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Part I Features

Notice: The machine should be grounded with the earth terminal, otherwise the machine may not work properly or even be damaged.

1. LCD Displayer

This machine model uses LCD as monitor. Both words and icons are used in the operation window to help fast learning and easy operation. The design picture can be displayed simultaneously with embroidery.

2. Input and output of Usb disk-stored designs

From the built-in usb port, the user can directly input the designs data in the following formats into the memory: files in binary system (.dsb), ternary system (.dst) and Z coding system (.dsz) from Tajima format disk, and files in binary system, ternary system and Z coding system from Barudan format disk. And it is also possible to output the design data from the memory to Tajima format disk in the term of binary format.

3. Storage capacity for design data

The built-in storage can keep 99 designs and the stored maximum stitches are 1,000,000.

4. Rotating speed control

Press the keys to adjust the current rotating speed of the main shaft between 400 rpm and the highest speed, and the current speed value will show in the screen. And the highest rotating speed for flat embroidery is 1000 rpm.

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Part I Features

5. Real time scaling up/down and design rotation

While embroidering the designs in memory, the user can scale up/down the design separately in vertical and horizontal directions within the range of scaling from 50% to 200%. Meanwhile the user can rotate the design freely in a circle by choosing one of the eight coordinate directions and adding an angle degree between 0° and 89°.

6. Thread break detecting

In parameter setting, the user can select thread break detecting or no thread break detecting. When it's effective, the machine will stop automatically and show an icon in the screen when thread breaks.

7. Work sequence

The "work sequence" parameter decides how to deal with color change codes.

8. Over-frame protection

It's to prevent the frame from exceeding the normal scope to cause a collision accident.

9. Auto origin return

With this function, the frame will return to the origin point upon completion of embroidery.

10. Positioning idling

The frame can move fast forward or backward to the desired position according to function code or certain stitches to move without embroidering,

Part I Features



which will let the machine start embroidery from anywhere.

11. Repetition embroidery function

There can be maximal 99 times of repetition for one design in each of vertical and horizontal directions.

12. Periphery operation

This is to show and idle around the border of the design which has been scaled up/down, rotated or repetition embroidered.

13. Scaling up/down and rotating the design

It is to embroider the design in memory after scaling up/down and/or rotate it.

14. Design operation

With this, the user can survey the memory directory and the information of design files in the directory. And the user can delete, copy, combine or divide the designs.

15. USB disk management

It is to list the design files, input/output files and format the USB disk.

16. Error information

In case of wrong operations or machine malfunctions, the screen will show words or icons to inform you.

17. Frame protection

When the frame has changed its position after power-off during embroidering or after stopping the machine, it will be unable to continue the

A R

Part I Features

former embroidery. If the frame protection has already been set as effective, the user can restore the frame position to continue embroidery via the operation "Frame restore".

18. Adjusting the stop position (parameter "Set brake Para")

It is to adjust the stop position of the main shaft to suit different machines. The parameter is available to be changed by setting the parameter of flat embroidery machine in Setting. The bigger its value is, the larger additional degrees the main shaft will stop with.

19. Returning and patching

When the thread breaks, the user can choose automatic return of a certain stitches or press the stop button for manual return. When the machine arrives at the start point for patching, press start button to patch.

The stitches of automatic return can be set.

20. Cyclic embroidery

With this function the machine will automatically return to the origin point to start again after embroidering one design.

21. Offset point

It's to set an offset point anywhere away from the start point. This will facilitate the operations such as fabric-changing and trimming.

22. Change UI Language

Choose the desired language to suit different customers. You can choose several kinds of language as follows: Chinese, English, Turkish, Spanish

Part I Features



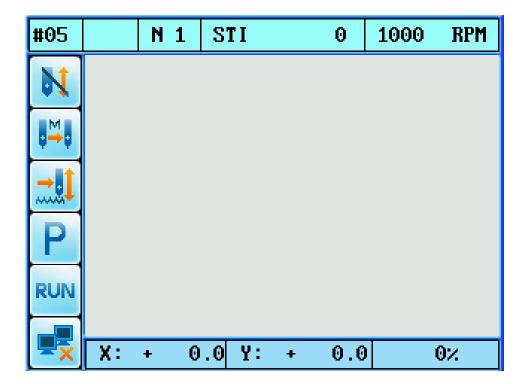
and Portuguese.

23. Trimming

In embroidery the user can choose the automatic trimming according to the function codes or stopping the machine to trim manually.

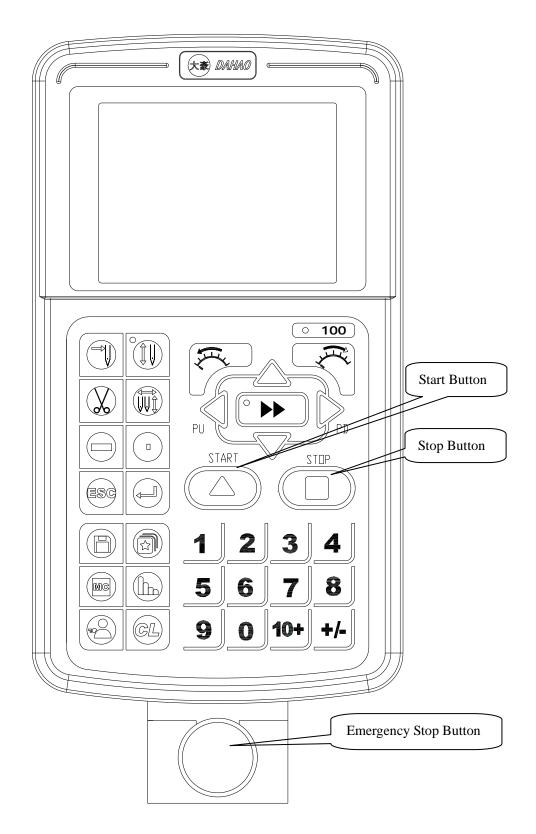


2.1 Control Panel



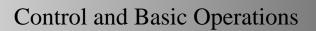
LCD Panel





Keyboard Style 1



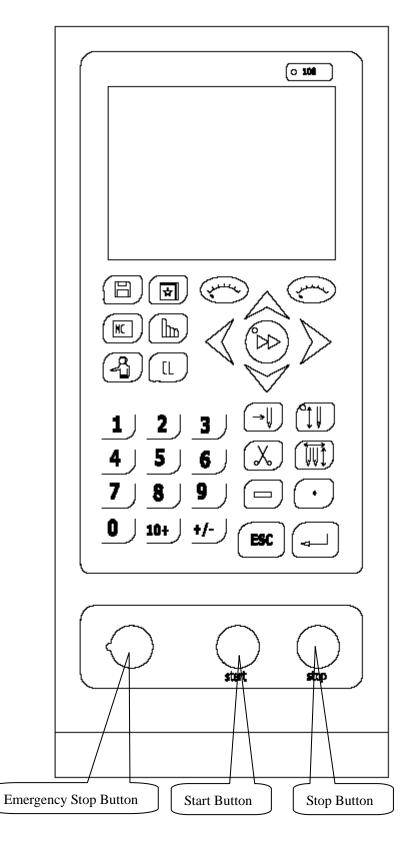






Keyboard Style 2



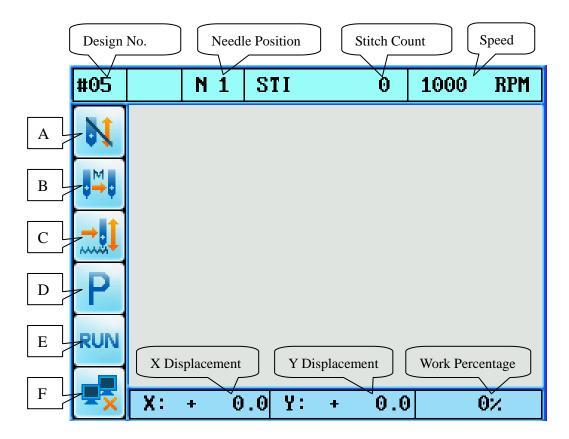


Keyboard Style 3



2.2 Main Screen

Following power-on, the machine will start up and display the main screen. In the main screen there are 6 areas for icon display: A, B, C, D, E, F. The screen shows as follows:



Definition of the above areas (A-I):

A: It's for the current system status. The icon "" means embroidery preparation status and "" means embroidery confirmation status.

The status "" is for preparation work; and in " " status the user can press the start button to begin embroidery. After that, it's no longer allowed to select design, input scale and repetition parameters, delete memory-stored designs, clear all designs in the memory, embroider the design range, save origin points, restore frame position, restore default



setting, etc.

Press the embroidery confirmation key "to switch between the embroidery preparation status" and the embroidery confirmation status "to switch between the

B: It is used to display the start mode for color-changing. The color change and start key "on keyboard is to switch among the following three modes: auto color change auto start "it,", auto color change manual start "and manual color change manual start "it,".

C: It is for embroidery mode: normal embroidery "", low-speed idling "", or high-speed idling ".". Press the key "" to switch among them.

D: This is to show whether the design is set with scaling up/down or rotation. The icon "P" will show here if these parameter values are standard: scales (X:100%, Y:100%), design direction: P, rotation angle: 0).

E: It shows the special operations or causes of machine stop during embroidery.

- ": It comes to the running state during embroidery.
- ": It comes to the stitch skip codes during embroidery.
- ": It comes to the color change codes during embroidery.
- ": Embroidery comes to an end.



"......": The machine returns to the start point.

"": The machine stops because thread break is detected during embroidery.

": The machine stops because the stop button is pressed.

": The machine stops after it returns and then patching embroidery to the thread break point.

F: It shows the state of network. The icon "indicates successful link and "means failure."

Besides the figure area, the following items are also displayed on the main screen:

- **1. Design number:** it's the number of the memory-stored design (like "#05" in the above picture), which is ready for embroidering immediately after start-up. The user can select a design number by performing design selection operation (press "to enter the interface), or inputting a new design from the disk (press "to enter the disk operation) after which the system will remind the user whether to renew the current one.
- **2. Embroidery speed:** It shows the current set value of rotation speed for a period when there is no embroidery or for an instant when the user presses the acceleration key "or deceleration key "." It shows the actual rotation speed during embroidery, like "1000" in the above picture.
 - 3. Stitch count: It counts the stitches since the last clearance of the



number, like "0" in the above picture. Press the key "CL" on the panel and press "to confirm. Then select "Clear Add Stitch" to reset the count.

Otherwise press "Esc" to exit operation.

- **4. Frame coordinate:** It can set the last design's frame position upon the clearance of coordinates as the zero point, like "X+0.0" in the above picture. Press the key "on the panel, select the second option "Clr Frame Displacement" and confirm by pressing "on the coordinate value (clear the coordinates of frame). Otherwise, press "to exit.
- **5. Needle Pos.: It** shows the current needle position. Press the number key to change color, and then current needle position will be shown in this area, e.g. press the numerical key "1" to change from color 9 to color 1, and then this area will show "N 1" after color-changing.
- **6. Work Percentage:** It shows the percentage of the complete part of current embroidery work.

2.3 Definition and Basic Operation of Keys

1) Function key:



This is for all the operations concerning the U disk, including listing designs in USB disk, inputting USB designs into memory, deleting disk designs, outputting design data to USB disk, formatting USB disk, etc.





— Design operation

This is for all the operations concerning the design (files/data), including selection of design, memory-stored design display, inputting design from USB disk, clearing all designs, deleting /copying/ combining/ dividing memory-stored design, renaming design file, expanding satin and create letter design. Please read Part VII for the further details.



— Parameter operation

It's for parameter setting and has two pages. One is for design parameter operations, including the parameter in the fields of scaling up/down, design direction, rotation angle, repetition priority, repetition times, repetition interval, cyclic embroidery and work sequence. The other page displays the standard data, trim and machine parameters and common parameters for flat embroidery. The user can select any of them to enter the corresponding menus for setting. Please refer to Part IV for further details.



— Manual operation

This key is for all manual operations, including showing frame operations and the operation for setting menu of positioning idling, etc. Please refer to Part V for details.



— Switch kev for working methods

Press this key to switch between "manual color change and startup" (without application of work sequence) and "embroidering in the set work sequence". When the machine embroiders in the set work sequence, the icon



"is displayed in the main menu. Otherwise, the icon "is displayed in the main menu."



It includes default setup, language choice, etc. All operations for assistance function are set via this button. Please refer to Part VIII for details.

Embroidery method

Press this key to switch states among normal embroidery, high-speed idling and low-speed idling.

10+ — Numerical keys

Keys "+/-, 0, 0, 1 ~ 9, 10+" are used for manual color-changing, inputting design number, design name and various data parameters.

_ Special key

It is used for special operations such as design name input.

CL — Clearing

The key is used for clearing fault information or data such as stitch count and frame coordinates.

Esc — Exit key

Before confirming the all operations, the user can press this key to end operation and return to the upper menu. Keep pressing the key to return to the main screen.





— Confirmation key

It's used for confirmation of various operations and data.

2) Manual frame-moving key



— Switch between two frame-moving speeds

It has two different speed levels: high speed "a" and low speed "a".

Press this key to switch between them.



In the main menu, press one of the above keys to move the frame to the pointed direction before embroidery starts. Or press two neighboring keys at the same time to move the frame in the direction of the angle bisector.

In all function and menu operations, press "Pu Po" is to move the cursor in the horizontal direction or to turn page, while pressing " is to move the cursor in the vertical direction.

3) Direct control key



— Deceleration key

Use this key to set the embroidery rotating speed.

In the main menu, 10 rpm is reduced for each time of pressing this key. Keep pressing it, the rotation speed will decrease to 400 rpm as the bottom in the pace of 10 rpm.



In the main menu, 10 rpm is raised for each time of pressing this key.

Keep pressing it, the rotation speed will rise to the set highest speed. The



highest speed for flat embroidery is between 650 rpm and 1000rpm.

Note: Only "and "can be used during embroidery.

2.4 Indicator Light of Main Shaft Stop Position

It is to show whether the main shaft has stopped in the "stop area". The light is on when the main shaft stops in the area. Otherwise the light is off. The main shaft has to stop in the "stop area" at the operations such as starting embroidery, returning, moving frame, etc. The user can also manually turn the shaft to the right position if the main shaft fails to get the very position.

2.5 Start and Stop Button

The start button is on the operation box and it's for starting embroidery.

The stop button lies on the operation box, and it's for stopping embroidery.

Press Start button: it is to start embroidering forward when the machine stops; during the embroidery, it can change the speed to the low speed (120rpm) while the user holds it (the speed will resume to the original state when user release it.)

Press Stop button: During the embroidery, the working is stopped; at the machine stopping, the machine will return at a single step for 10 stitches and then return continuously while the user keeps pressing the button.

3.1 Work Status, Embroidery Mode and Work Sequence

1. Work status

The machine has two statuses: embroidery preparation and embroidery confirmation. The icon" means the system is currently in embroidery preparation status and the icon" means the system is currently in embroidery confirmation status.

Under """ status, the user can prepare for embroidery; after entering the """ status, the user can start embroidery. Then it's no longer permitted to perform the operation, which will affect the embroidery, such as design selection, scale and repetition parameters input, etc.

Under "status, press the key" to enter the embroidery confirmation status; under "status, press the key" and "stat

When a design is input into the memory under "N" status, the machine will automatically enter the embroidery confirmation status"". And then embroidery will start as long as the startup button is pressed.

In menu operations of this system, the available options are in highlight while the unavailable options are in darkness.

2. Embroidery method and returning for patching

The machine has the following embroidery methods: normal embroidery,



low-speed idling and high-speed idling. The icon" is for normal embroidery; " is for low-speed idling, and " is for high-speed idling. Press the key " to switch among the three methods.

Normal embroidery "with" is the embroidery method in which the machine embroiders designs. Low-speed idling and high-speed idling are the assistant embroidery methods. They, together with returning functions are capable for performing patching embroidery, which is the settlement to the fault caused by thread break and so on.

Under embroidery confirmation status and in normal embroidery mode, after the user pressed the startup key, the main rotates and the frame moves according to the design data. At this time, the stitches number is increasing and stitches are embroidered onto the fabric to form designs. Press the stop button during the embroidery, the machine will stop immediately.

Press the stop button when the machine stopped, the frame will trace the stitches to move backward. Press the button once and the frame will fall back one stitch. If user keeps pressing, the frame will move backward stitch by stitch, and after 10 single-stitch returns, it will become the continuous return. Then the return will continue even when the stop button is released. Press the stop button once again to stop the return.

When the machine stops returning, the user can press the startup button to start patching.

If the machine is set as low-speed idling, when the user presses the startup



button to carry out forward embroidery, the frame will move forward along the stitch trace with the main shaft not rotating; when the user presses the stop button to carry out the return operation, the frame will move backward along the stitch trace with the main shaft not rotating.

If the machine is set as high-speed idling, when the user presses the startup button, the frame and the main shaft will remain still and the stitch count is added; when the stop button is pressed, the frame will move directly to the position corresponding to the current stitch count. When the user presses the stop button, the frame and the main shaft will remain still and the stitch count is reduced; and when the stop button is pressed, the frame will move directly to the position corresponding to the current stitch count.

The user has to ensure that the system is in normal embroidery mode before carrying out the embroidery work.

3. Work sequence

Threads of different colors are required for a complicated design. This is often based on color blocks in the design. The work order is to preset whether to change thread for every color block.

When embroidery is started up with the work sequence effective, the machine will automatically change thread according to the set sequence.

Otherwise the user should set it in the manual operation before embroidery.

The user can choose whether to use the work sequence by the key "W".

When the work order is effective, it's displayed in highlight in the main



screen. Otherwise it's displayed in darkness. The operator has to decide whether to use the work sequence before carrying out embroidery.

The setting of the work sequence is in the Operation of Parameter Input.

3.2 Inputting Design from USB-Disk and Starting First Embroidery

1. Inputting Design from the USB-disk

Machine embroidery is based on the design data in its memory. So it's necessary to input design data from the floppy or USB disk to the machine memory before user carries out the embroidery work.

Input of disk designs to memory can be done both via design and disk operations. And here we take the design operation for example.

Operation:

1) Press "To enter the (memory) design operation menu and insert the USB disk into the driver. Then the following screen will be shown:



2) Press "O" or the numerical key "S" to move the cursor the third option "U. Des. Input", and then press the confirmation key".





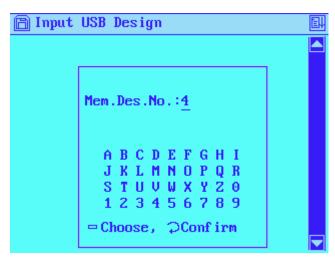
3) Now the driver begins to read the U disk directory with the U disks' light on, and then the disk directory is displayed in the screen. The user can press "To move the cursor to select the design, then press "Pu" to turn pages and press "to confirm.



4) The machine automatically provides and displays the smallest number available for the new memory design. It's possible to input other numbers since there is a cursor here. For instance when the smallest number is 4 and the user wants to input a new number 15, he will press the keys "1" and "5", and then " to confirm. If the number has been used by another design, the confirmation will not be accepted. Otherwise the following



operations can be done. If the user wants to change the design number, he can press "".



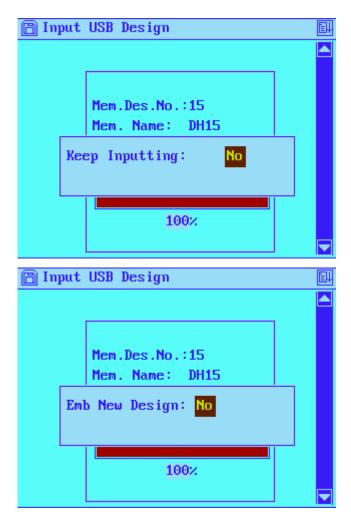
5) At this time, the system may ask for inputting the memory design name. If it's the same to its disk name, press ""; otherwise move the cursor to the selected letter by "", press "", press "to input the letter and press "" to confirm the newly input name. The user can press "" for re-inputting a name.



6) The system begins the design input, during which the screen shows its progress bar. When the input is finished, the system will ask the user whether to keep inputting design. Select "NO" to cancel the continuous input. After



that, the system will automatically enter the operation of parameter input if the system is under embroidery preparation status; the system will ask the user whether to embroider the latest input design if it is under embroidery confirmation status.



If the user chooses "No", the system will return to the main menu after he presses the confirmation key ". If he chooses "Yes" by the keys", the system will enter the parameter menu for parameter setting.



```
M Parameter

② I Scales: X:100 % Y:100 %
② Direction: P
③ Rot.Angle: 0 °
④ Rep.Prior: X
⑤ Rep.Times: X: 1 Y: 1
⑥ R.Interval: X:+0.0 Y:+0.0
⑦ Offset Org: No
⑧ Cyclic Emb: No
⑨ Work Order:
[01]:1 .1 .1 .1 .1 .
```

7) If you don't want to change its setup, press "to return to the main screen and the system will automatically enter the embroidery confirmation status with an icon "to return to the embroidery". (If you want to change parameter values, please refer to Part IV.)

2. Preparation before embroidery

You need to do the following works before embroidery:

- (1) Set the fabric ready and press " to move the frame to the beginning position.
- (3) Decide whether to use the work sequence. The sequence is displayed in darkness when it's ineffective.
- (4) Ensure that the main shaft has stopped at the proper position, namely the LED indicator is on. If not, move the main shaft to the position manually.

You can press the startup button to start embroidery after the above procedure.



3.3 Select Memory Design for Embroidery

Before embroidering, you have to select a design and confirm it first.

Operation:

- (1)In the main screen, ensure that the system is under the status ". If not, press "and "ensure that the system is under the status ". If
 - (2) Press "to enter the design operation menu:

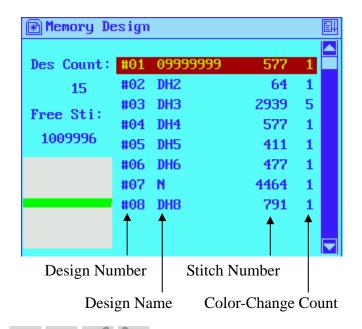


Press "to enter the first menu item and the following prompt will appear. If you have known the number of the design intended to be embroidered in memory, you can input the number by pressing the numerical keys, e.g. keys "1" and "5" for No. 15, and then confirm the input by ". If design No.15 exists, it will be set for embroidery and the screen will switch to the parameter settting menu (refer to Part IV). If design No.15 doesn't exist, the confirmation operation won't be accepted. Then you need to press "..."



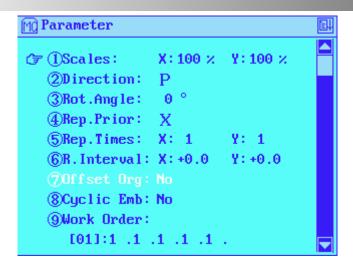


(3) If you press "according to the prompt in the above menu (Neither input the design number nor press "C" to clear the input number), the design directory in the memory will be displayed in the screen:



Press" "To select the design for embroidery. The keys "are for moving the cursor upwards/downwards. "Put Pp" are for turning the pages. After you press "To confirm the selection, the screen will switch into the menu of parameter setting.





- (4)If you don't want to change the parameters, you can press "key to exit. Refer to Part IV for parameter setting.
 - (5)In the above operations you can press "Esc" to return to the main screen at any time.
 - (6)After selecting a new design, you can press "to enter the embroidery confirmation status", and then start to embroider.



Part IV Setting Parameters

4.1 Parameter Menu

Under both the embroidery preparation status and embroidery confirmation status, you can enter the parameter menu. However, some options in it are unavailable in certain cases. Options displayed in darkness are the unavailable.

The parameters (except the 7th and 8th) in the first page, such as scale parameter, repetition parameter and work sequence parameter, are stored with each design separately. When you select to embroider designs in memory, these mentioned parameters will be restored.

Operation:

(1) Press "to enter the parameter setting menu. Or after you selected and confirmed the design for embroidery, you can enter the parameter menu under the status "N". The first page of the menu is shown as followed:

```
MQ Parameter
                X: 100 % Y: 100 %
¢₹ (1)Scales:
   ②Direction: P
   ③Rot.Angle:
   4Rep.Prior:
                Х
   ⑤Rep.Times: X: 1
                          Y: 1
   ⑥R.Interval: X:+0.0
                          Y: +0.0
   ®Cyclic Emb: No.
   @Work Order:
     [01]:1 .1 .1 .1 .1 .
```

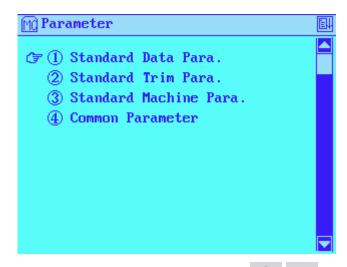
(2) You can switch between the two pages of parameter menu by pressing

29





The second page of parameter menu:



(3) When a menu option is highlighted, press "Or the numerical key to select the parameter wanted and press the confirmation key "Or to enter its sub-menu for setting.

4.2 Real Time Rotation and Scaling up/down

This parameter is to set image scales, rotation direction and angle for embroidery.

Operation:

(1) Under the status "N", press "To enter the parameter menu, which is as follows:

Part IV Setting Parameters

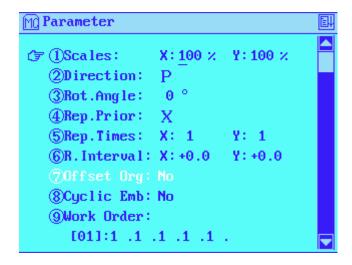


Press" to move the icon "F" to the wanted parameter.

Press" to confirm the selection, then you can change the parameter value.

Please read the following examples carefully.

(2) In the above menu screen, press" to set the scale in the X direction. A cursor "_" appears in the screen.



Input numbers to set the X scale $50 \sim 200(\%)$. E.g. "1", "2" and "0" are for 120%. Press "and the screen is shown as the followed:

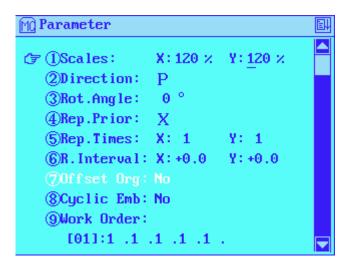


Part IV Setting Parameters

```
Parameter

(F) (Scales: X:120 × Y:120 ×
(2) Direction: P
(3) Rot.Angle: 0 °
(4) Rep.Prior: X
(5) Rep.Times: X: 1 Y: 1
(6) R. Interval: X: +0.0 Y: +0.0
(7) Offset Org: No
(8) Cyclic Emb: No
(9) Work Order:
[01]:1 .1 .1 .1 .1 .
```

(3) Input the Y scale where there is a cursor "_". It is as the followed:



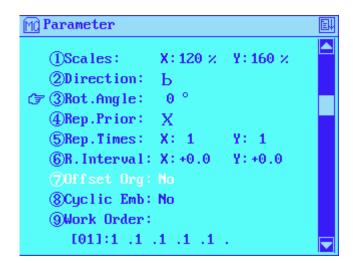
Input numbers to set the Y scale $50 \sim 200(\%)$. E.g. "1", "6" and "0" are for 160%. Press "and the screen is as follows:

```
MQ Parameter
   ①Scales:
               X: 120 % Y: 160 %
②Direction:
               P
  ③Rot.Angle:
                -0 °
  4Rep.Prior:
               X
  ⑤Rep.Times: X: 1
                       Y: 1
  (6)R.Interval: X:+0.0
                       Y:+0.0
  ®Cyclic Emb: No
  @Work Order:
     [01]:1 .1 .1 .1 .1 .
```



(4) Press the key "by" to set the design direction. A square cursor appears in the screen. It is as follows:

Press "to select one of the eight directions for the design, e.g. select "b" and then confirm the selection by pressing "c". The screen shows as follows:



(5) Press" to set the rotation angle, which is marked by a cursor "—".



Input the new value of the rotation angle between 0 and 89 by pressing numerical keys. For example, "4" and "5" are for 45 °. Then confirm it by pressing ".:

4.3 Setting Repetition Embroidery

The machine has the function of normal repetition embroidery: the machine completes one design and then automatically moves to another pointed position to embroider the last finished design again.

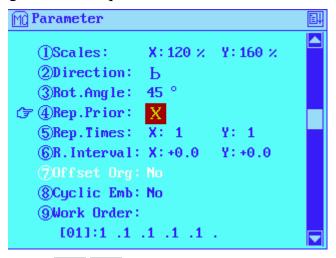
The maximum repetition times in each of X and Y direction is 99. So the maximum total repetition is 9801.

Operation:



(1) Under the "" status enter the parameter menu (e.g. by pressing").

Press" key to select the parameter of repetition and confirm the selection by pressing ". A square cursor shows where to input:



(2) Press the keys " To select the prior repetition direction between X and Y, and then press " to confirm. For an example, press " to set the repetition direction as "Y" direction, which is shown in the following picture.

(3) Press "—" to set the Repetition Times. Input the number where a cursor "_" is lying.



```
MC Parameter
  ①Scales:
               X: 120 × Y: 160 ×
  ②Direction:
               Ь
              45 °
  ③Rot.Angle:
  @Rep.Prior:
              Y
⑤ Rep. Times: X:1
                       Y: 1
  ⑥R.Interval: X:+0.0
                       Y: +0.0
  @Work Order:
     [01]:1 .1 .1 .1 .1 .
```

Input the normal repetition times in X direction between 1 and 99. E.g.

press "3" and "e" "to set the time of repetition as 3 in X direction.

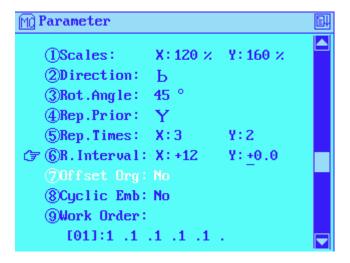
(4) Input the new repetition times (1~99) for Y direction. E.g. press "2" and "—".



(5) Press "To set the repetition interval. The cursor "_" shows the new repetition interval in X direction. It is shown as followed:

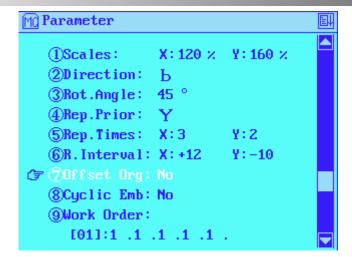
Input the new X-direction interval value between -999.9 and +999.9(mm).

E.g. press "1" and "2" to set the value as +12(mm) and then press "to confirm. The system will hint you to set the new Y-direction interval.



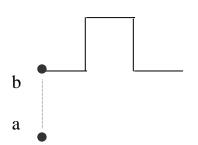
Input the new Y-direction interval between $-999.9 \sim +999.9$ (mm). E.g. press the keys "+/-","1" and "0" to set the value as -10 (mm). And then press the key "to confirm. The interface will be displayed as below:





4.4 Offset Point

The offset point is set under the embroidery confirmation status. It can be any point except start point. See the following picture:



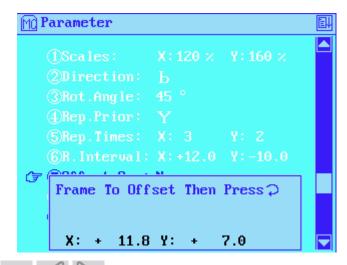
a: Offset point

b: Start point

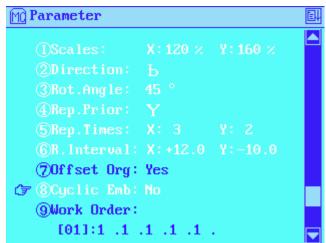
If the offset point has been set, the frame will stay at the offset point (a) before embroidery. Press the start button and the frame will move automatically to the start point (b). Press the start point again and the embroidery will begin. After embroidery is finished, the machine will stop. After that ,press the start button again, and the frame will return to the offset point (a) as long as the frame is off the point (a), no matter whether auto origin point return has been set or not. Press the start button again to repeat the above actions.



- (1) Under the status "", press "" to enter the first page of parameter menu.
- (2) Press the keys " or " 7" to move the cursor to option 7. and then press " to enter the setting of offset point. The hint is shown as below:



Press "Pu Pu" to move frame to the offset point and then press "To confirm the setting. The following picture will be shown.



4.5 Cyclic Embroidery

Press the key "to set the cyclic embroidery. A square cursor will show where to input:



```
MParameter

①Scales: X:120 × Y:160 ×
②Direction: Ь
③Rot.Angle: 45 °
④Rep.Prior: Y
⑤Rep.Times: X: 3 Y: 2
⑥R.Interval: X:+12.0 Y:-10.0
⑦Offset Org: No
②Work Order:
[011:1 .1 .1 .1 .1 .
```

Press " to select "Yes" or "No" and then press " key to confirm the selection.

```
© Parameter

①Scales: X:120 × Y:160 ×
②Direction: Ь
③Rot.Angle: 45 °
④Rep.Prior: Y
⑤Rep.Times: X: 3 Y: 2
⑥R.Interval: X:+12.0 Y:-10.0
⑦Offset Org: No
⑧Cyclic Emb: Yes
②Work Order:
[011:1 .1 .1 .1 .1 .
```

4.6 Work Sequence

Work sequence is a function set for improving the embroidery efficiency and changing color automatically. Basing on color blocks in design, it can be set according to the colors in the design or the user's wills.

The work sequence can be only used in the main screen. Press the key "to let the work sequence work. And the icon "will show in the main screen at that time.

Operation:



- (1) Press the key "to enter the first page of parameter menu.
- (2) Press the key "O" or "9" and then "O" to enter the setting of the work sequence. The cursor "_" will show you where to input, which is shown as below:

Input the numbers: for the number smaller than 10, the user can directly input it via the numeral keys; while for the number larger than 10, the user shall input the number via the numeral keys with pressing the key "10+" first. Attention: The figure of max needle position can't be larger than the numbers of machine needles. After the first work sequence is finished, the system is shown as follows:



Then set the second work sequence, and press "after setting. The interface will be shown as follows:

```
Parameter

①Scales: X:120 × Y:160 ×
②Direction: B
③Rot.Angle: 45 °
④Rep.Prior: Y
⑤Rep.Times: X: 3 Y: 2

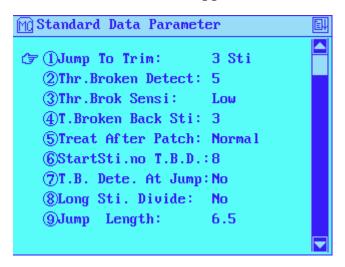
Circulate the setting: No

②Work Order:
[031:2 .3 .1 .1 .1 .
```

If "Circulate the setting before" is set as "No", the items unset in the work sequence will keep remained. If it is set as "Yes", the entire unset items will be same to the value where the cursor is located.

4.7 Standard Data Parameter

This is to set the data parameters concerning the flat embroidery. Their options and default values are shown in the appendix.



Jump to Trim: (Options: No, 1-7)

It is to decide how to deal with the jump stitch codes in the design during



the process of work. When the parameter is set as "No", it means the machine will only carry out the action of jumping (no trimming action will be done). Under the premise of the setting at figure among 1 to 7, if the continuous jump stitches are less than the set value, there will be only jumping and no trim; if the continuous stitches are larger than or as same as the set value, there will be jumping to trim.

When having the jumping action only (no trim), the machine will jump stitch in case of the jump stitch codes; if it is set at jumping to trim, the machine will take action the same as that at over-frame —— The machine will automatically stop, move frame and automatically start again.

Thread broken detect: (Options: 3~7, No)

When this parameter is set as "Yes", the machine will automatically judge whether there is thread broken. If the broken thread exists, the machine will stop automatically and show the thread broken icon. "3~7" is to set stitches number when the machine will begin to test after the thread broken. When the parameter is set as "No", the machine won't test whether the thread is broken.

Thread Broken Sensitivity (Options: Low, High)

This can help to improve the sensitivity of thread broken detection.

Thread Broken Back Stitches: (Options: 0~9)

The parameter is to set how many stitches the machine will automatically return when the machine detects a thread break and stops automatically in case "Thr. Broken Detect" is set within "3~7". If the parameter value is 0,



there will be no returning. If the value is larger than 0, there will be auto return and the returned stitches is the set value.

Treat After Patch: (Options: Normal, Reduce, Stop)

This is to set the machine speed after patching. If it is "Normal", the machine will keep the normal embroidery speed. If it is "Reduce", the machine will run in lower speed for several stitches and then return to the normal speed. If it is "Stop", the machine will stop automatically and the machine will not continue normal embroidery until it is stared again.

Start Sti. no T. B. D.: (Options: 0~15)

This parameter is to decide not to check thread break in how many stitches when the machine start running.

T. B. Detect at Jump: (Options: Yes, No)

This is to decide whether to check thread break during jump stitch in embroidery. If it is "No", the machine will not check thread break when encountering jump stitch in embroidery. If it is "Yes", the machine will not check thread break only in the circumstance that the system encounters the continuous jump stitch without the falling of needle bar.

Long Sti. Divide: (Options: No, 7~12)

This parameter is to decide whether to divide the long stitches in embroidery and to determine the value of stitch length in dividing.

If the stitch is too long, the main shaft will reduce its rotation speed. The longer the stitch is, the lower the speed will be. The machine can divide the



long stitch (no shorter than the set value) to two or more stitches according to the value of "Jump Length", and then jump to finish it.

Jump Length: (Options: 4.5, 6.5, and 8.5)

This is to set the division unit length which is used for dividing the long stitches in embroidery or for dividing the long stitches into jump stitches in design scaling up/down and rotation. Its measurement unit is mm.

4.8 Standard Trim Parameters

These are the parameters concerning the trimming in Flat embroidery.

Refer to the appendix for their options and default values.



Auto Trim: (Options: Yes, No)

This parameter is to decide whether the machine will trim automatically at the end of embroidery or in the operations like color-changing and over-frame. Some types of machines aren't equipped with auto trim device.

Length After Trim: (Options: 1~7)

This parameter is to adjust the length of thread residue caused by trimming. The smaller the parameter value is, the shorter the length of thread



residues become.

Action After Trim: (**Options**: No Action, Move Needle, Frame to Y, Frame to X)

This parameter is to set the action after trimming. The action enables to separate the thread from the mechanical parts like trimming cutter.

Lock Before Trim: (Options: Yes, No)

Locking is the measure to prevent the fabric from moving away in the last stitch before trimming. This parameter is to decide whether to lock stitch before trimming.

Lock Num. Af. Trim: (Options: 0, 1, 2)

This parameter is to set how many stitches to lock when the machine starts running after trimming.

Speed At Trimming: (It is set 120 at present, can't change.)

Start Slow Af. Trim: (Options: 1~9)

This is to set how many slow start-up stitches will be after trim.

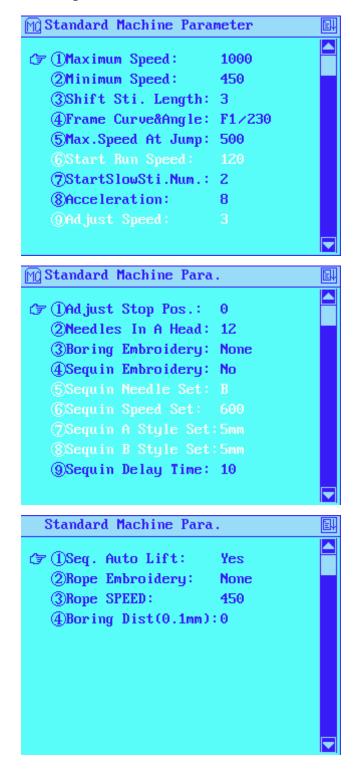
Start Angle of Trim: (Options: 1~10)

This is to set the time when the thread-trim and thread-catch mechanisms start to work at the trimming adjustment. The smaller value is, the earlier starting will be. This parameter adjusts the difference between different machines. The effect of trimming will be improved with the proper adjustment on this parameter.



4.9 Standard Machine Parameters

These are the machine parameters concerning the flat embroidery. Refer to the appendix for their options and default values.



Maximum Speed: (Options: 650, 700, 750, 800, 850, 900, 950, 1000)



This is to set the maximum rotation speed of main shaft during embroidery.

Minimum Speed: (Options: 400,450)

This is the minimum speed that the machine will automatically set according to the size of stitch codes.

Shift Sti. Length (Options: 2~7)

This is to set a stitch length that corresponds to the speed decreasing from the maximum speed at the auto speed setting of machine. Its measurement unit is mm. Moreover, this parameter can decide speed of every stitch together with "Maximum Speed" and "Minimum Speed".

Under the premise that the machine sets the rotation speed automatically according to the stitch length, the stitches smaller than the Shift Sti Length will automatically set the speed as the "Maximum Speed". On the same premise, the stitches larger than the Shift Sti Length will decrease the speed from the "Maximum Speed" for every more mm of stitch length. When the stitch increases to 12 mm, the speed will decrease to the "Minimum Speed".

The three parameter values should be set according to the real situations of the machine and embroidery, in order to prevent the appearances of over-speed and insufficient driving force from happening.

Frame Curve & Angle: (Options: F1/F2 230, 240, 250)

The frame angle means that the frame starts to move when the main shaft rotates to a certain angle. Different frame curve and angle will cause different



embroidery effects. The user can set these parameters according to different machine parameters, electric parameters and fabric thickness.

Max. Speed At Jump: (Options: 400, 450, 500, 550, 600, 650, 700, 750)

This is to limit the main shaft speed when the machine meets jump stitch code during the process of high speed embroidery.

Start Run Speed:

This parameter is **fixed**, and it can't be changed.

Start Slow Sti. Num.: (Options: 1~5)

This parameter is to set how many slow start-up stitches are at the startup.

Acceleration: (Options: 1~12)

This parameter is to set the degree of acceleration after the slow startup stitches. The larger the parameter value is, the faster the machine speed rise from the startup speed to the maximum speed.

Adjust Speed:

Reserved parameter, unable to be changed.

Adjust Stop Pos.: (Options: 0~20)

This parameter is to trim the stop position of main shafts to ensure the main shafts with different mechanism inertias are able to stop at the right stop position. The user can increase the parameter value to stop the main shaft at a larger angle. The user can adjust the value between 0 and 20 depending on whether the stop position exceeds the stop angle.

Needles In A Head: (Options: 3~15)



This is to set the needle number in the plain embroidery head. The value has to be the same to the real situation. Don't forget to set this parameter after changing the main board or recovering the default setup.

Boring Embroidery: (Options: Yes, No)

This parameter is set for the machines equipped with boring embroidery devices. The parameter should be set as "Yes" for the machines with boring needles. Otherwise it should be "No".

Sequin Embroidery: (Options: Yes, No)

This parameter is set for the machines equipped with sequin embroidery devices. The parameter should be set as "Yes" for the machines equipped with such devices. Otherwise it should be "No".

Sequin Needle Set: (Options: A, B)

This parameter is set as "A" when the first needle is sequin needle. This parameter is set as "B" when the last needle is sequin needle.

Sequin Speed Set: (Options: 400~900)

When "Sequin Embroidery" is set as "Yes", adjust this parameter to set the embroidery speed. When "Sequin Embroidery" is set as "No", this parameter is displayed in darkness.

Sequin Style Set: (Options: 3mm, 4mm, 5mm, 7mm, 9mm)

These two parameters are used to separately set the size of sequin embroidery for A or B needle position. The changes of these parameters can only be effective upon the repowering of the machine.



Sequin Delay Time: (Options: 0~30)

This parameter is to adjust the coordination between the sequin device rising/descending time and the sequin embroidery ending/starting time, which are different due to different sequin devices and their mechanical features. Larger parameter values correspond to longer delay time.

Seq. Auto Lift: (Options: Yes, No)

This parameter is to set whether the sequin device automatic lift.

Rope Embroidery: (Options: 1~ (needle number), No)

This is to set the needle position of rope embroidery. Set this parameter to enable rope embroidery in the machine with the rope embroidery device. The setting links to another parameter "Needles in a Head". If "Needles in a Head" is set as 12, "Rope Embroidery" can be set as 1~12. If "Needles in a Head" is set as 9, then the parameter value can be selection among 1~9. "No" means to close the rope embroidery function.

Rope Speed: (Options: 450, 500, 550, 600, 650, 700)

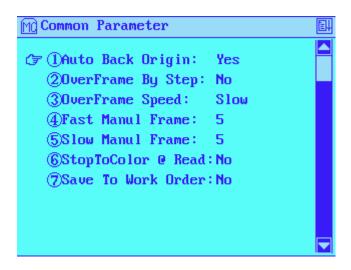
This parameter is to limit the rotation speed of the main shaft in rope embroidery.

Boring Distance:(Options:1~150,for 0.1mm~15mm)

This parameter is to set the distance between the normal needle position and the boring needle position.



4.10 Common Parameters



Auto Back Origin: (Options: Yes, No)

When this parameter is set as "Yes", at the end of embroidery, the frame will return to the origin point automatically.

Overframe By Step: (Options: Yes, No)

It is to decide whether to do over-frame directly or by step in case of jump stitch codes in designs. The user can select the proper over-frame mode according to their needs. This operation is prohibited in embroidery confirmation status.

Overframe Speed: (Options: Slow, Fast)

This parameter is to set the frame-moving speed as high or low in case of machine over-frame. The user can adjust it according to the need.

Fast Manual Frame: (Options: 0~9)

This parameter is to set the speed for the fast manual frame-moving. The user can choose the values according to the need.

Low Manual Frame: (Options: 0~9)



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This parameter is to set the speed for the low manual frame-moving.

Stop To Color @ Read: (Options: Yes, No)

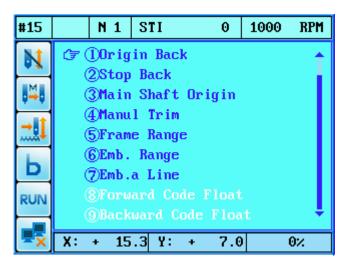
This parameter is to decide whether to transform the stop codes to color-change codes when the designs are input from Usb disk.

Save to Work Sequence: (Options: Yes, No)

When the work sequence is not effective, the user will manually change color according to designs. When this parameter is set as "Yes", the machine will automatically save the color-change sequence as the work sequence, which can be used in the next embroidery.



Press the manual operation key "——" on the keyboard to enter the operation. Under the non-embroidery confirmation status "——", the following menu will appear:



5.1 Origin Back

Operation: While the machine stops, select "Origin Back" and click "Origin" to confirm, and then the machine will automatically return to the start point.

5.2 Stop Back

If the frame has been moved or other operations have been performed after the machine stopped, the user can do this operation to move the frame back to the stop point.

Operation: Under the embroidery preparation status "" enter the manual operation menu, select the second item "Stop back" by keys



"Click", click "C" to confirm, and then the machine will return to the stop point.

5.3 Main Shaft Origin

This operation is to bring the main shaft to the origin point when the indicator LED is not on (which means the main shaft hasn't return to the origin point) and the machine can not start.

Operation: Enter the manual operation menu, use keys "" to select the third item "Main Shaft Origin", click the confirmation key ", and then the main shaft will rotate to stop near 100°, which can also be performed by pressing shortcut key on the panel. At this time the indicator LED is on and the embroidery can start after the startup key is pressed.

5.4 Manual Trim

When the parameter "Auto Trim" is set as "No", the user can be free to trim manually according to color-change codes or thread-cut codes. The manual trim can also be performed by pressing the shortcut key on the control panel.

5.5 Frame Range

This operation is to move the frame along the range of the design (scaled up/down or repetition embroidered) for a circle, in order to check the design's position in the frame and to avoid over-frame.

(1) Press keys "Pu Pp" to move the frame to the start point,



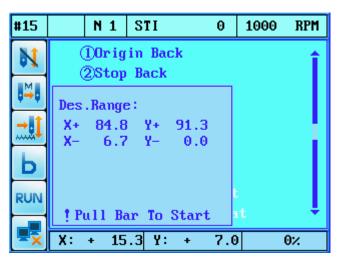
click the key "-", and there will be a prompt for starting the operation "Frame Range".

- (2) Press the startup key, and the frame will move along the design range from the start point to the stop point. Then the system will return to the main screen.
- (3) If the user wants to exit the operation during the above process before the frame move, he can press "esc" and the system will return to the main screen.

After selecting a design, the user can use this operation to check if the design is in the desired position of the frame, so as to use the fabric properly.

Operation:

Press the key "S" and then the numeral key "5" to select the operation "Frame Range". After a while the design range will be shown in the screen. And there will be a prompt: "!Pull Bar To Start". Then the user can follow the prompts to continue the operation.





5.6 Embroider Range

The user can do this operation after selecting the design. This operation enables to embroider the range of design (deign after the real time scaling and repetition), so that it could be more convenient for user to carry out the other operations. This operation is only available under the embroidery preparation status.

Operation:

- (1)When the icon "N" (embroidery preparation) is shown in the main screen, press the manual operation key "S" to enter the manual operation menu. Then select "Emb. Range" and press the key "C".
- (2) The system asks the user to input the stitch length for embroidering range. Press the numerical keys to input it. Its range is 10-60 (1=0.1 mms).
- (3) A moment later the system will return to the main screen. Now it's under the embroidery confirmation status "and the design number in the main screen changes to "101".

5.7 Embroider a Line

This function is only available under embroidery preparation status.

Operation:

- (1) In the main screen and under the embroidery preparation status "", press the manual operation key" to enter the manual operation menu.
 - (2) Press the keys " to select the option "Emb. a Line". Or directly

press the key 7 to select it. And then press the confirmation key "-".



- (3) The system asks the user to input the stitch length for embroidering a line. Press the numerical keys to input it. Its range is 10-60 (1=0.1 mms).
- (4)A moment later the system will return to the main screen. Now it's under the embroidery confirmation status "•• and the design number in the main screen changes to "102".
- (5) Now the user can start the embroidery as same as common designs. The design number in the main screen will change back to the former one after the embroidery.

5.8 Forward Code Float

This operation is to move the frame to the pointed position according to the stop code in the design quickly, so as to let the machine start embroidery from any point.

Operation: When the machine stops under the embroidery confirmation status "", select the option "Forward Code Float" in the first screen of manual operation menu, press the confirmation key "-", and then the machine will float forward to and stop at the next stop code or color-changing code.

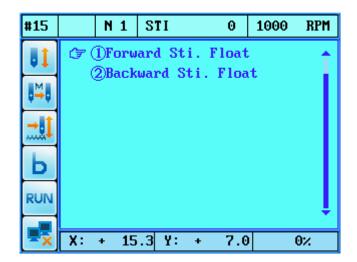
5.9 Backward Code Float

This operation is to move the frame backward to the pointed position according to stop code in the design quickly, so as to let the machine start embroidery at any point.



Operation: When the machine stops under the embroidery confirmation status "", select the option "Backward Code Float" in the first screen of manual operation menu, press the confirmation key "", and then the machine will float backward to and stop at the pervious stop code or color-changing code.

The second screen: Enter the manual operation menu, and turn to the second screen.

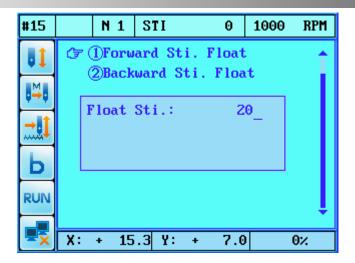


5.10 Forward Sti. Float

Operation:

- (1) In the main menu and under the embroidery confirm status "", press the key "to enter the manual operation menu. Press the key to enter the second screen.
- (2) Press the key "——" to select the option "Forward Sti. Float", press the confirmation key "——", and then there will be a prompt in the screen asking the user to input the stitches to float.





(3) Press the numerical keys to input the stitches for floating. Press the confirmation key "—", and then the frame will move forward the input stitches in high-speed.

Press Confirmation key upon the input of the stitch number. Then the machine will act.

5.11 Backward Sti. Float

- (1) In the main menu and under the embroidery confirm status "", press the key "to enter the manual operation menu. Press the key "to enter the second screen.
- (2) Press the key " to select the option "Backward Sti. Float", press the confirmation key " , and then there will be a prompt in the screen asking the user to input the stitches to float.
- (3) Press the numerical keys to input the stitches for floating. Press the confirmation key "—", and then the frame will move backward the input stitches in high-speed.

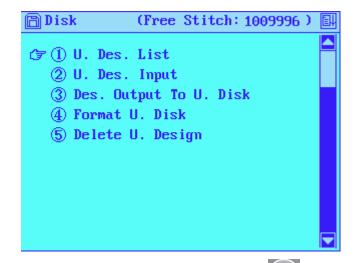


6.1 List USB Disk Directory

This operation is to view the directory of files in formats of ".DSB", ".DST", and ".DSZ", and free space in the USB disk and the floppy disk which uses the Usb interface floppy disk drive.

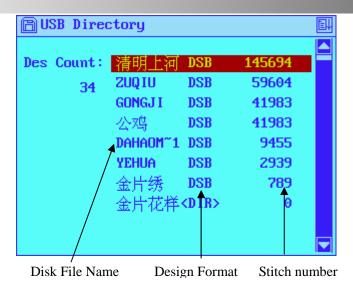
Operation:

(1) When the main screen is being displayed, press the key "To enter the disk management menu.



(2) Press the key "1" and the confirmation key "T" to list the directory of U disk files. After that the U disks' light goes on and system begins to read the directory, then the design directories in binary, ternary and Z-scale system will be displayed. The following is an example:





- (3) If the design file directory is more than one page, the user can press "PU" to enter the next page.
 - (4)Press the key "to return to the menu of the upper level.

6.2 U Disk Design Input

This operation is able to recognize the design files (".DSB", ".DST" and ".DSZ") in TAJIMA format disks or BARUDAN FDR format disks automatically, and to input the design files to the machine memory. After this operation, the scale parameter will be restored to the standard value (refer to appendix) and its X/Y repetition will be restored to 1.

Operation:

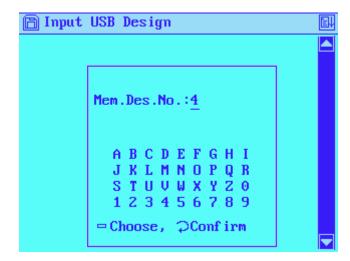
- (1) At the main screen, press the key "to enter the disk management menu.
- (2) Press "2" (or move the cursor to the location of "2") and then press the confirmation key "to enter the disk input menu. Then U disks' light goes on and the driver begins to read the directory and display the directories in



binary, ternary and Z-scale system will be displayed on the screen. Press the key "To select a design and press" to confirm the selection.



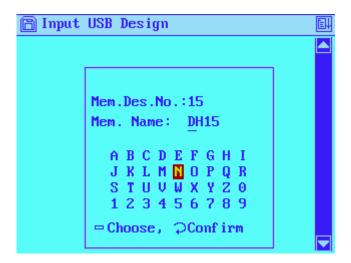
(3) At this moment, the system will provide and display an available design number (minimum) which the user can change. For example, if the system provides a minimum number 4 but the user wants to use 15, the user can press "1", "5" and " to set this number. If the number has been used, the confirmation will fail. Otherwise, the user can continue the following operations.



(4) The system asks to input the design name in memory (memory name).

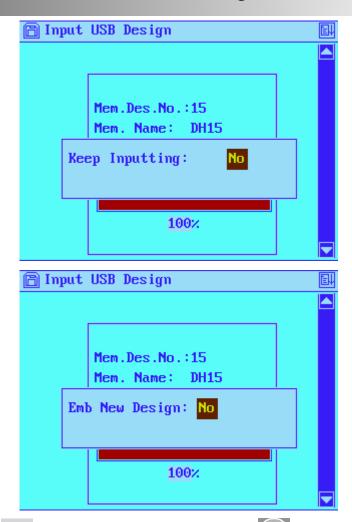


If the user uses the disk name as memory name, press the key ". Otherwise he could press the keys ". To select a character and then press the key ". To input. After inputting of the whole name, the user can press ". To confirm the name or press ". To input a new name.



(5)The system starts to input the selected design file. A progress bar is displayed during the inputting process. After the input, the system will ask the user whether to keep on inputting design. Selecting "NO" means to stop inputting. After that, if the system is under embroidery preparation status, it will enter the parameter input operation; if the system is under the embroidery confirmation status, the system will ask the user whether to embroider the input design.





Press "Or "to select "Yes", then press "Or", and the system will enter the parameter setting operation.

```
M Parameter

② I Scales: X:100 × Y:100 ×
② Direction: P
③ Rot.Angle: 0 °
④ Rep.Prior: X
⑤ Rep.Times: X: 1 Y: 1
⑥ R.Interval: X:+0.0 Y:+0.0
⑦ Offset Org: No
⑧ Cyclic Emb: No
⑨ Work Order:
[011:1 .1 .1 .1 .1 .
```

6.3 Des. Output to USB Disk

This is to save the memory designs to the U disk in the "DSB." format.



Operation:

(1) Press the key "b" under the main screen to enter the disk management menu, then press key "3" to select the item of "Des. Output To U.". The following interface will be displayed.



(2) Press "and then the system will ask user to input the memory No. of the design for output.



(3) Press the numerical key to input the design's memory number, or press "O" to enter the memory design directory to select by pressing keys "O" and "O". (Refer to Part III)



- (4) Press the key "—". If there is no that design in the memory, the confirmation will fail. Otherwise the system will display its memory name and ask user to input its disk name.
- (5) If the user wants to use the design's memory name as its disk name, press the key "—". Otherwise the user shall press "—" to confirm the input name or press "—" to cancel and input a new name.



(6) When the output begins, a progress bar will appear during the process.

The system will return to the main screen after the output.

6.4 Format U Disk

The machine can format the USB disk in DOS format. A new U disk has to be formatted before use.

Operation:

(1) Under the main screen and the status "N", press" to enter the disk management menu. Press "4" to select "Format U. Disk".



(2) Press "—" to confirm the operation of formatting. A progress bar will appear, and after the formation the system will return to the main screen.

6.5 Delete USB Disk Design

This is to delete the design files in formats of ".DSB", ".DST" and ".DST" from the USB disks.

Operation:

- (1) Under the status "N" in the main screen and, press the key "Press "5" enter the option "Delete U. Design".
- (2) Press "and the "a" to enter the directory of U disk. The machine reads the directory of the USB disk and displays the directory of design in format of ".DSB", ".DST" and ".DST".
 - (3) Press "To select design. Press Pu Pp to turn the page.
- (4) Press "to confirm and delete the design file or press "to exit and return to the main screen.

Note: This machine supports floppy disk driver with USB interface. The operation of that driver is as similar as that of USB flash disk.



7.1 Enter the Memory Design Operation Menu

It's possible to enter the memory design operation menu under both the embroidery preparation status and the embroidery confirmation status. But some menu options are displayed in darkness in some cases when they are unavailable to operation.

Operation:

(1) Under the main screen, press "b" to enter the design operation menu and its first page is shown as followed:



(2) Press keys "Pu Pp" to switch between the two pages.

The second page:





(3) Press keys "or input the number of the desired item to select a menu option. Then press the confirmation key "or input the number of the desired item to select a menu option. Then press the confirmation key to enter its submenu.

7.2 Select Design for Embroidery

This operation is to select a design in memory for embroidery, which is only possible under the embroidery preparation status.

- (1) Under the embroidery preparation status, press the key "b" to enter the design operation menu on the main screen.
- (2) Press the confirm key "to enter the first menu option. The following prompt will appear. If you know the No. of the memory design, you can press numerical keys to input the number. For example, press "1", "5" and then "to select No. 15. If there is design No. 15 in the memory, it will be set for embroidery and the parameter setting menu will appear. Refer to Part IV for setting parameters. If there is no design No. 15, the



confirmation will fail, and the user can press ""to clear the input number and select/input a new one.



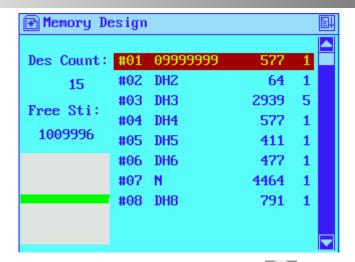
(3) If the user press "directly without inputting a number or having pressed "del" to cancel the input number, the directory of memory designs will be displayed on the screen.

Press keys "Pu Pp" to select a design intended for embroidery. ("Pu Pp" is for moving the cursor upward and downward. "Pu Pp" is for turning pages.)

Press the key "to confirm selection. After that the screen will turn to the parameter setting menu.

(4) If the user doesn't change parameter setup, press "to exit to the main screen. For parameter setting refer to Part IV.



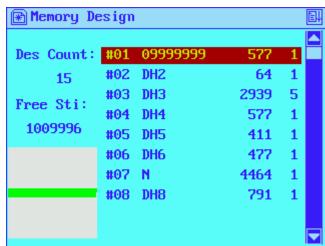


(5) In the above operation, the user can press "to quit to the main screen at any time.

7.3 Show Memory Design

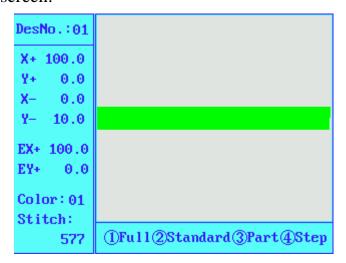
This operation is to list the designs in memory and show their parameters.

- (1) Under the main screen, press" to enter the memory design operation menu.
- (2) Press "2" or " to move the cursor to the second option, and then press the confirmation key " to enter the memory design list:





(3) Press keys " to select a design in memory and then press " to enter its screen:



The left side of the screen displays the design's basic information, including design No., coordinates of the 4 boundary lines, coordinates of the stop point, number of design colors and number of stitches. The design can also be displayed in different ways to show details clearly.

7.4 U. Des. Input

This operation is the same to "U Des. Input" in disk operation.

- (1) Press the key "• under the main menu to enter the memory design operation menu.
- (2) Press the key "3" to select the third option "U. Des. Input" and then press the confirm key "—".
- (3) The U. disk driver light is on, and the system begins to read the disk directory and then displays it. Press "and "Pu Po" to select the



design, and then press "to confirm the selection.

- (4) Then the system will provide and display an available design number (minimum) which the user can change. For example, if the system provides a minimum number 4 but the user wants to use 15 as the design number, he can press "1", "5" and " ". If the number has been used, confirmation will fail. Otherwise the user can continue the following operations. If the user wants to input a new number, please press " "; "first.
- (5) At the moment, the system asks user to name the design in memory. If the user uses the disk name as memory name, he can press the key "Continuous". Otherwise, he shall press the keys "Continuous" to select a character and then press the key "To input. After inputting the name, the user shall press "Continuous" to confirm the input or press "Continuous" to input a new name.
- (6)When the system starts to input the selected design file; a progress bar is displayed in the inputting process. After the input, if the system is under embroidery preparation status, it will enter the parameter input operation; if the system is under the embroidery confirmation status, the system will ask user whether to embroider the input design immediately. To embroider a new design, press " , and the system will enter the parameter setting operation. (Refer to Part IV for parameter setting.) To embroider the original design, the user needs press " , to



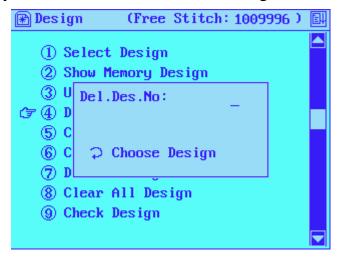
choose "No" and then press "to confirm. Then the system will return to the main screen.

7.5 Delete Memory Design

This operation must be done under the embroidery preparation status,

Operation:

- (1) Under the status "N", press "D" to enter the memory design operation menu on the main screen.
 - (2) Press the key "4" and "—,", and the following screen will appear.



(3) Select the design. (Press numerical keys to input the design's memory number, or press "O" to enter the memory design directory and press "O" to select the design.) Then press the key "O" to delete the selected design.

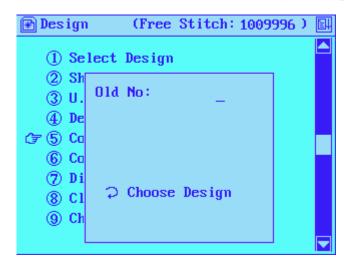
7.6 Copy Design

This operation is to copy a memory design and save it as a new design in the memory.

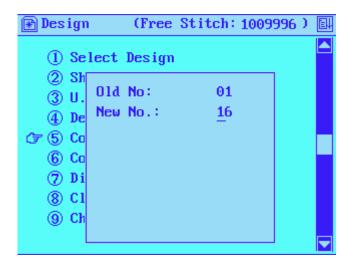


Operation:

- (1) Under the main menu, press "to enter the memory design operation menu.
- (2) Press "5" to select the fifth option "Copy Design". Press "—" and the system will ask for the memory number of the design to copy.



(3) Press the numerical keys to input the memory number of the target design or select it by pressing "to enter the memory design directory and pressing "and "and" to select. If there is no such a design in memory, the confirmation will fail. Otherwise the system will provide a minimum vacant design number for the new design.





(4) The user can input a new number by pressing numerical keys and then "...". (If the input number has been used by another design, confirmation will fail.) The system will ask the user to input a new name, which is shown as below. If the user uses the default number, the system will carry out the copy work without the above operation.. After copying the system will return to the design editing menu.



(5) During the above operation the user can press "**ESC**," to quit to the design operation menu.

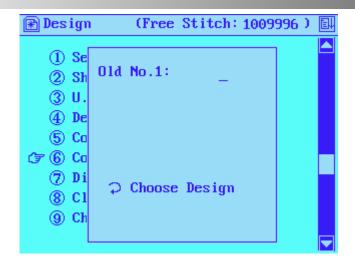
7.7 Combine Design

This operation is to combine two memory designs into one and save it as a new design in the memory.

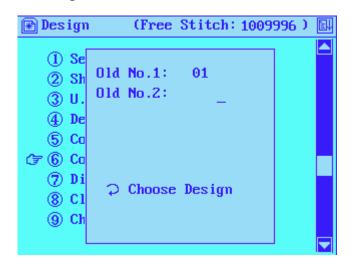
Operation:

(1) Under the main screen, press "b" to enter the memory design operation menu and then select the sixth option "Combine Design" and press "b". The following interface will be shown on the screen:



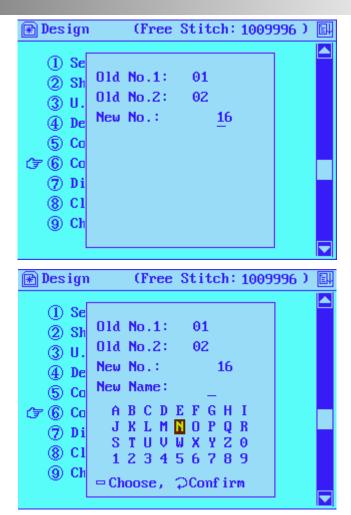


(2) Press numerical keys to input the memory number of the first design, or press "O" to enter the design directory and then select. (Refer to Part III.) Press the key "O", If the selected design number doesn't exist, the confirmation will fail. Otherwise the system will ask user to input the design number of the second design.

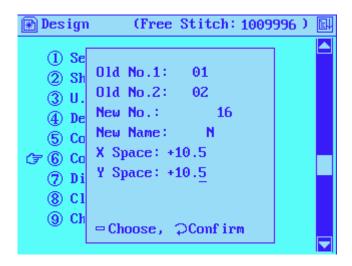


(3) Input the memory number of the second design in the same way with operation (2). Then the system will provide and display the minimum available memory number for the new design.





(4) The user can also input a new number by pressing numerical keys and "". If the number has been used by another design, the confirmation will fail. Otherwise the system will ask user to input the interval between the two designs.





- (5) Press numerical keys to input X-direction interval (-999.9mm \sim +999.9mm). Press "For confirmation and the system will ask user to input Y-direction interval.
- (6) Press numerical keys to input Y-direction interval (-999.9mm ~ +999.9mm). Press "—" and the machine will begin combining designs. After this operation the system will return to the design editing menu.

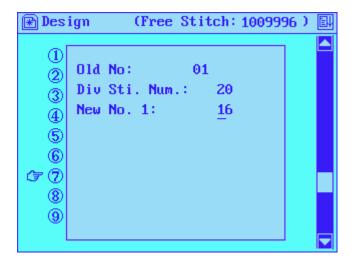
7.8 Divide Design

This operation is to divide one design into two and save them in the memory as two new designs.

- (1) Under the main screen, press "To enter the memory design editing menu.
- (2)Press "O" to select and enter the option "Divide Design". The system will ask user to input the design number of the target design.
- (3) Press numerical keys to input the number of a memory design or choose one from the memory design directory. Then the system will ask user to input number of dividing stitches.



(4) Press numerical keys to input the stitch number (1-60000) of the dividing point in the target design. Press "—" and the system will provide and display a minimum available design number automatically.



(5) Confirm the system-provided number or input and confirm a new design number. Then the system will ask user to input or confirm the name of the first new design.





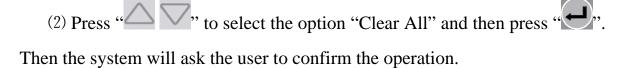
- (6) Press the confirmation key "—" or input a new name and then confirm. The system will save the part before the dividing point in the design as the first new design. And the system will ask user to input the number of the second new design.
- (7) Confirm the system-provided number or input a new number and confirm. Then the system will ask user to confirm or input the name of the second new design.
- (8) Press the confirmation key "P" or input a new name and confirm. Then the system will save the part after the dividing point in the design as the second new design. After the operation the system will return to the design operation menu.

7.9 Clear All

This is to delete all the designs in the memory. Please take caution.

Operation:

(1) Under the status "N", press "or to enter the design operation menu on the main screen.



(3) The user can press "to confirm the deletion of the entire designs in the memory. And the system return to the design editing menu after the deletion. Otherwise the user can select "No" to exit the operation and return to the design editing menu.

7.10 Check Design

If something is wrong with the embroidered design, the user can use this operation to check whether the design is correct and judge the cause of malfunction.

Operation:

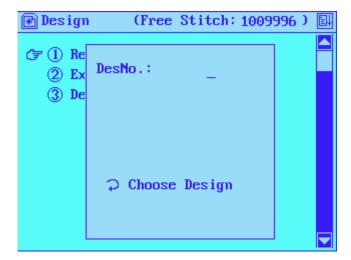
- (1) Under the main screen, press "••" to enter the memory design operation menu.
- (2) Press " to select "Check Design", and then press " . The system will ask the user to input the design number.
- (3) Press numerical keys to input the number or select one from the design directory. The system will check the selected design. When the system finds the design is correct, the screen will display "Design Right". If the system finds the design is wrong, the screen will display "Design Wrong".

7.11 Rename File

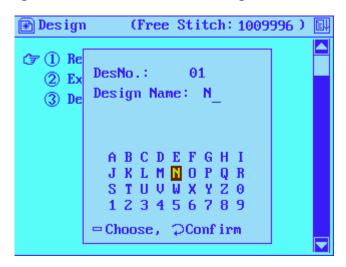
On the second screen of design operation menu, there is an option to change the design's name. Follow the prompts to select the design and the



following screen will appear.



Input a new design name for the selected design.

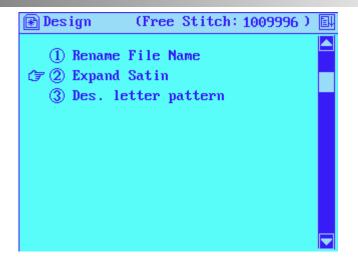


Press the confirmation key to confirm the input and the system will complete the change and return to the design operation menu.

7.12 Expand Satin

On the second screen of design operation menu, there is an option for expanding satin to create a new design.





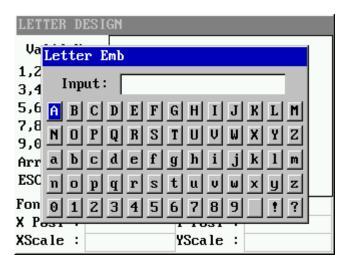
This function is designed to compensate for the satin stitch difference caused by the mechanical difference between machines. This enables to widen or narrow the satin stitch to the desired width.

7.13 Design letter pattern

This system has 28 different fonts for the 26-letter English alphabet (capital and small) and digits 0~9. The user can arrange the letters and digits at will to make a new design.

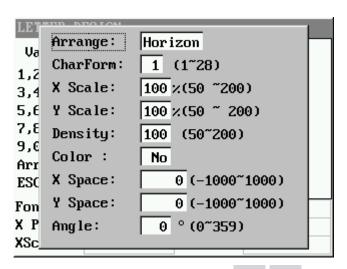
Operation:

(1) Enter the second page of the design operation menu and select the option "Des. letter pattern". The following screen will be displayed.





- (2) Press the direction keys to select the desired letters and digits, and press "to confirm."
- (3) Press "**ESC**" to enter the following screen to set the parameters of the letter designs.



- ① Set the letter design's parameters. Press "One" to select items and press "One" to set values. In the setting table, the measurement unit is percentage for X/Y scales and (Satin Stitch) Density, mm for X/Y Space, degree for Angle. After setting, the user can press "One" to enter the next step.
- ② When "Arrange" is selected for "Arc", the computer will ask user to input the parameters for the arc, including the coordinates of the start, middle and end points. Then the user can press "** to enter the next step. If it's not "Arc", please omit this step.
- ③ The design's outline is displayed in the screen as follows. The user can adjust the design's positions, fonts, angles and scales according to the prompts on the left. Then press "ESC" to end the operation.



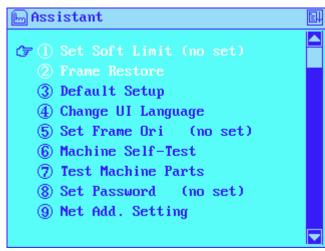
LETTER DESIG	in
Valid Keys	
1,2:Angle 3,4:XScale 5,6:YScale 7,8:Char 9,0:Font Arrow:Move ESC:Exit	
Font : 1 X Posi : 55 XScale : 100:	Angle: 0 Y Posi: -70 YScale: 100%

- 4 The system asks the user that "Generate Design?" "No" is to cancel the above operation. Select "Yes" and then press "O" to enter the next step.
- ⑤ The system creates the letter design and display it in the screen. Press to exit the display.
- ⑥ The system ask whether to save the letter design. "No" is to cancel this above operation. Selecting "Yes" and pressing "are for entering the next step.
 - ① Input the new design number and press "—" to save the design.
 - ® Then the system will return to the disk management menu.



Operation:

Under the main screen and the non-embroidery confirmation "status, press "to enter "Assistant" menu:



Then press numerical keys and "to enter different submenus."

To exit from the assistant management menu, press "key to return to the main screen.

8.1 Set soft Limit

This function is to set the embroidery range of the frame by software, so that the embroidery range can be ensured at the set value thus ensure the safety of the embroidery work.

Without setting the frame origin position, the user can not operate this function. That is to say, only when option 5 is at "SET" status, the software position limitation can be set.



- (1) Under the main screen, press "to enter the assistant management menu.
- (2) Press the key "1" or select the option "Set Soft Limit" by "\sum,", and then press "to confirm.
- (3) Press the frame-moving keys to move the frame to a point (a top left point of embroidery range) and press "To set the point as the top left point.
- (4) Press the frame-moving keys to move the frame to another point (a bottom right point of embroidery range) and press "—" to set the point as the bottom right point. Now the software embroidery limitation is fixed.

8.2 Frame Restore

Accidental power-off may take place during embroidery. When power is on again, embroidery can continue if the frame hasn't been moved away. If the frame has been moved away and the origin point has been set, the user can use this "Frame Restore" function to restore the frame to the position where the frame was when power-off, so as to continue embroidery.

If the origin point hasn't been set, the option "Frame Restore" will be in darkness and unavailable for operation.

If the origin point has been set, the option "Frame Restore" will be in brightness and available for operation.



- (1) Under the main menu, press "to enter the assistant function menu.
- (2) Press the key "2" or select the option "Frame Restore" by pressing keys "". If the frame origin point has been set, the option will be displayed in brightness. Press "" and the frame will move to the origin point first and then to the position where it was when power-off.

8.3 Default Setup

This operation is to set the parameter or variable values as the default or standard ones.

Some default setup:

Current stitch: 0

Stitches count: 0

Current set rotation speed: 1000

Frame displacement (display) X:0.0 Y:0.0

Embroidery mode: Normal embroidery

Manual frame-moving speed: Low speed

- (1) Under the status "N", press "on the main menu to enter the assistant management menu.
- (2) Press keys "O" to select the option "Default Setup", and then the entire parameters will be restored to the default values after the user pressed "O".



(3) Press "L" to restore default setup and then the system will return to the assistant management menu. Or, the user can press "LSC" to exit the operation and the system will return to the assistant management menu.

8.4 Change UI Language

Operation:

- (1) Press "to enter the assistant management menu.
- (2) Press keys "Or press "4" to select the option "Change UI Language", and then press "O". You can choose several kinds of language as follows: Chinese, English, Turkish, Spanish and Portuguese.

8.5 Set Frame Origin

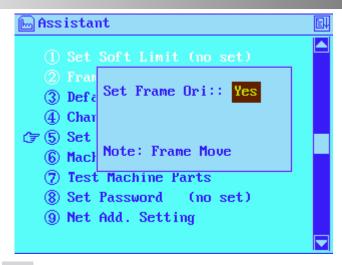
This function is to set the frame's origin point, which is the premise for "Frame Restore" and "saving the design origin point and restoring the design origin point".

- (1) Under the status "N", press "On main menu to enter the assistant management menu.
- (2) Press "Or "5" to select the option "Set Frame Origin". Then press "Origin" and the following screen will be displayed



Part VIII

Assistant Function



(3) Press " to choose "Yes" (or "No") and press ", and the frame will move to the origin point and then back. After this, the option "Set Frame Origin" in the assistant function menu is followed by "have set" and the second option "Frame Restore" becomes bright and available for operation.

8.6 Machine Self-Test and Test Machine Parts

These functions are provided for machine maintenance. "Machine Self-Test" is to check the computer control's circuits. And "Test Machine Parts" is to check the mechanical parts. Refer to the maintenance manual for details.

8.7 Set Password

User can code the mechanical parameters of system via this operation in order to protect the machine from the negative influence caused by the accidental changes of parameter. After password is set, the user has to input the password before changing the parameter values.



8.8 Set Network Address

<u> </u>	Assistant	
	NET ADDRESS SETTING	
	IP Addr : 192 . 168 . 1 . 2	
	Sub Net : 255 . 255 . 255 . 0	
	Gateway : 192 . 168 . 1 . 1	
	Dest IP : 192 . 168 . 1 . 1	
	Dest Port: 1600	
	QUIT SAVE	
()		П
		lacksquare

For the centralized network management of more than one computerized embroidery machine, this computerized control system provides the network support. Setting IP address is to configure network. It includes (see the above diagram):

IP address: it's the IP address of the local machine. It's allocated by the network administrator. The IP address is exclusive in the LAN and can't be the same to another machine or PC. Otherwise there will be IP address conflict thus leads the failure of network.

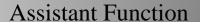
Sub mask: 255.255.255.0

Gateway: same to the Dest IP

Dest IP: the IP address of the PC server in the LAN

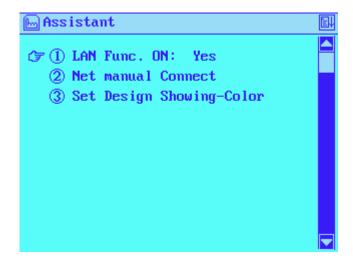
Dest Port: 1600







8.9 LAN Function Switch

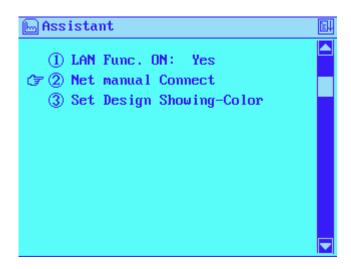


"LAN Func. ON" can be set as "Yes" or "No". If it is "Yes", network function is supported. Under that premise the machine will automatically link the server, once it is power-on. The link result shows in the "F" area of the main screen (refer to the main screen composition in Chapter 2.2). The icon "indicates successful link while "means failure. If the parameter is set as "No", the machine will not support the network function.

The premises for the machine to successfully link the server are: 1) appropriately setting the IP address 2) the network link is good and network equipments (e.g. HUB, switch) are in the open mode. 3) the server is power on and the software (SemsServer.exe) is open.



8.10 Net Manual Connect



Once it is power-on, the machine will link the server immediately. If it fails to do so, you can use this function to link manually. If it fails repeatedly, please check whether all the premises for successful link are fulfilled. Or try again after resetting (power off and on) the computer control system.

Note: In order to use the network function, you have to install and use Dahao embroidery monitoring software for client terminal (SemsClient.exe and SemsServer.exe). Please read the introduction in CD attached to the computer system.



8.11 Set Design Showing-Color



"Set Design Showing-Color" is provided for users to set the color of the design which are corresponding to the needle with serial number from 1 to 15. Select "Set Design Showing-Color" and press the key "The interface is shown as followed:



The 15 color blocks are corresponding to the needle position with number from N1 to N15. The user can press " to choose the color of the needle which he wants to change. You can move the " to the color which you wants choose, and then press the key ". In the following picture, the

Part VIII

Assistant Function



first color block (black) is elected.



Press "Pu" to move the cursor to the color which you want.

And press the key "To confirm. Once the color is selected, the color on the corresponding needle position will be changed to the selected color. For example, the No.1 needle position is changed to black.

The method for setting the color of other needles is the same as above description.



After the color-set is complete, press "to quit."

Appendix

Real-time Scale parameters

Parameter	Choice	Standard value
X Scale(%)	50 ~ 200	100
Y Scale(%)	50 ~ 200	100
Design direction	рарятсьс	P
Rotation angle(°)	0 ~ 89	0

Repetition Parameters

Parameter	Choice	Standard value
Rep. Prior	X,Y	X
Rep. Times (X)	1 ~ 99	1
Rep. Times (Y)	1 ~ 99	1
Repetition Interval (X)	-999.9 ~ +999.9	0
Repetition Interval (Y)	-999.9 ~ +999.9	0

Switch Parameters

Parameter	Choice	Standard value
Thread broke detect	Yes. No	Yes
Auto Back Origin	Yes. No	Yes
Start Slow Af. Trim	1,2,3,4,5,6,7,8	3
Adjust Stop Position	0,1,2,3,4,5,6	3



Malfunction Table

Γ	
Code	Cause
E01	Disk failure
E02	Wrong disk format
E03	No disk
E04	Write protect
E05	No free space in disk directory
E—06	No free space in disk
E07	Formatting fail
E08	No design end code
E—11	Startup without embroidery confirm
E—12	Already return to origin point
E—13	Not exit embroidery confirm
E—14	Memory parameter lost
E—15	Memory design lost
E—16	No design in memory
E—17	No free design numbers
E—18	Memory design number does not exist
E—19	No enough memory space
E50	Encoder abnormal
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E—51	Stop position abnormal
E—53	Stepping motor abnormal
E—54	Color- change exceeds limit
E—55	Color-change exceeds 2 sec.
E—56	Color-change half return abnormal
E—57	Needle position abnormal
E—58	Main motor exceed 2 sec.
E—59	Color-change motor reverse
E—61	Frame software limit
E—63	Frame-moving angle inquiry overtime
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E—74	Cutter not in the right position
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E—80	Over-current, Restart
E—89	Lost Continuous Pulse
E—110	Error At Saving code
E—130	No Respond from U disk
E—131	Rsp Disagree Command
E—151	No Device
E—152	Device Err
E—153	File Exist

E—154	File Not Found
E—157	File Not Open
E—158	State Err
E—159	Sys Err

E—01 Disk failure

In case of disk failure, you can format the disk in your PC and check whether there is bad section in the disk.

E—02 Wrong disk format

If the embroidery machine is unable to recognize the storage format of the disk, you can format the disk with the tool provided by embroidery machine's computer system.

E—03 No disk

In case the machine is unable to find any valid floppy disk in the floppy driver, please check the floppy driver.

E—04 Write protect

It shows that there is write protect for the working floppy disk or USB disk so that data can not be input. Please ensure that the disk or U disk is in the state of writing-in mode.

E—05 No free space in disk directory

No more directories can be established in the floppy/USB disk.

E-06 No free space in disk



The data in the disk has reached the disk's storage limit. You can clear the temporary files or unneeded files to make more space.

E—07 Formatting fail

The machine fails to format the disk. Please check whether there is write protect or the disk has suffered unrecoverable damage.

E—08 No design end code

There is no end code for the input design. Please check whether the design file has the end code with operating the punching software.

E—10 Emergency stop! Reset button

Press the reset button in case of emergency stop. To resume, you have to turn the button according to the direction printed on the upper bottom of the button.

E—11 Startup without embroidery confirm

The embroidery confirmation hasn't been done. After a design file is selected, you have to press the embroidery confirmation key before pulling bar to embroider.

E—12 Already return to origin point

In manual or automatic returning (tracing back), the machine has reached the origin point of the design.

E—13 Not exit embroidery confirm

It appears when the user operates machine without quitting the embroidery confirmation status. Press the embroidery confirmation key to exit.



E—14 Memory parameter lost

The parameters stored in the memory are lost. Please check whether the battery voltage of the main board is under DC2V. If so, please change batteries.

E—15 Memory design lost

The designs stored in the memory are lost. Please check whether the battery voltage of the main board is under DC2V. If so, please change batteries.

E—16 No design in memory

There is no design in the memory. Please input designs with proper input equipment.

E—17 No free design numbers

The system can have 99 memory design numbers at most. If more than 99 designs are input, no matter there is free space in the memory or not, the system won't permit the input of that new design.

E—18 Memory design number does not exist

The selected design number doesn't exist in the memory. Before embroidery, please check whether the selected design exists in the memory, or enter the design review mode to select the design directly.

E—19 No enough memory space

Because of occupation by memory designs, the memory can't provide enough space for design input or design review.

E—50 Encoder abnormal

Encoder abnormal results in incorrect embroidery. Check the cable



connection of the encoder socket on the main shaft control board. If the connection is right, please check whether the encoder is damaged when this warning is still on.

E—51 Stop position abnormal

The main shaft hasn't stopped at 100 degree. The cause may be that the different fraying of the machine in different phases brings about the load change. The user can adjust the parameter "Adjust Stop Pos." to solve the problem. If the parameter adjustment fails, please check whether it is caused by mechanical problems like, separation between motor shaft and the mechanical shaft of the main shaft.

E—53 Stepping motor abnormal

The malfunctions on the stepping motor have resulted in overflow or over-temperature. Check the connection of the X/Y axis motor and condition of the stepping driver. You can turn on the power to recover.

E—54 Color- change exceeds limit

The wrong returning signal from the rheostat causes that the rotation of the color change motor exceeds the limits. Check whether the installation of rheostat is correct and whether the rheostat is damaged.

E—55 Color-change exceeds 2 sec.

Overtime of color change means that the color change motor can't change color to the set position within the designated time. The cause may be the motor stopping rotation caused by wrong mechanical installation, or the connection



problem of the color change motor plug, or the damaged motor.

E—56 Color-change half return abnormal

When the color change is in the correct needle position, the icon † appears. The corresponding needle number is shown on the right of the icon. "Color-change half return abnormal" means that both needle symbols of the icon are in dotted lines (one should be in real lines). The user can manually turn the color-change cam to the right position. If such problem appears frequently, please check the rheostat and the mechanical installation.

E—57 Needle position abnormal

The needle position in the color change shows as "?". The user can manually turn the color-change cam to the right position. If such problem appears frequently, please check the rheostat and the mechanical installation.

E—58 Main motor exceed 2 sec.

When the main shaft is started, the main shaft motor doesn't move or the rotation of main shaft motor is uncontrolled. When this problem comes out, we recommend the user to check the condition of the system power supply, main shaft motor connection, main shaft control board and the zero position optical coupler.

E—59 Color-change motor reverse

It's the motor reverse rotation caused by reverse connection of the motor wire winding.

E—61 Frame software limit



When the function "soft limit" is selected, this error report will appear after the fame goes beyond the set limit in the process of manually moving frame or embroidery. To solve this problem, check whether the set embroidery limit fits the real need of the design before embroidery.

E—63 Frame-moving angle inquiry overtime

This may be caused by: 1) damaged zero position optical coupler; 2) damaged motor encoder; 3) separation between the motor axis and mechanical axis of the main shaft; 4) the machine is not grounded.

E—70 Zero point signal inquiry overtime

This may be caused by: 1) damaged zero position optical coupler; 2) damaged motor encoder; 3) separation between the motor axis and mechanical axis of the main shaft; 4) the machine is not grounded.

E—74 Cutter not in the right position

The cutter hasn't returned to the starting position. It may be a mechanical problem or the proximity switch for checking at the starting point has been damaged.

E—75 Trimming motor overtime

The cause may be one or several problems among the followings: the damaged cutter motor, the damaged proximity switch for checking at the cutter returning point, wrong connection between the plug and socket of the cutter motor in the main shaft control board, or the power supply system.

E—80 Over-current, Restart



The main shaft motor stops running because the main shaft motor is damaged or there are mechanical problems.

E—89 Lost continuous Pulse

1) This is caused by damaged encoder or bad connection of plugs and sockets of the encoder; or 2) the machine is not grounded properly.

E—110 Error At Saving code

This is the storage error caused by wrong operation on the passwords.

E—130 No Respond from U disk

Something is wrong with the MASTER module so that it is unable to carry out the orders from the computer.

E—131 Rsp Disagree Command

This may be caused by: 1) MASTER module hasn't been installed; 2) the bad connection of the MASTER module; 3) the breakdown of the MASTER module.

E—150 No Device

This may be caused by: 1) the USB disk hasn't been connected; 2) the bad connection of the USB disk; 3) the USB disk is damaged.

E—151 Device Full

The USB disk is full or its remaining space is not enough to input a certain file.

E—152 Device Err

This may be caused by: malfunction of the USB disk or E1904A hasn't



been installed or the bad connection of E1904A.

E—153 File Exist

The created file name is the same to an existing file name in the USB disk.

E—154 File Not Found

The file wanted doesn't exist in the USB disk.

E—157 File Not Open

The file hasn't been opened successfully.

E—158 State Err

Something wrong comes out in the process of reading the USB disk sections.

E—159 Sys Err

Something is wrong in the file system.