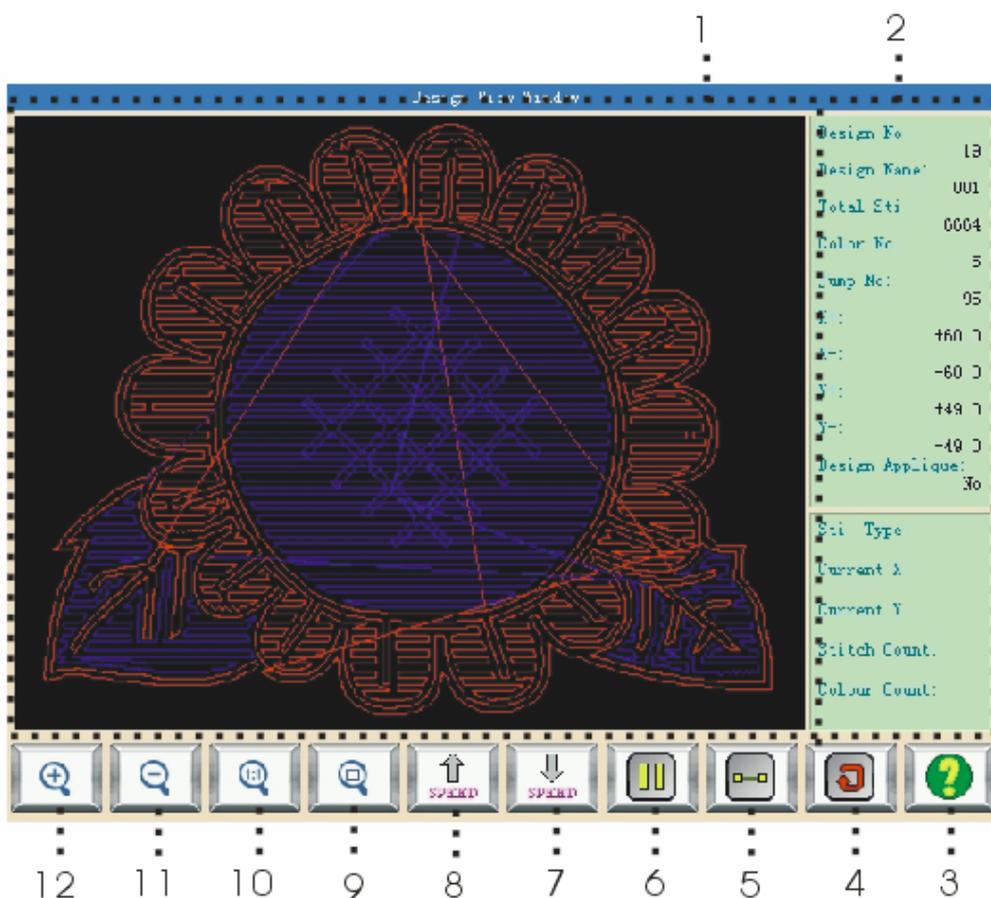
In multi selection mode, press     key or the design number key to move to the target item and press  to select it. Repeat the process to select more. Or you can press  to cancel the selection.

### 4-3 Selecting a Design for Embroidery

1. Select a new design (Ensure that the system is in preparation status .)
2. Press  in the main screen to enter the memory design management screen.
3. Select the design in the memory design image area of the memory design management screen.
4. Press  to rework the selected design parameter screen.
5. After reworking the design parameter, press “” to use the selected design as the embroidery design. If the operation is completed, the system will close the memory design screen to return to the main screen.

### 4-4 Design View

The selected design can be previewed in the memory design view screen according to the designated way.



Number	Icon	Name	Description
1		Design view area	Display the selected design on the designated way and speed.
2		Design information	Display the design information.
3		Help	Display the help menu.
4		Refresh display the design	Display the selected design again.
5		manual display	Draw the design by single steps.
6		Draw/pause switch	is for switching between drawing design and pausing the drawing.
7		Speed down	Decelerate the display speed.
8		Speed up	Accelerate the display speed.
9		Zoom to window	Display the design to the full size in the design preview area.
10		Real size display	Display the design in its original size in the design preview area.



Number	Icon	Name	Description
11		Zoom in	Zoom in the design picture in the design preview area.
12		Zoom out	Zoom out the design picture in the design preview area.

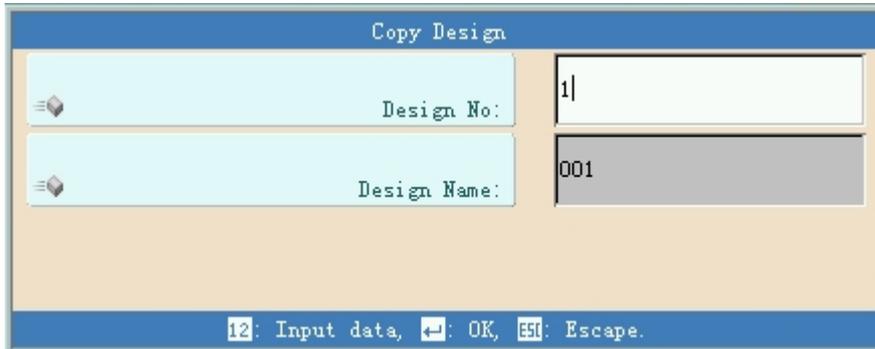
1. Click in the main screen to enter the memory design management screen.
2. Select a design in the memory design image area of the memory design management screen.
3. Click in the memory design screen to open the memory design preview screen.
4. Click in the design preview area to control the design size. Click to control the design display position. Click to locate the design to the center. Click to control the design display speed. Click to control the design display and pause. Click to automatically switch to halt for single step design display. And click to resume normal display. Click to refresh the selected design.

#### 4-5 Copy the memory design

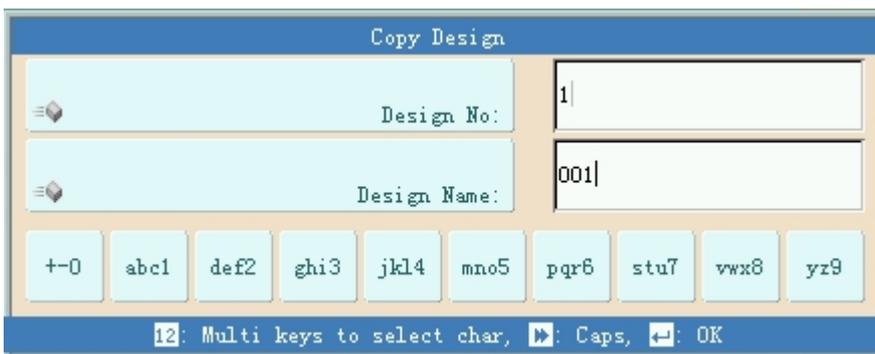
1. Press in the main menu to enter the memory design management screen.
2. Select the design in the memory design image area of the memory design management screen.
3. In the memory design management screen, you may press “” to enter its operation screen. The system will automatically provide the available smallest design number and default design name. If the user doesn't want to change them, go to 6 directly.



4. To input a new design number, press “design number” and input the new number in the pop-up window, and then press to confirm the input.



5. To input a new design name, press “design name” and input the new name in the pop-up window.



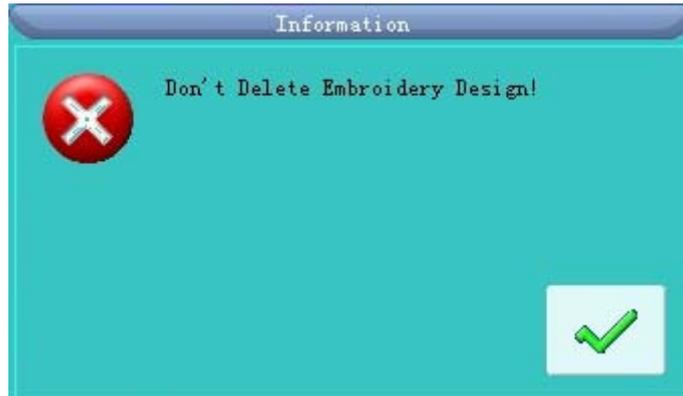
6. Press to confirm the input, carry out the copying operation, and return.

Press to cancel the copying operation, and return.

### 4-6 Deleting the memory design

This is to delete one or more designs in the machine memory.

1. Press in the main menu to enter the memory design management screen.
2. Select the design. The user can choose to select one design or several designs for one time.
3. In the memory design management screen, you may press to enter the design deletion screen.



If you want to clear all the memory design, press



4. Press  to carry out deleting and then return to the design operation choosing screen. Press  to cancel deleting and return.

#### 4-7 Design add applique

The system has two ways for applique embroidery: manual moving frame out and automatic moving frame out.

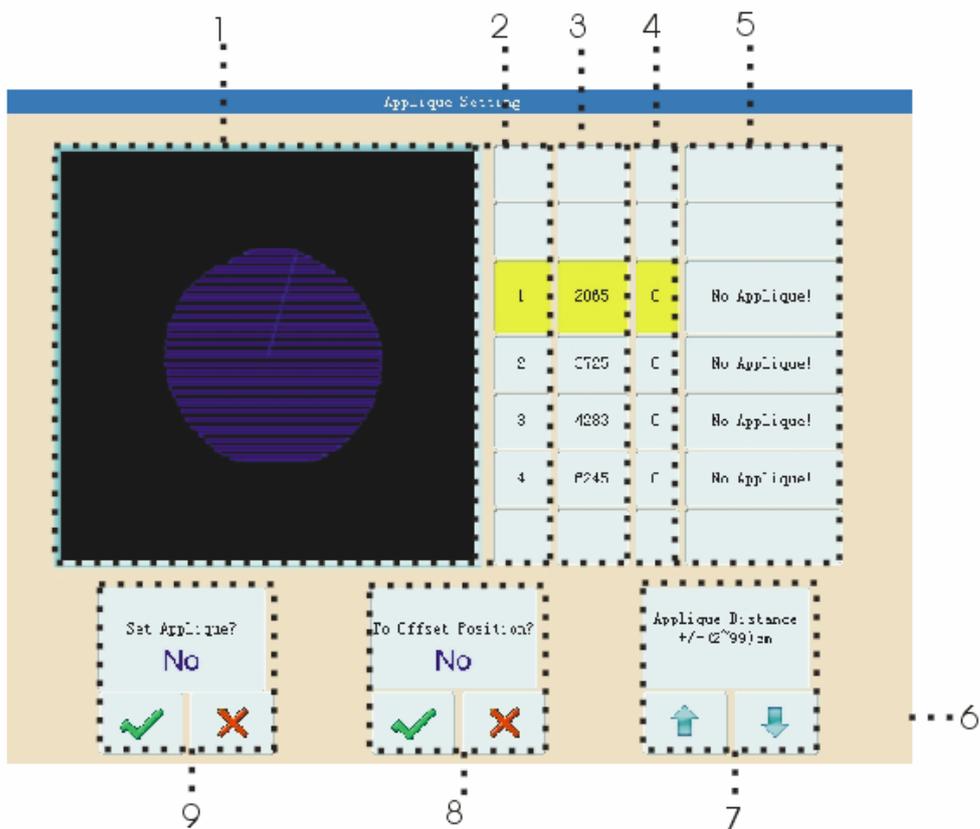
Manual moving frame out: when embroidering to meet stop code, the machine will stop automatically. Move the frame to the proper position for applique with the manual frame-moving button. Then you may press  and  to return to the stop point. At last pull the bar for embroidery.

Automatic moving frame out has two ways: moving frame to the offset point and setting the moving distance. The operation is as follows: First set applique

embroidery function for the design. Then when embroidering to the applique point, the machine moves to the offset point (which has to be set) or move out according to the set distance. After applique pull the bar and the machine will automatically return to the stop point to continue embroidery.

The following is how to add applique to the design:

1. Press  in the main menu to enter the memory design management screen.
2. Select the design in the memory design image area of the memory design management screen.
3. Press “” to set applique.



Number	Icon	Name	Description
1		Design display area	Real-time display of the design when embroidering to the applique point
2		Sequence number list	Show the sequence number of the position to set applique point.



Number	Icon	Name	Description
3		Stitch list	Display the design stitches of the position.
4		Type list	The stitch code type C: color-changing code S: stop code
5		Option list	applique option of the position: 1. No applique 2. Moving frame out to offset position 3. Moving frame out to a certain distance
6		help	
7		Appliqué distance	Choose the distance for frame to move out: (2cm to 99cm) or (-2cm to -99cm)
8		Whether to set the offset position	Choose whether to set the offset position
9		applique embroidery choosing list	Choose whether to set applique embroidery.

The design display area shows the design which is being set with applique. After setting the applique position, the design will refresh and the result will show directly.

4. Press  to move the list to the position for applique. Then you can press  (which is after “Add Applique?”).

5. If choose to move the frame out to the offset position, press  (which is after “To Offset position?”). If choose moving the frame to a certain distance, first

press  (which is after “To Offset position?”), and then press   
 to set the moving-out distance: (2cm to 99cm) or (-2cm to -99cm) .

6. Repeat 4,5, to set all the applique positions of the design.

7. Press  to save the applique information and return to the design operation

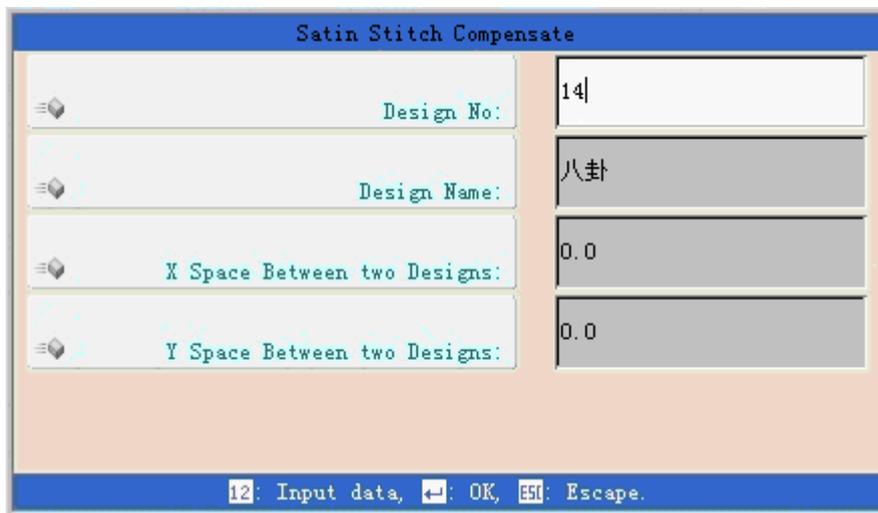
choosing screen. Press  to cancel setting and return.

#### 4-8 Satin stitch compensate

This operation is to adjust the satin width in the design according to the need.

1. Press  in the main menu to enter the memory design management screen.
2. Select the design in the memory design image area of the memory design management screen.

3. Press the key “” to enter the satin stitch compensate screen.



4. If don't use the default values, press the design number and design name and change them.
5. Press “X Space Between two Design” to input the new value, and then press  to confirm it. Press “Y Space Between two Design” to input the new value, and then press  to confirm it.
6. Press  to adjust the satin width and save it as a new design to return to the design operation choosing screen. Press  to cancel the setting and return.

#### 4-9 Edit packed design

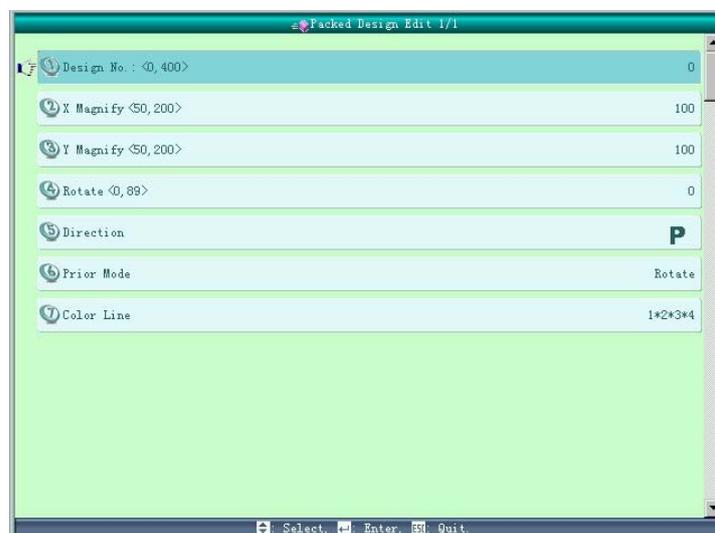
The packed design means a design group packed from a certain (less than 99)



memory designs after setting their parameters. The packed design is set as automatic continuous embroidery. In the memory design management screen the icon of the packed design is shown as . To embroider a packed design, return to the memory design management screen after creating or editing the packed design. If it's already in the embroidery preparation status, select the design and the system will automatically return to the main screen. Then after embroidery confirmation, pull the bar for embroidery. The user can also edit the packed design into the common design by the editing function, so as to check and embroider the design.

1. Press  in the main menu to enter the memory design management screen.
2. To edit a saved packed design, select the packed design first. To create a packed design, carry out the following operations.
3. Press the key “” to enter the edit packed design screen.

The serial number indicates how many designs form the packed design and the current operating design.



4. Set the parameters of the first design, including design number, magnify ratio, rotating angle, design direction and priority mode. Please read setting the normal parameters of Chapter 5 for reference.

5. Press  to set more than one design for packing. And press  to go back to change the parameters of designs packed.

If the current design is not the first design of the packed design, it's needed to set the interval between it and the first design.



6. Press the key  to save packed design.



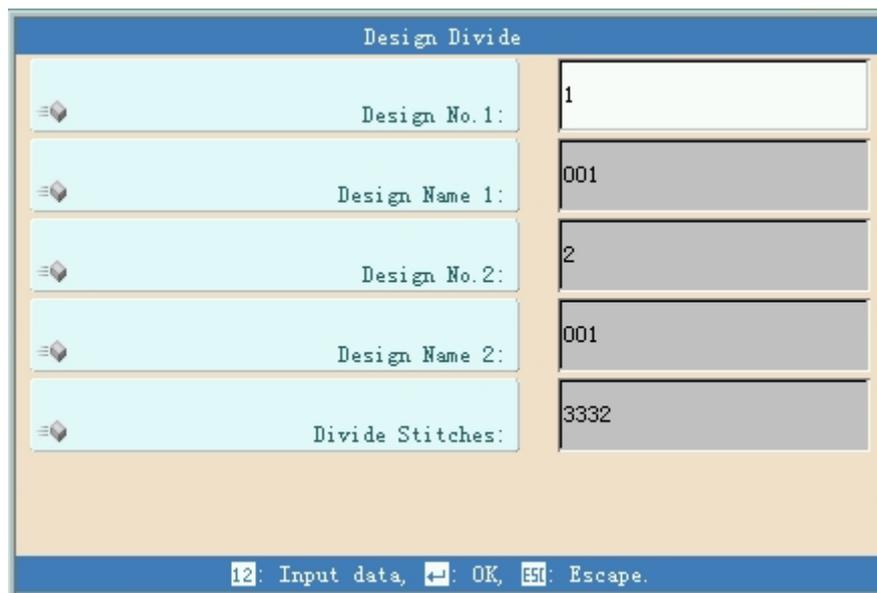
7. Press  to save or press  to cancel the operation and return to the design operation choosing screen.



### 4-10 Design divide

The action will help to make combined design to normal embroidery design.

1. Press the button  on the main screen to enter the memory design management screen.
2. Select a design.
3. Press the key “” to enter the design divide screen.
4. If you do not use the default value provided by the system, type in the design number, design name, divide stitches by using the keyboard, then press  to confirm.



Design Divide	
Design No. 1:	1
Design Name 1:	001
Design No. 2:	2
Design Name 2:	001
Divide Stitches:	3332

F2: Input data, [Enter]: OK, [ESC]: Escape.

5. Press  to save or press  to cancel the operation and return to the design operation choosing screen.

### 4-11 Combine the designs

This function is to combine two designs into a new one. The interval between the two designs is the distance from the end point of the first design to the start point of the second design.



1. Press  in the main menu to enter the memory design management screen.
2. Choose two designs in design choosing area. Press the key “” to enter its operation screen. If More than two designs are selected, there will be a prompt to tell you to reselect.
3. If you don't use the default values, press the design number and design name and change them.

4. Press  to combine and return to the design operation choosing screen.  
Press  to cancel the setting and return.

### 4-12 “High speed design”

The function can cut the long stitch form into short ones, which let embroidery course in consistent high speed.

1. Press  in the main menu to enter the memory design management screen.
2. Select the design in the memory design image area of the memory design management screen.
3. Press the key “” to enter the high speed design screen.



4. If don't use the default values, press the design number and design name and change them.

5. Press  to create high Speed Design and return to the design operation choosing screen. Press  to cancel the setting and return.

#### 4-13 Create design from packed

The action will help to make combined design to normal embroidery design.

1. Press the button  on the main screen to enter the memory design management screen.

2. Select a saved combined design.

3. Press the key “” to enter create design from packed screen.

Input the new design number and name as required.

4. Press  to save or press  to cancel the operation and return to the design operation choosing screen.

#### 4-14 Design from parameter

This is to change the setting of color-changing order and normal parameters such as magnify and repetition, which is attached to a specific design, so as to create a new design.

1. Click  in the main menu to enter the memory design management screen.
2. Select the design in the memory design image area of the memory design management screen.
3. Click “” to enter the design from parameter screen.

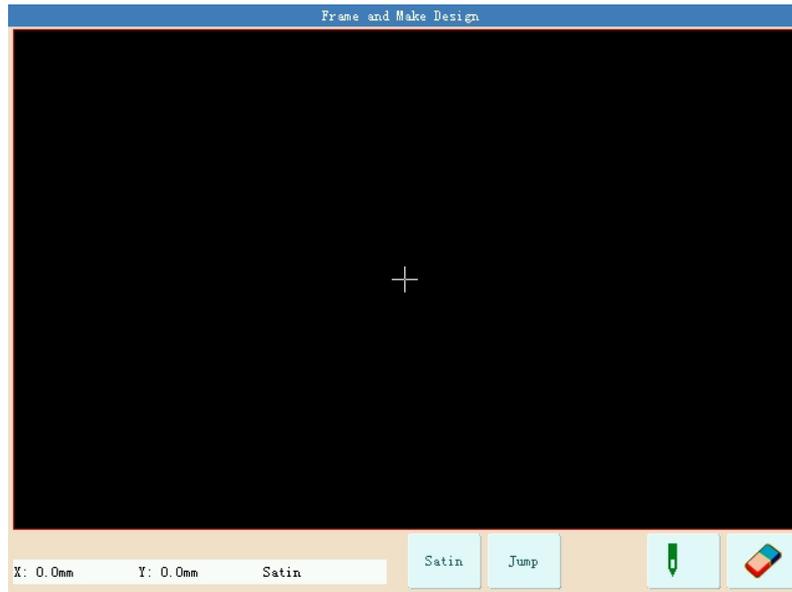


4. Click “” to type in new design number and name.
5. Click “” to create a new design and return to the design operation choosing screen. Click  to cancel creating and return.

#### 4-15 Frame and Make Design

The user often wants to embroider the boundary of a design before embroidering it, so as to help later applique. The function of “Frame and Make Design” can create such a design, and you can select the new design to embroider the boundary.

1. In embroidery preparation status, stop the frame to the point, from which the design will be embroidered.
2. Press  in the main menu to enter the memory design management screen.
3. Press the key “” to enter the Frame and Make Design screen.



4. Press   to switch between satin stitch and jump stitch. Press the manual frame-moving key to move the frame along the desired route. Press



at every turning point to confirm the trace.

5. Press  and then  after editing, and the system will prompt to input the new design number.

6. According to the prompt, input the number of the new design (The computer will provide a number for choice) and design name. Press  to create the new design.

7. Press  to cancel the setting and return.

#### 4-16 Create outline from design

This function is to create a new design according to the outline of the designated design.

1. Press  in the main menu to enter the memory design management screen.
2. Select the design in the memory design image area of the memory design

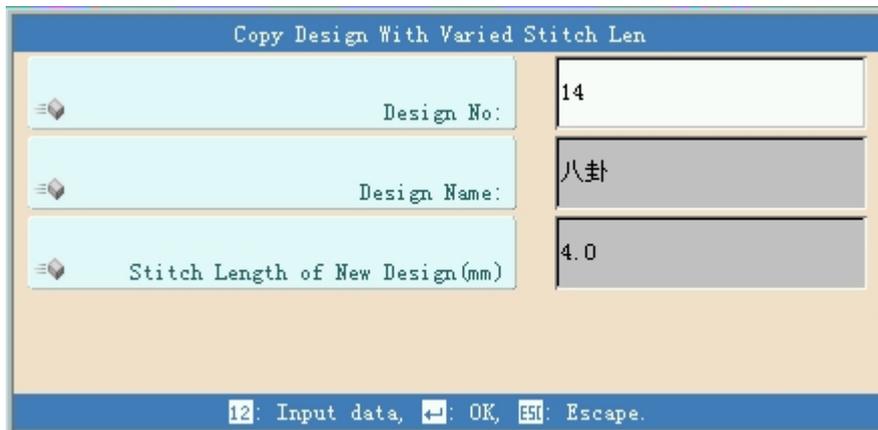
management screen.

3. Press the key “” to enter the create outline from design screen.
4. If don't use the default values, press  and type in to change them.
5. Press  to create a design and return to the design operation choosing screen. Press  to cancel the setting and return.

#### 4-17 Copy design with varied switch length

This function is used to create the same design with the different stitch length.

1. Press  in the main menu to enter the memory design management screen.
2. Select the design in the memory design image area of the memory design management screen.
3. Press the key “” to enter into operation screen.



Copy Design With Varied Stitch Len	
Design No:	14
Design Name:	八卦
Stitch Length of New Design (mm)	4.0

12: Input data, [arrow key]: OK, [ESC key]: Escape.

If don't use the default values, press  and type in to change them.

4. Press  to create a design with new stitch form and return to the design operation choosing screen. Press  to cancel the setting and return.

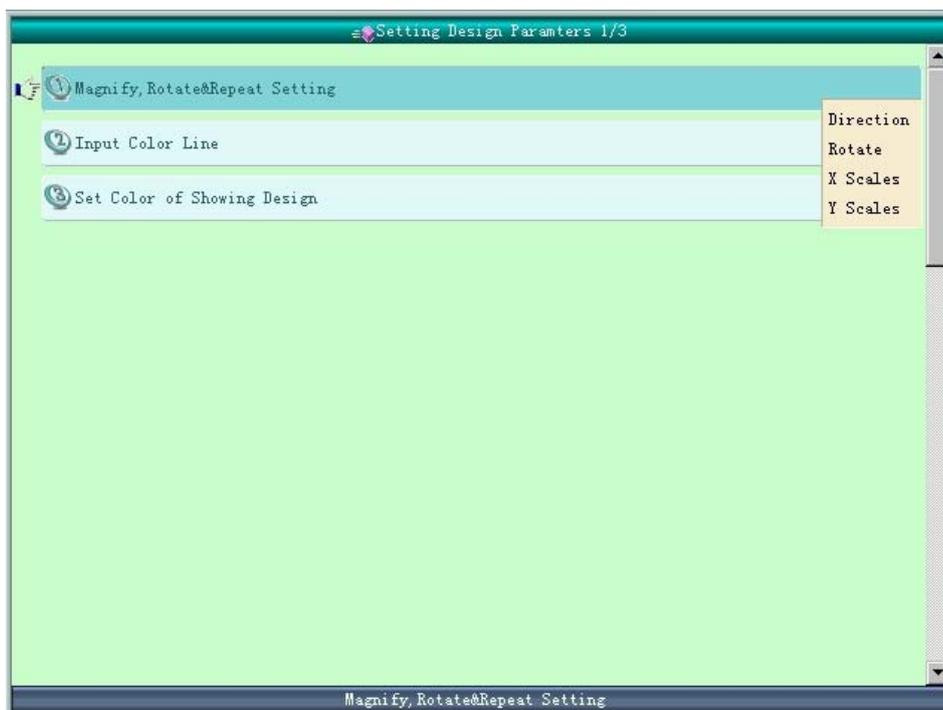
#### 4-18 Setting design parameters

Each design has its setting of color-changing order and normal parameters such as magnify and repetition, which can be checked and set here.



1. Press  in the main menu to enter the memory design management screen.
2. Select the design in the memory design image area of the memory design management screen.
3. Press the key “”. If the selected design is the current embroidering design, the embroidery parameter setting screen will pop up. Please read Chapter 5 for reference.

If the selected design is not the current embroidering design, the non-embroidery parameter setting screen will pop up.



For setting parameters, please refer to 5.1 and 7.1. After setting, press the key “”, to save the parameters with the design. Press the key  to return to design operation screen.

#### 4-19 Design come from PC

1. Press  in the main menu to enter the memory design management screen.

2. Press “” and the screen will show the following.



Type in design number and name, press the key “” to start importing.



After importing, system return to the design management screen. Press the key  to cancel.

## 4-20 Network Management Function

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

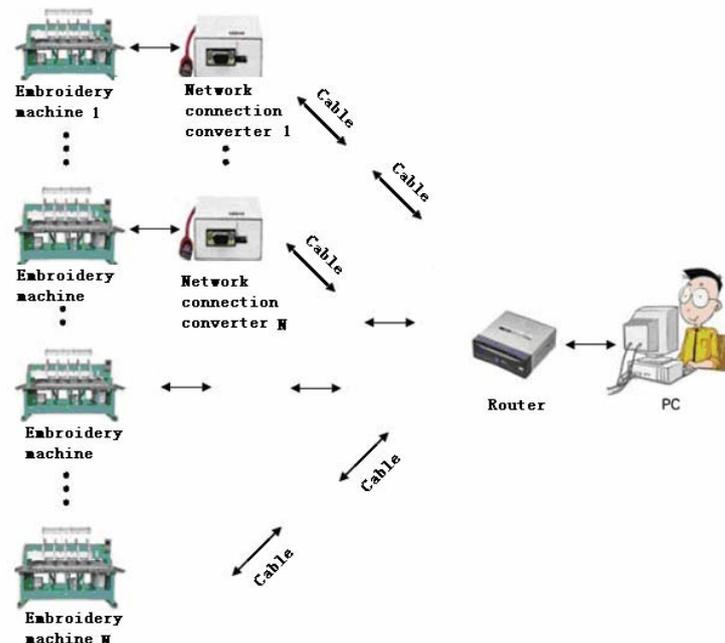
(1) Embroidery Machine Supervision: Check the current status (on or off) of the entire embroidery machines; check the detailed information of one embroidery machine (including embroidery parameters, mechanical parameters and so on).

(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, 328, 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-01A Type and Network Port Type.



- (1) NET—01A: 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

## Chapter 5 Managing of Parameters

In this system each design has its own settings of the normal parameters (like magnify and repetition) and color-changing order. When a new design is selected, the corresponding settings of normal parameters and color-changing order become effective.

This system supports multi-missions at the same time. So it's possible to set or change the normal parameters and color-changing order of non-current designs.

To do this in the memory design management screen.

Pressing  in the main screen.



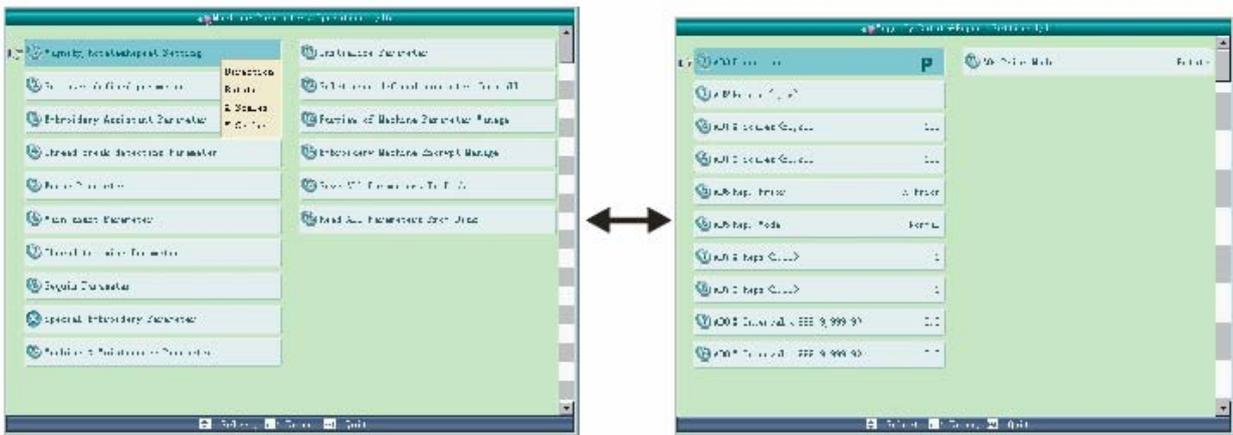
As the image shows, when you move the cursor to a kind of parameters, system shows the first few parameters (4 at most). Press  to enter into certain kind parameters.

### 5-1 Normal Parameters

Normal parameters include: “X&Y Scales”, “Rotate”, “Direction”, “Prior Mode”,

“Rep. Mode”, “Rep. Prior”, “X&Y Reps” and “X&Y Interval”. The user can control the final embroidery results by adjusting these parameters. That’s why these parameters are often to be adjusted when a design is selected.

In the embroidery preparation state “”, press in the main screen and then to enter the normal parameter setting screen.



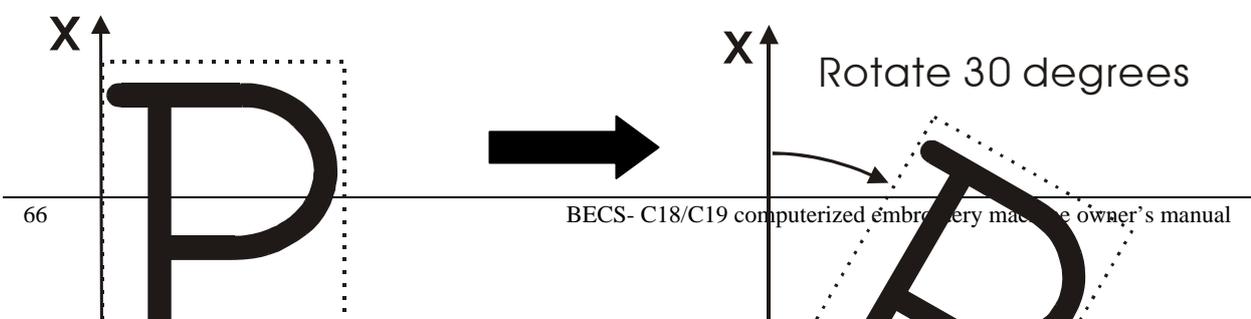
The way to set each parameter is similar. This chapter will explain how to set the “X Scales” as an example and give the definitions of other parameters (Read 5.1.3 as reference).

### 5.1.1 Design directions

Design direction	P	∩	d	∩	q	∩	b	∩	P
Embroidery shape	F	∩	F	∩	F	∩	F	∩	F

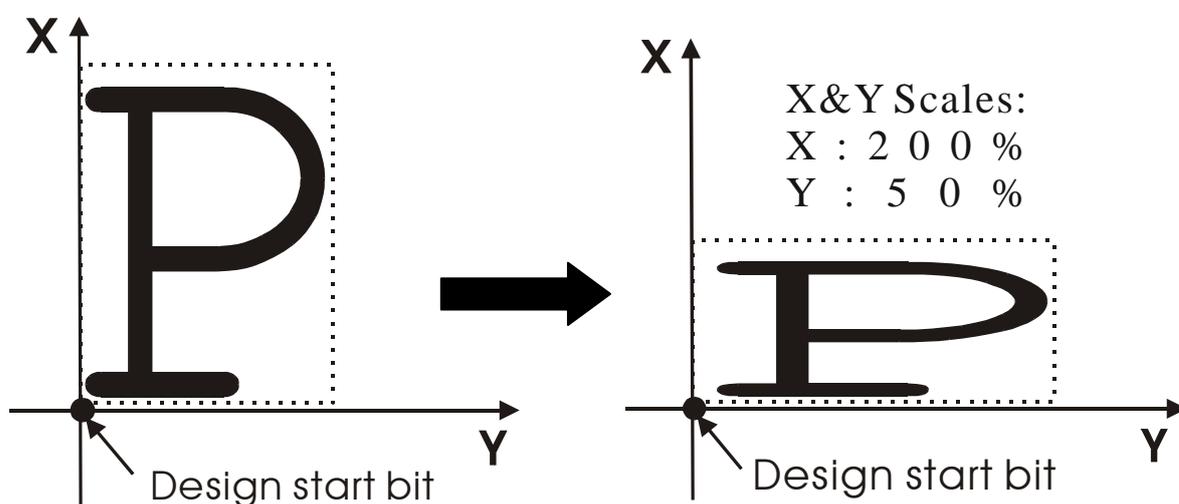
### 5.1.2 Setting of rotate

The user can make the design to rotate to a certain angle with this parameter.



### 5.1.3 Setting of X-scale

This parameter controls the scaling percentages on horizontal (X) direction, so as to scale up/down the design.



1. Press the option "X Scale"



Press “X Scale” in the normal parameter screen, and the screen will show the parameter-setting window.

## 2. Set the parameter “X Scale”

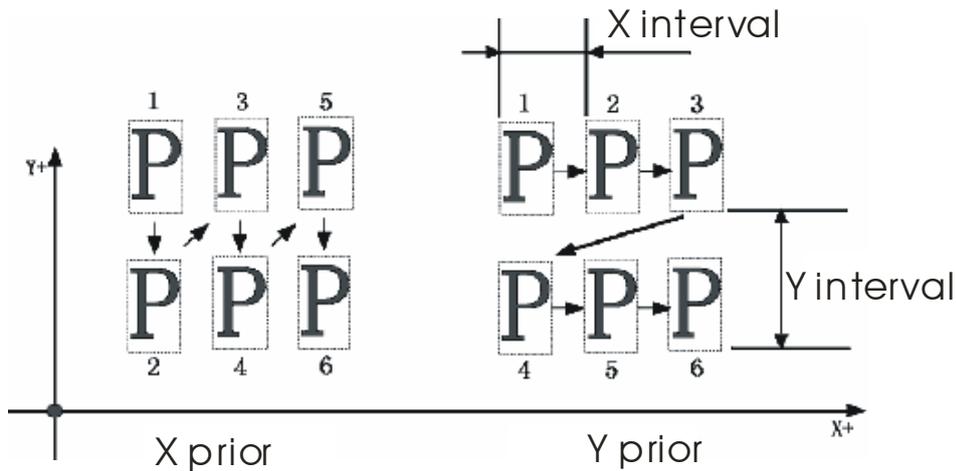
Press the number panel in the parameter-setting window to change the scaling

ratio on X direction. The user can press  to cancel the last input digit. Note: some parameter value is input by pressing .

3. Press the confirmation key  to save the change. Or press  to exit.

### 5.1.4 “Rep. Prior”

There are two modes: X prior to Y and Y prior to X.



### 5.1.5 “Rep. Mode”

Currently, system supports common repeat and part repeat. Common repeat means: after embroidering a design, repeat next design; part repeat is based on the color, when finish embroidering one color, system moves to the next color.

### 5.1.6 “X&Y Reps”

X Reps of this parameter sets the number of rows in repetition, and Y Reps of it sets the number of columns in repetition. The above diagram shows that X Reps is 3 and Y Reps is 2. The largest set value is 99\*99.

### 5.1.7 “X&Y Interval”

The above diagram also explains the meaning of this parameter.

### 5.1.8 “Prior Mode”

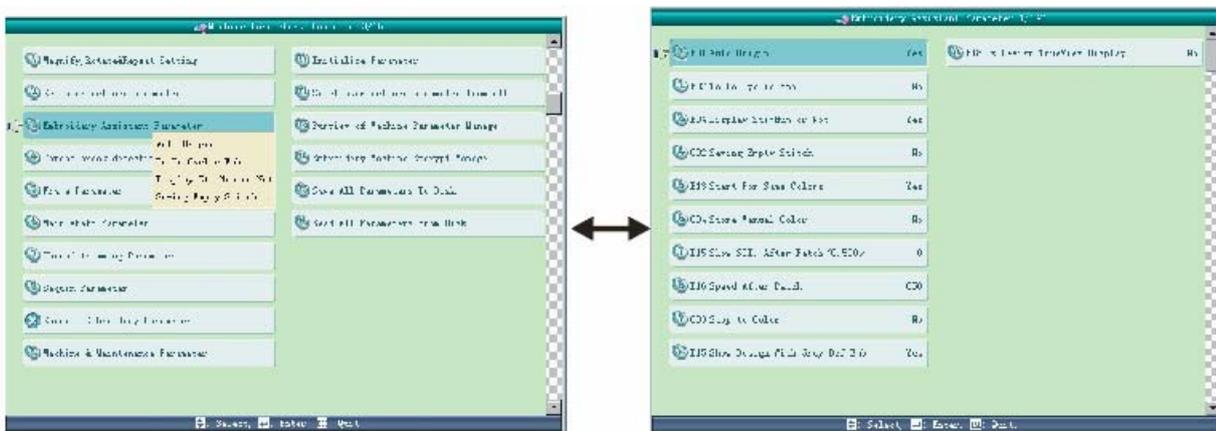
There are two modes: rotating prior to scaling and scaling prior to rotating. When the user has set the parameters “X&Y Scales” and “Rotate”, the design will rotate first and then scale up/down with the setting rotating prior to scaling. Otherwise it will scale up/down first and then rotate.

## 5-2 Setting of other embroidery parameters

Other parameters include 8 groups: embroidery assistant parameter, thread break detecting parameter, frame parameter, main shaft parameter, thread-trimming parameter, sequin parameters, special embroidery parameter and machine & maintenance parameter. Some machine with parameter-protected application parameters are for administrators of the embroidery factories and can be set with administrator password. Machine parameters are for the machine producer to use and usually don't need to be changed in working, which can be set with producer password. Press  to enter the “purview of machine parameter manage” screen, and then you can set administrator and producer passwords as well as set parameters to default. (See Chapter 5.4)

Refer to the appendix one for every parameter's definition.

1. Press  in the main screen.
2. The system enters the parameter setting screen, and press  set the parameters.



Note:

- 1、The number, name and value of every parameter are displayed in the parameter



list window.

2、 Parameter with  can't be changed unless the administrator password is unlocked; parameter with  can't be changed unless the factory password is unlocked. When a parameter is labeled by a number, then it can be changed by pressing “”.

### 5.2.1 Setting Procedure for Other Parameters

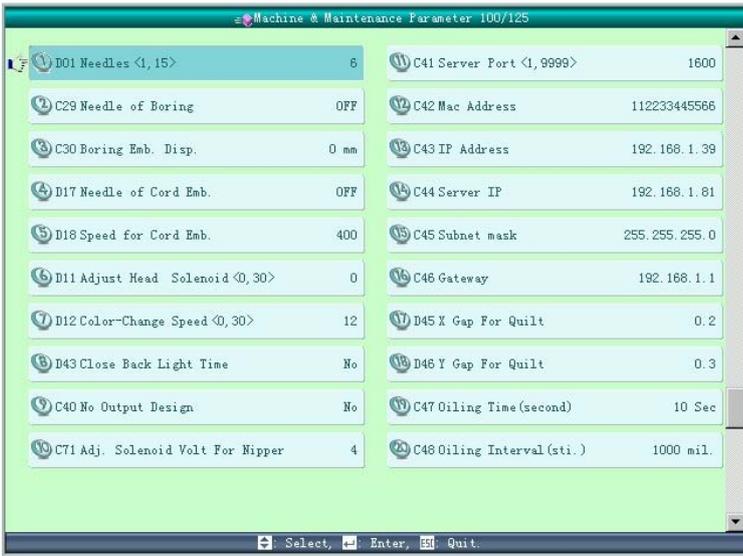
The setting procedure is similar for each general parameter.

1. Select the parameter group.

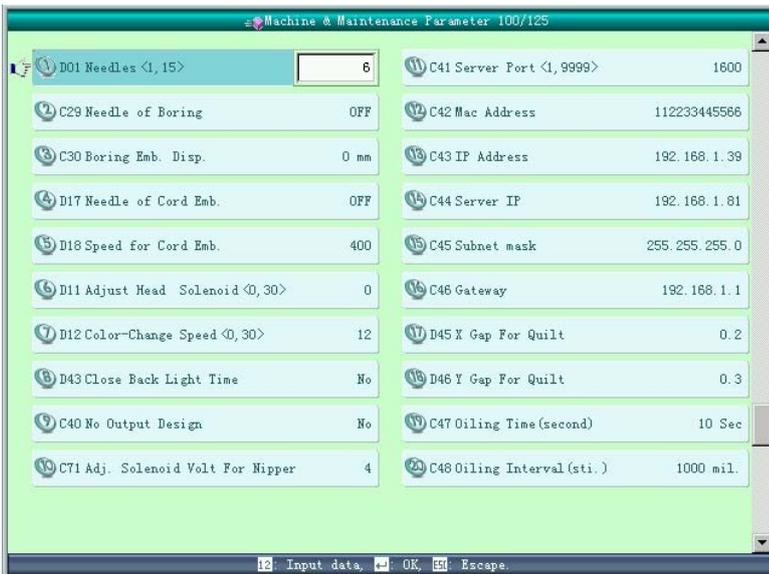
Move the cursor to the parameter group to be changed, press “” to enter into parameter setting. Move the cursor to the parameter and press “” to change. Make sure the parameter is unlocked if the machine have password-protected function (See Chapter 5.4)

For instance, if you want to modify machine stitch count parameter, which is located in the first item “D01 Needles <1, 15>”, “machine & maintenance parameter”.

2. Press  in the main screen, move the cursor to “machine & maintenance parameter”, press “”:



Select the parameter to be changed, select D01 Needles <1, 15>, press “”:



Type in needle counts and press  to save. Press the key  to turn back to machine & maintenance parameter.

Note: some of the parameter can not be typed in, you can only use  to select.

### 5.2.2 Introduction of Some Functions of General Parameters

There are brief introductions of the parameters in the appendix one. Here are some functions used in embroidery.



## 1. Cyclic Embroidery

This function is to increase the embroidery productivity.

When the parameter “To Do Cyclic Emb.” is set as “Yes”, the cyclic embroidery function is enabled and the icon  will appear in the main screen. When this function is enabled, after completing the designated design the machine will automatically embroider it again without pulling the bar.

Usually cyclic embroidery accompanies repetition embroidery and special punched designs and the parameter “Auto Origin” should be also set as “Yes”. Thus when the machine is embroidering the back embroidery cloth-piece, the front one can be replaced. After embroidering the designated design, the frame will automatically return to the start point and the machine will automatically embroider the front cloth-piece again and at this time it’s possible to replace the back one.

## 2. Store Manual Color-changing

In embroidery confirmation status, the user can choose whether to store the manual color-changing’s needle position into the color-changing order unit. Its purposes are as follows: 1) If mistakes are found for the automatic color-changing order in embroidering, the color-changing order can be modified with manual color-change. 2) When a new design is embroidered with manual color-change once, the color-change order is set for the design.

To use this function, the user should set the parameter “Store Manual Color” as “Yes”. Note: the parameter value will automatically change into “No” at the end

of one design embroidering.

### 3. Brake Adjustment (A Must for New Machine)

This function is to adjust the control parameters for braking, so as to fit machines of different mechanical characteristics, which also change with the machine running. Thus this function can help the machinery parts to work better with the computer. The function depends on the two parameters “Set Brake Para” and “Main Motor Para.”.

“Set Brake Para” is to adjust the stop position of the main shaft. When the main shaft often stops at less than 100 degree, the user can increase the parameter value. When the main shaft often stops at more than 100 degree, the user can decrease the parameter value. Thus the user can adjust the value to let the main shaft stop close to 100 degree. The value can be set between 0 and 30.

“Main Motor Para.” is to adjust cooperation between main shaft motor and machinery parts. The parameter value can be set between 0 and 30, and set as 0 in most situations. When during braking the main shaft vibrate without moving or rotate in the reverse direction, the user can increase the parameter value.

After adjusting these parameters, the user can press the task swift key on the panel to return to the main screen. Press the key  and , to check the effects of the parameter adjustment. If the user is not satisfied with the effects, he can press the swift key on the panel to return to the parameter setting screen, where he can adjust the parameter setting again. Close the parameter setting screen in the end.

### 4. Forbidding Design Output

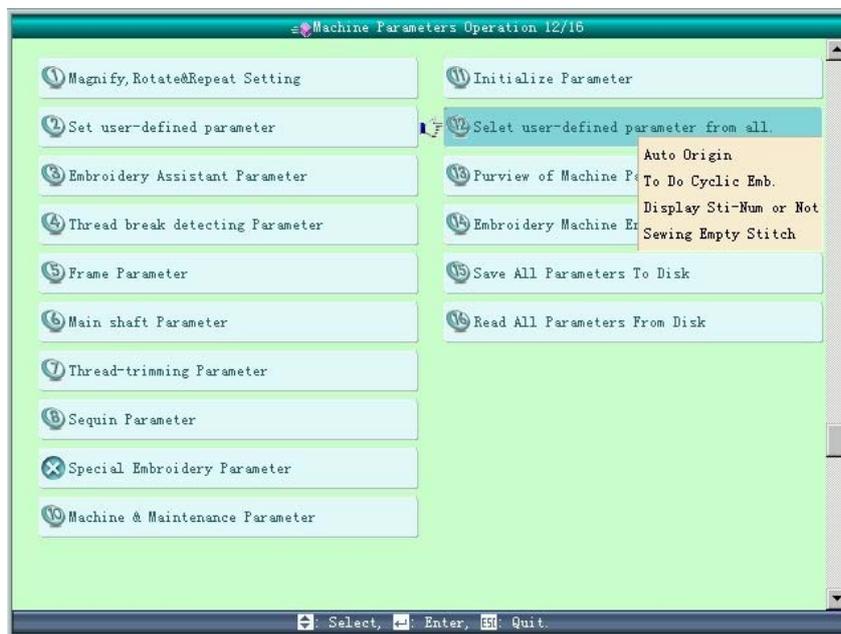


The function is to forbid copying the designs in memory (into the disk). If the machine administrator set “No Output Design” as “Yes”, other persons are unable to output the designs to the disk. If the user needs to output, he has to cancel “No Output Design” first.

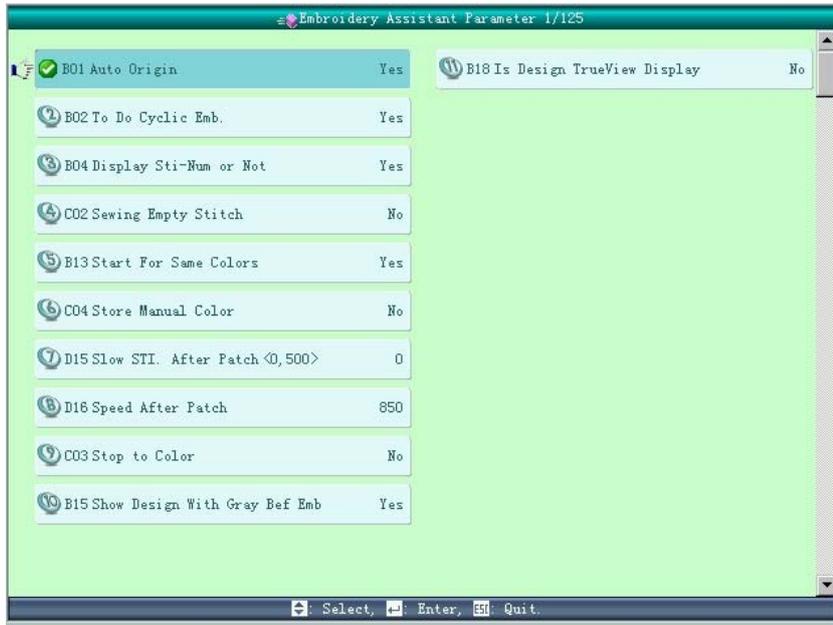
### 5-3 Set User-defined parameter

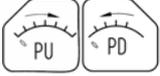
This function should be used to work with “select user-defined parameter from all”. “Set user-defined parameter” makes it easy to set frequently changed parameters. The setting should follow the steps as below:

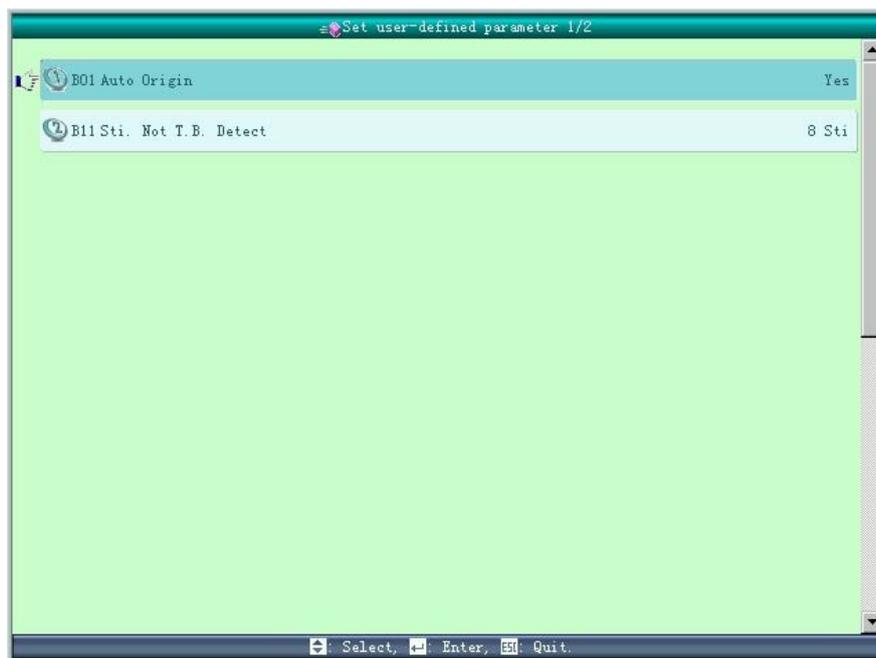
1. Press the key  in the main screen, move the cursor to “select user-defined parameter from all”.



2. Press the key “” to make this parameter as user-defined parameter, then this parameter is been listed into user-defined parameter list. You may press “” to cancel.



3. Press  to go to the next page. Repeat the step 2. Then press  to shift between the pages. The user-defined parameters are labeled with .
4. Press the key  to save and system goes back to machine parameter screen.
5. Move the cursor to “set user-defined parameter”, press the key  to enter into user-defined parameter screen. The setting is similar to other parameter setting.



Note: when you enter into the screen of user-defined parameter, system will automatically clear the saved ones.

#### 5-4 Purview of Machine Parameter Manage

*Note: This section operation is fit for the machine with password-protected function.*

For a convenient machine management, the common user can't access the setting of all parameters; the roles of the customer are divided into the common user, machine administrator and factory customer. The purview of the common user is the lowest, can only modify the embroidery parameter of the machine, machine administrator can also modify managing parameter, but the factory user can modify all parameters.

Press “Purview of Machine Parameter Manage” to enter the following screen.



If the password is set and the machine administrator or the factory customer needs to modify the parameter, he must input the password before any change. In this screen you can also change password, save or restore parameters.

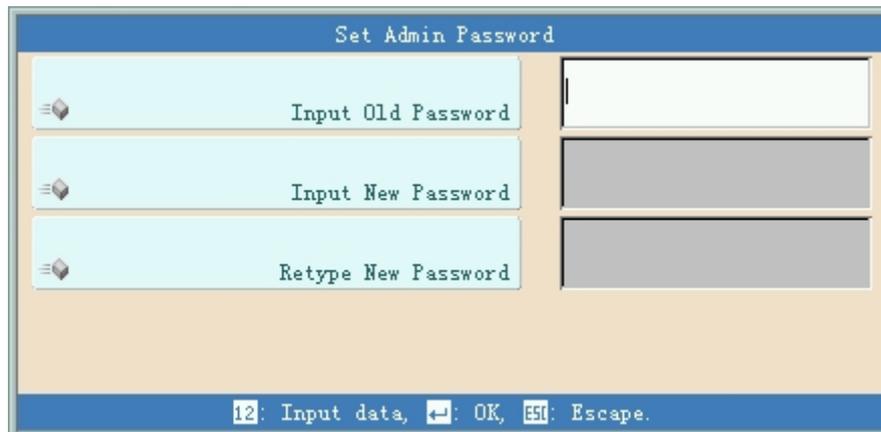
### 5.4.1 Unlock/Change the administrator password

When the machine leave the producer, it's without password, namely the customer can change all the parameter. After password setting, the common customer can't modify the machine application parameter. The administrator has to input the right password before modification.

1. Press  in the main screen to enter into machine parameter management, move the cursor to unlock/change the administrator password, press .



2. Move the cursor to “Unlock/Change the admin password”, press  and type in the old password then input a new one.



The administrator needs to input the old password and new password one by one. The machine producer will tell the administrator about default password which is in 4-9 digits. To prevent the user's wrong operation, the new password must be input two times in the same.

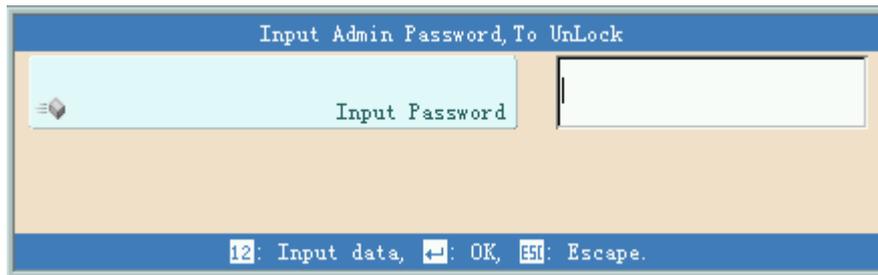
#### 5.4.2 Machine Administrator cancels machine lock

After machine administrator setting the password, the machine is in lock. The common customer can't modify the machine application parameters. To set these



parameters the administrator must input the administrator password or the factory password.

1. Press  in the main screen to enter into machine parameter management, move the cursor to purview of machine parameter manage , press .
2. Move the cursor to “Unlock/change the factory password” and press .



System shows password input screen.

### 3. Administrator input password

After input the password, system is unlocked; you can modify related machine parameters.

#### 5.4.3 Administrator reset (or save) optimize parameter

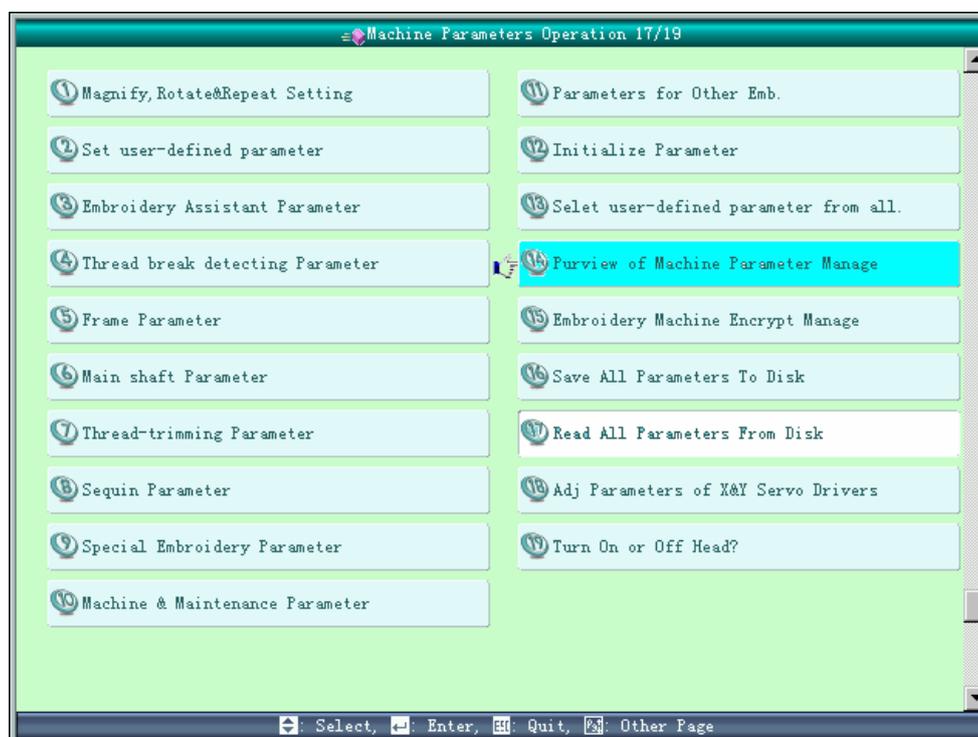
Operation:

##### 一、Administrator save optimize parameter

- 1) At main interface , press "" key to the menu appears as following.



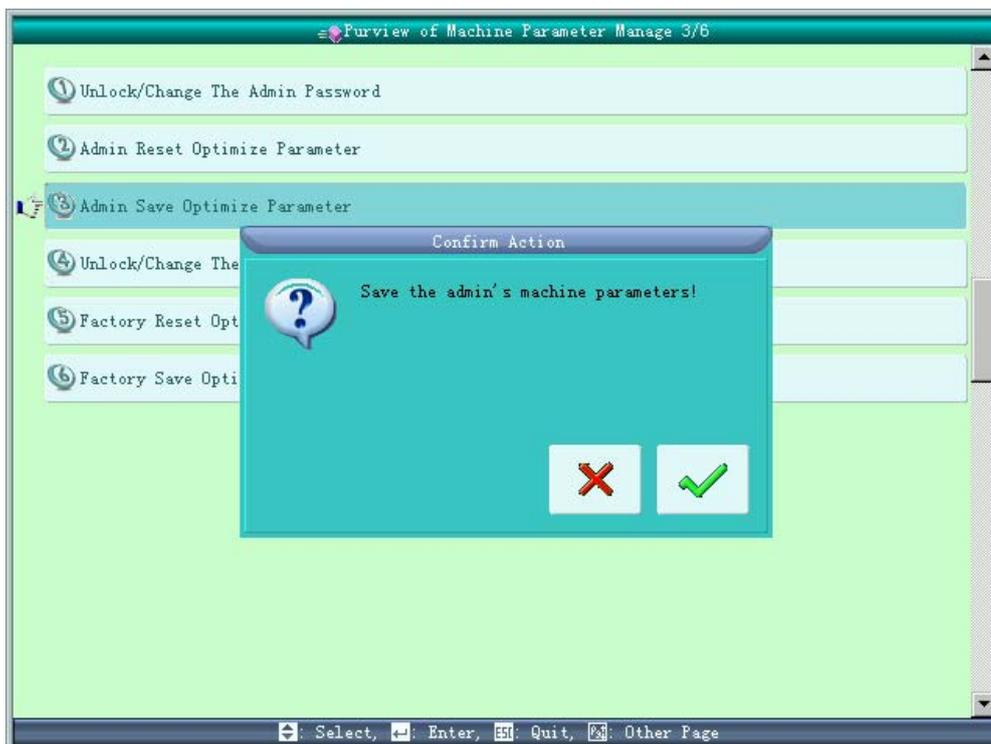
2) Press " $\uparrow$ ", " $\downarrow$ " to move the cursor to "Purview of Machine Parameter Manage", and press " $\rightarrow$ " key.



3) Press "↑", "↓" to move the cursor to "Admin Save Optimize Parameter", and press "↵" key.



4) Turn up "Admin Save Optimize Parameter", and then press "↵" key.

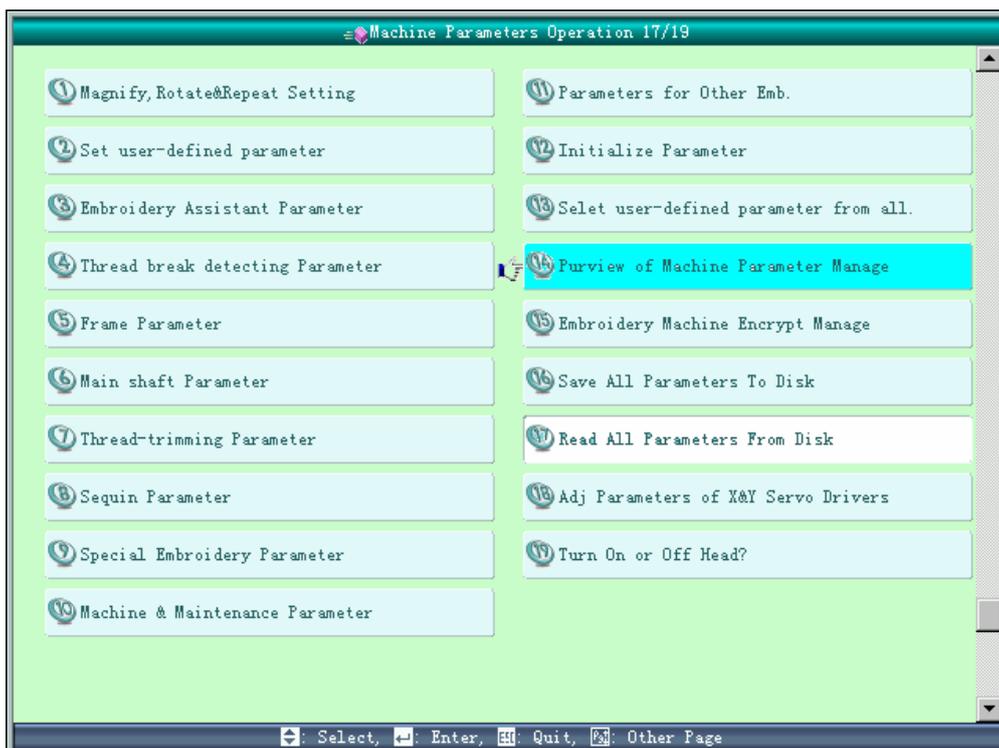


## 二、Administrator reset optimize parameter

1) At main interface , press "  "key to the menu appears as following.



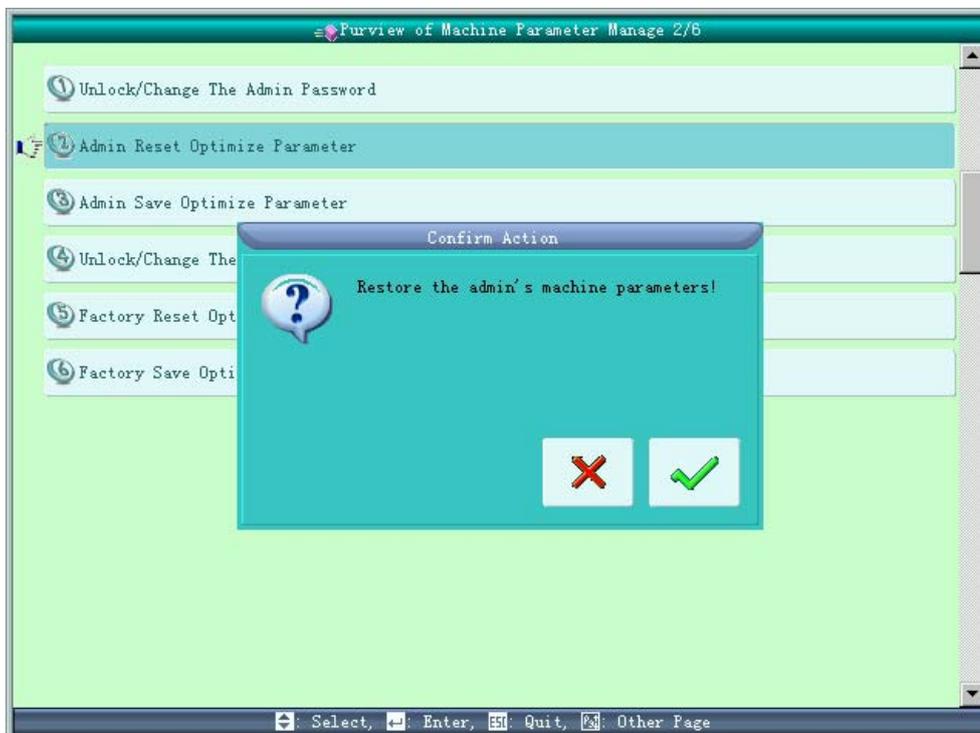
2) Press "  ", "  " to move the cursor to "Purview of Machine Parameter Manage", and press "  " key.



- 3) Press "↑", "↓" to move the cursor to "Admin Reset Optimize Parameter", and press "↵" key.



- 4) Turn up "Admin Reset Optimize Parameter", and press "↵" key.



Accomplish, resume parameters before Updating software, Embroidery machine can be used.



#### 5.4.4 Change the factory password

The machine producer can modify all parameters. When the machine leaves factory, the machine is unlocked. After password setting, the machine is in lock. To change the machine parameters, you have to input password first.

#### 5.4.5 Unlock the factory password

The procedure is similar to chapter 5.4.2.

#### 5.4.6 Factory Save/Reset Parameters

The procedure is similar to chapter 5.4.3.

### 5-5 Initialize Parameters

This function can initialize the general embroidery parameters of the machine. The system saves a group of default parameter values. The factory and embroidery factory administrator can save their parameter settings. In this operation it follows the following rules:

1. When the factory password and embroidery factory administrator password are not set or the machine having no password-protected function, all general embroidery parameters are initialized to take the default values.
2. When that factory password has been set and unlocked, all general embroidery parameters are initialized to take the default values.
3. When that factory password has been set and unlocked and administrator password has not been set or has been canceled, all factory-authorized machine parameters are recovered to factory saved values and other parameters are initialized to take the default values.

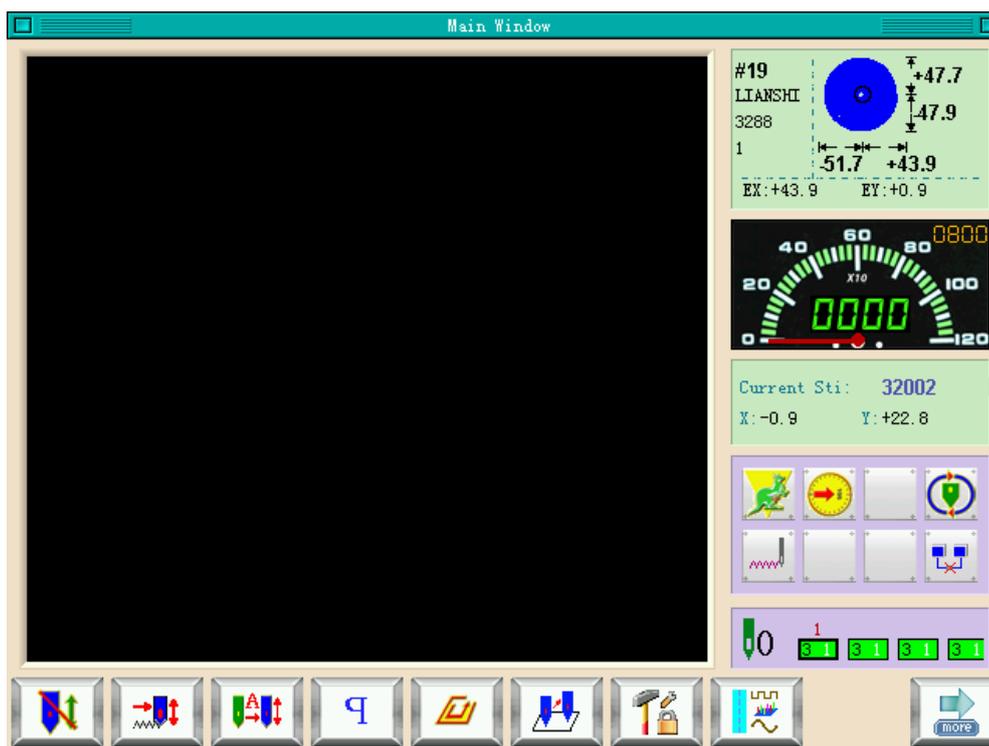


4. When that factory password has been set and unlocked and administrator password has been set and unlocked, all factory-authorized machine parameters are recovered to factory saved values and administrator authorized machine application parameters are recovered to administrator saved values and other parameters are initialized to take the default values.
5. When that factory password has not been set and administrator password has been set and unlocked, all general embroidery parameters are initialized to take the default values.
6. When that factory password has not been set and administrator password has been set and not unlocked, all administrator-authorized machine application parameters are recovered to administrator saved values and other parameters are initialized to take the default values.

### 5-6 Save all parameter to disk

Operation:

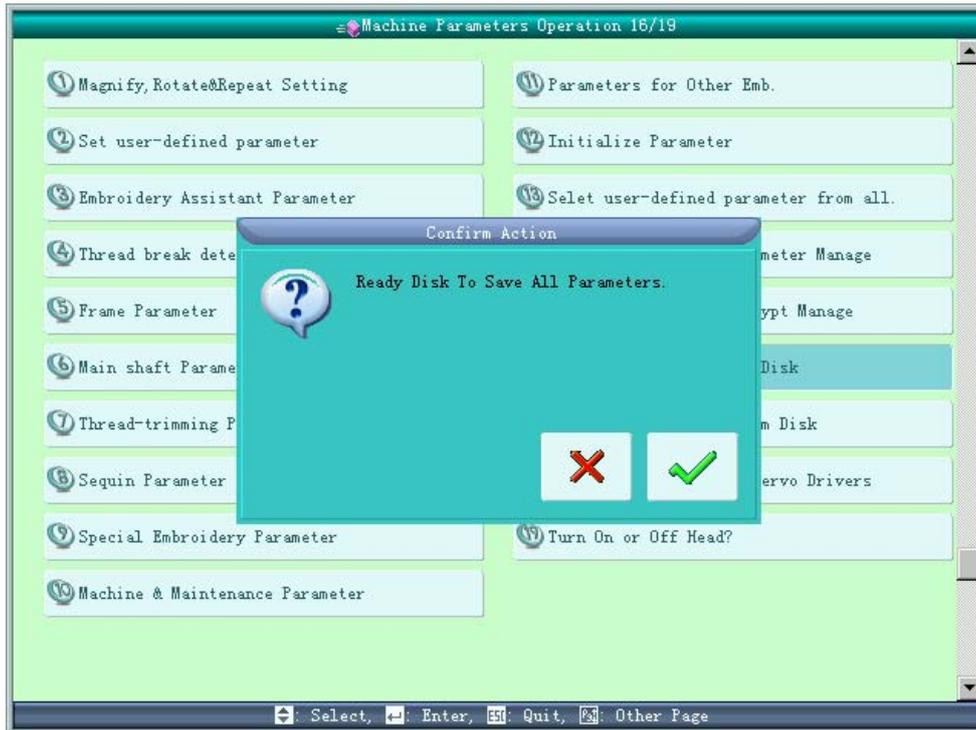
- 1) At main interface , press  "key to the menu appears as following.



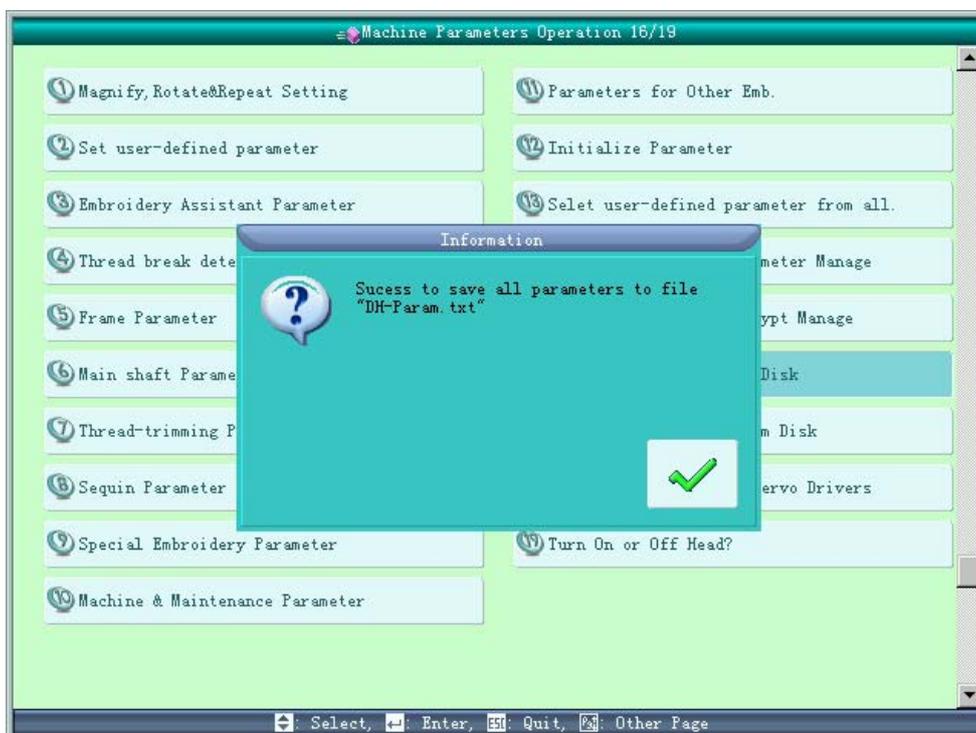
2) Press " $\uparrow$ ", " $\downarrow$ " to move the cursor to " Save All Parameters To Disk ", and press " $\rightarrow$ " key.



3) Turn up "Ready Disk To Save All Parameters", insert the USB and then press " $\rightarrow$ " key.



4) Turn up "Success to save all parameters to file "DH-PARAM.TXT", and success to save all parameters to the USB.

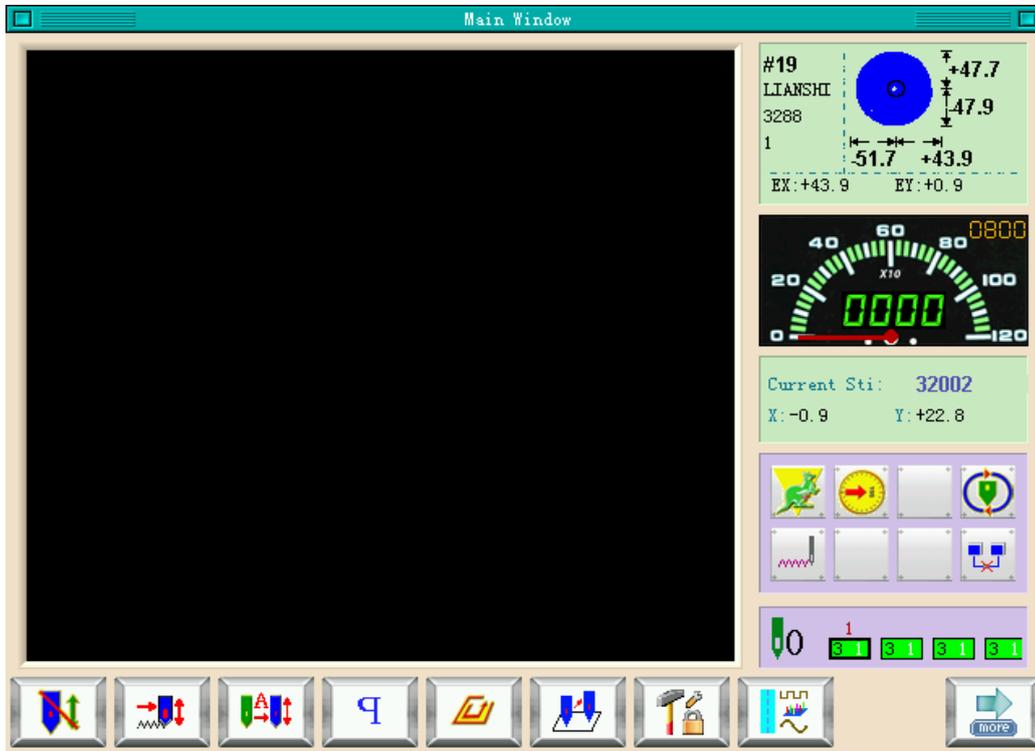


After the update, user needs to initialize the parameters; repower the computer after the initialization and then reset the parameters.

## 5-7 Read all parameter from disk

Operation:

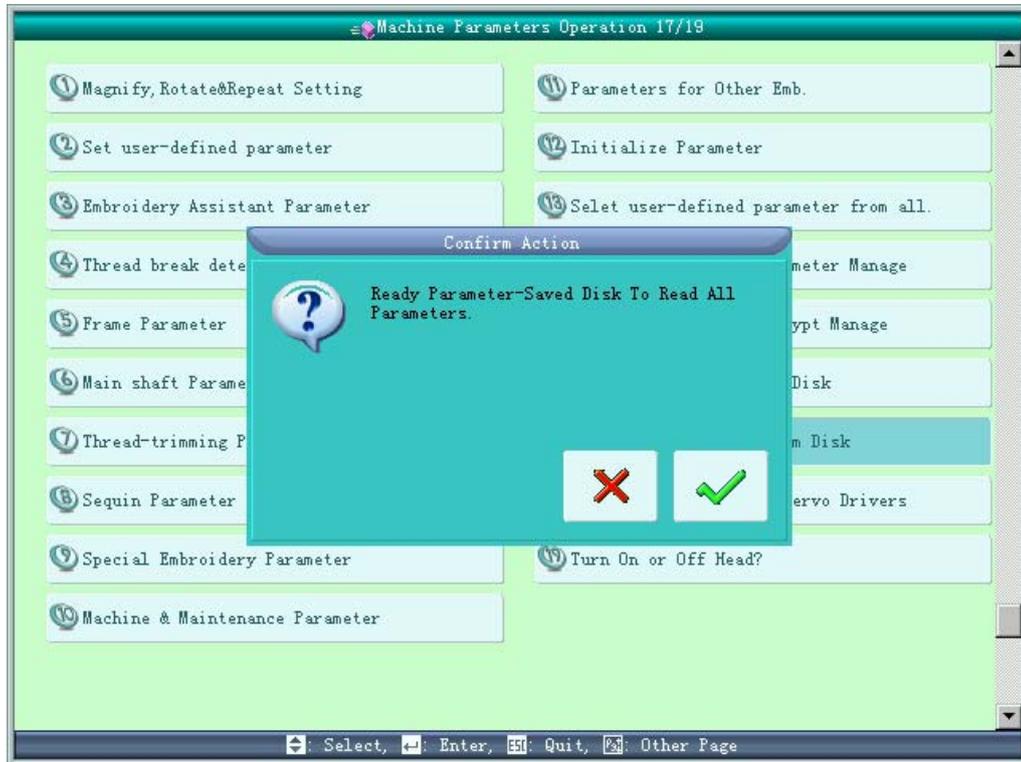
1) At main interface , press "  "key to the menu appears as following.



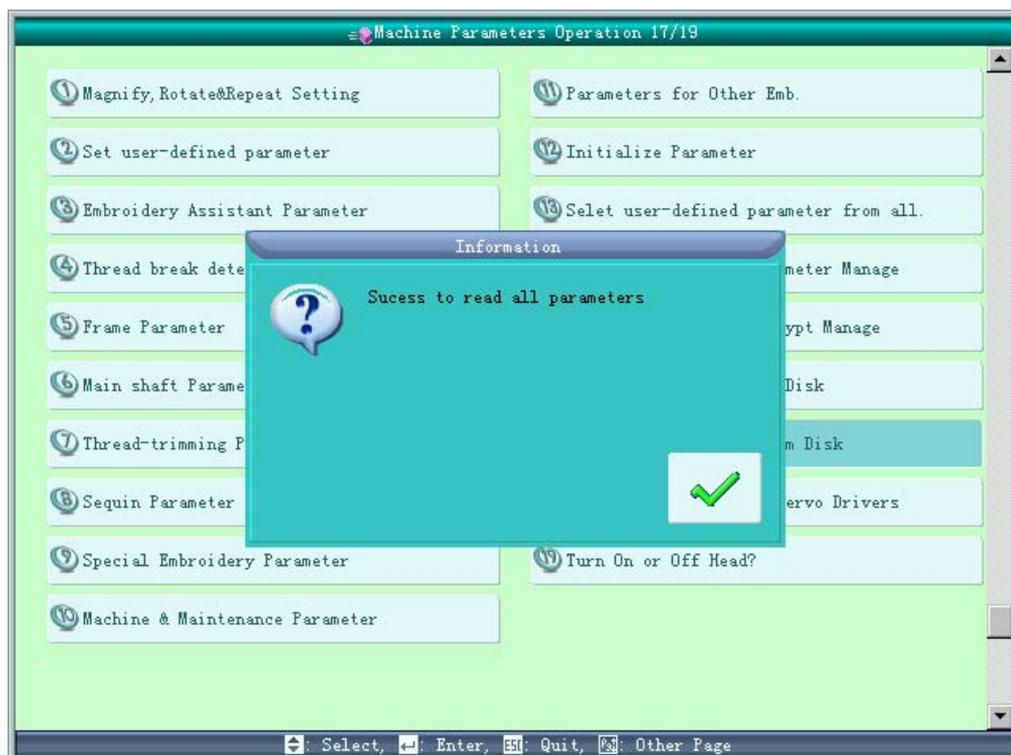
2) Press "  ", "  " to move the cursor to " Read All Parameters From Disk ", and press "  " key.



3) Turn up " Save Parameters –Saved Disk To Read All Parameters ", and press "" key.



4) Turn up "Success to read all parameters ".

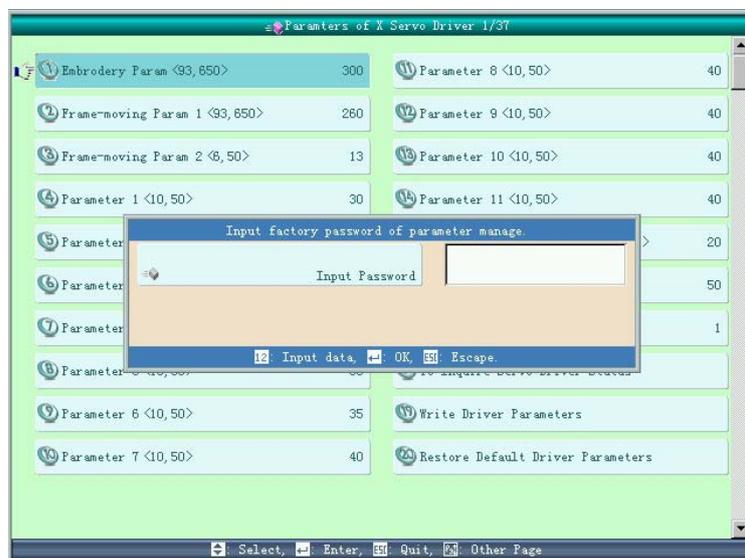


Accomplish, resume parameters before Updating software, Embroidery machine can be used.

### 5-8 Adjust Parameters of X & Y Servo Drivers

The type parameters are fit for the machine of main shaft using dahao servo motor and driver. The factory can rework the parameters. You must input the factory password if adjust the parameters or correspond to operation to the machine with password-protected function. The operation process is as follows:

- 1、 Press  in the main screen.
- 2、 The screen go into “Machine Parameters Operation” interface. Move cursor to “Adj Parameters of X & Y Servo Drivers” and press  to “Parameters of X & Y Servo Drivers” window.



- 3、 If the parameter of the machine with password-protected function is set password, Input factory password and move the cursor to correspond to item, then press  to the under operation.

### 5.8.1 Set the parameter

The type parameters setting is same as the other parameters, the explainer see Appendix I Parameter Setting List.

### 5.8.2 To inquire servo driver status

This operation can inquire the dahao servo driver status. Machine popup the windows of X/Y servo driver status after carrying out the operation. Turn off power and adjust dahao servo driver if the follow screen popup.



### 5.8.3 Write driver parameters

The currently parameters of setting X&Y servo driver in the machine will save in the servo driver after executing the operation. And the parameters can be saved if turn off power.

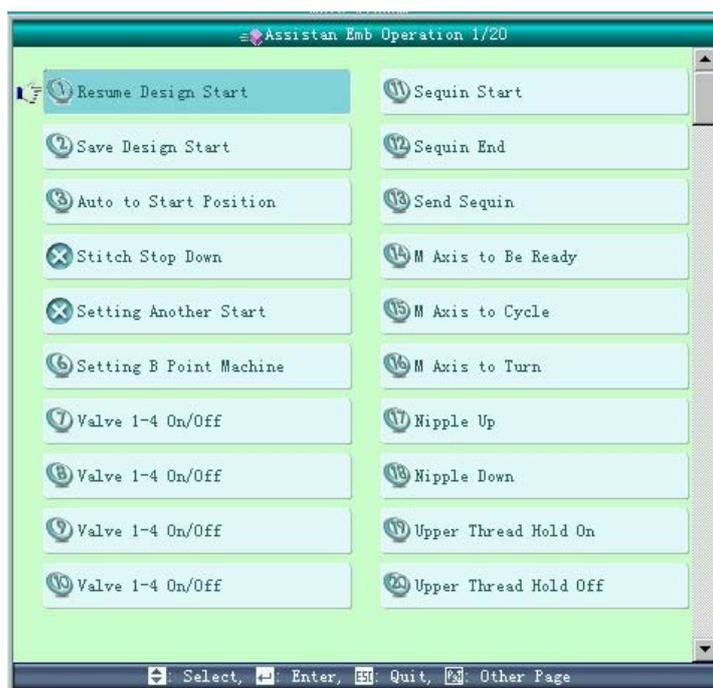
### 5.8.4 Restore default driver parameters

The parameters of setting X&Y servo driver in the machine will renew the dahao servo motor driver parameters if you operate this item.

## Chapter 6 Assistant Operation

### 6-1 Assistant embroidery operation

Press the other function key  in the main screen to enter into assistant embroidery operation screen.



If the frame origin has been set (see 6.2.3), in the state of embroidery confirm, you can start design start point operation.

#### 6.1.1 Resume Design Start

If the current design has start point, use this function to move the frame to the start point saved before.

1. Follow the above instruction and enter into assistant embroidery operation screen.
2. Move the cursor to “Resume design start” and press “”



3. Press the key “” to resume, system will move the frame to the start position that already saved before; press “” to cancel.

### 6.1.2 Save design start

1. Move the frame to the embroidery design origin.
2. Follow the above instruction and enter into assistant embroidery operation screen.
3. Move the cursor to “Save design start” and press “”

System will show:



4. Press the key “” to save the current frame position as the origin. Press the key “” to cancel.

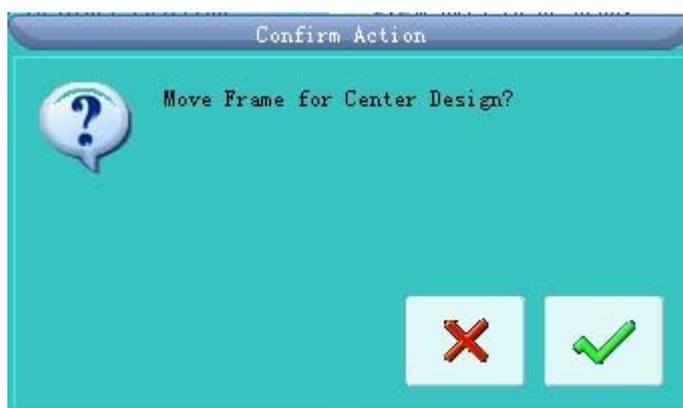
### 6.1.3 Auto to start position

This function is used for locating design center to the frame software center set by

the system (see 6.2.5). Thanks to this function, you can embroider the design to the center of the frame.

1. Follow the above instruction and enter into assistant embroidery operation screen.

2. Move the cursor to “Auto to start position” and press .



Press  to confirm, system will find the central place and move to that position; press  to cancel.

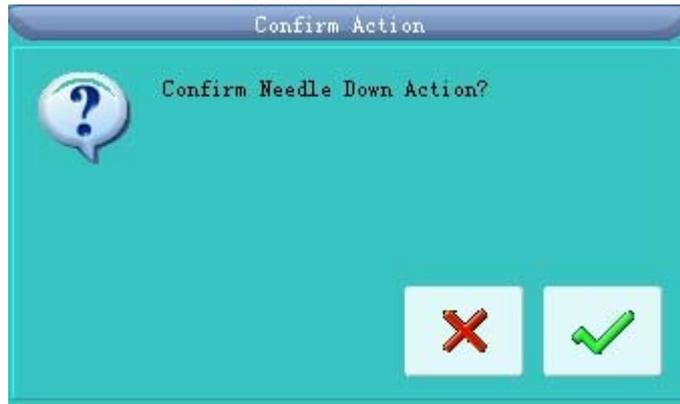
3. System goes back to the main screen.

#### 6.1.4 Stitch stop down

This function is intended for quilt embroidering. In embroidering, the needle will stop and prick into the embroidery cloth to fix it. After releasing the cloth, move the frame to the designated position. When the cloth is fixed on the frame again, it is ready for the next operation. This function is available under embroidery confirmation status.

1. Follow the above instruction and enter into assistant embroidery operation screen.

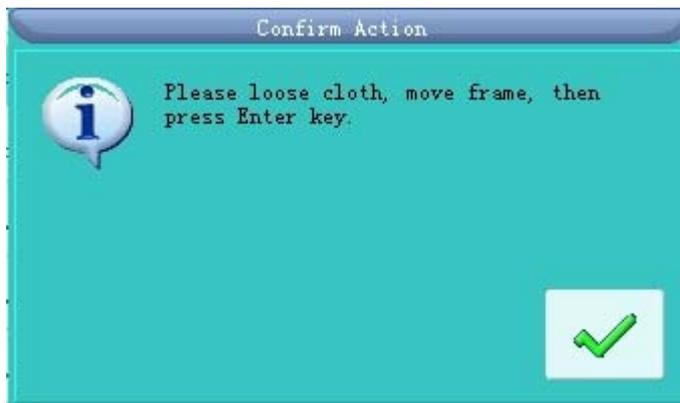
2. Move the cursor to “Stitch stop down” and press .



3. Press “” to confirm operation, system let needle down to hold the cloth.

Press  to cancel.

4. Release the cloth, confirm the operation after frame moving.



After releasing the cloth and move frame to desired position, press “” to confirm, if you press , then the operation will be cancelled.

5. Back to main screen after confirm frame moving

Customers can hold tight the cloth and operate main shaft to go to 100°, then pull bar to continue embroidering.

#### 6.1.5 Setting another start

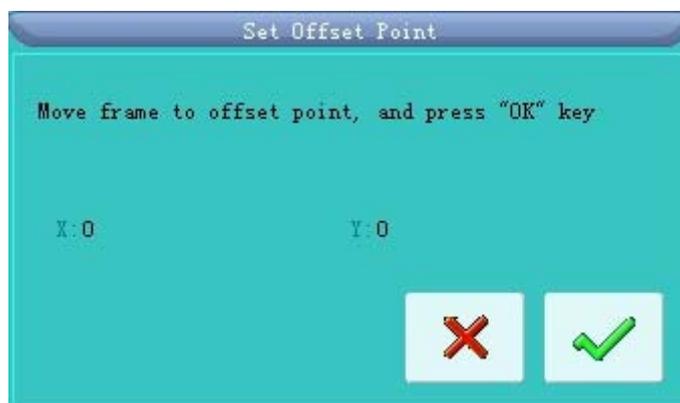
The offset point can be set at any point other than the start point. After setting it and beginning to embroider, the frame will first move from the offset position to the start position and start normal embroidery. After embroidery, the frame will

move back to the offset point. Moreover the offset point is also necessary for frame to move out when applique. The function can only be used under the embroidery confirmation status and before embroidering.

1. Follow the above instruction and enter into assistant embroidery operation screen.

2. Move the cursor to “set offset point” and press .

3. Move the frame to the offset point.



The system will ask the user to confirm and input the coordinates of X and Y.

Press the frame-moving key to move the frame to the offset point and press 

to confirm. Or press  to cancel the operation.

4. The system will save the position of the offset point and return to the main screen.

### 6.1.6 Set B Point

This function is selected and the user must customize.

This function is developed to solve the problem of inconvenience of threading when thread break appears on giant machine.

When thread break appears, press the slow switch to let the machine trim,



then the frame will move to the point B. After reloading the thread, you can pull bar to the right side to let the frame back to the stop point. Then proceed embroidering.

### I、 Setting Course

- 1、 Set the absolute origin, see 10.3 for details.
- 2、 Go into “Assistant Emb Operation” screen according to above description.
- 3、 Move cursor to “Setting B Point Machine” and press  key.
- 4、 Press the manual frame moving to move the frame to a proper position.
- 5、 Press  to confirm saving B point setting .

If you want to clear the point B, repeat the above operation .

### II、 Notes

- 1、 When frame moves to the work-off point, there is only action on Y direction.
- 2、 Frame will not necessarily move to the B point wherever thread breaks.

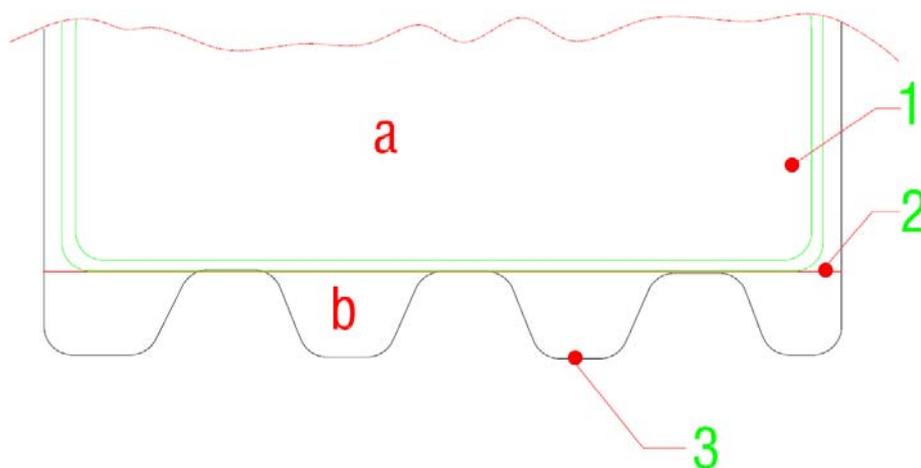
If the B point is set as the image below, then frame will be only moving above B (a zone indicates the inner edge of the stand), after thread break, press the slow moving switch, machine trims without letting frame go to B point; when frame is moving under B (b zone indicates the outside of stand), after thread break, press the slow moving switch, frame will move back to B point. If no action, please check the machine.

3、 B point setting is as the image shows:

(1) If B point is above the line, then frame will back to B after slow moving.

There will be a long distance to go after threading.

(2) If B point is under the line, threading will be greatly influenced.



1、 Frame

2、 the best line for setting B point

3、 edge of the table

#### 6.1.7 Operation on AFC, Sequin and Coiling Devices

1. Follow the above instruction and enter into assistant embroidery operation screen.

2. Operate according to the prompts.

Note: switch of valves (V1~V4) are for quilt embroidery. Other sequin and special embroidery operations are detailed in different chapters.

#### 6.1.8 Upper thread hold operation

The operation is fit for the machine having upper thread hold function. You can open or close upper thread hold.

### 6-2 Other assistant operation

These operation include machine maintaining, information and some other system

setting.

Press  in the main screen to enter the “Other assistant operation” screen, which is a menu of function keys.

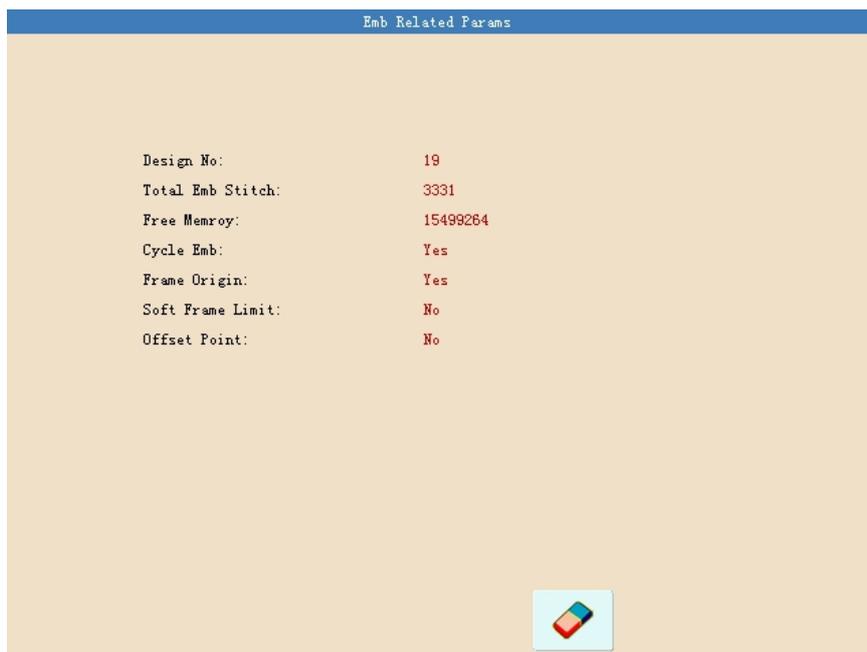


The screen is similar to that for embroidery helper function. The words on the keys can help to explain their functions.

### 6.2.1 View Embroidery Parameter

The user can get information of the current design’s parameter and some machine condition

1. Press  in the main screen to enter the “Other assistant operation” screen.
2. Move the cursor to “view embroidery parameter” and press .
3. The system will show the current embroidery parameters.



They include: design number, total embroidery stitch, free memory, cycle embroidery, frame origin, soft frame limit and offset point. Press  to clear

or press  to return.

### 6.2.2 View Statistics Information

This is to view the current design parameters and some machine parameters.

1. Press  in the main screen to enter the “Other assistant operation” screen.
2. Move the cursor to “View Statistics Info” and press .
3. The system will show the machine’s statistics information.

View Statistics Info

Power On Counter 190  
 Overall Works 243  
 Overall T.B. 0  
 Mean Time of T.B. 00:00:00  
 Estimate Finish Time 0h 0m

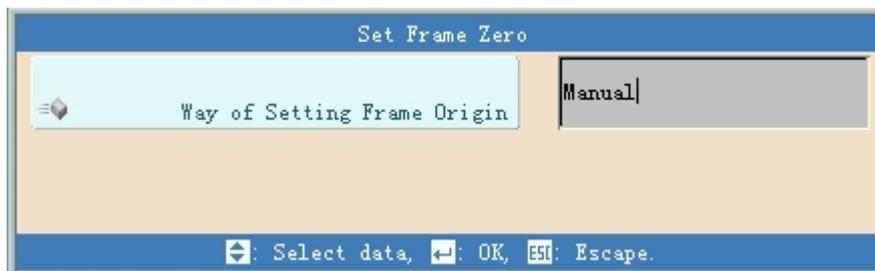
No.	DesignNo	DesignID	Name	StitchNum	Works	Total Time	Minnum Time	Maximum Time
1	4	0	11风景	32229	185	03:41:45	00:01:04	00:05:18
2	2	0	八卦	6508	34	00:13:43	00:00:14	00:01:14
3	2	0	八卦	6508*4	3	00:05:07	00:01:08	00:02:25
4	1	0	G005	3167	1	00:05:18	00:05:18	00:05:18
5	7	0	DESIGN	793	12	00:30:20	00:00:31	00:07:43
6	5	0	G005	3167	8	00:09:01	00:00:08	00:05:42
7								
8								
9								
10								

In the above screen, the statistics information is displayed in a chart. The user can press to clear the value and press to return.

### 6.2.3 Power resume setting/ frame start setting

Setting the frame origin position is the premise for saving the design's start point and setting frame protection when power off. So after machine installation or maintenance, it's necessary to set the frame origin point.

1. Press in the main screen to enter the "Other assistant operation" screen.
2. Move the cursor to "Power resume setting/ frame start setting" and press .
3. Use to choose between "Manual" and "Auto".



Before setting the frame start manually, manually move the frame to the desired origin position, and press "Manual". Then the system will save the current frame



position as the frame start. In case of emergency stop because of malfunctions or something unusual such as unexpected power off, etc. the machine will cancel the “manual frame start” to avoid mistakes. If the frame has been moved after power off, or if power on again after maintenance, you should do again the operation of “frame start setting”.

If you hope the system automatically set the frame start, press “Auto”, and the system will move the frame automatically and set the start position according to the limit switch. So please ensure that the limit switch has been installed into the machine and it’s effective.

#### 6.2.4 Power resume

In case of frame having been moved after power off, this operation can be used to restore the before frame position when the power is on again. The proper performance of this operation is based on the “Frame start setting”. In addition, if the power is off in the process of embroidering operation and the frame has not been shifted, you also can directly pull the operation bar to continue embroidering after power is on again.

1. Press  in the main screen to enter the “Other assistant operation” screen.
2. Move the cursor to “Power resume” and press .
3. Press “” to confirm or “” to return.

If it is “auto” in “set frame origin”, the machine will automatically move to the frame origin point and then back to embroidering position before power-off. It will be invalid if the operation of manually set frame start is done.

### 6.2.5 Set embroidery scope in software

This function is to set embroidery scope in software. It's the basis to locate design in the central place of the frame.

1. Press  in the main screen to enter the “Other assistant operation” screen.
2. Move the cursor to “set embroidery scope in software” and press .
3. If software protection has already been set, system will ask to clear original settings.

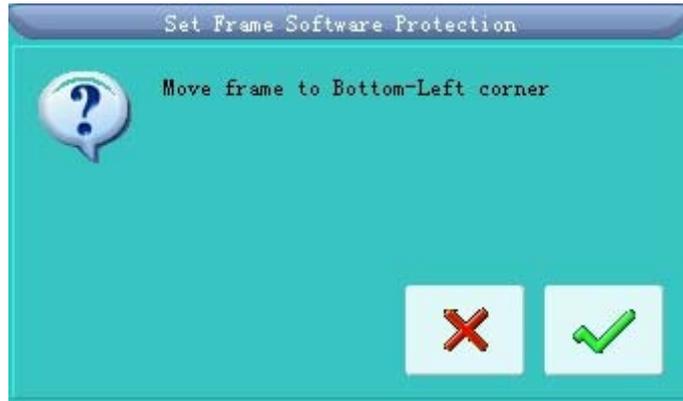


4. Press the key  to set top-right corner.



Use frame moving key to move the embroidery frame, after you confirm the top-right corner, press “” to confirm.

5. Move frame and type in the bottom-left corner.



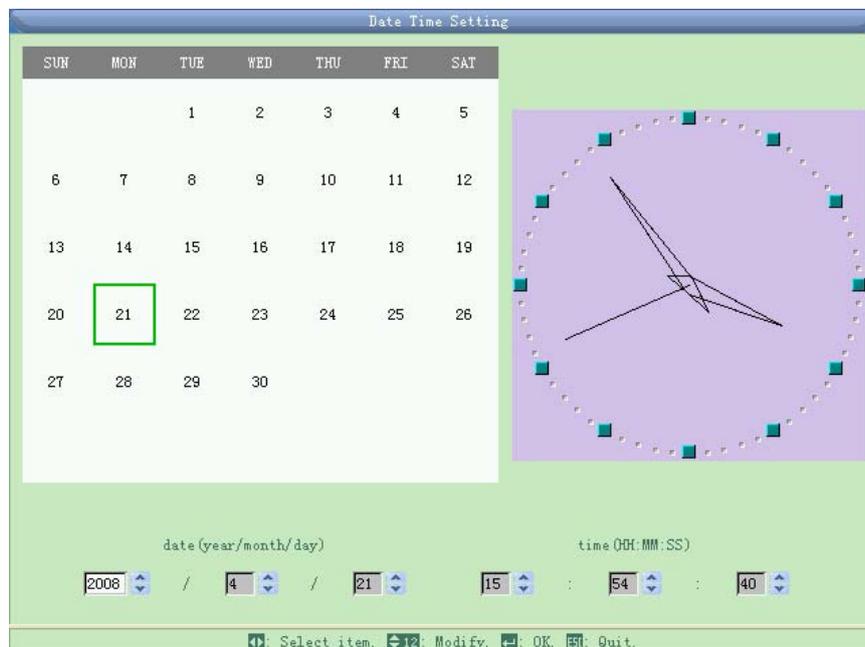
Use the frame moving key to confirm the bottom-left corner, press “” to confirm.

6. System will record frame software protection.

### 6.2.6 Set system clock

In date and time screen, users can check and modify the current date and time.

1. Press  in the main screen to enter the “Other assistant operation” screen.
2. Move the cursor to “set system clock” and press .



3. Use the digital key to type in numbers; use  to find the number you want; use  to select option.



4. Press the key  to modify, press “  ” to return without save.

### 6.2.7 Language Choice

The system supports Chinese, English, Espanol, Turkish and so on conversion.

1. Press  in the main screen to enter the “Other assistant operation” screen.

2. Move the cursor to “Display Language” and press .



3. Move the cursor to the language of you want, then press  to confirm or press “  ” to exit.

### 6.2.8 Machine Soft Information

1. Press  in the main screen to enter the “Other assistant” screen.

2. Move the cursor to “machine soft information” and press .



This function is used for checking the software of upper and lower machine, press

 to exit.

### 6.2.9 Help

1. Press  in the main screen to enter the “Other assistant operation” screen.
2. Move the cursor to “Help” and press .

It displays the help information, press  or  to shift between the pages.

### 6.2.10 Machine Test

 This operation is provided to only maintenance engineers to use, Embroidery workers don't do this. This operation contains some mechanical work. Please pay attention to personal and equipment safety.

This function is mainly used for machine adjustment, maintenance and checking, including:

Test Encoder parameters

Test main shaft speed



- Rotate main shaft to fixed angle
- Test the pull bar
- Test the limit switches
- Test the head solenoids
- Test trim solenoids/ motor
- Test holding solenoids
- Test hook solenoids/ motor
- Splay Scissor's Angle
- Trim Motor to Find Origin
- Test thread breakage
- Thread Breakage Statistics
- Count of Roller Thread Breakage Device
- Test sequin device on/off
- Sway Zig Rod to 100
- Test lift clamp foot
- Test Upper Thread Hold Function
- Sequin A send one sequin
- Sequin B send one sequin
- Sequin C send one sequin
- Sequin D send one sequin
- Sequin equipment push valve 1.
- Sequin equipment pull valve 1.



Sequin equipment push valve 2.

Sequin equipment pull valve 2.

Sequin equipment push valve 3.

Sequin equipment pull valve 3.

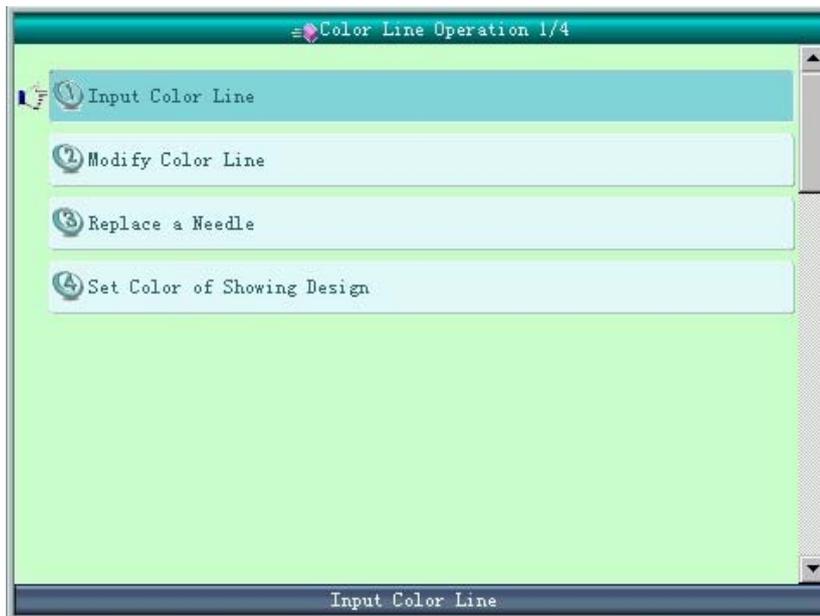
Note: for sequin and special embroideries, refer to the related chapters.

## Chapter 7 Other Operation

### 7-1 Operation on color-changing order

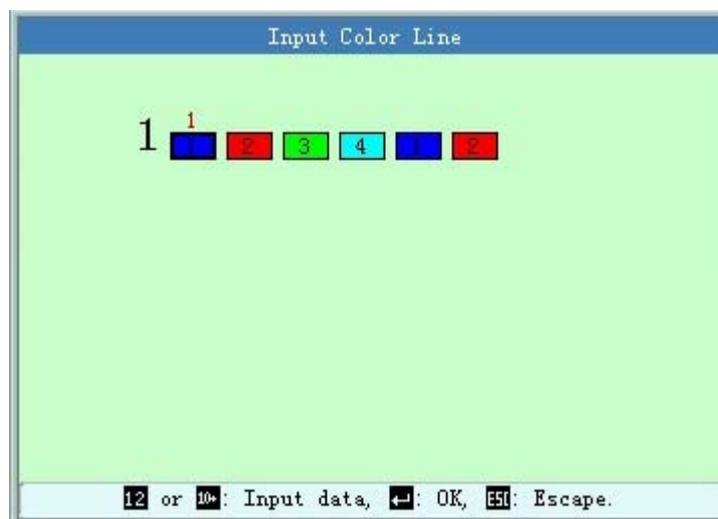
The design's color-changing order is saved with the design.

Press the key in the main screen. You can operate color-changing order in the following screen.



#### 7.1.1 Input Color Line

1. Move the cursor to “Input color line” and press “”:



2. Press the digital key (Note: the number you type can not be over the needle

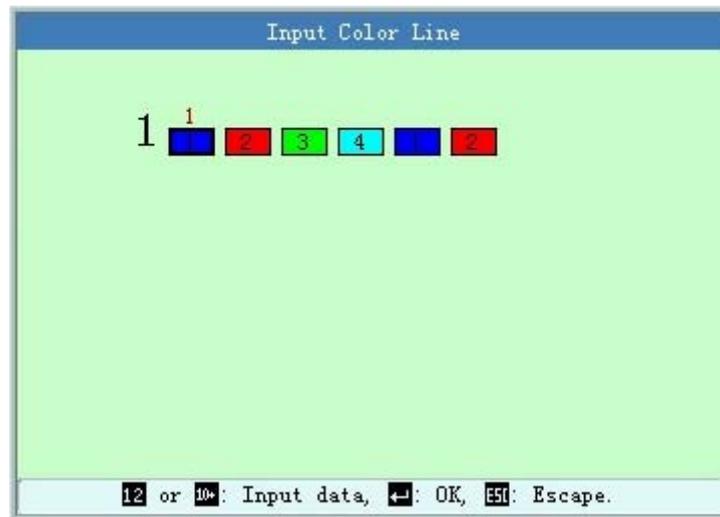
count) and type in the color-changing position. The color-changing position and relative order are displayed on the screen.

If it is a special embroidery position or sequin embroidery position, see detailed operations in related chapters.

Press the key “” to save the color-changing order; press the key  to exit without saving.

### 7.1.2 Modify color line

1. Move the cursor to “modify color line” and press “”:

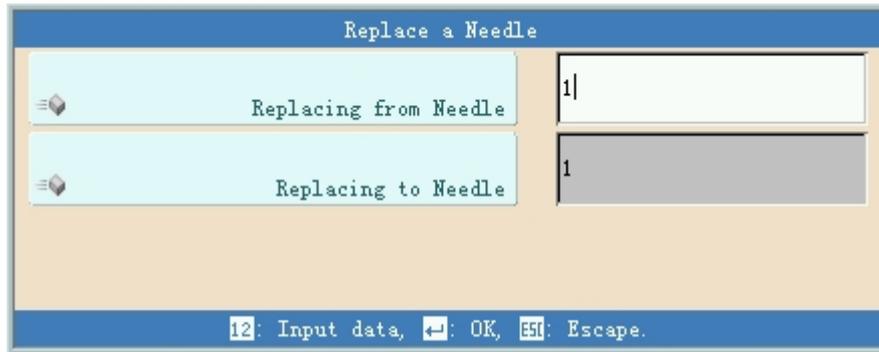


2. Press the key “ ” to select the position to be modified. Press the digital key to input needle position (if you input a special embroidery needle position or a sequin embroidery position, see related chapters for details.)

If you want to modify the next color, you can repeat step “**2**”. Press the key “” to save the color-changing order; press the key  to exit without saving.

### 7.1.3 Replace a needle

1. Move the cursor to “replace a needle” and press “”:



2. Press the digital key to input “replacing from needle” and press  to confirm and type in digits in “replacing to needle”, then press  to save or press the key  to exit without saving.

#### 7.1.4 Set color of showing design

In order to make showing effect close to the real embroidery design, the system supports setting of each needle bar color. The needle bar color can be saved with the color-changing order.

1. Move the cursor to “set color of showing design” and press “”:



There are altogether 40 different colors for you to choose.

2. First you should press  to select the needle bar to be set, then press

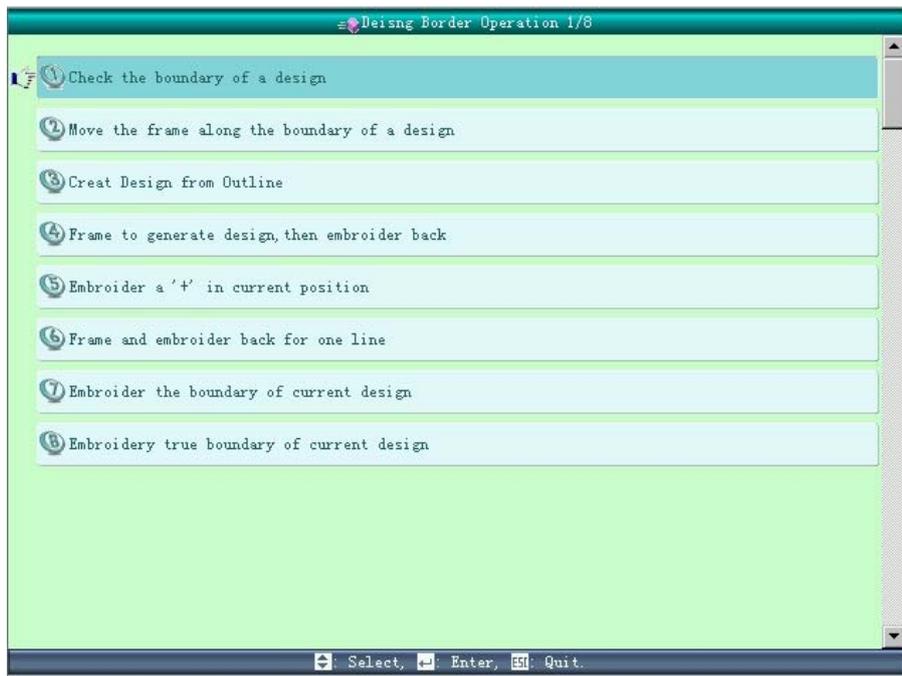


“ ” to the desired color. Press to confirm.

3. After setting, press to save the needle bar color setting and return, or press the key to return without saving.

## 7-2 Design border operation

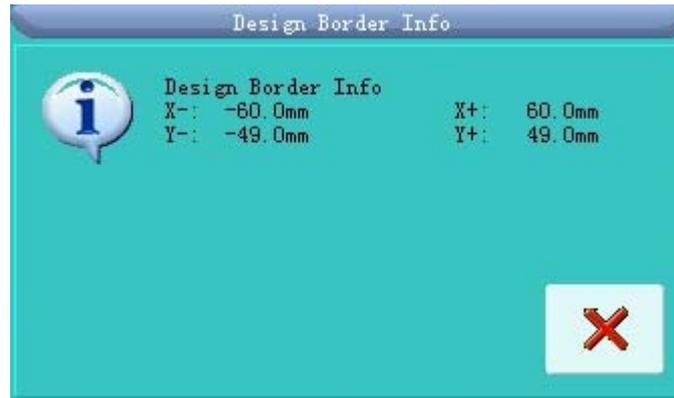
Press the key on the main screen.



### 7.2.1 Check the boundary of a design

The function is used for checking current design boundary information and displaying.

1. Move the cursor to “check the boundary of a design” and press “”. System will then display it in the window:



2. Press “” or “” to close the window.

### 7.2.2 Move the frame along the boundary of a design

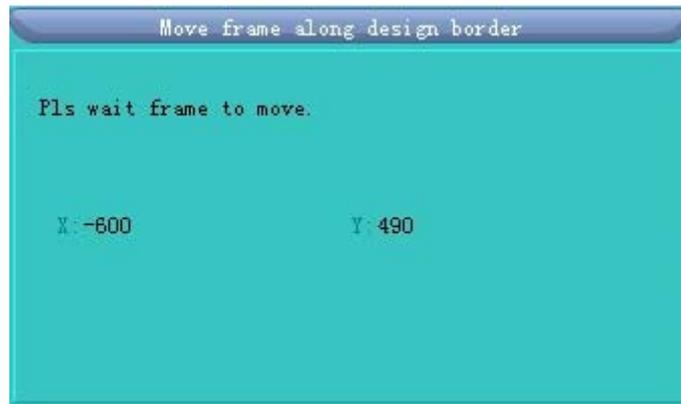
The function can drive the frame moving along the border. If it moves beyond limit, system will correct it to avoid over-limit in real embroidery.

1. Move the cursor to “move the frame along the boundary of a design” and

press “”:



2. Press  to let the system go along the border, or press the key  to cancel.



3. After finishing moving, system returns to the design border operation screen.

### 7.2.3 Create design from outline

1. In the main screen, you can move the cursor to “Create design from outline”

and press “”:



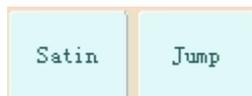
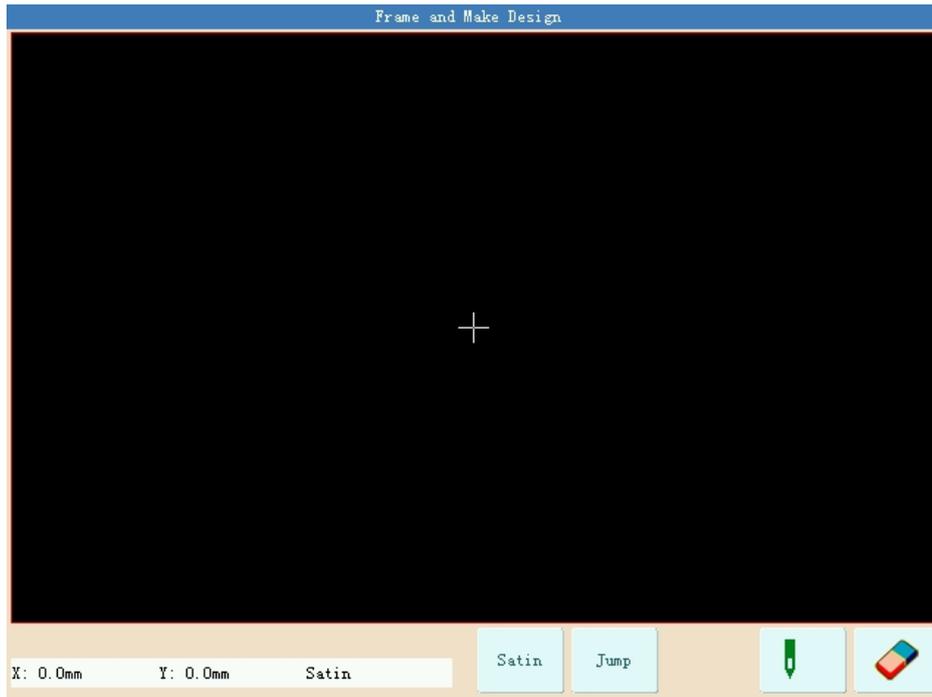
2. You can type in design number and name.

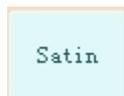
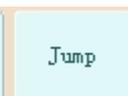
3. Press the key “” to save the design or press “” to cancel.

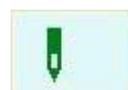
### 7.2.4 Frame to generate design, then embroider back

Before embroidering a design, you may wish to embroider a sign for positioning applique.

1. In preparation state, you can move the cursor to “Frame to generate design, then embroider back” and press “”:



2. Press the key   to shift needle (flat or jump). Press the manual frame moving key to let the frame go along the border. Press  at each turning point.

3. After editing, press  and , then system will ask for new design number and name.

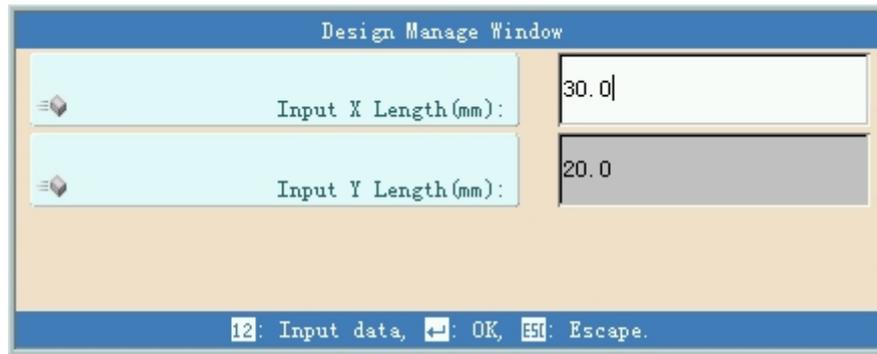
4. You can type in and press “”.

5. Press the key  to give up current operation and return.

### 7.2.5 Embroider a “+” in current position

System will embroider a “+” at the current position, the size can be adjusted.

1. In design border operation, you can move the cursor to “Embroider a ‘+’ in current position” and press “”:

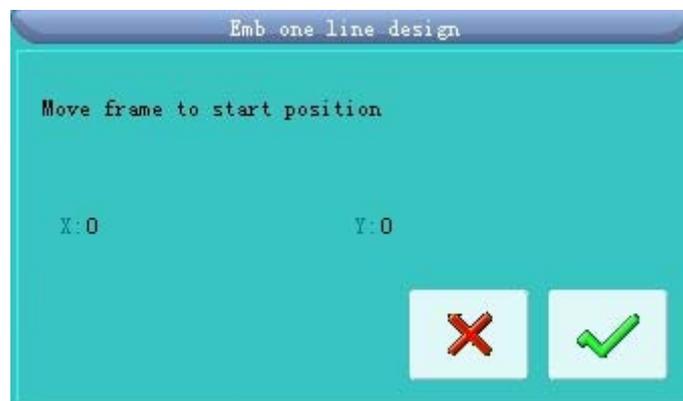


You can set the length of + in both X and Y directions:

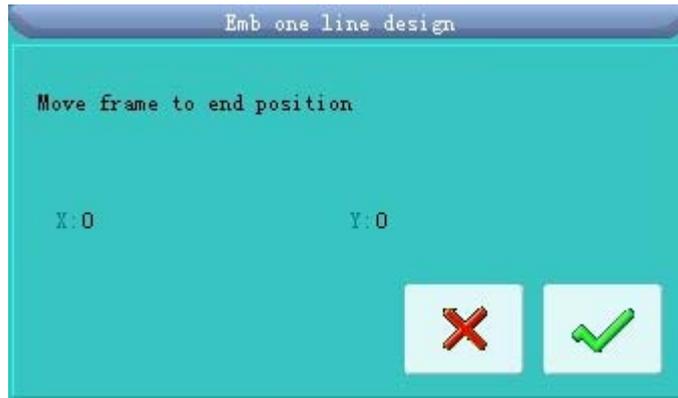
2. After setting the length of “+” in both X and Y directions, press , System will generate a temporary information of the “+” and return to the main screen. Now the label  is displayed. You can pull bar to embroider a cross.

#### 7.2.6 Frame and embroider back for one line

1. In design border operation, you can move the cursor to “Embroider a ‘+’ in current position” and press “”:



2. Move the frame to the start point of the line, press  to confirm the first point. System will ask to move to the end point.



Move to the end point and press the “” to confirm the second point.

3. System will generate temporary information of the line and return to the main screen.

Now system displays  on the main screen. Pull bar to embroider line, after that, system returns to the embroidery preparing state.

### 7.2.7 Embroider the boundary of current design

The function can measure design border data and generate a temporary data for users.

1. In design border operation, you can move the cursor to “Embroider the boundary of current design” and press “”:



Press the key  to confirm, press  to cancel.

2. System will generate temporary information of the line and return to the main

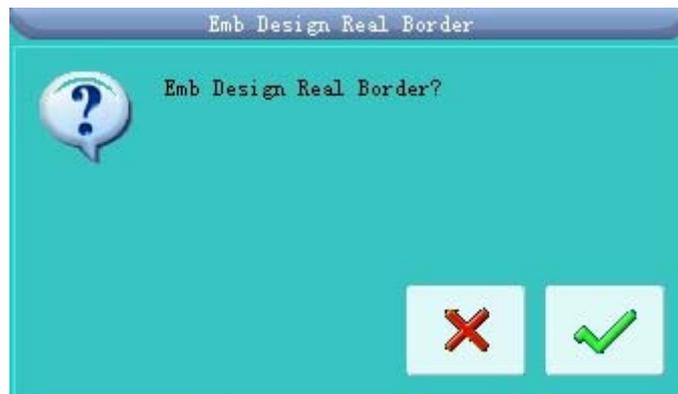
screen.

Now system displays  on the main screen. Pull bar to embroider border, after that, system returns to the embroidery preparing state.

### 7.2.8 Embroidery true boundary of current design

System will generate boundary data according to the current design. Pull bar to embroider.

1. In design border operation, you can move the cursor to “Embroider true boundary of current design” and press “”:



System will generate a temporary data according to the boundary design data and ask user to confirm.

2. Press  to confirm and then system will return to the main screen.

Now system displays  on the main screen. Pull bar to embroider border, after that, system returns to the embroidery preparing state.

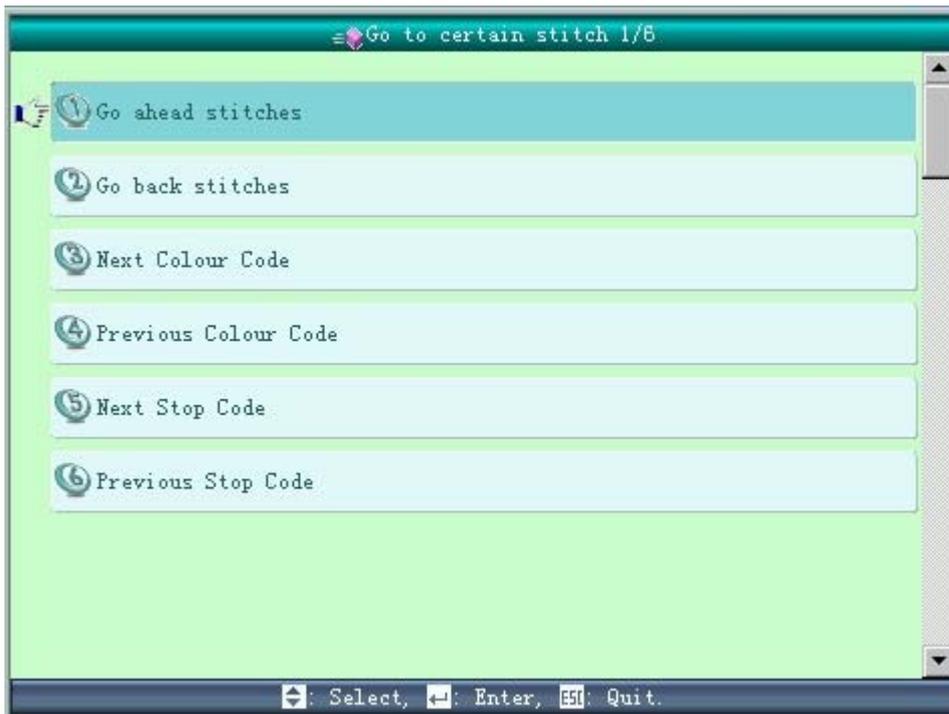
## 7-3 Positioning Idling

This function is only available in embroidery confirmation status .

According to the user's needs, this function enables the frame to the designated position without embroidering. The user can set the forward/backward positioning

idling by stitch number, color code and stop code.

Press  in the main screen to enter the positioning idling screen, where there is a list of function keys. You can press these keys to perform different idling functions.



### 7.3.1 Go ahead stitches

1. In the screen of positioning idling, move the cursor to “go ahead stitch” and

press .



2. You may type in the required “go ahead stitch”.

System goes to the screen of “go ahead stitch”. You can press  to confirm or

press  to cancel.



3. System goes back to the main screen. You can pull bar right to idle to certain stitches.

### 7.3.2 Go back stitches

It is similar to the operation of “Go ahead stitches”. In step “3”, you should pull bar left.

### 7.3.3 Next Color Code

1. In the screen of positioning idling, move the cursor to “next color code” and press .



2. Press the key . System goes back to the main screen. You can pull bar right to idle to next code. Press  to cancel.

The other three positioning idling items is similar to above.

## 7-4 Reset X/Y Displacements

This is to clear the X and Y displacements.

1. Press  on the keyboard.



2. You may press “” to set X and Y values as 0. Press the key  to cancel.

The user can check the values in the main screen.

## Chapter 8 Memory Design Edit

You can edit common designs in the memory through this function, or establish a new design.

### 8-1 Start Editing Design

Press  in the main screen to enter the memory design management screen.

Select the design and then press “”.

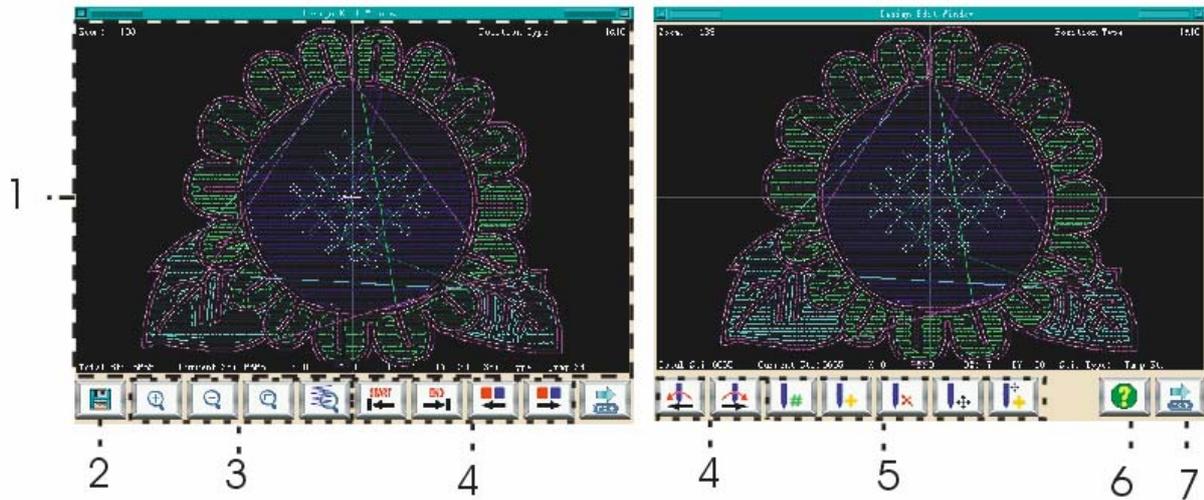


Press  to edit the current design, press “” to edit new design.

Note: the design you selected can not be combined design, or system will warn “It isn’t common design”.

## 8-2 Design Edits Operation

### 8.2.1 Summarize



1. Design preview window: use for preview design. In view, use “+” mark the position of current needle. The needle trace of current stitch use white and outstanding manifestation. The scale information is displayed on the top-left while the positioning stitch type is shown at the top-right (use  to shift); the detailed information is displayed to the bottom of the screen.

2. Document operation: to save design.

3. Image operation: to scale image

4. Needle positioning panel: use for positioning the current needle (needle to be viewed and edited).

5. Needle editing function: use for switch stitch code, insert needle, delete needle and move the needle position.

6. Help: press this key to view the instruction of certain key.

7. Page shifting: press this key to shift between the two pages.



### 8.2.2 Document and View Operation



Keep the current design to a new document.



Enlarge or zoom view. The scaling is 150% every time.



Reduce the design thus can see the all of the design. If the design size is smaller than show scope of the screen, then show the design with the actual size.



Enlarge the design to 450% to thus look into the detail of the needle vestige." Current needle" will move the middle position of the screen automatically.



Review the online help of the design edit operation screen.

### 8.2.3 Key for Positioning Stitch and Editing Stitch

Move the current stitch to a certain stitch. At the same time use “+” to mark the position of “current stitch” in the window of design preview. If the “current stitch” is not in the window, the system will renew the display and move “current stitch” in the centre of window.

#### 1. positioning stitch

START



to the design start point

END



to the design end point



to last color changing code



to next color changing code



to last jump code



to next jump code

Press  to position high speed current stitch position, press  low

speed current stitch position, press  to shift among 1&10,100&1000, lockstitch, stop, color-changing, jump and sequin.

## 2. editing stitch

Click  to add one designated stitch type at present position. Press  to change stitch type. Press  to confirm and  cancel.

Click  to delete present stitch.

Click  to move stitch. Press direction key on the panel to move present stitch position. Press  to change moving stitch speed state among high speed, middle speed and low speed.

Press  to add series satin stitch at design trial.

Move coordinate index to propriety position in pressing direction key. Press  to add one stitch trace at present position. Move coordinate index continue to add more stitch trace.

Press  to switch coordinate index speed among high speed, middle speed and low speed.

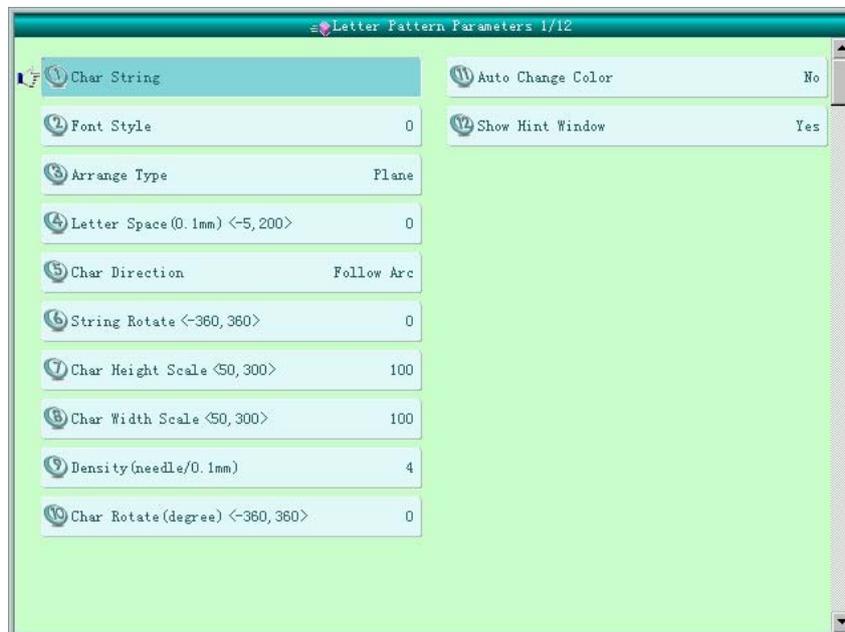
After editing , click  and type in design name and number. Press  to confirm and  cancel.

## Chapter 9 Letter Design

You can through the letterform storage that saved in system, to create pattern file based on letter.

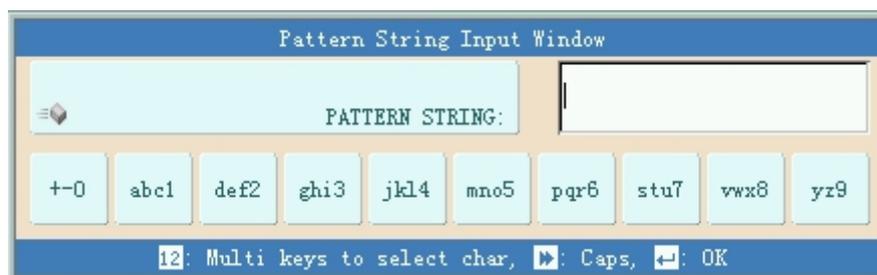
### 9-1 Enter Letter Design Operation

Click pattern management key  on main screen, then press  and  to enter into pattern management screen.



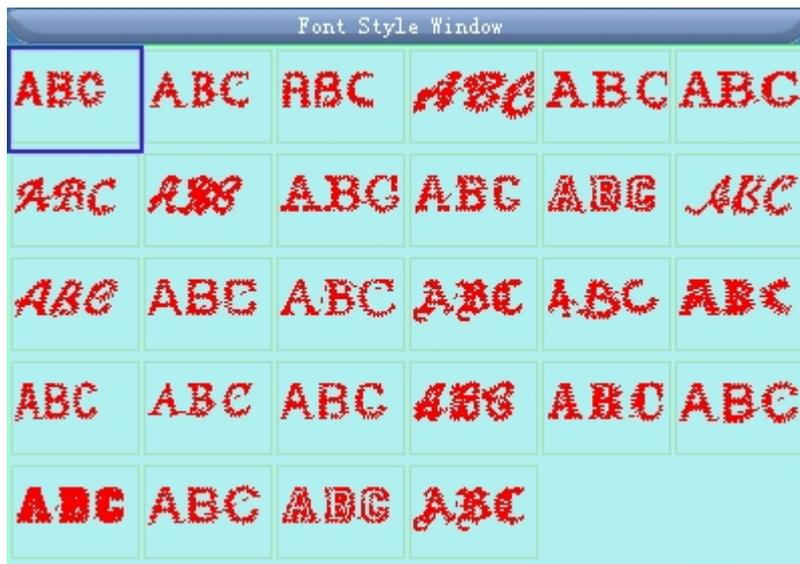
### 9-2 Enter Char String and Basic Parameter

After open the window of parameter input, enter into pattern string input window automatically. Move the cursor to related parameters and press . After adjustment, press  again to save.



1. “Char string”: means the letter list that will be embroidery
2. “Font style”: means the letterform that use for embroidering letter. The letterform was selected here will use for all of letters.

This is the font style window:



You can press “   ” to move the cursor to the desired font and press .

3. “Arrange type”: the formation of letters. There are four types: “Plane” “vertical” “up arc” and “down arc”.
4. “Letter space”: means rank space between letters, the unit is 0.1mm.
5. “Char direction”: it’s to decide whether every letter’s angle changes with its position in the arc when “arrange type” is arc.
6. “String rotate”: means rotate angle for whole letter bound.
7. “Char height scale”: means increase or reduce letter high.
8. “Char width scale”: means increase or reduce letter width.
9. “Density”: means distance between each stitch of born letter pattern. The value



is smaller, the density is bigger.

10. “Char rotate”: means rotate angle of each letter that opposite to centre of it selves.

11. “Auto change color”: whether add change color code before each letter.

12. “Show hint window”: whether to show hint information window during the operations.

After establishing letter pattern parameter, you may click  to enter window of “create character pattern”.

#### A. Create character pattern

“create character pattern” screen is shown as diagram:



First usually set char string parameter as arrange type, letter space and so on  
Then select one letter to adjust its arrange.

Create character pattern: the central cross mean coordinate, intersection is origin (0,0) . The letter rank surrounds origin automatically.

#### B. View and file operation



is basic letter parameter operation.



“Needle trace”: show/hide needle trace, hide needle trace can improve operation speed.



“Zoom out”: enlarge to show the window and to look into the detail part of the letter pattern.



“Zoom in: reduce the show window of letter pattern.



“Fact”: Show the letter pattern with the actual size. At this time, the size of pattern in screen is equal to actual size.



“Center”: Zoom to see the diagram, show the whole pattern.



“window shift”: Click this key, it will turn dark. Press     to move the window. Letter design moves with the window.



“Save”: Used for save letter pattern that just edit. After clicking that key, appear the window that can input the pattern number and pattern name. According to the pattern name and pattern number that need modification (the serial number does not modification generally), then click  to save or  to quit.



“Help”: Online help of “create character pattern” screen.

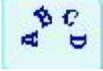
### C. Adjust key of whole rank parameter

If after you edit individual letter, then again to adjust whole rank parameter, the editor of the individual letter will be probably overlay.

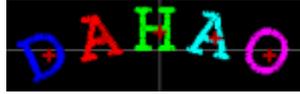


“Fix the letter direction”: When rank the letter bound by round arc method, the letter angle not change with the position of round arc, but be equal to a certain angle fixedly.





“Angle follow”: when rank the letter bound by round arc method, the letter angle change follows behind the position of round arc (perpendicularity in arc)



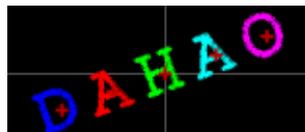
“Radian increase”: When rank the letter bound by round arc, enlarging the radian of reference round arc.



“Radian reduces”: When rank the letter bound by round arc, reduce the radian of reference round arc.



“Whole anticlockwise rotate”: anticlockwise rotate for whole letter bound.



“Whole clockwise rotate”: clockwise rotate for whole letter bound.



“Extend letter space”: Increase the distance between the letter.



“Reduce letter space”: reduce space between letters.



D. Pick out letter adjustment key

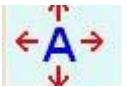


“Select switch”: switch selected letter. Must pick out a certain letter and then can carry on the editor for it. When there is a red “+” in the center of letter, meaning the letter to is pick out, such as: . The system default will pick out all letters. After click “select switch” key, pick out the first letter, then click, pick out the second, depend on this kind to push. After picking out the end letter, then click “select switch”, will pick out all letters again.

Repeat the operation and cycle in above order.



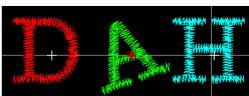
“Letter scale”: to adjust the selected letter, press  to increase height, press  to decrease height, press  to increase width while press  to decrease width.

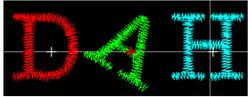


“Letter move”: after pressing this key, press     to move toward certain direction.



“Anticlockwise rotate”: With the letter as centre, ( “+” in the centre of letter) rotate selected letter toward anticlockwise direction. Such as:



“Clockwise rotate”: With the letter as centre, ( “+” in the centre of letter) rotate selected letter toward anticlockwise direction. Such as: 



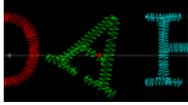
“Density increase”: Increase stain stitch density of the born letter pattern.

Such as:





“Density reduces”: Reduce stain stitch density of the born letter pattern.



Such as:



“Level overturns”: Left and right overturn the selected letter.



“Flip vertical”: Up and down overturn the selected letter.



“Change color switch”: Establish or cancel change the color that was set before selected letter.



“Change font”: change letterform of selected letter. After clicking this key, will flick the dialog box of select letterform, choose one of letterform that you wished, and confirm.

Press  to return the window of letter pattern input. If you need to change embroidery letter bound, can click this key to return back the previous screen to carry on the modification. All of adjustment for individual letter in this window will disappear.

### 9-3 Character Pattern Save

After finish letter pattern editor, click  key. Appoint the pattern number and patter name in the pop-up window, then click  key to save.



Click  key to confirm keep successfully, if do not need to continue to edit the letter pattern, click  key to exit.



## Chapter 10 JF type sequin embroidery

### 10-1 Brief introduction on sequin embroidery

Sequin embroidery is composed of sequins and threads. We choose those hard materials with smooth surfaces as the sequins. Embroidery works will be shining with these sequins attached. Design with Sequin codes has its own way of designing.

JF type multi-sequin embroidery of BECS-C18/C19 machine is divided into two groups: one is normal multi-sequin design, made by normal design making method. The other one is special multi-sequin design made by normal design software with special making method attached.

For normal one, you should set sequin mode when you modify the color-changing order. Special multi-sequin design can be directly embroidered after modification of color-changing order.

Meanwhile, the machine can automatically change normal design to special design during the process of design import. The special design saves all the sequin of normal design as sequin A. If you want further modification, you can use “sequin edit” to modify.

Note: see appendix 4 for detailed design making rules.

#### A. Applied Scope:

This system applies to sequin embroidering control system which combines normal embroidering mechanism and sequin sending mechanism.

#### B. Features and Functions:



### 1. Two sending sequin modes: Roller and Lever;

Roller: the core part is a wheel-like device in the whole mechanism. Its operating principle is to wheel continuous towards one direction to send sequins into position.

Lever: the core part is staff linkage. Its operating principle is to move back-and-forth to send the sequins into position.

### 2. Sequin mending and sequin sending mechanism are two independent actions

### 3. Delivering a sequin by operating either manual separated head or centralized

### 4. Display working status separated head

### 5. Type of sequin sending and angle can be changed by operating on the control panel.

## C. Specifications

### 1. Sequin diameter range: 3mm,4mm,5mm,6.75mm and 9mm;

### 2. The maximum speed for sequin embroidery is 850 rpm.

D. A/B/C/D means four delivering sequin equipment in underside depiction. If all four sequins are delivered, A will be on the top, then B, C and D.

## 10-2 Embroider sequin

You may follow the steps in sequin embroidery:

### 1. Input design with sequin code (see 10.3)

### 2. If you want, you can do design selection and editing (see 10.4)

### 3. Set sequin parameter (see 10.5)

### 4. Check and make possible adjustment to the sequin delivery device (10.8)

5. Set color-changing order (see 10.6)
6. Back to main screen and confirm embroider
7. Pull bar to embroider

Note: You must not touch valve switch during embroidery, or it will cause damage to the device.

### 10-3 Input sequin design

Press the key  in the main screen to enter into disk selection menu. Select design import and press .



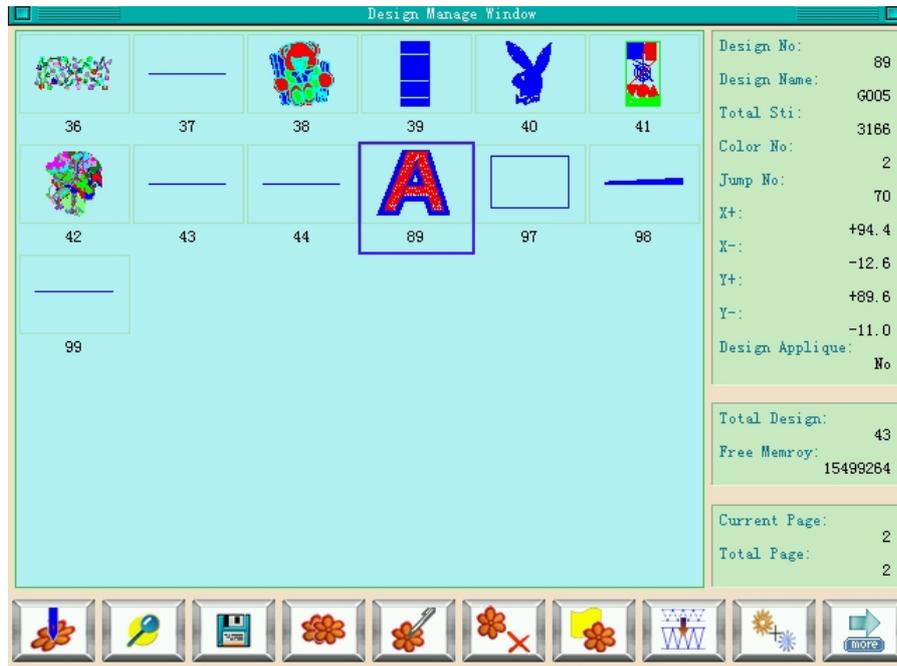
You should type in design number and name, then press  to confirm. In the blank of “is new format multi-sequin design”, use  or  to select a import way. Choose “Yes” to save as the special sequin design anyhow .To the normal sequin design, changed sequin design save multi-sequin as “A” type sequin. If you choose “No”, normal sequin design remains as normal sequin design, while special multi-sequin designs will be saved as special multi-sequin design.

### 10-4 Sequin design edit

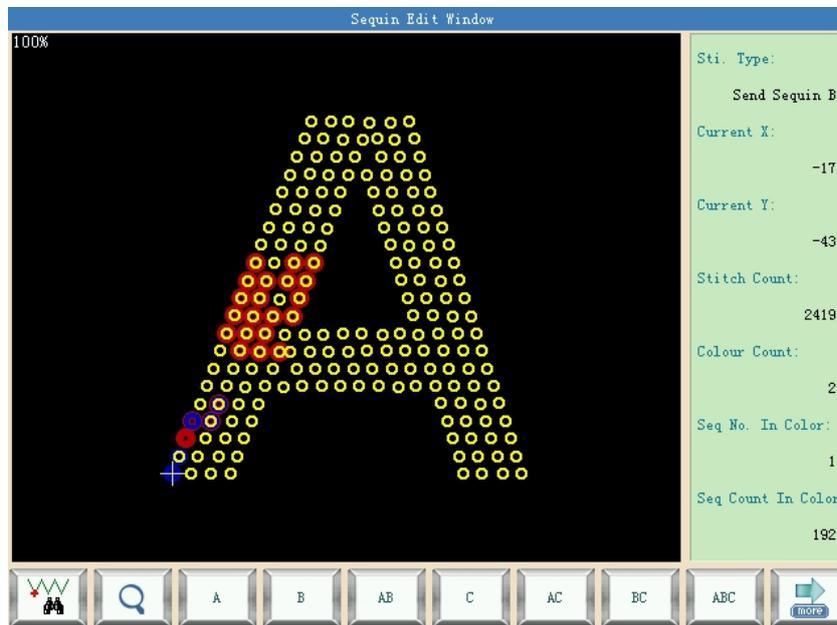
This function is to edit sequin design. All the designs will be saved as special multi-sequin design.



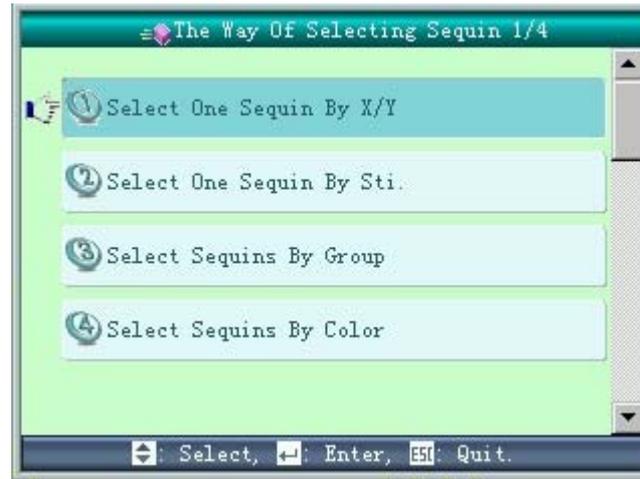
1. Press  in the main screen:



2. Press direction keys to select design with sequin code. Use  key to turn page and select  key:



3. Press the key  to search sequin:



- 1) Move the cursor to this menu and press  to select one sequin:  
This helps users to directly select a sequin to edit.
  - 2) Move the cursor to this menu and press  to select one sequin by stitch:  
This helps users to directly select a sequin according to its needle order to edit.
  - 3) Move the cursor to this menu and press  to select sequins by group:  
This helps users to directly select a group of sequins every time. (Note: in the same group, sequin interval should be within 12.7mm, or they are two groups)
  - 4) Move the cursor to this menu and press  to select sequins by color.  
This helps users to select all sequins with same color.
4. Press  key to display



### 1) View all of sequins

Select this menu and press  to show all the sequins in the window.

### 2) Zoom in of the sequin

Select this menu and press  to zoom in the sequin.

### 3) View all of Design Stitches

Select this menu and press  to display lockstitch, sequin stitch and other stitch codes.

### 5. Sequin mode selection

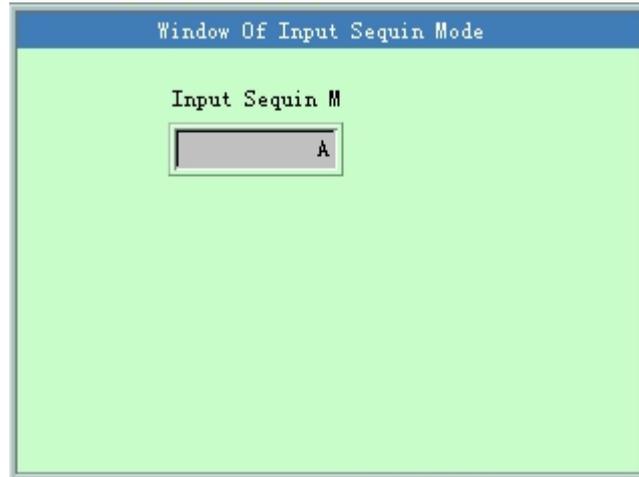
There are altogether 15 sequin modes for users to choose: A、 B、 AB、 C、 AC、 BC、 ABC、 D、 AD、 BD、 ABD、 CD、 ACD、 BCD、 ABCD.

Sequin name are A, B, C and D. If all four sequins are included, A will be on the top, then B, C and D.

### 6. Edit of Alternate Sequin

You should first select a group of sequins or sequins with the same color, then

press  **A1B1** to edit.



1) Use or to select sequin mode and press to confirm. Sequin name are A, B, C and D. If all four sequins are included, A will be on the top, then B, C and D.

2) After that, press and delivery sequin number ranging from 1 to 9999 is desired. If use same sequin mode, import "1" and confirm by pressing .

3) Use or till you see "OVER" in the blank of "Input Sequin M". Press to confirm.

7. Save as one new design

After sequin design edit, use to save:



### 10-5 Parameter setting about multi-sequin embroidery

Press the key in the main screen and select "sequin parameter":



### (1) Speed for Sequin R(L):

The speed depends on the sequin size. However, sewing the same sequin with different mechanical structure, the acting angle could be different, which is directly related to the maximum speed.

Note: the maximum speed of flat embroidery should be higher or equal to speed



for sequin embroidery.

Move the cursor to this parameter and press  to enter. Use  or  to modify the value and press  to confirm.

(2) L/R Sequin Feeding Angle Adj.

It is used for jiggle adjusting sequin delivery angle.

(3) Auto start for sequin:

When the setting is “Yes”, system will start embroidering sequin automatically.

When the setting is “No”, machine needs manually start.

(4) Time of Sequin Action:

This is to set the time period from sequin device goes down to embroidering (0-15, the default value is 2). If the sequin device is controlled by valve, use the default value; if it is controlled by motor, choose 4-5.

(5) Sequin off after T.B.

When the setting is “Yes”, sequin presser foot will be lift up automatically in case of thread break. When the setting is “No”, the sequin device needs manually lifting the presser foot.

(6) Sequin Ind. Up Down

When the setting is “Yes”, it is independent lift up. When the setting is “No”, it is collective lift up.

(7) Up Valve When Jump & Nocut.(No, Yes)

(8) L/R Motor Shift Stroke Base.

(9) L/R Motor Shift Stroke Time.



(10) With Origin at L/R Motor Shift.

The parameters No.8, No.9 and No.10 at above are for the special sequin device which uses the motor of single needle dual-sequin device to shift the travel amounts of large sequin and small sequin. This kind of device contains two types: the one is with shift origin; the other is without that shift origin.

(11) L/R Knife Start Angle Adj.

This parameter is for the special sequin device using the motor to cut the sequin, which can adjust the start time of the sequin-cutting motor. The default value of this parameter is 15. The smaller this value is, the earlier the motor will be activated (Min value is 0); the larger this value is, the later the motor will be activated (Max value is 31).

(12) Bead-breakage Detection Sensitivity.

This parameter is for the beam embroidery device. “0” means to turn off the sensitivity of the beam-breakage detection. The range of this parameter is 0~10. The smaller the value is, the high sensitivity will be; the larger value means the lower sensitivity.

(13) Motor Number of R (L) Sequin

This parameter is set by mechanism . If there is no sequin device, then you should set to “0”.

Move the cursor to this parameter and press  to enter. Use  or  to modify the number and press  to confirm.

(14) Set 3/4/5/6.75/9mm of R(L) Sequin



This is to set sequin delivery angle. If it is roller, it should be set to single way; if it is lever, it should be set to double way. The parameter is closely related to “left/right sequin device A/B/C/D size and color”. For example, “A size&color of R sequin” is set to “4mm X color”, then the angle value should be “Set 4MM of R Sequin”.

Move the cursor to this parameter and press  to enter. Use  or  to modify the delivery mode and press  to confirm.

#### (15) A/B/C/D size&color of R/L sequin

Setting of this parameter depends on the mechanical structure. The order from A to D is from front to back. Move the cursor to this parameter and press  to enter. Use  or  to modify the delivery mode and press  to confirm.

Note: “Motor Number of R (L) Sequin” is closely related to “A/B/C/D size&color of R/L sequin”. For example, if “Motor Number of R (L) Sequin” is set to 2, then it only displays “A/B size&color of R/L sequin”.

#### (16) Sequin Gap Num of R(L) Sequin

This is to set gap number. If there is no gap, then it should be set to 0.

Move the cursor to this parameter and press  to enter. Use  or  to modify the delivery mode and press  to confirm.

#### (17) L/R Sequin Pitch Valve Action Time.

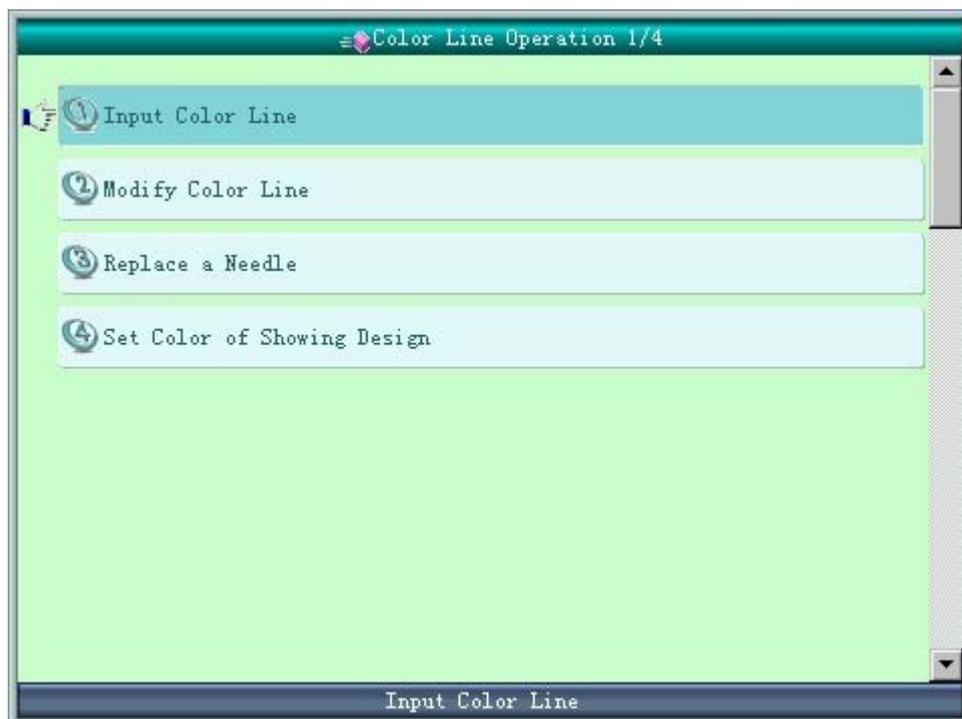
This parameter is used to change the waiting time of the adjustment on action of interval value. The larger the value is, the waiting time will be longer; the smaller the value is, the waiting time will be shorter. User needs to adjust this value according to the actual condition of the sequin device. The default value of this parameter is 2.

## 10-6 Change color order and set sequin mode

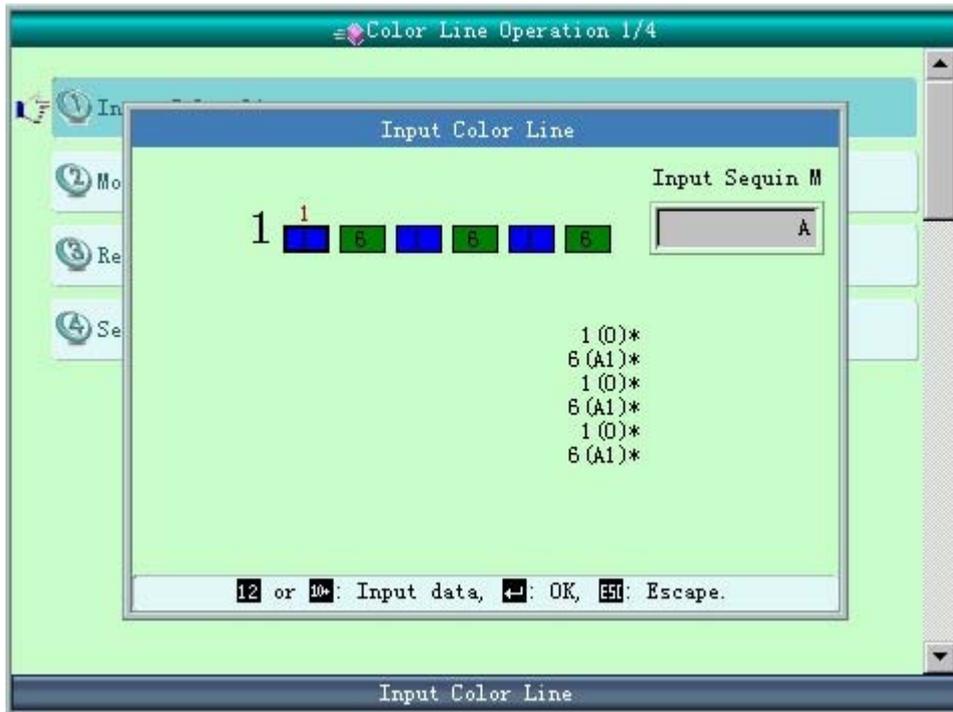
User must set sequin mode before setting color-changing toward normal multi-sequin design, but expert multi-sequin design don't need set multi-sequin sequin mode.

Detailed operations are:

1. press the key  in the main screen:



2. Move the cursor to “input color line” and press  to enter.
3. Input color-changing position by typing in digits key (Note: the number you typing in can not go beyond needle count). System will show needle position and related needle position order. If the first/end needle is multi-sequin device, it will require sequin delivery mode. If it is single sequin device or special multi-sequin design, it is not necessary to set. For example the end needle is 6, then after you type in 6, it will show:



Setting sequin delivery mode:

a) Press digital key confirm embroidery needle position, it will show “input sequin mode” when there is sequin device.

b) Use  or  to modify the delivery mode and press  to confirm. A stands for front motor delivery; B stands for middle motor delivery and C stands for rear motor delivery. AC stands for front/rear motor overlap sequin, AB stands for front/middle motor overlap sequin, BC stands for middle/rear motor overlap sequin and ABC stands for front/middle/rear motor overlap sequin.

Note: if there are only two motors, then B stands for rear motor.

c) After pressing , you should type in desired sequin delivering number. If it requires same mode before color-changing, then type in “1” and press .



- d) Use  or  till you see “Over” in “input sequin mode”, then press  to confirm.

For example: a machine with needle 9 as its end needle (sequins 3, 5, 7mm); first needle is single sequin (9mm). The requirement is 7mm at first, then 3 & 5mm overlap, then 5 and 7mm alternate embroidery, then sew 9ps of 3mm, 8ps of 5mm, 4ps of 7mm, 6ps of 3 & 7 overlap sequins, at last, use first needle to embroider 9mm sequins.

Settings:

(1)

① press 9, it will show sequin delivery mode screen;

② Use  or  till you see “C” in “input sequin mode”, then press  to confirm;

③ press “1”, then press  to confirm;

④ You should use  or  till you see “Over” in “input sequin mode”, then press  to end the first setting.

(2)

① press 9, it will show sequin delivery mode screen;

② Use  or  till you see “AB” in “input sequin mode”, then press  to confirm;

③ press “1”, then press  to confirm;

④ You should use  or  till you see “Over” in “input sequin mode”, then press  to end setting。



(3)

① press 9, it will show sequin delivery mode screen;

② Use  or  till you see “B” in “input sequin mode”, then press  to confirm;

③ press “1”, then press  to confirm;

④ You should use  or  till you see “C” in “input sequin mode”, then press  to end setting;

⑤ press “1”, then press  to confirm;

⑥ You should use  or  till you see “Over” in “input sequin mode”, then press  to end setting.

(4)

① press 9, it will show sequin delivery mode screen;

② Use  or  till you see “A” in “input sequin mode”, then press  to confirm;

③ press 9, then press  to confirm;

④ Use  or  till you see “B” in “input sequin mode”, then press  to confirm;

⑤ press 8, then press  to confirm;

⑥ You should use  or  till you see “C” in “input sequin mode”, then press  to end setting;

⑦ press 4, then press  to confirm;

⑧ Use  or  till you see “AC” in “input sequin mode”, then press



 to confirm;

⑨ press 6, then press  to confirm;

⑩ You should use  or  till you see “Over” in “input sequin mode”, then press  to end setting.

(5) press 1, then press  to end the whole setting.

Note: if it is single sequin, it is not necessary to set sequin delivery mode.

### 10-7 Manual operation of sequin embroidery

It has two ways of operation, centralized operation and separated operation.

#### 1. Centralized Operation

Centralized operation can be divided into three parts: “sequin start”, “sequin end” and “Send sequin”.

(1) Press the key  in the bottom of the screen and then select “sequin start”, then press  to let all the sequin presser feet go down.

(2) Press the key  in the bottom of the screen and then select “sequin end”, then press  to let all the sequin presser feet go up.

(3) Press the key  in the bottom of the screen and then select “send sequin”, then press  to let all the devices send out one sequin at the time you press the key (sequin presser foot should be down at first).

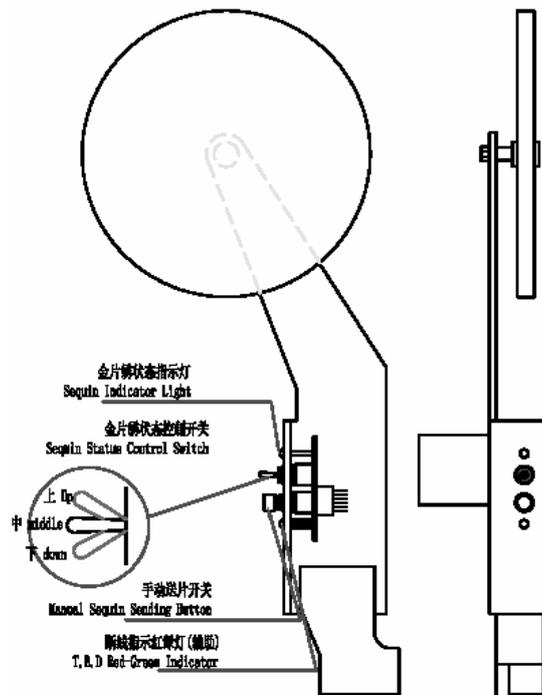
#### 2. Separated operation

Thread break switch is embroidery switch. When thread break switch is at the down side, neither flat embroidery nor sequin embroidery is available.

Thread break warning lamp is mounted on the sequin sending device, which

offers the operator with easy view.

Note: when the manual valve control switch is in the middle, blue lamp is on, which indicates a perfect condition of sequin embroidering.



Location of the sequin switch board

## 10-8 Debugging multi-sequin embroidery

### 1. Separated debugging

1) deliver A sequin of front motor action

Shift the switch to the lower side, thread break detect switch turns green, press manual sequin delivery button.

2) deliver B sequin of middle motor action

Shift the switch to the lower side, thread break detect switch turns red, press manual sequin delivery button.

3) deliver C sequin of rear motor action



Shift the switch to the lower side, thread break detect switch turns to the lower side too, press manual sequin delivery button.

## 2. Centralized debugging

Press the key  in the main screen and press  to enter into “machine test” window.

Then you can select related menu to adjust.

### 10-9 Sequin mending

After thread break or manually turning on the red lamp, pull bar and the machine state is in sequin mending. All the sequin devices will lift up; machine stops when it backs to the stop embroidering point. Pull bar again to let the sequin device (on mending head) down for mending. When it reaches the stop point, machine stops, then other sequin devices will be down to continue normal embroidery. “Patch count” in machine parameter setting is ineffective in sequin mending.



## Chapter 11 Directions on Coiling, Taping and Zigzag Embroidery

### 11-1 Function Introductions

1. Coiling function: This is a method to wind coiling thread(s) at an equal interval around a core thread in a form of coil. Left Coiling  (clockwise) and Right Coiling  (counterclockwise) are both available in coiling function, which could be opted in computer parameters.

2. Taping function: Tape can be used as embroidery material. It includes taping 1  and taping 2  (blind embroidery)

3. Zigzag function: Zigzag sewing lever swings to the right or left per stitch in regard to the direction of original stitches. The upper thread forms Zigzag on the embroidered material. There are six special stitches: Z1, Z2, Z3, Z4, Z5 and Z6. Their stitches are as follows.



Z1



Z2



Z3



Z4



Z5



Z6

For convenience, Coiling, Taping and Zigzag-sewing are all called special embroidery in the following.

4. Standard embroidery head and special embroidery head can be switched automatically or manually.

5. Coiling, Taping and Zigzag functions can be switched at will.

6. The nipple of Special embroidery can be raised and lowered automatically or manually. (Only for the machines installed with relevant apparatus)



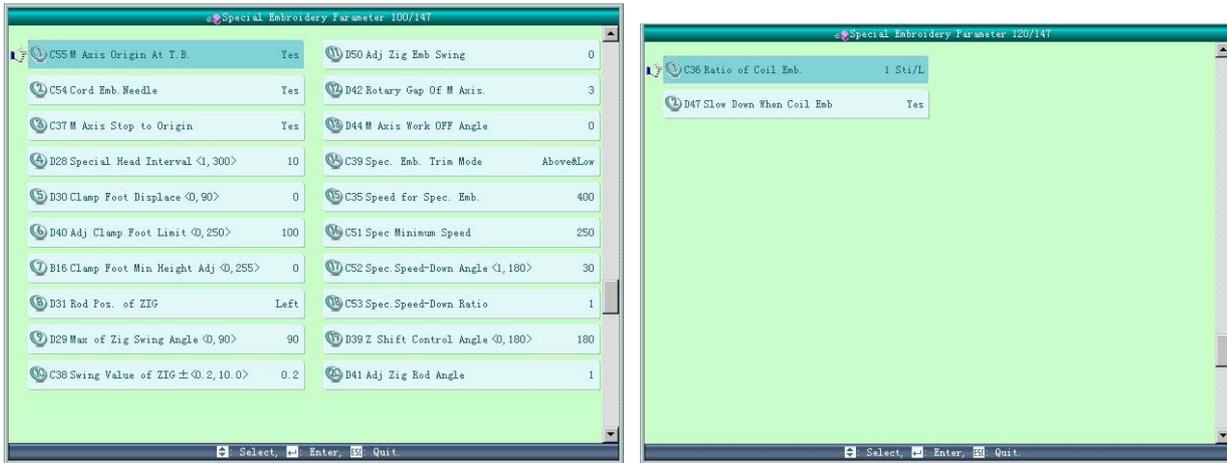
7. The highest speeds of Standard embroidery head and special embroidery head can be set up respectively.
8. Auto saving of the stop-embroidery point of the M axis: The embroidery work can continue from the stop-embroidery point when the power recovers.
9. The trimming function of the special embroidery head (no trimming\trimming of the bottom thread\trimming of both the upper and bottom threads)
10. The nipple of Special embroidery can be raised and lowered automatically before manual frame shifting or embroidering.
11. Zigzag sewing lever can be tested manually.

## 11-2 Main Technical Details

1. The sequence of needle positions on Standard embroidery head and special embroidery head: This control system default that the first one is special embroidery needle position and Standard embroidery's are from second to end.
2. Speed range of Special Embroidery: 300—600rpm, minimum of stepping precision is 10r/m.
3. Angle of M-axis rotated manually:  $18^{\circ}$  /step.

## 11-3 Parameters and parameter setting

Press the parameter-setting key  in the main screen to set relative parameters for special embroidery. Press   to shift page.



The remark of these parameters is as follows.

1. D28 Special Head Interval: 1~300.

Range: 0~300 Option: 150, 162, 166, 185, 200, 216, 225, 230, 240, 250, 270, 290, and 300

Select this parameter, input required value by typing in certain digit.

2. D30 Clamp Foot Displace: 0~90

Adjusting the working position of clamp foot: “0--90”; operation ditto. The height is for every stitch.

3. D40 Adj Clamp Foot Limit: 0~250

The set value is added to the limit height of the clamp foot.

4. D31 Rod Pos. of ZIG: Left/ Right

The “ROD POS. OF ZIG” indicates that the position of swing when M axis is in origin. Setting of this parameter must be kept in line with mechanical position.

5. C38 Swing Value of ZIG (-10.0~-0.2, +0.2~+10.0)

The parameter is for Z5 stitching function and applies to thick cords. For a thick cord, the Z5 embroidering is to move the frame to add to the swinging scope of the



lever. The parameter's absolute value is set according to the cord width. And the “+/-” is decided by the machine structure. The moving directions of the lever and frame should be the same. Otherwise please change the “+/-” setting.

#### 6. D42 Rotary Gap of M Axis: 0~10

The M axis of special embroidery head has mill clearance. So without compensation, the needle will not fall in the right position. Adjust this parameter value to ensure that the needle falls in the center of tape.

During machine debugging, parameter value should be “0” when needle falls in the center of tape. If not, repeat the adjustment to realize the best effect.

Generally, this parameter is managed by professional experts before leaving factory.

#### 7. D44 M Axis Work OFF Angle: 0, 90

In case of normal and sequin embroidery, the M axis stops at the angle of the set value. When the distance between the normal embroidery head and special embroidery head is small, this parameter must be set as 90° to avoid bumping.

#### 8. D39 Z Shift Control Angle: 0~180

When the rotating angle is larger than the set value, the Z axis will wing faster.

#### 9. D41 Adj Zig Rod Angle: 1~3

It is the starting angle of the rod, which indicates the relative position of the needle bar and thread. It is used for embroidery quality. “1” means the swing starts at an early angle; “2” means the swing postpones certain angle; “3” indicates the swing postpones certain angle again to start.



10.C36 Ratio of Coil Emb.: The ratio of coiling: “1~4 Sti/L”

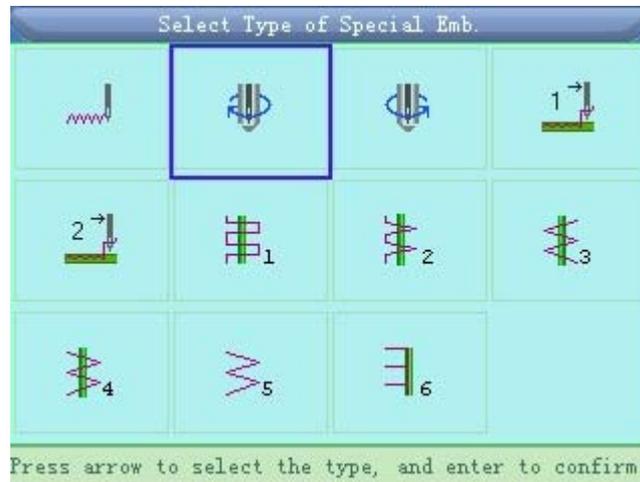
The parameter can change the coiling density; e.g. the set value 2 means one coiling every two stitches.

### 11-4 Relative Operations of Special Embroidery

#### 11.4.1 Shift between Lock Stitch Head and Special Head

##### 1. Manual Shift

In the main screen, press the key  to enter into color changing screen.



Press the key  to change other special embroideries. Press  to exit.

Definition of icons:



normal (lock-stitch);



right coiling;



left coiling;



taping 1;



taping 2;



Z1 embroidery, Its feature is that the lever swings once every two stitches.



Z2 embroidery, Its feature is that one lever swing every stitch and one lever every two stitches take place alternately.



Z3 embroidery, Its feature is one lever swing every stitch.



Z4 embroidery, Its feature is one lever swing every stitch and its lever swing direction is opposite to the one of Z3.



Z5 embroidery, Its feature is the same as Z4 and it's desirable for the embroidering of thick cords. (Refer to the parameter: the swinging scope of the embroidery frame in Zigzag sewing)

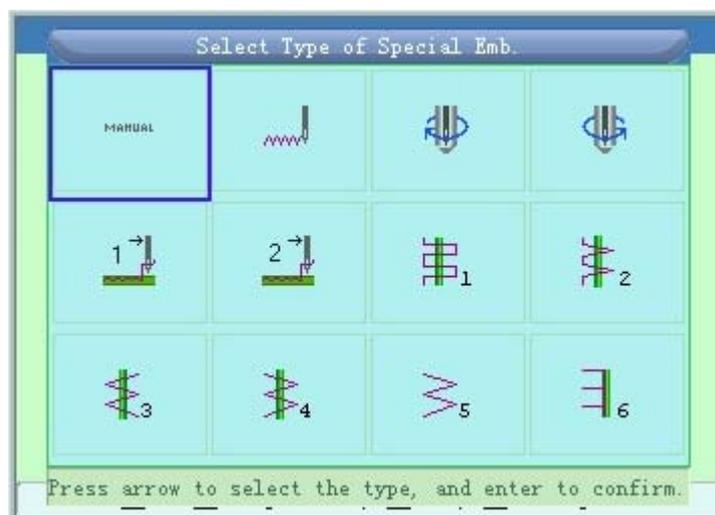


Z6 embroidery, Its feature is three stitches at the same point and one lever swing every stitch.

## 2. Automatic Shift

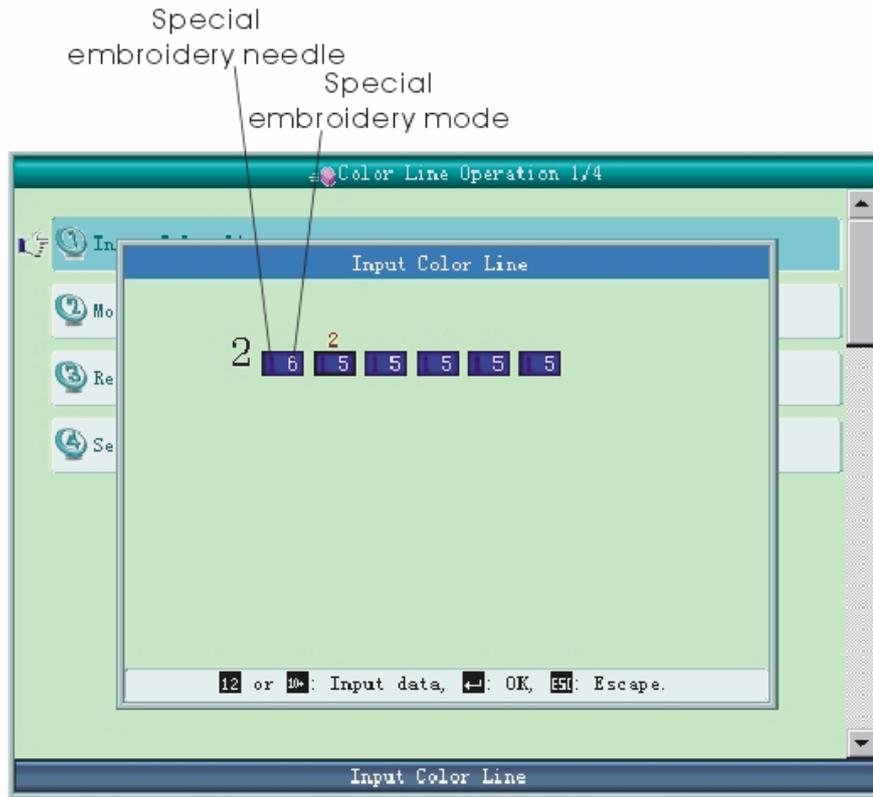
Before embroidering, automatic shift can be achieved through setting the color changing position.

In the main screen, press the key , and then press the key  and “1” (special head) to change special embroidery pattern:



Press relative icon to select the pattern you need, if you don't want to change, then

press  to exit. After confirm of the pattern, system will display as:



Note: Icon “MANUAL” means that system go into manual shift state. It is used that setting of manual shift  still be in effect when system is in automatic shift state.

During the embroidery process, it is common to shift between normal head and special head. For instance, from special head to normal head, machine will automatically stop at the finishing point; meanwhile, system will give the following dialogue window. After tape operations are completed, users can pull bar to close the window and shift the machine back to normal head to proceed normal embroidering.

#### 11.4.2 M Axis Operation of Taping Embroidery

This function is only for machines with taping embroidery function and includes “M axis to be ready”, “M axis to cycle” and “M axis to turn”.



### 1. M axis to be ready

Press the key  and click  on the dialogue window to let the M axis back to the working position, click  to exit.

### 2. M axis to cycle

Press the key  and click  on the dialogue window to let the M axis rotate to the “zero point”, click  to exit.

### 3. M axis to turn

Press the key  and click  on the dialogue window to let the M axis rotate to the left. It will rotate 18° left once you click the button. After 20 times click, it will return to its origin; while click  on the dialogue window to let the M axis rotate to the right. It will rotate 18° right once you click the button. After 20 times click, it will return to its origin; click  to exit.

#### 11.4.3 Operations of Clamp Foot

In the main screen, click  to enter into the “Assistant Embroidery Operation” screen, and move cursor to “Nipple up”, then press  to lift the clamp foot, select  to exit.

Press the key  and select “Nipple down” and  to depress the clamp foot, select  to exit.

#### 11-5 On Debugging Special Embroidery

Debugging special embroidery mainly includes Zigzag swing to its origin and up/down of clamp foot. In the main screen, click  to enter into “Other Assistant Functions” screen, after that, click .



### 1. Sway Zigzag rod to 100

Move cursor to “Sway Zig Rod to 100” and click the key , after seeing the dialogue window, pull bar to let all the swings act once. Click  to exit. Users can adjust swing angle by using this function.

### 2. Up/ down of Clamp Foot.

Move cursor to “Test lift clamp foot” and click the key , after seeing the dialogue window, pull bar to let all the clamp feet up/down. Pull again to let them down/up again. Click  to exit.

## 11-6 Steps on Special Embroidery

1. Input design, carry out design selection, changing and editing according to requirement.
2. Modify certain parameters, select color changing order and special embroidery pattern.
3. Check special heads to make sure they are in perfect condition.
4. Pull bar to start embroidering.

## 11-7 Mechanical Category and Driving Mode Choice of Special Embroidery Machines

Taping machines have three moving parts in the sense of mechanics. We define them as M axis, E axis and clamp foot axis. M axis rotates a certain degrees every stitch to trace the stitch, which ensures cords or tapes always in front of needle movement. E axis swings once every one or two stitch to make the Zigzag embroidery. Clamp foot axis is for lifting and lowering the clamp foot.

### 1. M axis



The mechanism of M axis can be divided to two types. One is with clutch device, whose action is controlled by electric valve or by hand. Its advantage is that only the M axis of the patching embroidery is moving and non-patching embroidery heads are still when mending. This will help raise the quality and efficiency of patching. The other type is without clutch device. Both of the two types are driven by servomotor and the origin of the M axis is positioned by proximity switch.

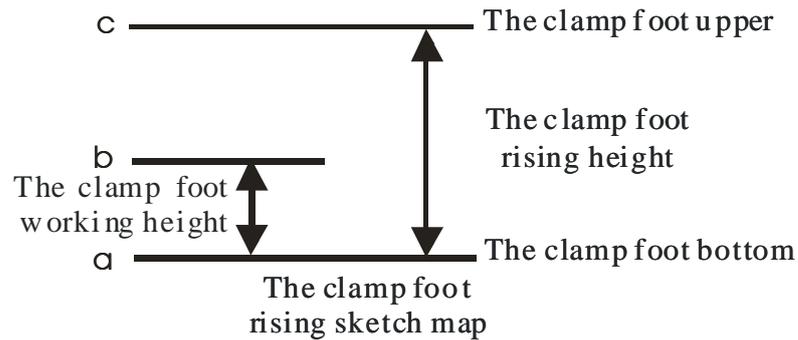
## 2. E axis

According to the difference in motor and whether to use the proximity switch for positioning, E axis can be divided to the following types:

- 1) Stepping motor, driving heads separately, without proximity switch for positioning
- 2) Stepping motor, driving heads by one motor, with proximity switch for positioning
- 3) Stepping motor, driving heads by one motor, without proximity switch for positioning
- 4) Servomotor driving, with proximity switch for positioning

## 3. Clamp foot axis

The working diagram of the clamp foot: (The clamp foot working height is the interval of the foot's movement with every stitch. The clamp foot rising height is the foot's moving distance from the bottom to the upper point in non-embroidery mode. And it's also called the clamp foot limited height.)



According to the difference in motor and whether to use the proximity switch for positioning, the clamp foot axis can be divided to the following types:

1) Raising the clamp foot manually

In this mode, the clamp foot working height relies on the rotating of the cam and the clamp foot is raised to the limited height by hand.

2) 2-phase stepping motor, separately driving the embroidery heads, without the holding force and proximity switch

It uses a 2-phase stepping motor for driving every special embroidery head and controlling its working height and limited height. The power is off and there is no the holding force when the clamp foot stays at the upper point or bottom point. No proximity switch is taken for positioning. And the controller by default takes that the foot is at the bottom position when turning on the machine.

3) 2-phase stepping motor, separately driving the embroidery heads, with the holding force and without proximity switch

It uses a 2-phase stepping motor for driving every special embroidery head and controlling its working height and limited height. The power is on and there is the holding force when the clamp foot stays at the upper point, but not at the bottom point. No proximity switch is taken for positioning. And the controller by



default takes that the foot is at the bottom position when turning on the machine.

- 4) Mono-phase AC motor, driving the embroidery heads by one motor, 2 proximity switches

In this mode, the clamp foot working height relies on the rotating of the cam and the clamp foot is raised to the limited height by one mono-phase AC motor driving the clamp axis. Both the upper and bottom points are set with a proximity switch to adjust the clamp foot rising height. Neither the upper nor bottom point has the holding force.

- 5) (2-phase or 3-phase) stepping motor, driving the embroidery heads by one motor, 1 proximity switch

In this mode, the clamp foot working height relies on the rotating of the cam and the clamp foot is raised to the limited height by stepping motor driving the clamp axis. The upper point is set with a proximity switch to position. The bottom point is set by parameters. Both the upper and bottom points have the holding force.

- 6) Pneumatic motor, separately driving the embroidery heads, without proximity switch.

In this mode, the clamp foot working height relies on the rotating of the cam and the clamp foot is raised to the limited height by pneumatic motor driving the heads separately.



## Chapter 12 Instruction on Operating High-Efficiency System

### 12-1 Descriptions of Parameters in High- Efficiency Mode

With the new speed control solution at the main software of high-efficiency system, client only needs adjust the parameters within the “**High-Efficiency Mode**” to receive the speed parameter in the high-efficiency mode. The speed parameters of software (Min Speed and Shift Stitch Length) will be automatically generated according to the actual specification of machine .The parameters are at below:

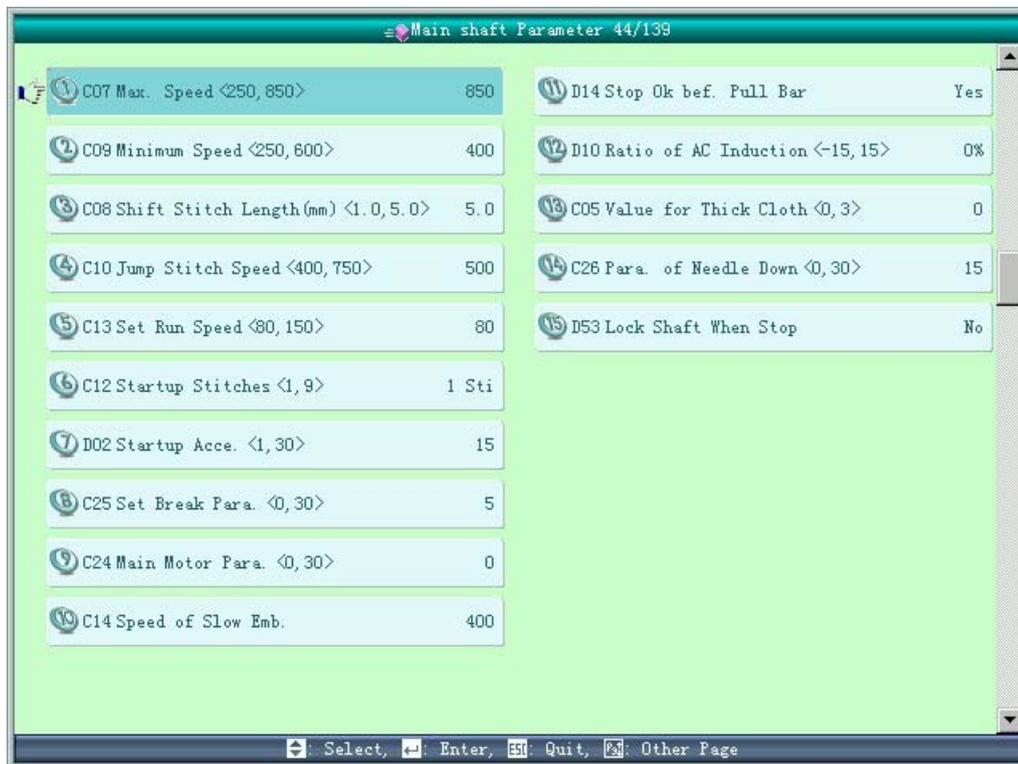
- |                                |  |
|--------------------------------|--|
| ①High-Efficiency Mode          | Set whether to control speed with the high-efficiency mode |
| ②Numbers of Plain Heads:       | Input parameter according to the head number               |
| ③Interval of Plain Heads (mm): | Input parameter according to the head interval             |
| ④Width of Frame Y (m):         | Input the value according to the size of frame             |
| ⑤Rank of Efficiency:           | Select the acceleration amount                             |

The basic speed of high-efficiency mode reflects the specification of machine, size of frame and the available high-efficiency deceleration curve. By inputting the parameters such as “Head Number”, “head Interval and X width” and “frame width Y”, the system will automatically generate the deceleration curve, among which the “Frame Width Y” is to set the “**Shift-Stitch Length**”, and the “head number” and “head interval” will determine the “**Min Speed**”. After client set the **Shift Stitch Length** and the **Min Speed**, the system, according to the set value of Max speed, will give the basic speed of high-efficiency mode on the basis of the mechanical structure.

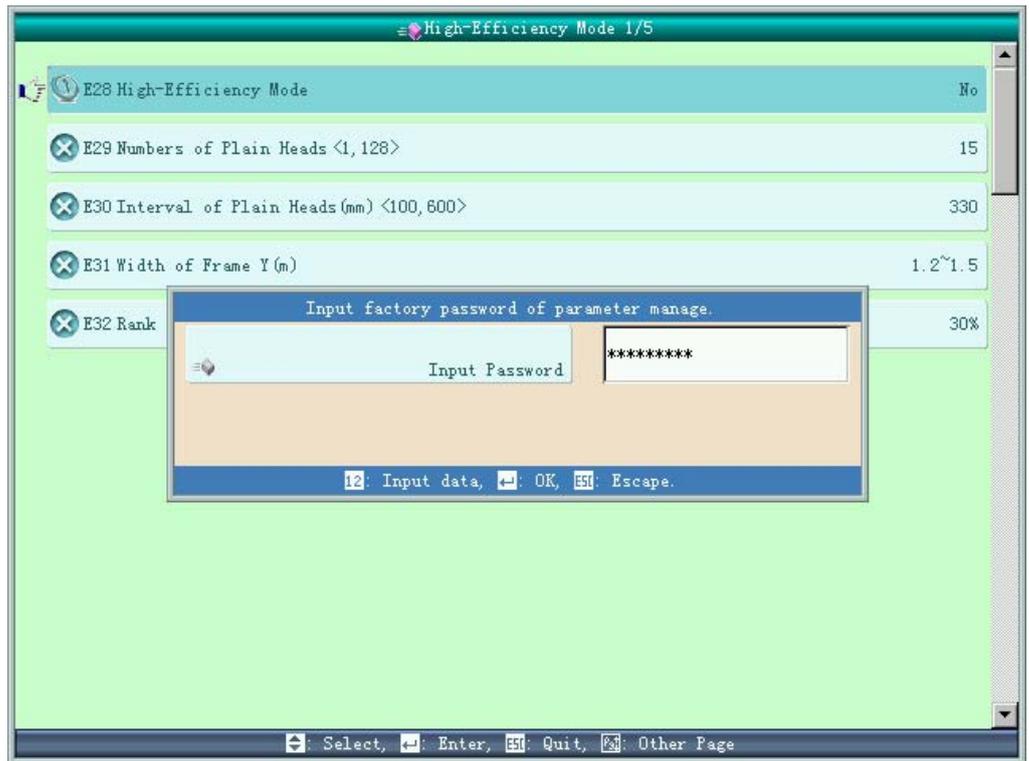
### 12-2 Setting of Software for High-Efficiency Mode

1. Update main software, perform “**System Parameter Initialization**”.

2. Have access to the interface for setting the main shaft speed, input passwords (Dahao general password or special passwords customized by manufacturer) and set the **Max Speed** to 850 or other values.



3. Quit the interface, turn to “High-efficiency Machine Parameters” and have access to “**High-efficiency Mode Setting**”, where client needs input passwords (Dahao general password or special passwords customized by manufacturer).



4. Have access to setting interface



Select whether to activate High-efficiency Mode. If user selects “Yes”, the system will quit this interface when the parameters relating to the machine specification, as well as the efficiency level. At this moment, the



parameters at the speed setting interface, such as “Max Speed”, “Min Speed” and “Shift Stitch Length” will be unchangeable.



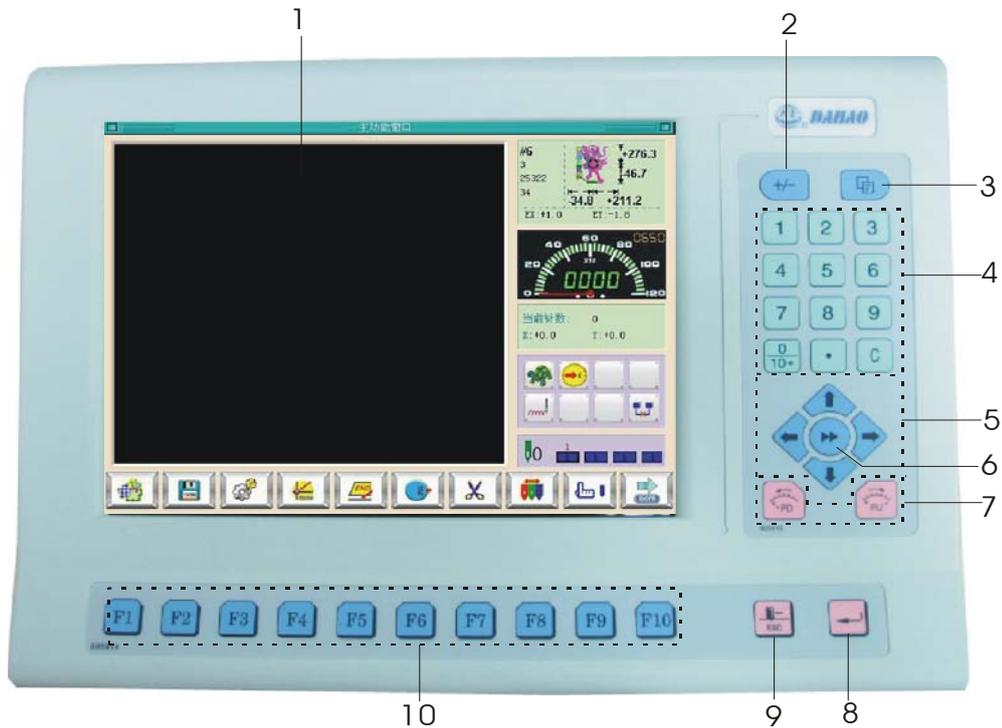
5. If client has higher standards on the embroidery quality, this software will also provide the non-high-efficiency mode. Clients only need set the “High-efficiency Mode” at “No”, the parameters at the speed setting interface, such as “Max Speed”, “Min Speed” and “Shift Stitch Length” will be changeable.

## Chapter 13 Updating Control Program

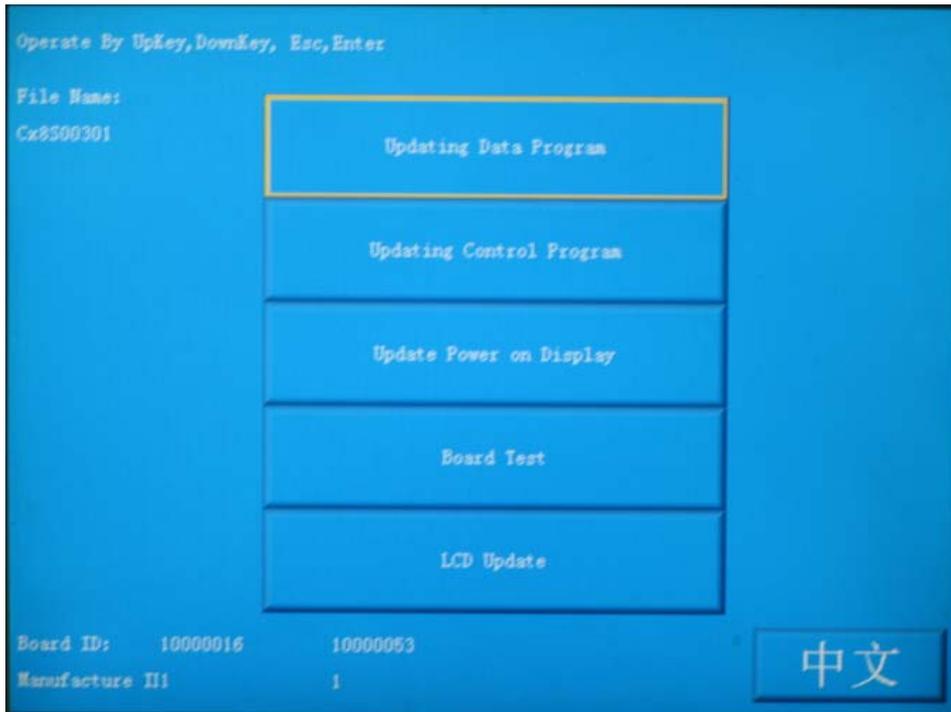
Updating Operation:

### 13-1 Update data software

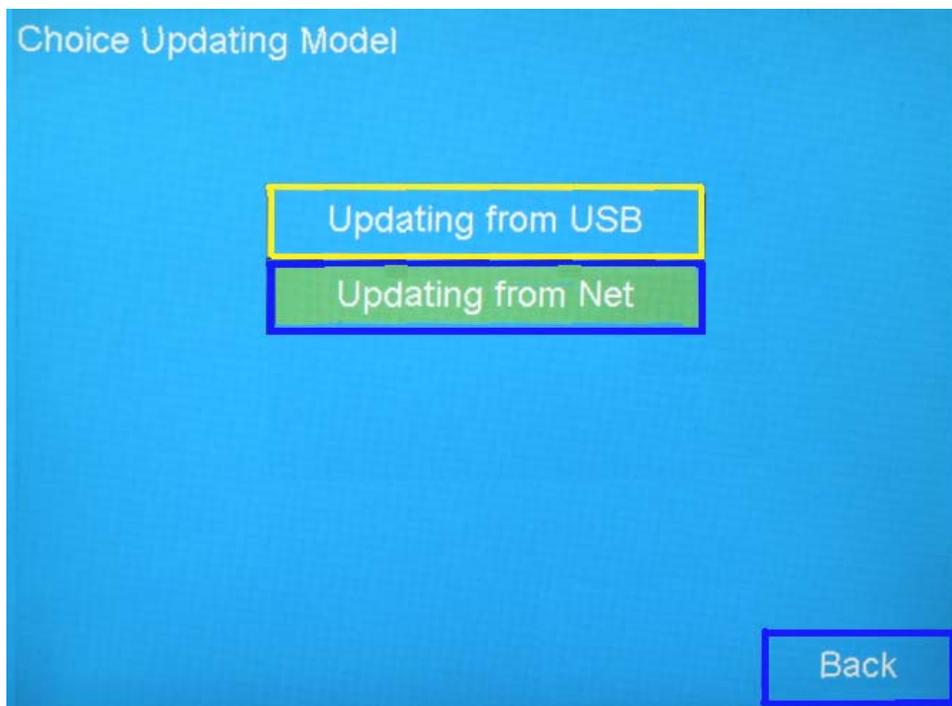
1. Turn off the power first, and then press the “3” button, at the same time turn on the power:



2. The screen shows the following picture, select the first “updating data program” and press enter key:

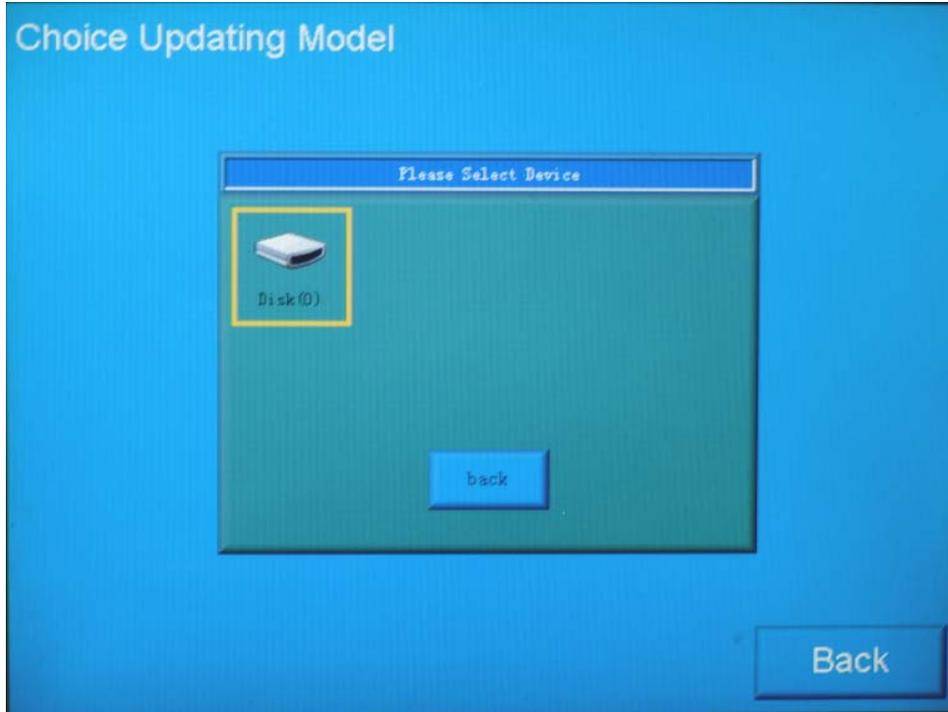


3. Select the “updating from USB” and press enter key:

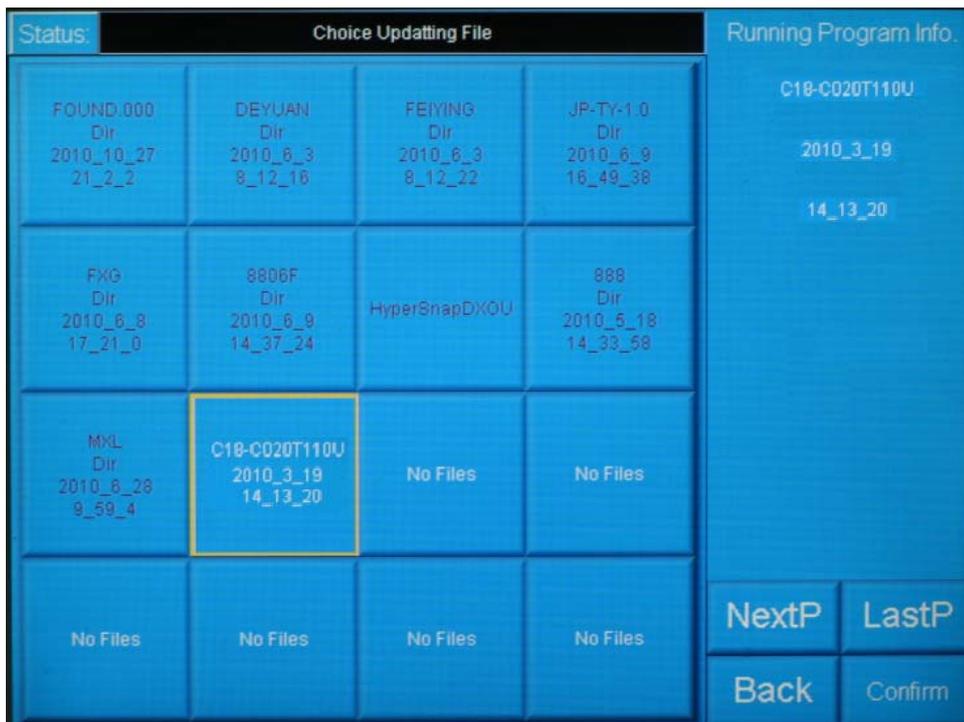




4. Launch the USB disk , then press enter key:

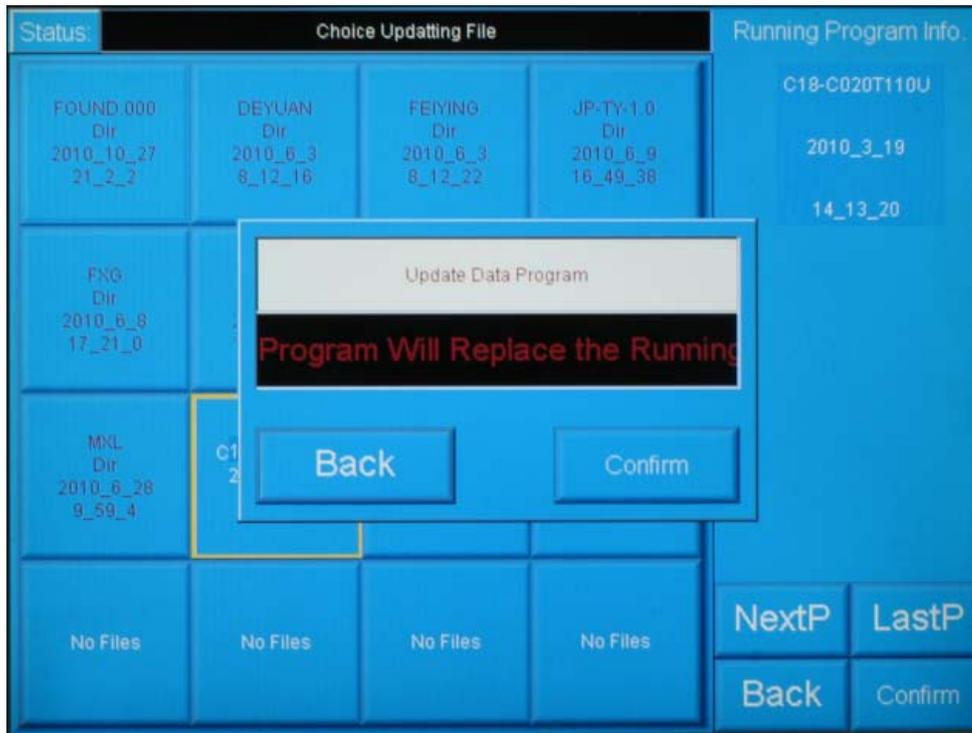


5. Choose the data software file, such as:C18-E020A11:





6. Press enter key to confirm updating :

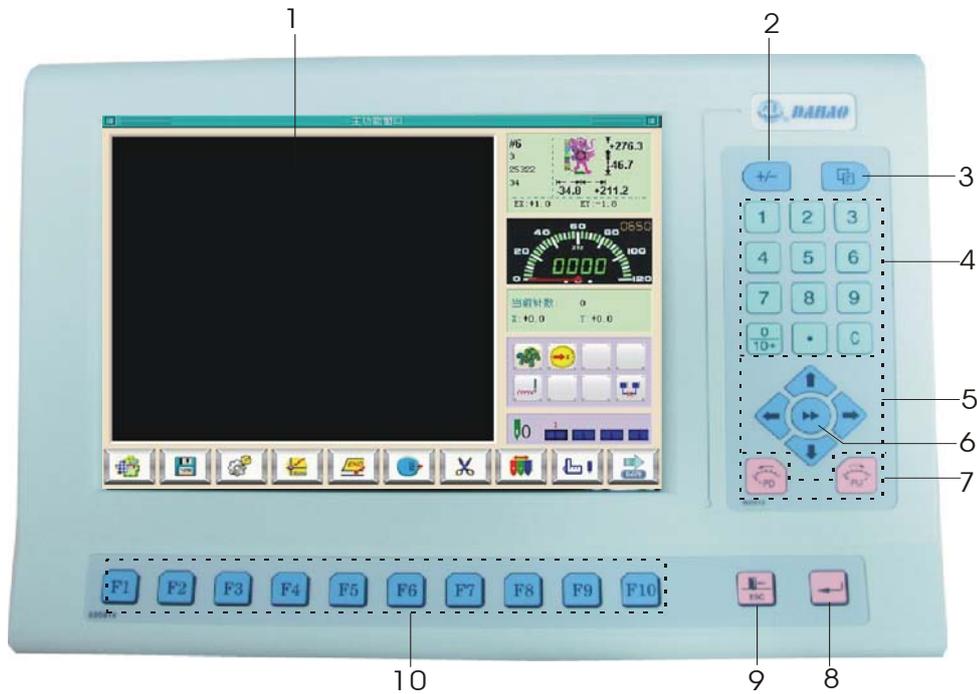


7. The screen will shows “restart” when finish update. Please turn off power:

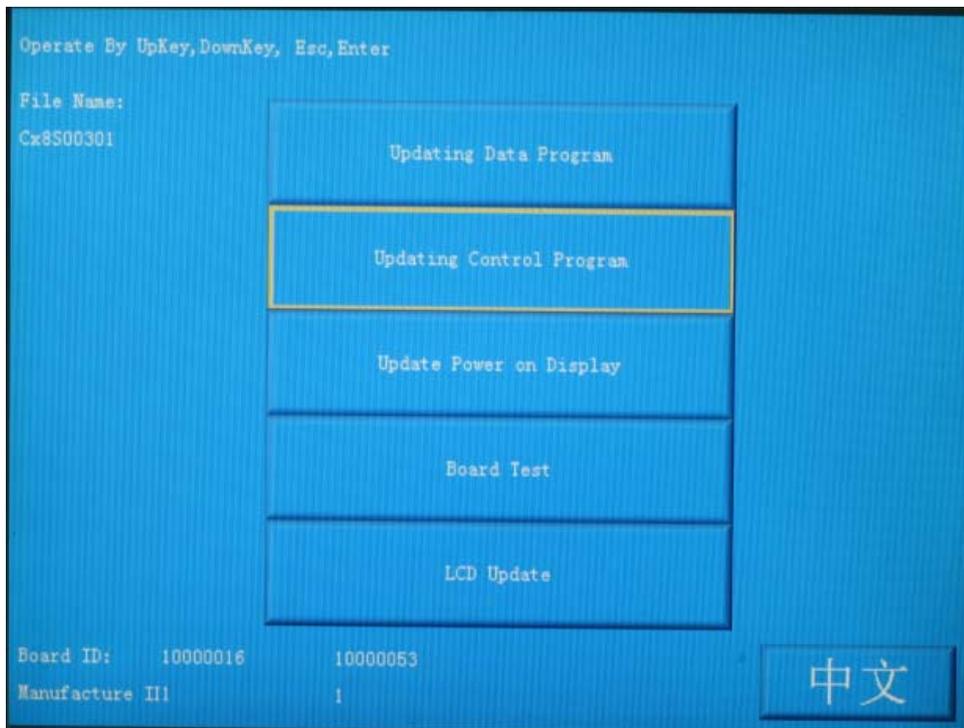


### 13-2 Updating control program

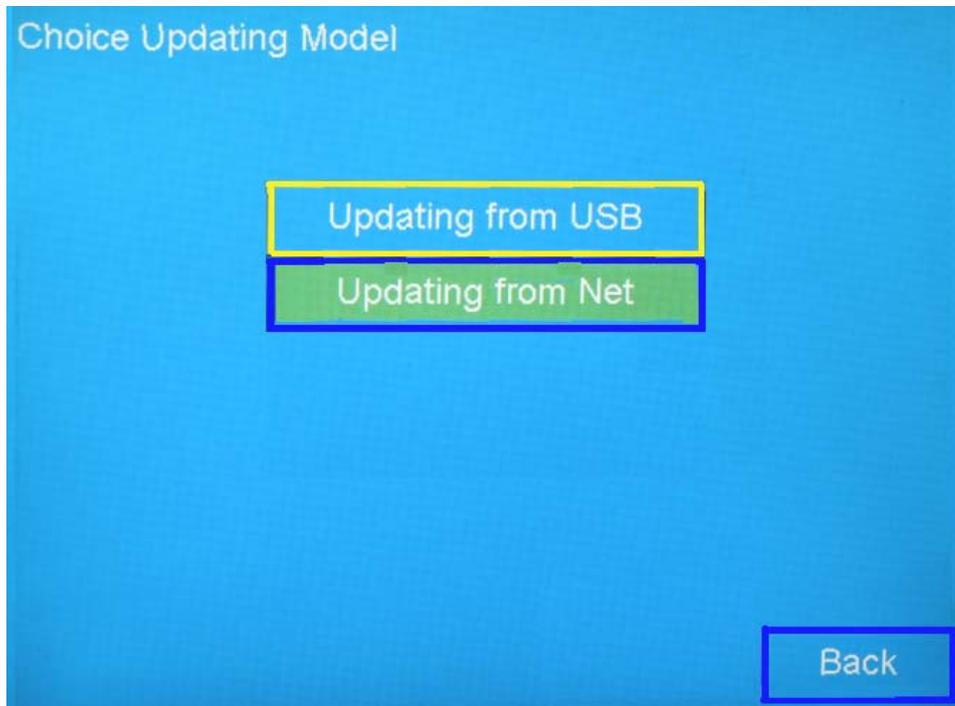
1、 Please press the “ 3” button, at the moment turn on the power:



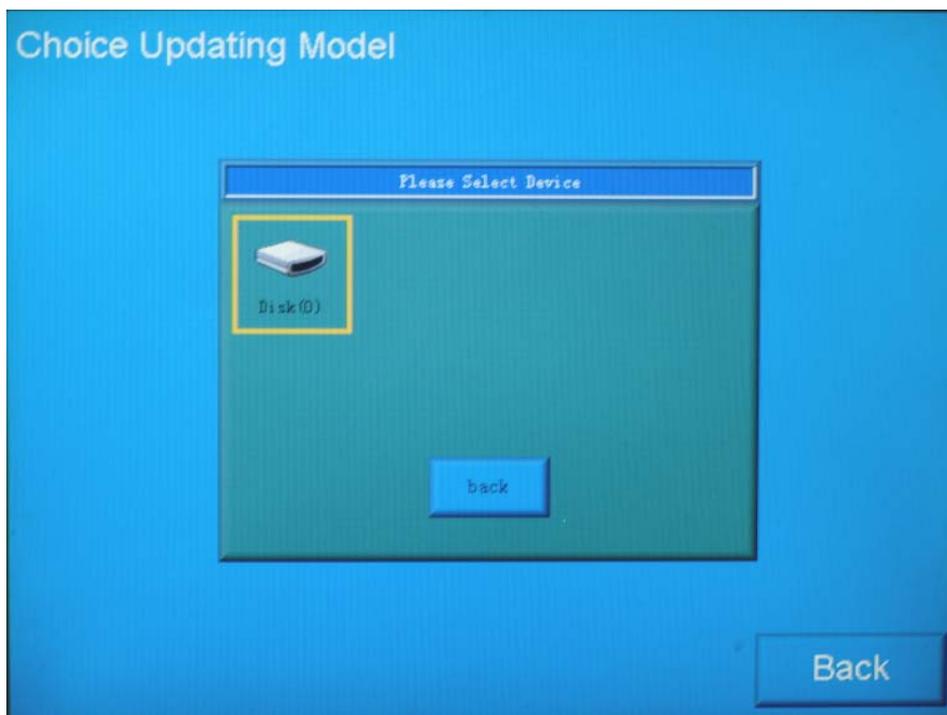
2、 The screen shows the following picture, select the second “updating control program” and press enter key:



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

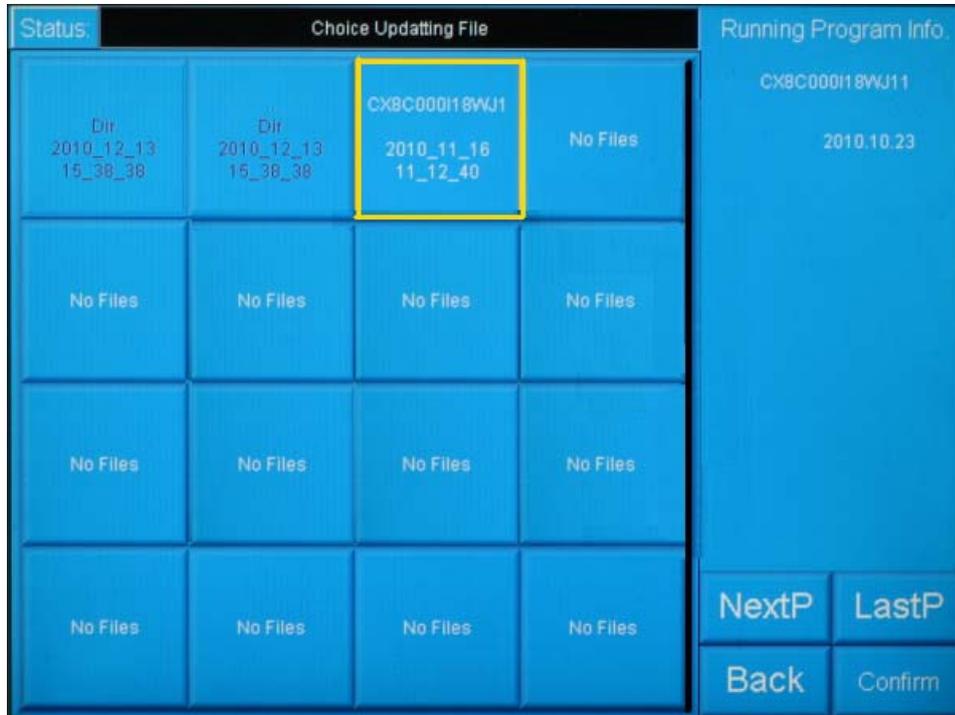


4、 Launch the USB disk , then press enter key:

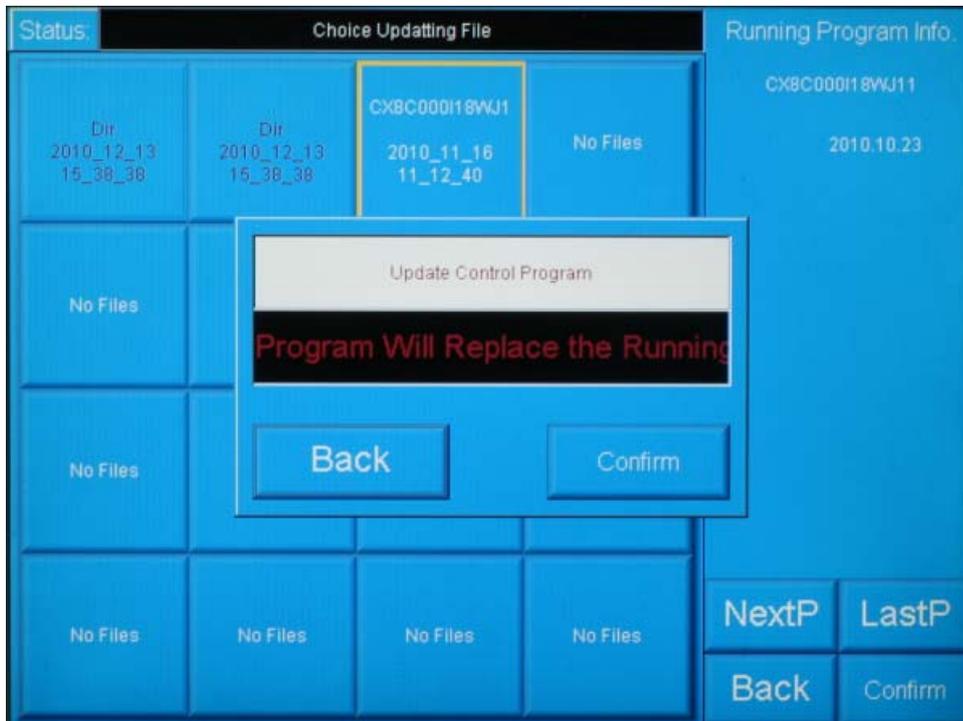




5、 Choose the control software file, such as: **CX8C000V18WH11**:

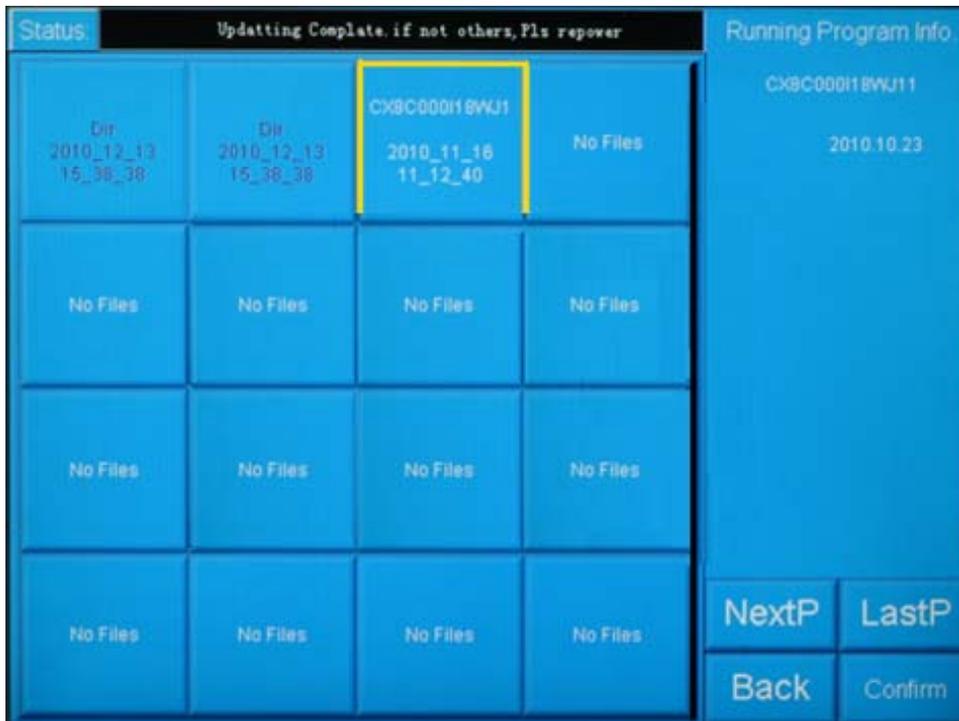


6、 press enter key to confirm updating:





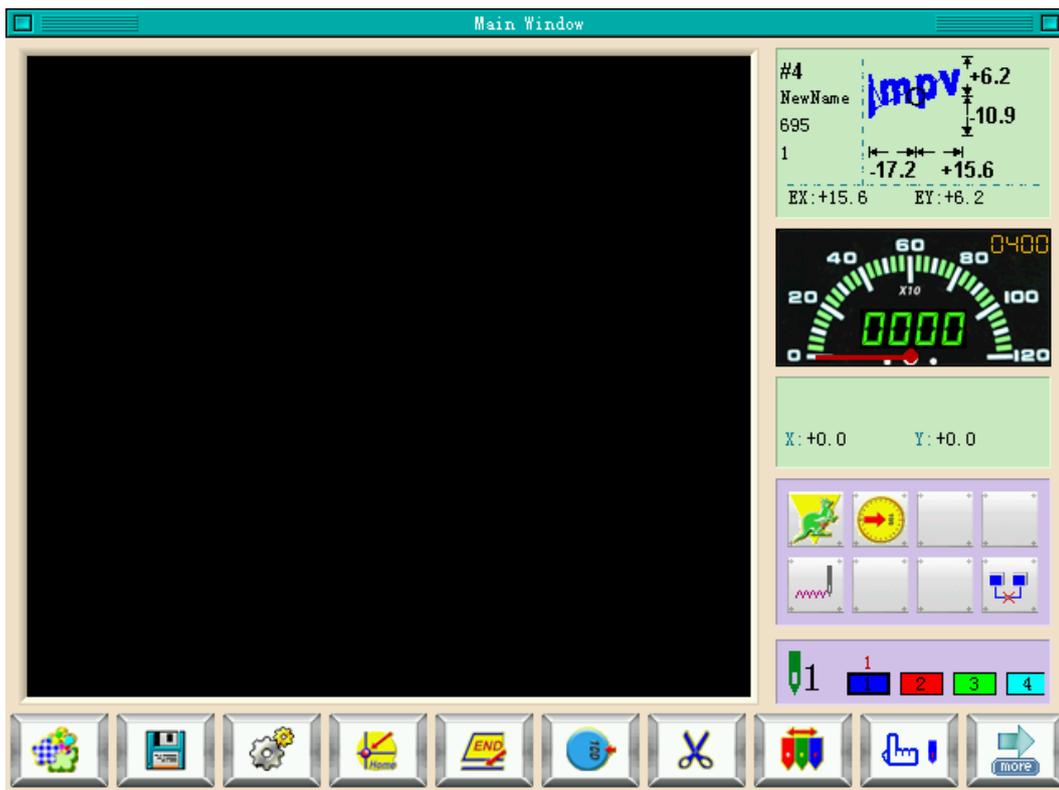
7、 The screen will shows “restart” when finish updating, please shut down power and restart:

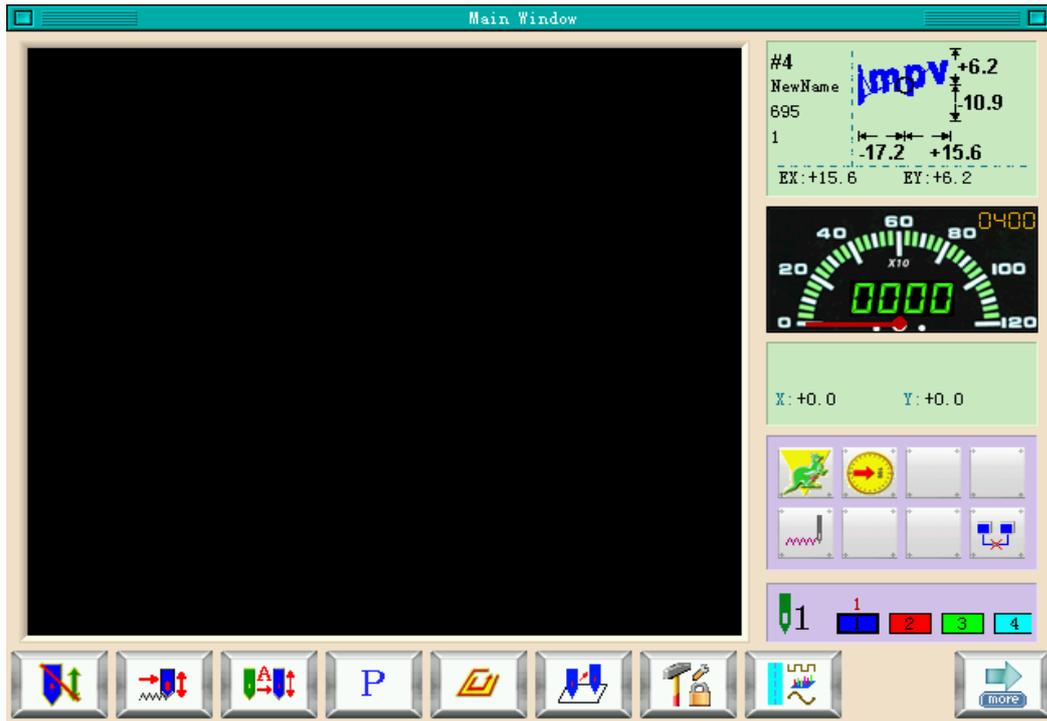


## Chapter 14 Updating Peripheral Equipment Program

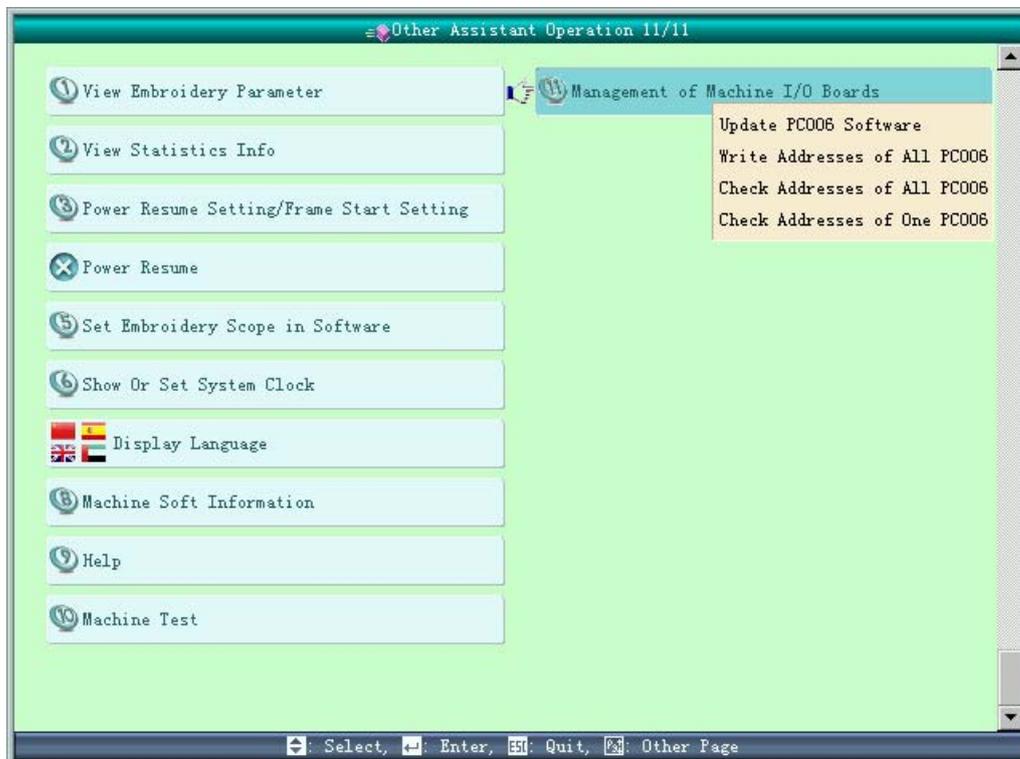
Updating Operation:

- 1、 Enter the menu , press  key to move the cursor to , and press "" key:

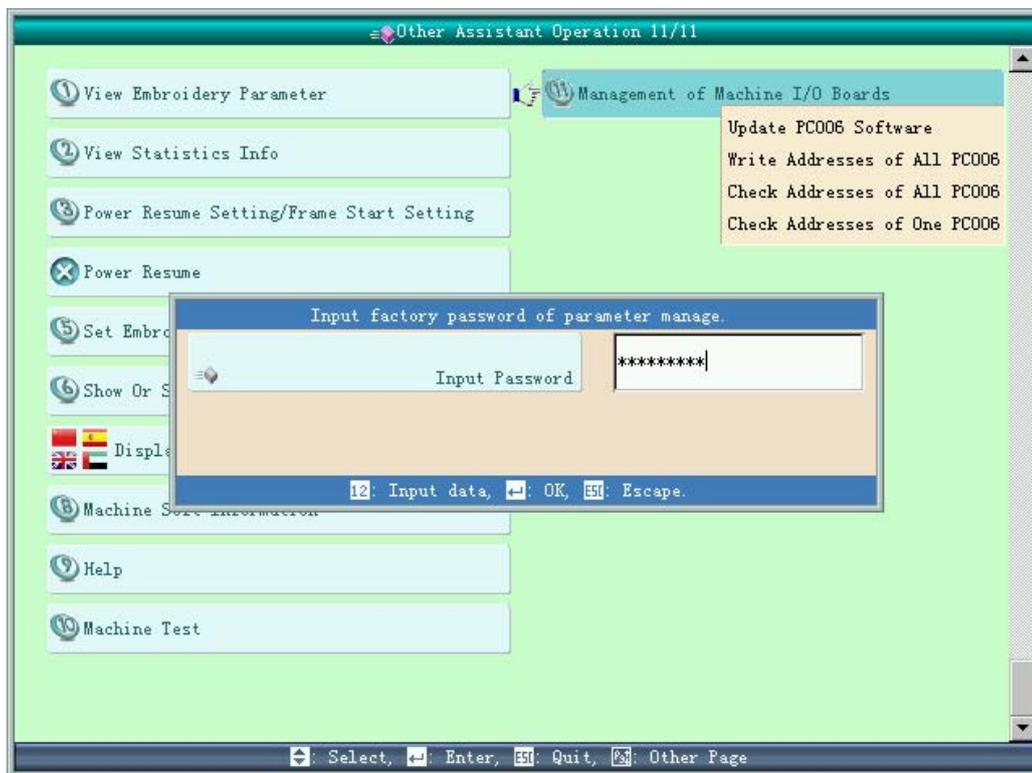




2、 Press "↑↓" to move the cursor to " Management of Machine I/O Boards ", and press "↵" key:



3、 Please input password, and press "" key:

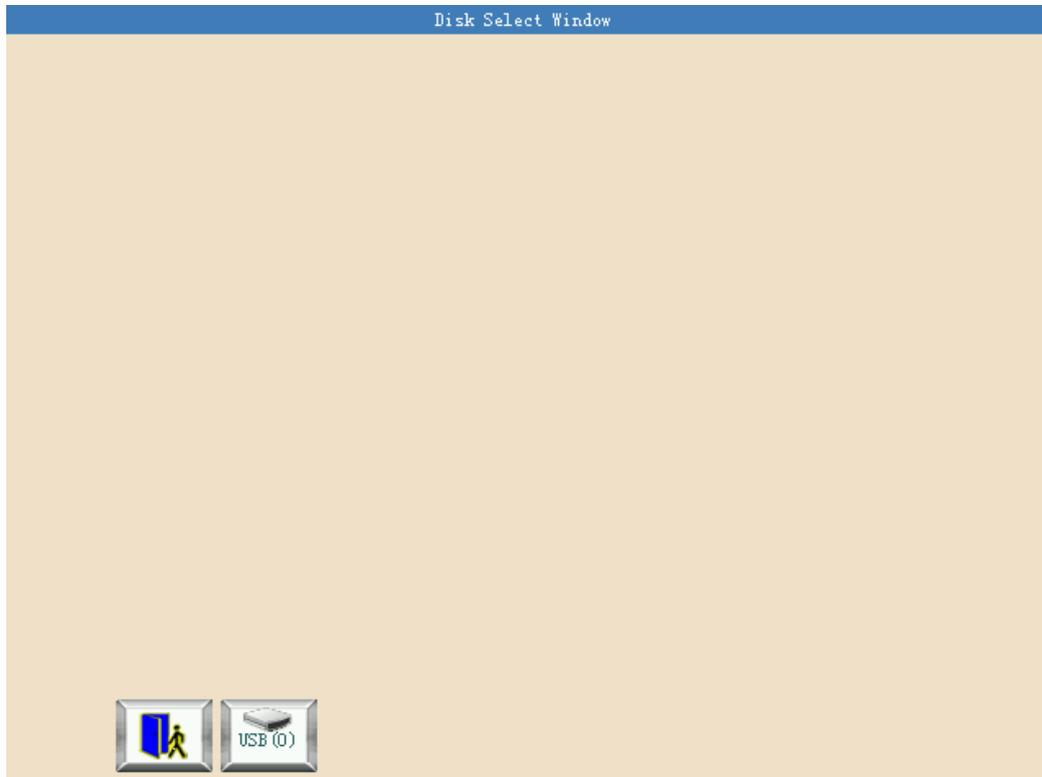


4、 Press "" to move the cursor to " **Update PC006 Software** ", and press "" key.

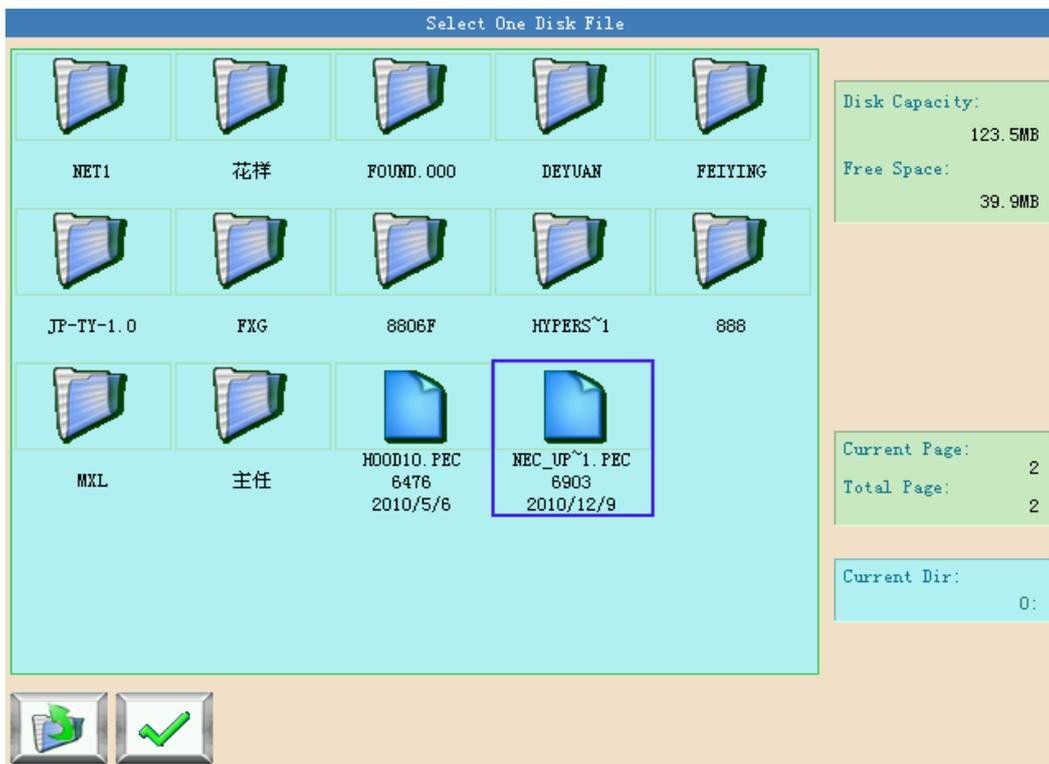




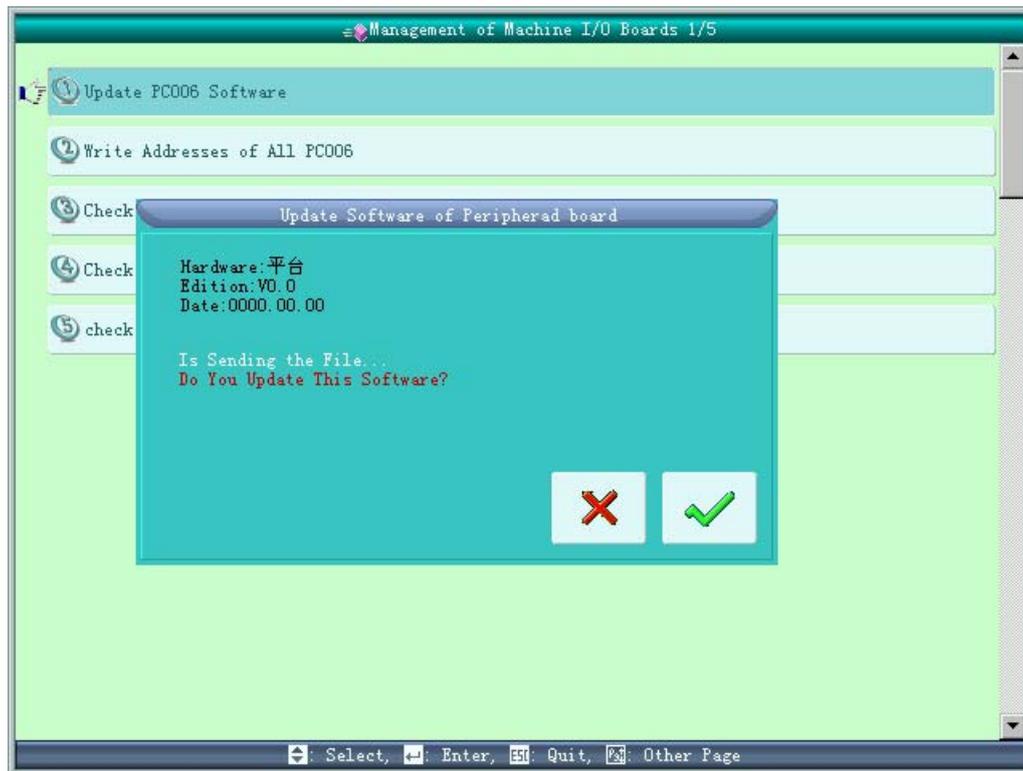
5、 At main interface , move the cursor to "  ", Equipment is the USB , and press "  " key.



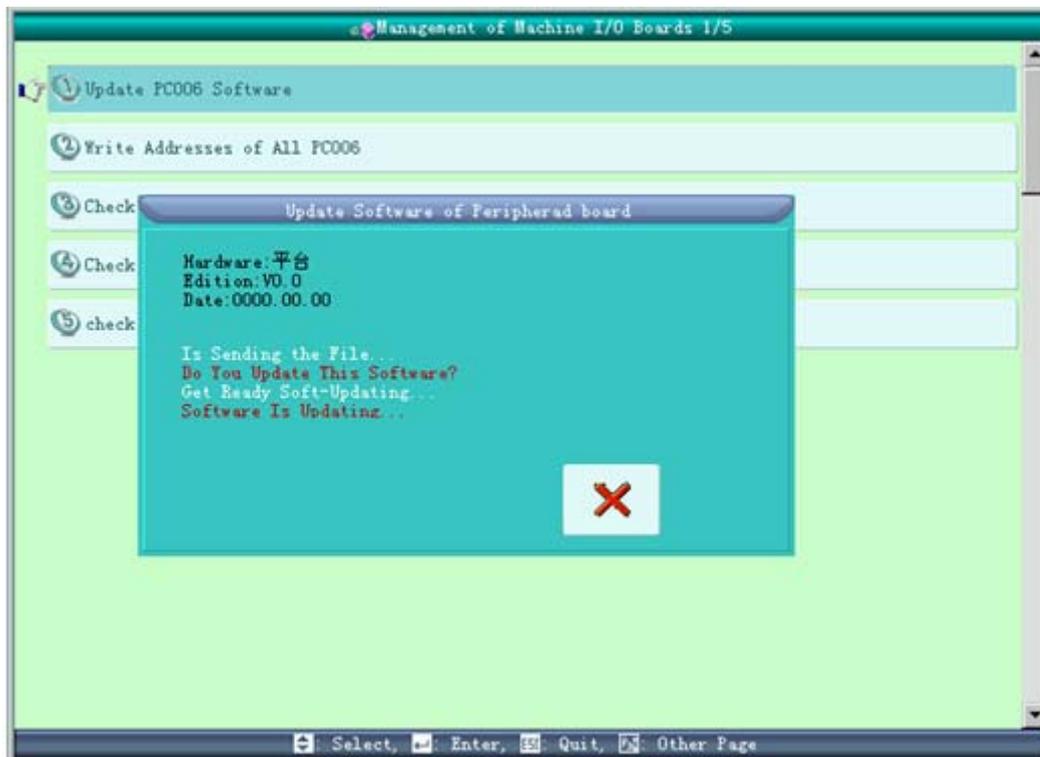
6、 Press "   " select "Updating Software" , and press "  " key.

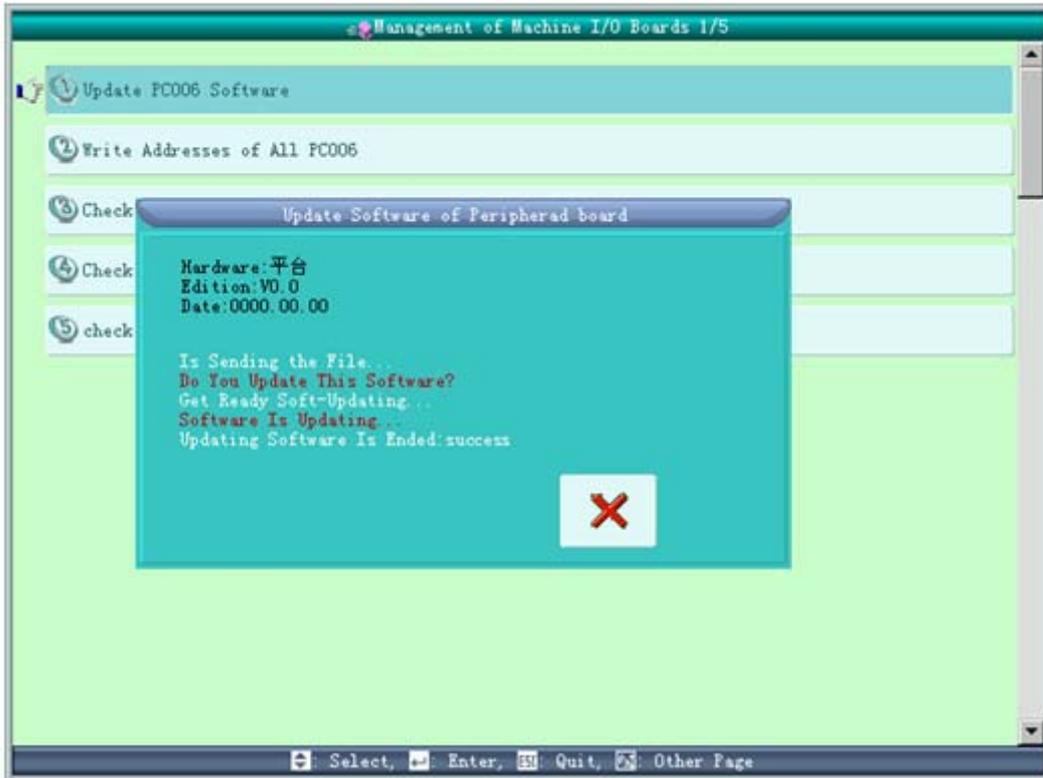


7、 Turn up "**Update Software of Peripherad board**", and press "" key.



8、 Waiting for updating software and the screen will shows "Success" when finish updating.







## Appendix I Parameter Setting List

\*\*“Sti.” For stitches; “Emb.” For embroidery; “T. B.” for thread break; “N” for the needle number of machine heads

Number	Name	Recommended Value	Range of Setting	Note
Magnify, Rotate& Repeat Setting Parameters				
A03	Direction	P	<input type="checkbox"/> P <input type="checkbox"/> A <input type="checkbox"/> d <input type="checkbox"/> c <input type="checkbox"/> q <input type="checkbox"/> σ <input type="checkbox"/> b <input type="checkbox"/> A <input type="checkbox"/> P	A03
A02	Rotate	0	0~89	
A01	X&Y Scales	100/100	50%~200%	Rotating angle of the design
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	
Embroidery Assistant Parameters				
B01	Auto Origin	Yes	No, Yes	
B02	To Do Cyclic Emb.	No	No, Yes	Whether to automatically repeat embroidering the design It often accompanies 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). If “No”, the empty stitches won’t be omitted.
B13	Start for Same Colors	Yes	No, Yes	Whether to start in color-changing way when the later needle position is same to the former one
C04	Store Manual Color	No	No, Yes	If “Yes”, manual color changing is stored in



## Appendix I Parameter Setting List

Number	Name	Recommended Value	Range of Setting	Note
				the color-changing order. After embroidery, the setting will automatically change into "No".
D15	Slow STI. After Patch	0	0~9999	
D16	Speed After Patch	Max. Speed	80~Max. Speed	
C03	Stop to Color	No	No, Yes	Change stop codes into color-changing codes. It's specialized for some countries/regions.
B15	Emb Show Background	Yes	No, Yes	
B18	Is Design TrueView Display	No	No, Yes	
C77	Do Filter Short Stitch	No	No, Yes	It is fit for high-speed machine using dahao servo-motor driver
C78	Length of Filter Short Stitch	0.2mm	0.1mm~0.6mm	The same as above
C79	Long Stitch Do Auto Jump	No	No, Yes	The same as above
C80	Stitch Len of Auto Jump	8.0mm	6.0mm~12.0mm	The same as above
Thread break detecting Parameter				
B05	T. B. Detect	Yes	No, Yes	Thread break detect
B11	Sti. Not T.B. Detect	8 stitch	0 stitch ~15 stitch	
B06	Stop machine after T.B. detect	Yes	No, Yes	
B07	Press key after T. B.	No	No, Yes	Press key (pull bar) after T. B.
B08	T. B. Back Sti.	0 stitch	0 stitch ~7 stitch	It is unavailable to some machine types.
B09	Patch Count	1 stitch	1 stitch ~10 stitch	How many stitches to patch before the thread break point
B10	Speed Down After Patch	Stop	No Change, Down, Stop	



Number	Name	Recommended Value	Range of Setting	Note
B14	To Set All Heads Patch	No	No, Yes	If “Yes”, all unclosed heads do patching when patching.
B12	T. B. Detect When Jump	No	No, Yes	
C27	Detect T. B. Mode	spring	spring, wheel	
C28	STI. For Filter T.B.	3 stitch	1 stitch ~6 stitch	
C67	Sensitivity of Upper Thread	6	1~15	
C68	Sensitivity of Under Thread	6	1~15	
C69	Filter Sti. For Upper Thread	6 Sti	1~6 Sti.	
C70	Filter Sti. For Under Thread	6 Sti	1~6 Sti.	
Frame Parameter				
C06	Frame Curve	F1	F1~F6	The high-speed machine using dahao servo-motor driver hasn't this parameter.
C06	Frame Angle	230	230~290	
B03	Over frame by Step	No	No, Yes	
C15	High Frame-Shift Speed	16	0,1,2...30	
C16	Low Frame-Shift Speed	12	0,1,2...30	
D13	Speed When Over frame	16	0,1,2...30	
D19	(AFC) Use	No	No, Yes	
D20	(AFC) Interval Time	3	0~15	
C74	X direction Frame Angle A	245	230~280	It is fit for high-speed machine using dahao servo-motor driver.
C75	X direction Frame Angle B	245	230~280	The same as above.
C76	Y direction	245	230~280	The same as above.



## Appendix I Parameter Setting List

Number	Name	Recommended Value	Range of Setting	Note
	Frame Angle A			
C85	Y direction Frame Angle B	245	230~280	The same as above.
C72	Machine Embroidery Mode	hat	Plain, hat, Clothes	
C73	Frame Weight	1	0~20	
Main shaft Parameter				
C07	Max. Speed	700-850	250, 300, 350, ...,1000	
C09	Minimum Speed	400	250,300,350...600	
C08	Shift Stitch Length (mm)		1.0~10.0(common type machine),3.0~6.0(high-speed machine using dahao servo-motor driver)	When the stitch length is longer than the set value, the machine will lower the speed.
C10	Jump Stitch Speed	500	400~750(common type machine),400~1100(high-spe ed machine using dahao servo-motor driver)	Set the rotation speed for jump stitch.
C13	Set Run Speed	80	80,90...150	
C12	Startup Stitches	1stitch	1 stitch ~9 stitch	Set the startup stitch number.
D02	Startup Acce.	12	1,2,3...30	Increase the value to bring a quicker speedup after pulling the bar.
C25	Set Break Para.	0	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.	1	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



Number	Name	Recommended Value	Range of Setting	Note
				as 1.
C14	Speed of Slow Emb.	400	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.
C05	Value for Thick Cloth	0	0~3	
C26	Para. Of Needle Down	15	0~30	
D53	Lock Shaft When Stop	No	No, Yes	
Thread-trimming Parameter				
C01	Jump & Trim	3 Jump	No Trim, 1Jump~7Jump	
C18	Length of Trim	1	1~8	1 is the minimum length and 8 are the maximum length.
D05	Speed When Trimming	80	80,90,100...250	
C20	Lock Stitch. When Trim	Yes	No, Yes	
D04	Speed after Trim	80	60,70,80...150	The parameter sets the rotation speed for lock stitch.
C11	Stitches After Trim	2 stitch	1 stitch ~7 stitch	
C21	Length of Lock Sti. (mm)	0.6	0.3~1.5	
C19	Lock Num. After Trim	2	0~3	Set the lock stitch number when pulling the bar for embroidery after setting the trimming.
D06	Spin Rounds for Brake	1	1,2	2 for most machines, 1 for miniature type and machines with servo



## Appendix I Parameter Setting List

Number	Name	Recommended Value	Range of Setting	Note
				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.	0	0~3	
D07	Check Trim is OK	No	No, Yes	
D08	Hook Angle by Motor	0	-100~+100	Set the hook angle by motor. When the value is increase, the hook angle is moved backward.
D09	Hook Ratio by Motor	2	1:9,1:10,1:12,1:15,1:18,1:20	
C17	Turn Off Trimming	No	No, Yes	
D32	Is cutting Machine	Yes	No, Yes	
D48	Lock Stitch Len Bef Trim	0.7	0.3~2.0	
D49	Lock Stitch Num Bef Trim	2	0~2	
C81	Cutting start angle	3	0~20	It is fit for the machine using step-motor for trimming thread.
C82	Cut return angle adj	4	0~30	The same as above.
C83	Cut keeper return angle	5	0~99	The same as above.
C84	Hold voltage adj	1	1~3	The same as above.
Sequin Parameter(JF type)				
C31	Speed for Sequin R	400	300,310,···,the maximum speed	
C32	Speed for Sequin L	850	300,310,···, the maximum speed	
D25	Sequin R Adj. Angle	0	-15~15	
D26	Sequin L Adj. Angle	0	-15~15	
C33	Auto Start for	No	No, Yes	



Number	Name	Recommended Value	Range of Setting	Note
	Sequin			
D27	Time of Sequin Action	3	0~15	
C34	Sequin Off after T.B.	No	No, Yes	
C56	Sequin Ind. UpDown	No	No, Yes	
B17	Up Valve When Jump & Nocut	Yes	No, Yes	
D70	R Motor Shift Stroke Base	40	6~40	
D71	R Motor Shift Stroke Time	15	1~30	
D72	With Origin at R Motor Shift	Yes		
D83	R Knife Start Angle Adj	15	0~31	
D73	L Sequin Feeding Angle Ad	40	6~40	
D74	L Motor Shift Stroke Time	15	1~30	
D75	With Origin at L Motor Shift	Yes		
D84	L Knife Start Angle Adj	15	0~31	
D99	Bead-breakage Detection Sensitivity	0	0~10	
D54	Motor Number of R Sequin		No,1~4,1(2~4)	Set the parameter base on sequin device. 2~4 mean motor number by one motor
D55	Set 3MM of R Sequin		Lever 6~40 Degree, Roller 6~40	
D56	Set 4MM of R Sequin		Roller 6~40 Degree, Lever 6~40 Degree	
D57	Set 5MM of R Sequin		Roller 6~40 Degree, Lever 6~40 Degree	
D58	Set 6.75MM of R Sequin		Roller 6~40 Degree, Lever 6~40 Degree	
D59	Set 9MM of R		Roller 6~40 Degree, Lever	



## Appendix I Parameter Setting List

Number	Name	Recommended Value	Range of Setting	Note
	Sequin		6~40 Degree	
C57	A Size&Color of R Sequin	5mm yellow	3/4/5/6.75/9mm Red/Green/Blue/Purple/Yellow/Cyan/silver/Golden	
C58	B Size&Color of R Sequin	5mm blue	3/4/5/6.75/9mm Red/Green/Blue/Purple/Yellow/Cyan/silver/Golden	
C59	C Size&Color of R Sequin	5mm silver	3/4/5/6.75/9mm Red/Green/Blue/Purple/Yellow/Cyan/silver/Golden	
C60	D Size&Color of R Sequin	5mm gold	3/4/5/6.75/9mm Red/Green/Blue/Purple/Yellow/Cyan/silver/Golden	
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		No,1~4,1(2~4)	Set the parameter base on sequin device. 2~4 mean motor number by one motor
D62	Set 3MM of L Sequin		Roller 6~40 Degree, Lever 6~40 Degree	
D63	Set 4MM of L Sequin		Roller 6~40 Degree, Lever 6~40 Degree	
D64	Set 5MM of L Sequin		Roller 6~40 Degree, Lever 6~40 Degree	
D65	Set 6.75MM of L Sequin		Roller 6~40 Degree, Lever 6~40 Degree	
D66	Set 9MM of L Sequin		Roller 6~40 Degree, Lever 6~40 Degree	
C61	A Size&Color of L Sequin	5mm yellow	3/4/5/6.75/9mm Red/Green/Blue/Purple/Yellow/Cyan/silver/Golden	
C62	B Size&Color of L Sequin	5mm blue	3/4/5/6.75/9mm Red/Green/Blue/Purple/Yellow/Cyan/silver/Golden	
C63	C Size&Color of L Sequin	5mm silver	3/4/5/6.75/9mm Red/Green/Blue/Purple/Yellow/Cyan/silver/Golden	
C64	D Size&Color	5mm gold	3/4/5/6.75/9mm	



Number	Name	Recommended Value	Range of Setting	Note
	of L Sequin		Red/Green/Blue/Purple/Yellow/Cyan/silver/Golden	
D67	Sequin Gap Num of L Sequin	No	No, 1,2	
C66	Valve Time of Left Sequin	0	0~5	
Special Embroidery Parameter				
C55	M Axis Origin At T.B.	Yes	No, Yes	
C54	Cord Emb. Needle	Yes	No, Yes	
C37	M Axis Stop to Origin	Yes	No, Yes	
D28	Special Head Interval	10	1~400	Destined Value: 150、162、166、185、200、216、225、230、240、250、270、290、300
D30	Clamp Foot Displace	0	0~90	
D40	Adj Clamp Foot Limit	170	0~250	
B16	Clamp Foot Min Height Adj	0	0~255	
D31	Rod Pos. of Zigzag	Left	Left/Right	
D29	Zigzag Swing Angle	90	0~90	
C38	Swing Value of Zigzag	0.2	-10.0~ -0.2,+0.2~+10	
D50	Adj Z Emb Swing	0	0~5	
D42	Rotary Gap of M Axis	0	0~10	
D44	M Axis Work OFF Angle	0	0,90	
C39	Spec. Emb. Trim Mode	Low	Low, Above & Low, No Trim	
C35	Speed for Sequin L	400	300~700	
C51	Spec Minimum Speed	250	250~400	



## Appendix I Parameter Setting List

Number	Name	Recommended Value	Range of Setting	Note
C52	Spec. Speed-Down Angle	30	1~180	
C53	Spec. Speed-Down Ratio	2	1~4	
D39	Z Shift Control Angle	0	0~180	
D41	Adj Zigzag Rod Angle	1	1,2,3	
C36	Ratio of Coil Emb.	0 Sti/L	0~3 Sti/L	
D47	Slow Down When Coil Emb	Yes	No, Yes	
High-efficiency System Parameters				
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%	
Machine & Maintenance Parameter				
D01	Needles		1,2...MAXNEEDLE	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, 1, N	
C30	Boring Emb. Disp.	0	0mm, 12mm	
D17	Needle of Cord Emb.	No	No, 1, N	
D18	Speed for Cord	400	300, 310, 320... 600	



Number	Name	Recommended Value	Range of Setting	Note
	Emb.			
D11	Adjust Head Solenoid	0	0,1,2...30	
D12	Color-Change Speed	12	0,1,2...30	It's valid only when the color-changing motor is stepping motor. The larger the value, the faster the color-changing speed.
D43	CloseBack Light time	10 mins	Never, 2mins, 5mins, 10mins, 15mins	
C40	No Output Design	No	No, Yes	
C71	Adj. solenoid Volt For Nipper	6	1~10	
C41	Server Port			It is used for setting sever port when it is connected to PC.
C42	MAC Address			It is used for setting the MAC address of embroidery machine network card. The address is different as different machine.
C43	IP Address			It is used for setting machine address when connect to PC. It is not different among different machine.
C44	Server IP			It is used for setting the IP address of sever when connect to PC.
C45	Subnet mask			It is used for setting the subnet mask of IP address when connect to PC.
C46	Gateway			It is used for setting the gateway of machine when connect to PC.
D45	X Gap for Quilt	0.6	0~0.6	
D46	Y Gap for Quilt	0.6	0~0.6	
C47	Time for one	10sec	1~10	



## Appendix I Parameter Setting List

Number	Name	Recommended Value	Range of Setting	Note
	lubricating (sec)			
C48	Stitches between two lubrications	10,000,000 stitches	100 ~ 1000 (unit 10000stitches)	
C49	X compensation for mechanical gap	0.5	-0.5~+0.5	
C50	Y compensation for mechanical gap	0.5	-0.5~+0.5	
D68	Machine Head Num	20	1~80	
E1	DIP1	3	0~255	
E2	DIP2	3	0~255	
E3	DIP3	3	0~255	
E4	DIP4	3	0~255	
Adj Parameters of X Servo Drivers(high-speed machine using dahao servo-motor driver)				
	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	
Adj Parameters of Y Servo Drivers(high-speed machine using dahao servo-motor driver, the same as above)				



### Appendix II Directions on USB operations

No.	Operation	Direction	Remark
1	Read & Write USB	Same as floppy disk	
2	Priority	USB	
3	Supporting format	FAT16 and FAT32	
4	Long filename	Support but no display	
5	Filename display	DOS 8.3 mode (8 digit prefix is viewable, suffix is 3 digits)	For instance: “清明上河图.DST” will be displayed as “清明上~1.DST”
6	Filename displayed in Chinese	support	
7	Sub-directory operation	support	
8	Sub-directory limit	No limitation	
9	File account in one sub-directory	400	
10	Reading & writing error/ change USB	Back to disk management or design management screen, plug in the disk again.	
11	Multi-logical disks in one USB	support	
12	Formatting USB	support	
13	Installing of the letter base	Not support	
14	Software update	support	
15	Special character in filename	Support, except for “\$”	



## Appendix III Error Information And Instruction of System Level Mistake

*Note: The machine with no password function has no the item about password.*

No.	Mistakes
Upper monitor mistakes	
01	Operation Fail
02	Operation Break
03	Machine Communication Error
06	Not set ZERO point
07	Fail to set ZERO point
08	No design start point
09	No software range
10	Password is wrong!
11	New passwords not same
12	Emb. design not existed!
13	Dest. design existed!
14	Design not existed!
15	Open design error!
16	Error type combined design
17	Open FLASH media error
18	Design has created!
19	No enough design mem.
20	Directory is invalid.
21	FLASH media write-protect
22	Design file not existed
23	Design name is invalid
24	Design file corrupt
25	Error read/write design
26	Not open design file
27	Error read FLASH media
28	Device not existed!
29	No floppy disk
30	Invalid disk type
31	Disk sector error
32	File not in disk
33	Not a file
34	File corrupt
35	disk write protect
36	Invalid directory
37	File existed!



No.	Mistakes
38	Directory is full in memory.
39	Not enough space
40	Not open media
41	Error design data
42	Invalid design type
43	Not normal design
44	Not combined design
45	Please wait design operation
46	Cannot delete emb. design
47	Stitch number too large
48	Design stitches is over
49	Error design, or communication fail
51	Cannot delete a NULL memory
52	Read Design Error
53	Edit Forbid when Emb. Ready
54	Design is too big. Can't process.
55	Can not format the disk!
56	Unsupport operation!
Lower monitor mistakes	
EC05	THE HOOK IS NOT OK
EC07	HOOKING TIME IS OUT
EC08	NOT SET (E. SET)
EC09	CANNOT RETURN
EC10	CANNOT RETURN
EC11	DESIGN NOT EXIST
EC12	STOP POSITION ERR
EC13	FRAME OVER LIMIT
EC14	CONTROL MEMORY LOST
EC16	STEP MOTOR ERR
EC17	CHANGE CLR OVERTIME
EC18	HALF RETURN ERR
EC19	NEEDLE POSTION ERR
EC20	MAIN MOTOR OVERTIME
EC21	CHANGE CLR OVERLIMIT
EC22	MAIN MOTOR REVERSE
EC23	CANNOT EMBROIDER
EC24	CANNOT FRAME BACK
EC26	CAN NOT TRIM
EC36	SEQUIN IS ON
EC37	PULL BAR ERROR
EC38	SPE. EMB. OVERTIME
EC41	FILE NOT EXIST



No.	Mistakes
EC42	FILE DIRECTORY FULL
EC43	MEMORY SPACE FULL
EC44	FILE FAT ERR
EC45	FILE DIRECTORY ERR
EC46	HAS BAD SECTORS
EC95	Thread is broken, press key
EC101	Transfer CRC Error

### Instruction of System Level Mistake on CX8/CX9 Model:

At present, the CX8/CX9 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 occur 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 E8820 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 E8820.



## Appendix IV Making of Special Multi-Sequin Design

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

The normal design making system identify a sequin code as a jump stitch, but it can not distinguish sequin combinations from 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 principle making 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 embroidering overlap sequin on one stitch position. For instance, "A+C" means overlap sequin of A and C.

Rule is as follows:

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.

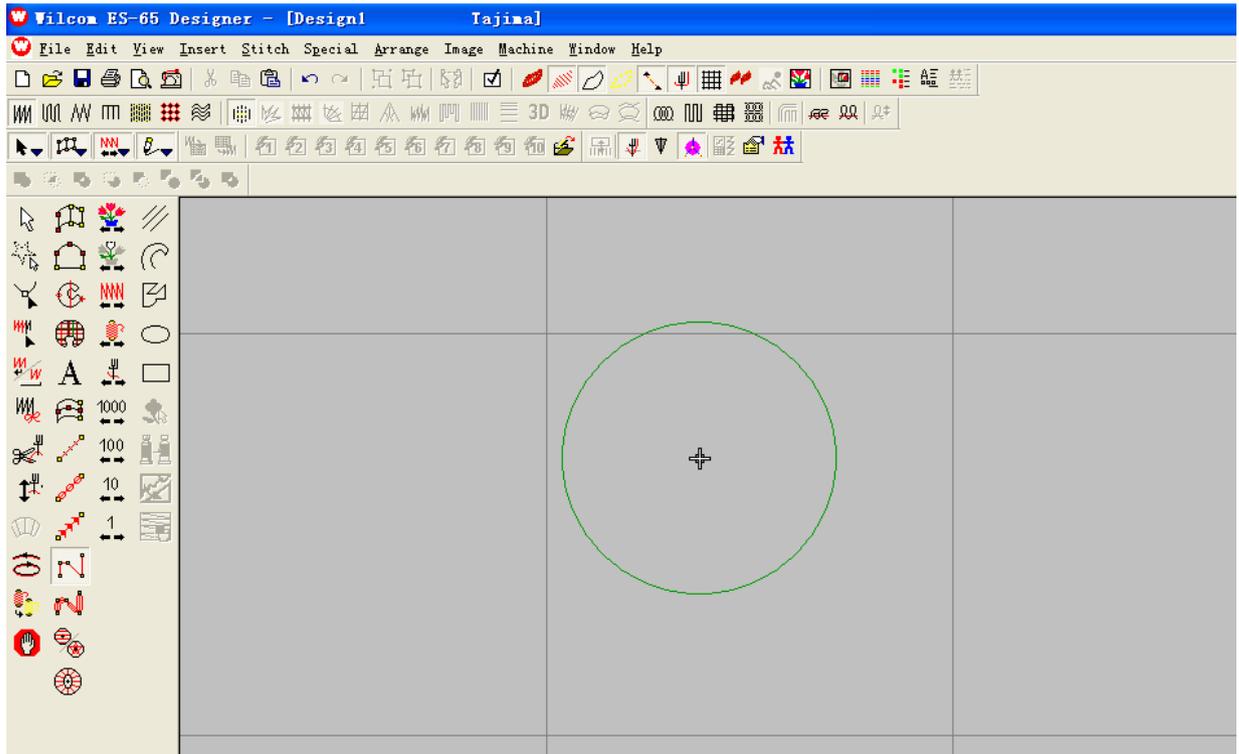
## 2、 Making trace for multi-sequin

By using trace, we can easily input sequin or sequin combinations. Example:

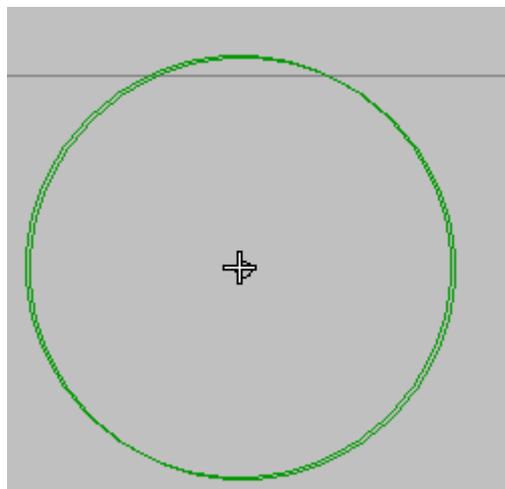
$A, B, A+B, C, A+C, B+C, A+B+C, D, A+D, B+D, A+B+D, C+D, A+C+D, B+C+D, A+B+C+D$ , etc.

We here take sequin  $B$  designing as an example.

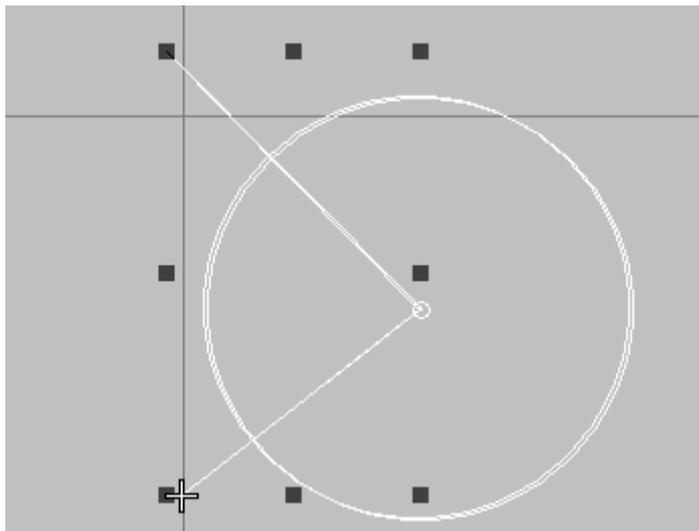
- 1) Open any design making software. First we zoom in the blank to certain scale (it is for easily input sequins in a place) and go into sequin state.
- 2) Input a sequin.



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

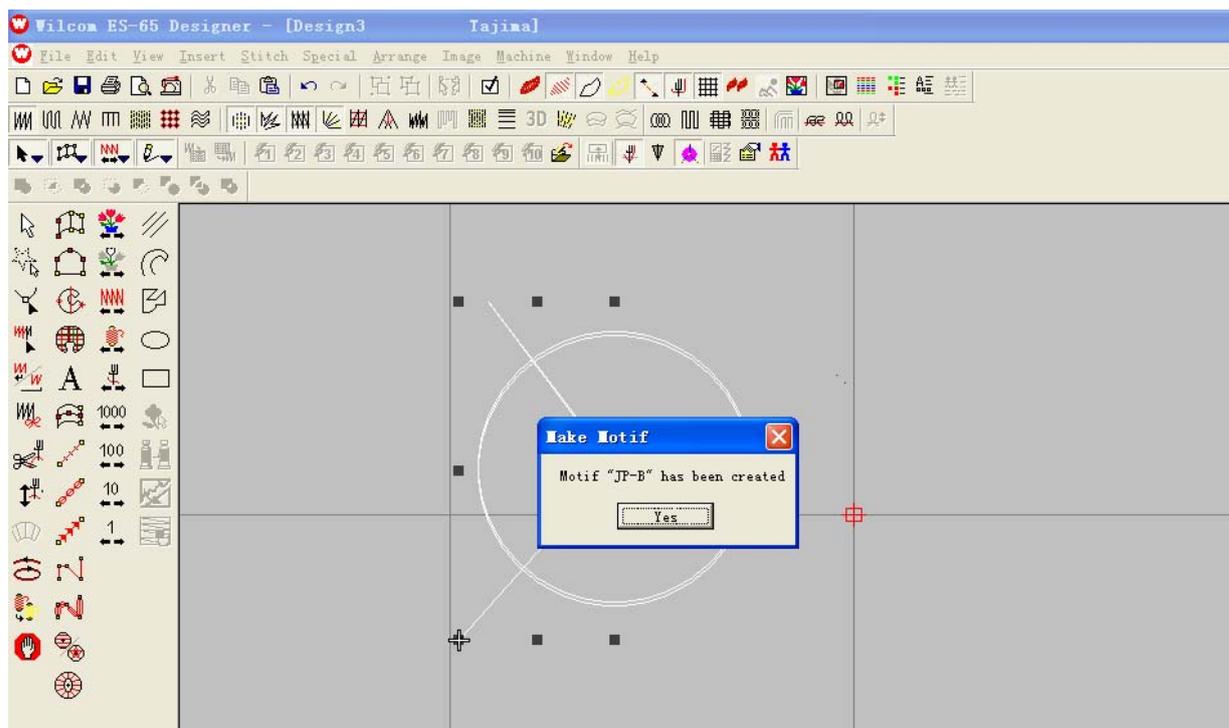


- 4) Continue to type in other single-stitches.
- 5) You can see “stitch list” shows 2 sequins as the following image.
- 6) Select all stitches.

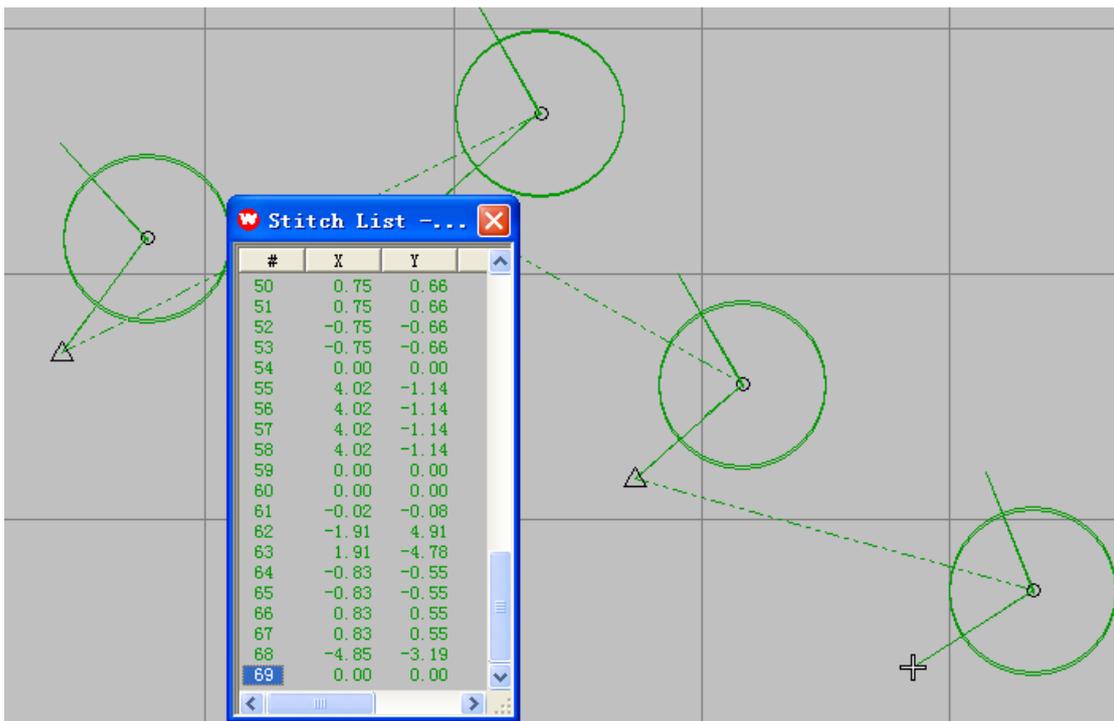
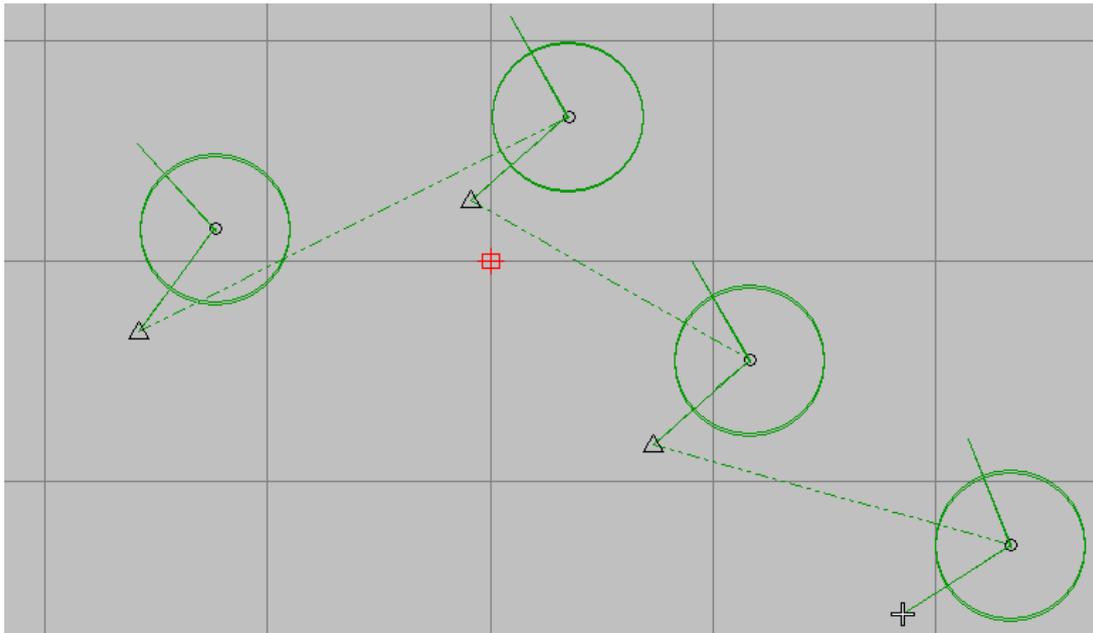


7) Making trace, group is JP, name is JP-B

8) Type in two reference point.

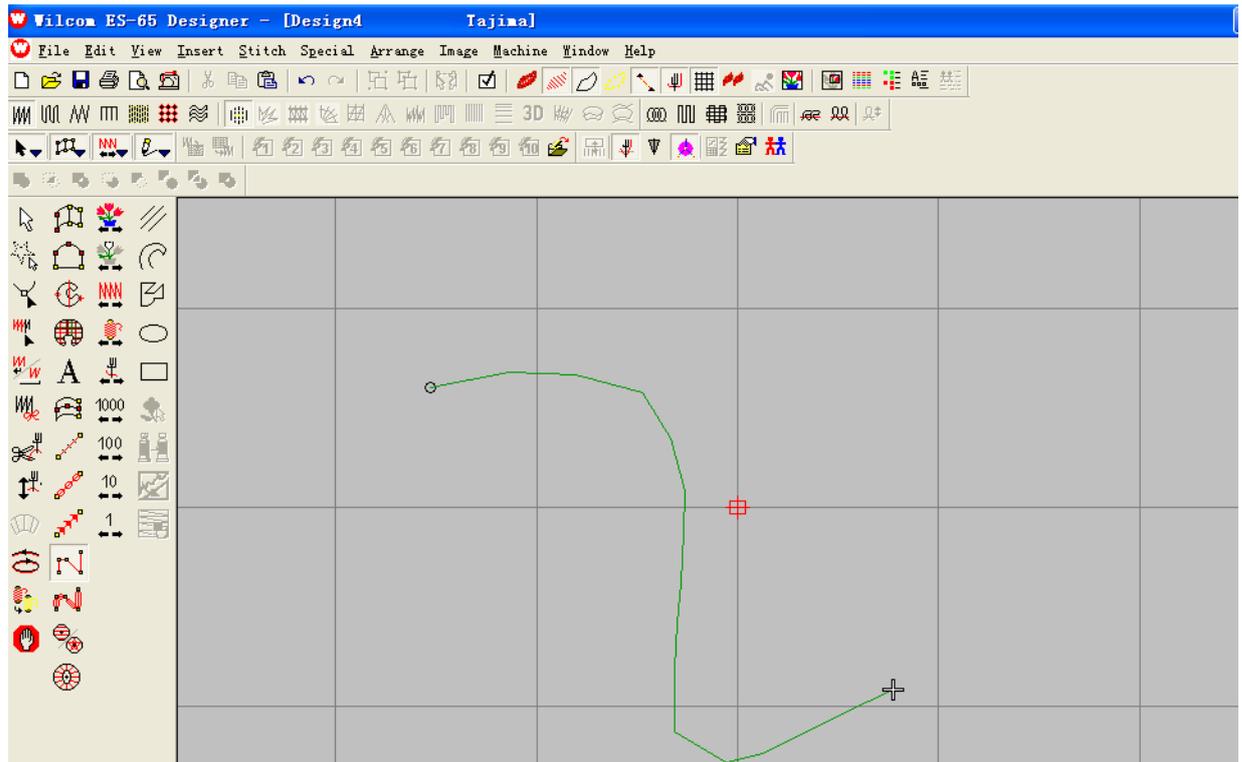


3、 **Single needle multi-sequin, you can use “stitch form -> trace -> apply” . Then “manual stitch” to finish entering.**

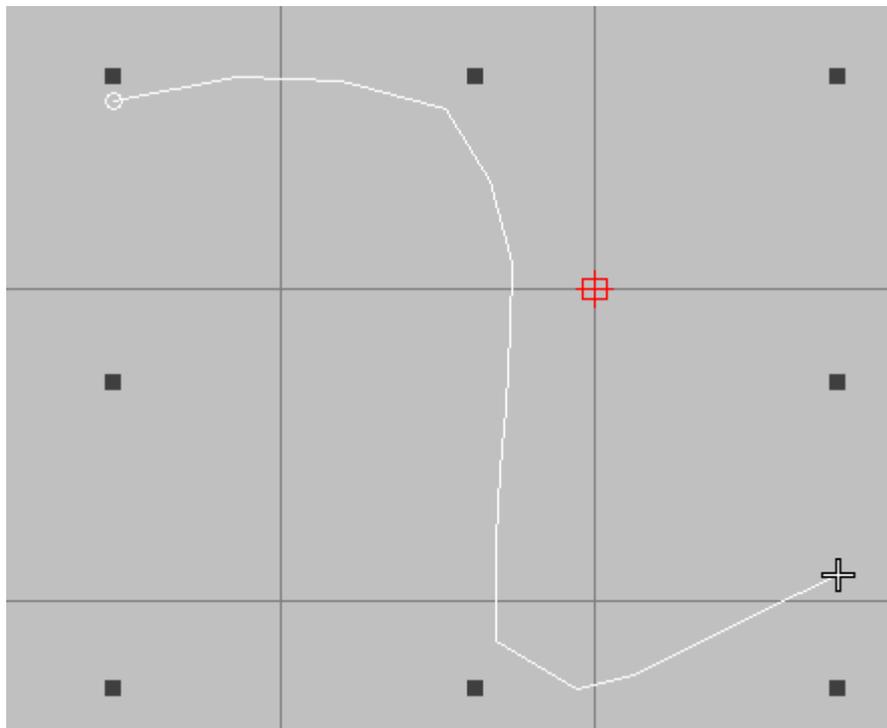


#### 4、 Others (curve) can apply trace too.

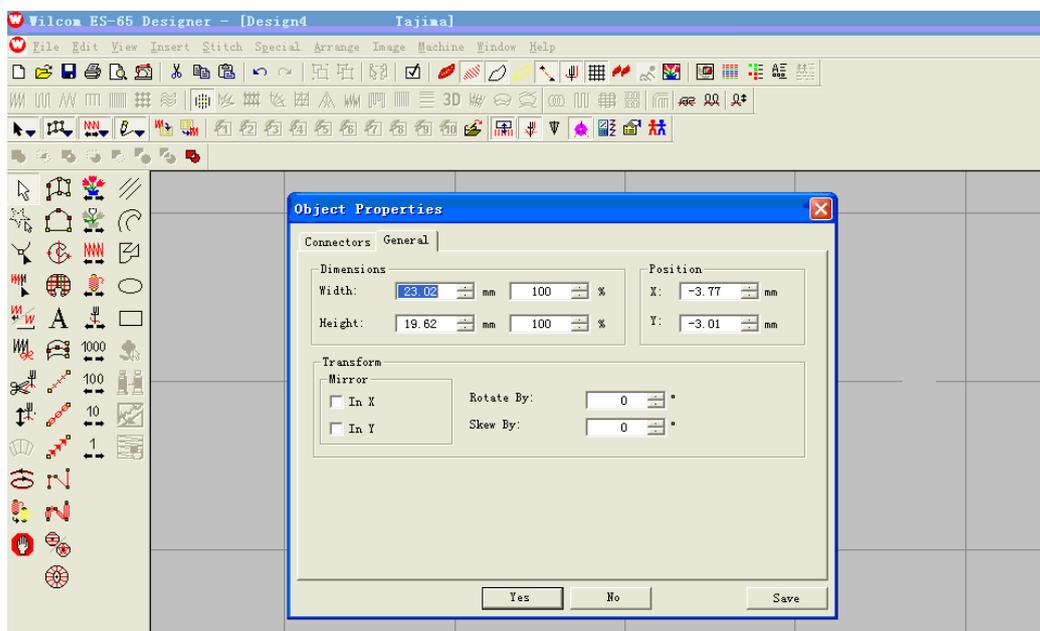
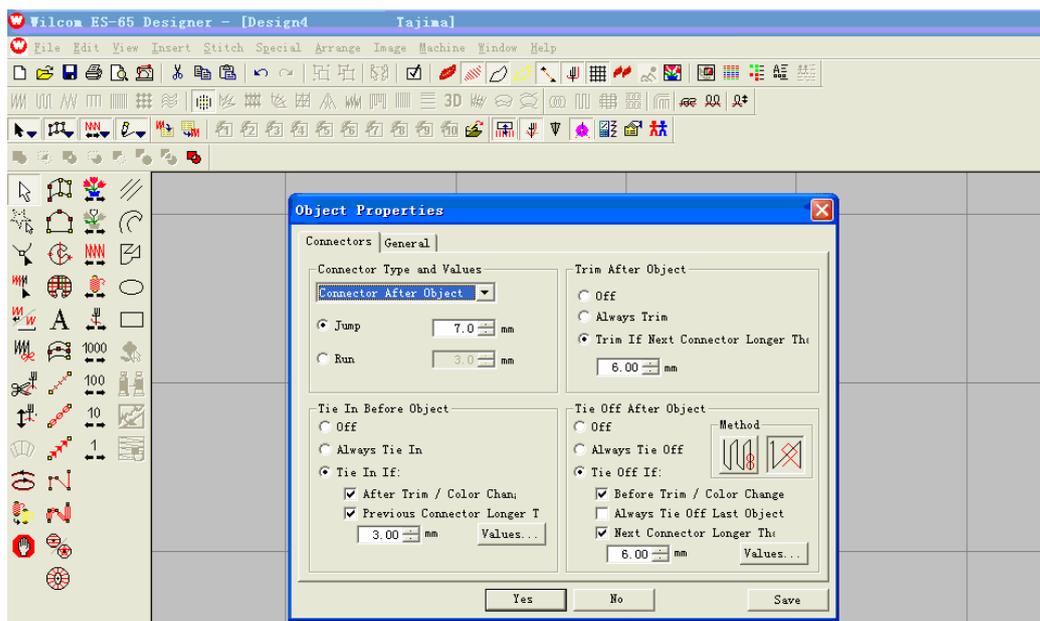
- 1) Click sequin button to enter “sequin state” (this is to ensure all the curve course have sequin). Enter the curve as the following.



2) Select a target.



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

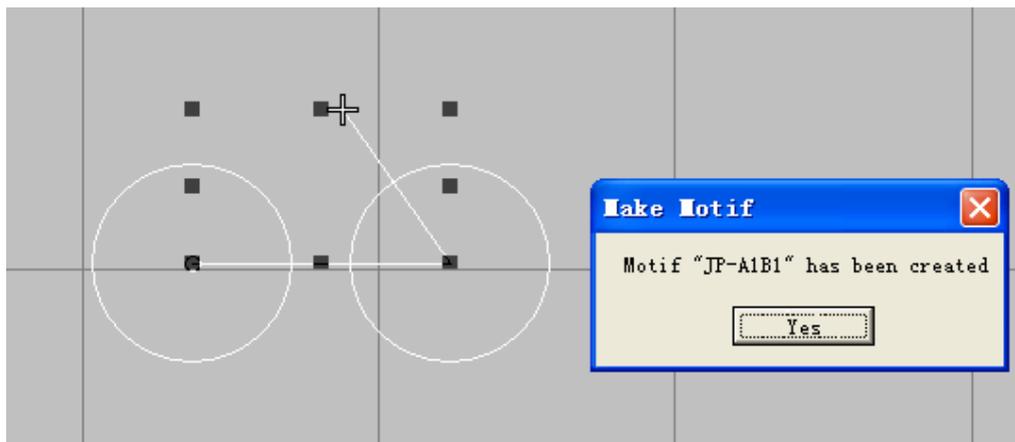


4) “multi-sequin” input is finished.

## 5、 Making alternate sequin

This is to realize embroidering of different sequin alternate. For instance, A1B1 embroidery to realize embroidering A, B, A, B...

- 1) First you should design alternate trace. As the following A1B1 alternate design:



2) Apply the above trace to achieve alternate A1B1.

## 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 emerges different sequin size with sequin combination.

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

The alternate 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 embroidering effect of A, AB, A, AB...

#### 7、 Normal sequin design to Dahao special sequin design

According to the above rules, we just need to insert some jump stitch after “sequin code” to 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 let 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 V Network Connection of Embroidery Machines

### I、 Making Ethernet cable

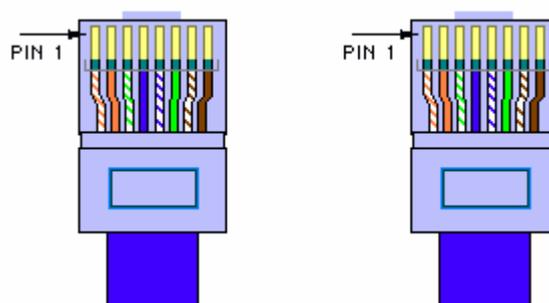
#### 1、 Making straight-through cable

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



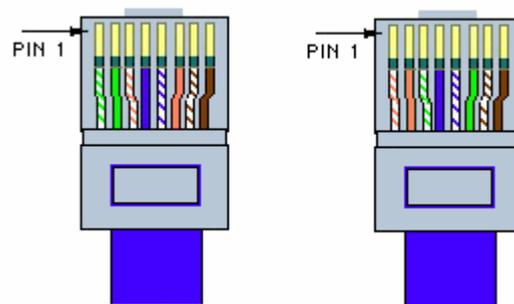
## 2、 Making crossover cable

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:



One terminal

The other terminal

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

## II、 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

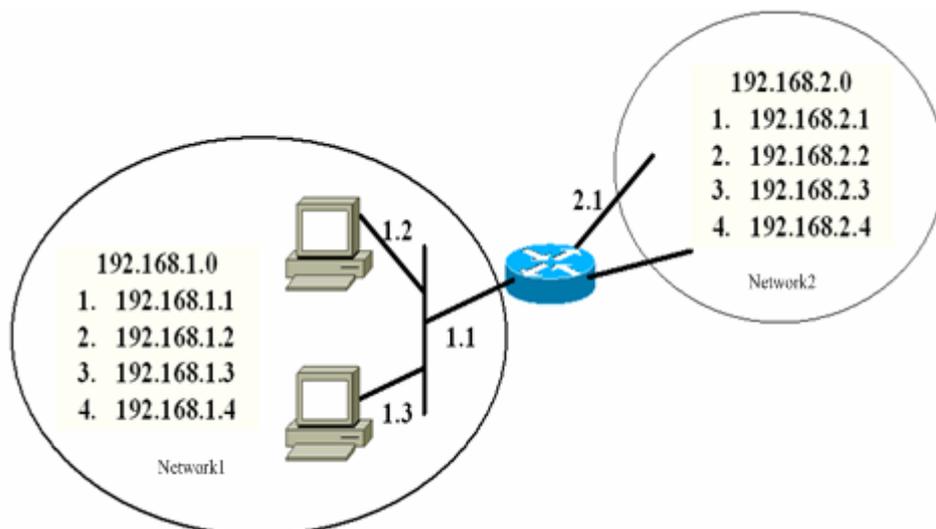
The four numbers of IP address can be divided into 2 parts. One is network number for marking the network. Another is computer number for marking the specific machine in one network. IP addresses are divided into 3 kinds: A, B and C.

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

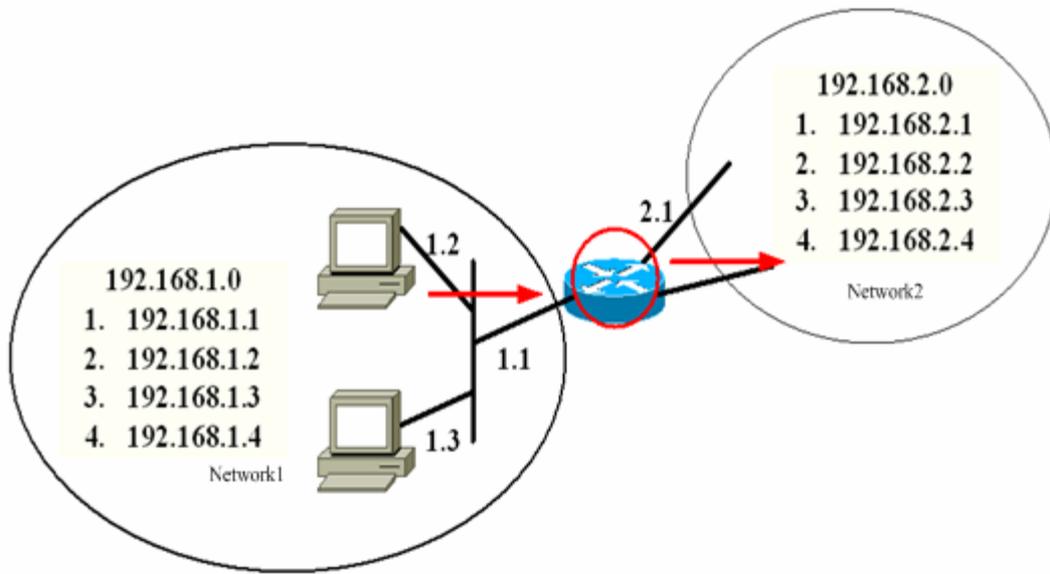
To show how the network number and computer number are divided, subnet mask is used to tell in one IP address which part is for network and which part is for computer. It's regulated that "1" is for network part and "0" is for computer part. IP address and subnet mask combine to tell in which network 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



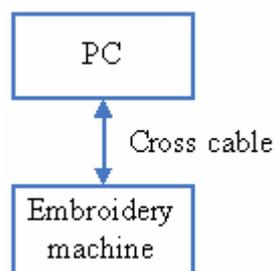
sending by post you only need to deliver a letter to postman instead of delivering by yourself. So when the computers are not in the same network segment, the gateway also has to be set properly in setting computers. Otherwise computers don't know where to deliver the data packet.



### III、 The ways to construct network

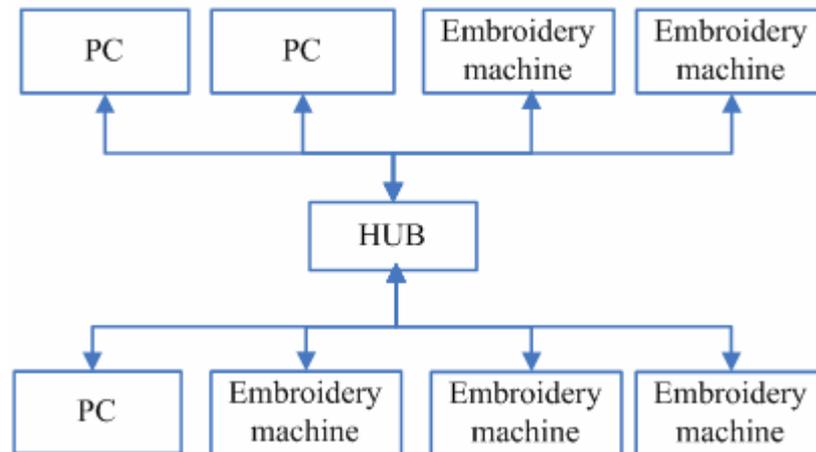
#### 1、 One PC directly connected to one embroidery machine

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



#### 2、 C and embroidery machine linked by HUB

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



3、 Connect the two networks in “2 ” through HUB

#### IV、 Setting the network parameters of embroidery machine

1、 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 000000000000~00FFFFFFFFFF.

2、 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.

3、 Server port No.

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

4、 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.

#### 5、 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.

#### 6、 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.