Version: 2007-01

Dahao

Computerized Embroidery Machine

B E C S –119 SERIES

Owner's Manual

Dahao brand industry sewing machine computerized control system was awarded the title of China Top Brand by Chinese General Administration of Quality Supervision, Inspection and Quarantine in September 2007.

Certificate No. 06-018-03-094

CERTIFICATE OF CONFORMITY OF

QUALITY MANAGEMENT SYSTEM

CERTIFICATION

This is to certify that the quality system of

Beijing Xingdahao Technology Co., Ltd.

Is in conformity with

GB/T 19001-2000 idt ISO 9001:2000 Standard

This certificate is valid to the following product(s)/service:

Design and manufacture of computerized sewing

Equipment control system

Registration No.:0203Q15748R2M

ACCREDITED BY MEMBER OF

THE IAF MIA FOR QMS

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Chapter 1 General Descriptions

Thanks for using the Computerized Embroidery Control System of DAHAO Company.

You are appreciated that you do read this manual carefully in order to operate the machine correctly and effectively. Besides, you should keep well this manual for later use.

Note: The menu items in darkness are not available for any operation. They are inaccessible to setting.

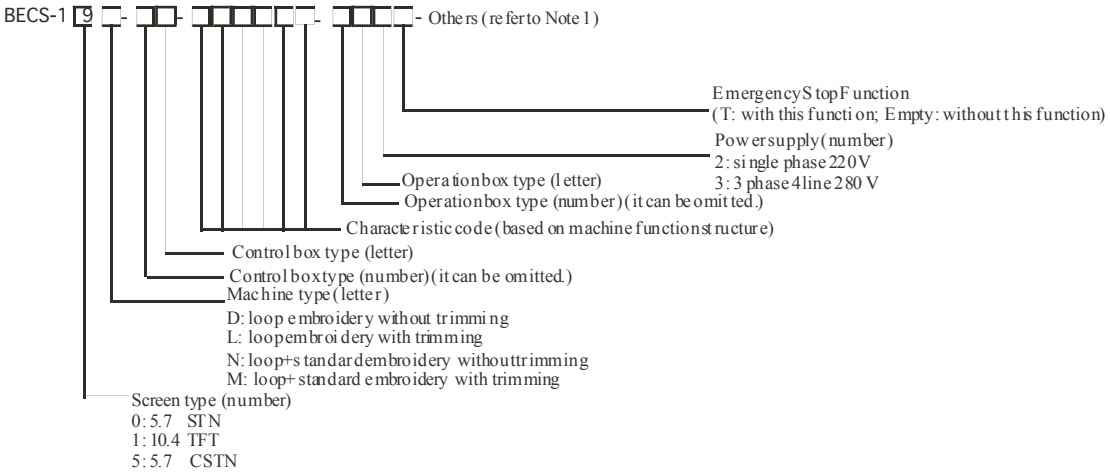
1-1 Safety Notice

In Usage	
⚠Warning	Don’t open the operation box while power on. Because the high voltage and running parts in the box may hurt human bodies.
⊘Forbidden	Don't expose the machine to humidity gas, poisonous gas, water, and dust.
⊘Forbidden	Don’t put the machine box where there is strong vibration.
⚠Warning	For safety, please obey the requirements and warnings marked on the product.
⚠Warning	LCD is fragile and don’t touch it with sharp and hard material.
⚠Warning	Insert the floppy disk with the correct side upside. Don’t insert or pull out the floppy disk when the floppy drive light is on.
In Transportation	
⚠Warning	Don’t hold the cable/line in moving/transportation to avoid equipment damage or hurting human bodies.
⚠Warning	For safety, please obey the requirements and warnings marked on the product.
⚠Warning	Over-piled products may collapse. So do according to the requirements written on the packing.
In Installation	

⚠Warning	Don’t block the vents or insert something into the machine.
⚠Warning	Please obey the installation direction.
⚠Warning	Don’t install the machine in the damp place or near the corrosive gas or inflammable materials.
In Wiring	
⊘Forbidden	Don’t test the insulation of the circuit loop.
⊘Forbidden	It’s forbidden to link overload electrical appliance to the power socket which is used by the control box.
⚠Warning	All cables (signal or power lines) must be in good insulation.
⚠Warning	Signal and power cables must be separated, and should not pass through one machine box hole or bound together.
⚠Warning	All the cables must be fixed properly without strength on them. Take additional measures when the cable goes through holes or touch the sharp surfaces. Use cable shield if necessary.
⚠Warning	The equipment must be grounded properly. The ground resistance must be less than 10 ohm.
In Operation	
⚠Danger	The machine should not work when the shields for the moving parts have defects.
⊘Forbidden	Don’t touch any moving parts when the machine is running.
⚠Warning	Please check the power supply with the millimeter. It should be the same to the requirements in the product plate.
⚠Warning	In case of alarm, solve the problem first. Restore the alarm before starting the machine.
In Maintenance and Examination	

⚠Warning	If necessary to open the machine box cover, do it only after switching off the power. And you must wait more than 1 minute to let the capacitors discharge before touching the circuit boards.
⚠Warning	The circuit board is easy to be damaged by static electricity. Non professionals don't reinstall or repair the circuit boards.
⚠Warning	If the machine is unused temporarily, it has to be powered on periodically (every 2~3 days and over 1 hour each time).
⚠Warning	If the machine stops for a long time, please let professional technicians check the machine before power on.
For Scrapping	
⚠Warning	The computerized embroidery control system is scrapped as normal electronics according to national standards and regulations.

1-2 Composition of Product Name



Note 1:

-- COM 232 serial port communication function

-- Machine Manufacturer

--MS 3 phase stepping driver

--MS02 2 phase stepping driver

e.g. one machine is looping embroidery (independent looping), true color 3E operation head, flat embroidery (solenoid trimming, thread catching by motor), 220V, with release, USB, serial port.

We'll get its name from the above principles: BECS－119M-6E-F56858-3E2T－COM-USB

1-3 Main Features

1. Equipped with LCD

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 floppy/USB disk-stored designs

From the built-in floppy disk drive, 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 of binary system from the memory to Tajima format disk.

USB connection is added. FAT12, FAT16 or FAT32 format USB disks are available now for design transmission in high speed and large volume.

3. Rotation speed control

Press the keys to adjust the current rotating speed of the main shaft between 150 rpm and the maximum speed, and the current value will show on the screen. The maximum rotation speed of normal embroidery is 650~800 rpm and the maximum rotation speed of loop embroidery is 250~600 rpm.

4. Real time scaling up/down and design rotation

While embroidering the designs in memory, the user can scale up/down the design 50% to 200% separately in vertical and horizontal directions. 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°.

5. 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 break happens.

6. Work order

The “work order” parameter can decide on how to deal with color change codes and set the stitch change and the needle height.

7. Over-frame protection

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

8. Auto origin return

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

9. Stitch change

In the process of embroidery, you can stop the machine and press keys to manually change from chain stitch to loop stitch or vice versa.

10. Positioning floating

The frame can move fast forward or backward to the desired position by setting a function code or a certain stitches to move without embroidering, which will let the machine to 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 or 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 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. Disk management

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

16. Error information

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

17. 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 one of the chain/normal embroidery machine parameters, and the more its value is, the larger additional degrees the main shaft will stop with.

18. Tie-off Function

At the completion of the looping embroidery, the last several stitches will be in chain stitch to prevent the thread cast off.

19. Thread Loosing

During switch between loop and chain embroidery, thread tension could be adjusted under the control of thread loosing motor.

20. Needle Height Adjustment

Needle bar height of every head could be controlled separately. It can change the needle height from 0 to 9 after stopping the machine. It also has a highest position for the needle bar and in case of frame change or idling the needle bar will be at this position.

21. Returning and darning

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 darning, set the machine under the darning status and then press start button to darn.

The user can set the stitches of automatic return and whether to darn by all the heads.

22. Combining design

A new design can be created by combining several designs with their different parameter setting. Thus the combined designs can be embroidered together.

23. Cyclic embroidery

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

24. 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.

25. Chinese-English switch

Choose the desired language to suit different customers.

26. Trimming

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

27. Mixed Embroidery

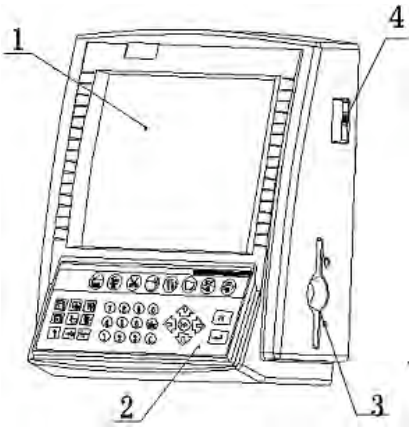
The user can switch between loop/chain and standard stitches by selecting different heads.

1-4 Technique Specification

1. Maximum designs stored in the memory: 99
2. Memory storage ability: 2,000,000 stitches
3. Display resolution: 640*480, 10.4 True Color
4. Data transmission mode: floppy disk, USB disk
5. Control accuracy: minimum stitch length less than 0.1mm
6. Stitch code range: 0.1mm~12.7mm

Chapter 2 Operation Instruction

2-1 Operation Box Structure

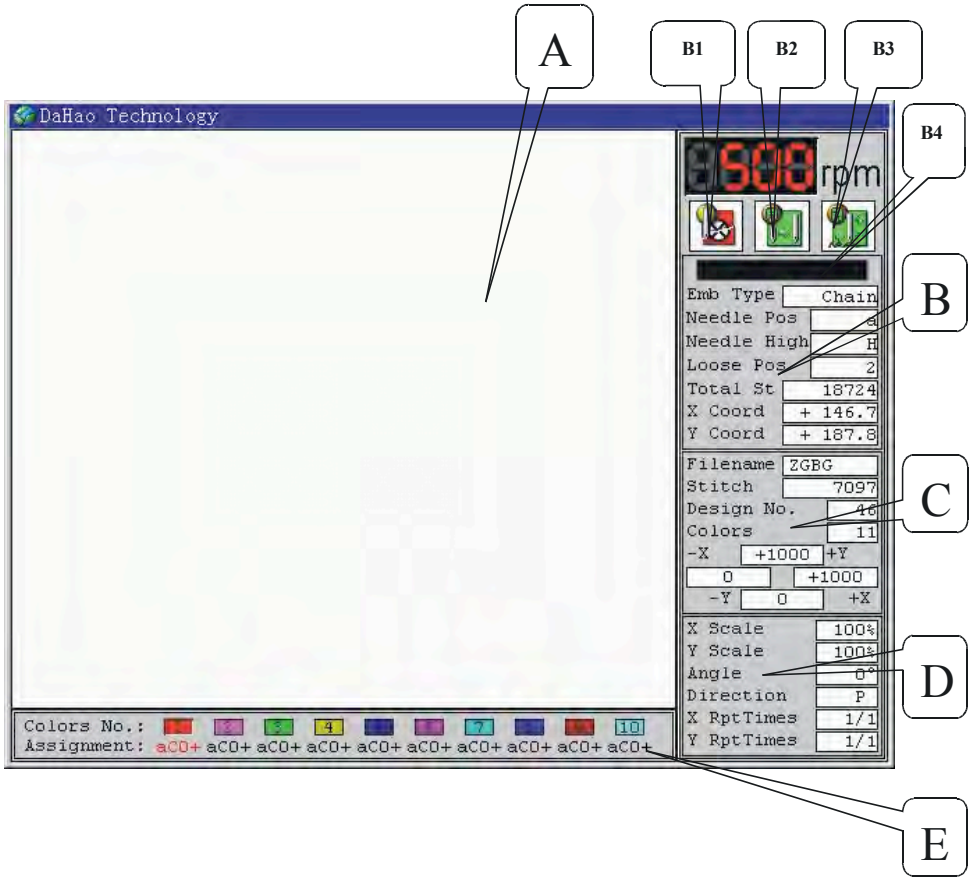


1. LCD 2. Operation keys 3. Floppy driver 4. USB connection

Note: this machine can input and out designs from 3.5 floppy disk and normal USB flash disk.

2-1-1 LCD Screen

This system is equipped with 10.4 inch high-light TFT LCD.



The above picture is the screen display immediately after power on.
The display areas (A~E) are explained as follows:

A: Design display area, to show status of the embroidering design.

B: Information display area, to show the operating status of the machine.

: It shows the rotation speed of the main shaft.

B1: It's for the current system status. The icon "  " means embroidery preparation status and "  " means embroidery confirmation status or embroidery status.

The status "  " is for preparation work; and in "  " status the user can press the start button to begin embroidering. 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, move frame around the design range, 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 "  ".

B2: It displays the machine's working mode: manual color change manual start "  ", auto color change manual start "  " or auto color change auto start "  ". You can press the switch key "  " on keyboard to change among the above three modes:

B3: It is for embroidery mode: normal embroidery "  ", low-speed idling "  ", or high-speed idling "  ". Press the key "  " to switch among them.

B4: It shows the special operations or causes of machine stop during embroidery. For example, when finish embroidering, "Emb. Complete" will be displayed on screen; when the machine is stopped by operators, "Pull Bar Stop" will be displayed on screen.

"Emb Type": This area is for displaying loop mode, chain mode or standard mode. It will show different names when users select those three modes. Users can change into different

modes by using “Choose Head” and “Stitch Sort” in Manual Operation assembly.

“Needle Pos”: It shows the current needle position information. In standard embroidery it shows Arab numbers; in chain/loop embroidery its “a ~ f” represents “1#~6#” looper. E.g. if you want to change the color from “1” to “3”, which means to change the looper from “a” to “c”, press the digital key “3”, after the color changing, the needle position is at “C”.

“Needle High”: When the machine is running loop embroidery, this area shows the current needle height. The needle height is divided into 0~9 levels. The highest level “H” is also named the highest withdrawal level, which is the needle bar position used for frame changing or idling operation. In loop/chain embroidery, you can set the needle height by the manual operation menu. (Refer to chapter 5-3 for details.) If the changed height is not on any of the above 0~9 levels, “Out” will be displayed. There is no display in this area when the machine is in standard embroidery.

“Loose Pos”: It shows the current position of loose thread. It shows with numbers 0-3. If the thread loosing is not enough, it will show “Out”.

“Total St”: It is the total stitch count after clearing. Press the key “CL” in the main menu and select “Clear Stitch Count”. If you don’t want to clear, you can press the key “  ” to exit.

“X Coord”, “Y Coord”: It is the X and Y coordination of the current frame position while the position of last time clearing is its zero point. In the main menu, press the key “CL”, digital key “2” and then press “  ” to select “Clr Frame Coordinate” to clear X and Y values. If you don’t want to clear, you can press the key “  ” to exit.

C: It is for showing design information. Mainly shows information of the embroidering design.

“Filename”, “Design No.”: design name and design number are the two elements of a design in the memory, which can be embroidered by pulling the bar. You may press “  ” to enter into design operation.

“Stitch”: The total stitch count in a design.

“Colors”: Total colors contained in a design.

“ ”: The coordinates of the design range point towards the origin point. By checking it, users can know the detailed information about the size.

D: This area shows parameters and information of the embroidering design.

“X Scale”, “Y Scale”: The length-weight scale of embroidering design towards the selected design from memory.

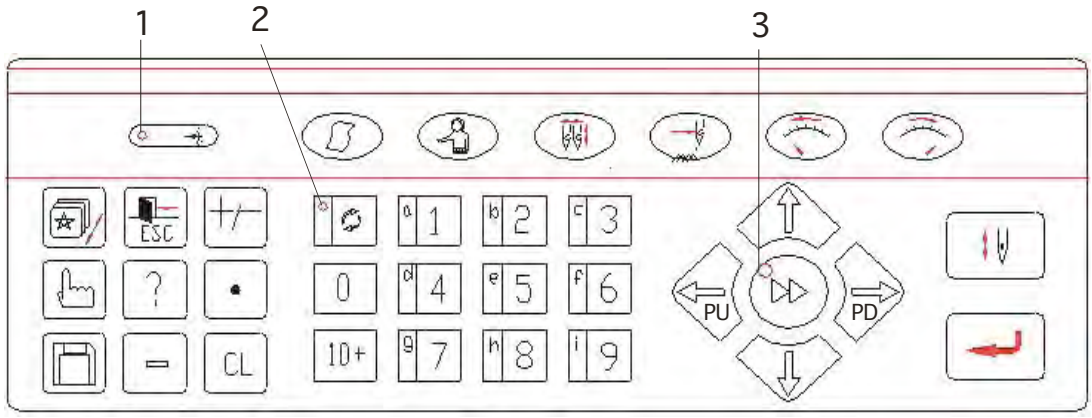
“Angle”, “Direction”: The direction and angle from the embroidering design to origin point of selected design.

“X RptTimes”: “Y RptTimes”: It asks you whether repeat or not? It also indicates the repetition on X and Y directions.

E: This area displays color-changing. Its main function is to show the color-changing information.

“Assignment”: Detailed information on each stitch. See Chapter 4-6 for details.

2-1-2 Operation Keyboard



The above is the operation keyboard. Its three indicator lights are as follows:

1. Indicator light of main shaft stopping 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” before starting embroidery, returning, moving frame, etc. The user can manually turn the shaft to the position.

2. Number switch light

This light indicates the current mode of number-alphabet keys. When it is off, the keys

perform the number-inputting function. When it is off, the keys perform the alphabet-inputting function.

3. Indicator light of frame moving speed

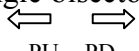
This light indicates the current speed mode of frame moving. When it is off, the frame moves in low speed. When it is on, the frame moves in high speed.

The information of keys is as follows:

1. Definition of keys and basic key operation

1) Function keys

Key name	Icon	Function
Parameter operation		Refer to chapter 4
Manual operation		Refer to chapter 5
Switch key for working methods		Press this key to switch among “manual color change and manual start” (without application of work order), “auto color change and manual start” and “auto color change and auto start”(with application of work order).
Embroidery method		Press this key to switch among normal embroidery, high-speed floating and low-speed floating.
Speed deceleration key		Use this key to set the embroidery rotating speed. Under the main screen, 10 rpm is reduced for each time of pressing this key. Keep pressing it and the rotation speed will decrease until the minimum speed. The minimum speed for normal embroidery can be set between 400~450 rpm. The minimum speed for chain embroidery is 150 rpm.
Speed acceleration key		Under the main screen, 10 rpm is raised for each time of pressing this key. Keep pressing it and the rotation speed will rise until the set highest speed. The highest speed for normal embroidery can be between 650 rpm and 800rpm. The highest speed for loop embroidery can be between 500 rpm and 650rpm.
Design operation		
Exit		Before confirmation in all operations, press this key to end operation and return to the upper menu. Keep pressing the key to return to the main screen.

Key name	Icon	Function
Number/Letter		When the light in the key is off, the keys (1~9) are used for number inputting. When the light is on, the keys are used for inputting letters.
+/-, . ,0, 1 ~ 9, a ~ i, ▭		For inputting design number, design name and all kinds of data and parameters
Assistant function		Refer to chapter 8
Help		This is to display software version and related information.
Dot key / threading key		Stop the machine under the main screen, press this key and then the Z axis will cause the curved needle rotate and stop at the threading position.
Disk operation		Refer to chapter 3
0 / origin return	0	Stop the machine under the main screen, press this key and then the D axis and looper will return to the origin points.
Clear		The key is used for clearing fault information or data such as stitch count and frame coordinates.
switch between two manual frame-moving speeds		Press this key to switch between high speed "  " and low speed "  ".
Frame-moving		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 "  " to move the cursor in the horizontal direction or to turn page while pressing "  " move the cursor in the vertical direction.
		Confirm or cancel embroidery
Confirmation		It's used for confirmation of various operations and data.
Note: Only"  " and "  "can be used during embroidery status.		

2-2 Operation Bar

Operation bar (or embroidery bar, under the table)

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

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

2-3 Darning Switch

1. Thread Break Detecting Device of 3 place

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

2. Thread Break Detecting Device of 2 place

On every head of the machine, there is a darning switch, and it can be move with hand to the up, middle or down position, but it is stop only at the middle or down position. When the switch is pushed to up position, it can not stay at up position, and the lamp is red, which hints that this head is in darning mode. In addition, while thread breaking during embroidering, the lamp is automatically changed into red and this head is in darning mode. When the switch is at middle position, this head is in darning mode if the lamp is red, or this head is in normal embroidering mode if the lamp is green. When the switch is pushed to down position, the lamp is off, which hints that this head is in stop mode. When the switch is pushed to middle position from down position, the lamp will be green and the head is in normal embroidering mode.

2-4 System's Working Statuses

1. The working statuses of computer embroidery machine can be divided into 3 statuses:

1) Embroidery preparation status “  ”:

To prepare embroidery, pre-set various control parameters, select designs and do other preparations.

2) Embroidery confirmation status “  ”:

Confirm the setting of control parameter and the machine enters the sub-running status.

3) Embroidery running status “  ”:

The machine runs embroidery.

How to switch among the above work statuses?

In preparation status  , after selecting pre-embroidery design and setting the parameters, press "  " key, , now the machine is in embroidery confirmation status  . Then pull the embroidery bar to right for embroidery, and the machine enters embroidery running status.

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

In embroidery confirmation status  , first press "  " key, and then press "  " key to release embroidery confirmation status, now the machine goes into preparation status  .

2. Embroidery mode and tracing back to darn

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

After the machine stops and the parameter “Frame Back Permit” is set as yes, pull the operation bar leftward and the frame will trace back to its last position along original path. If pull the bar one time, the frame will return one stitch. If pull the bar continuously, the frame will return one stitch after another continuously, after the frame tracing back 10 stitches continuously, the frame will trace back continuously even when you release the bar (this may be different according to the machine types). When the frame return continuously, release the bar and pull the bar to leftward again, the frame will stop.

To trace back is usually for darning. When tracing back stops, push the darning switch of the machine head (intended for darning operation) into the darning mode, then pull the

operation bar rightward and this machine head will start darning while other heads not. When the frame reaches the point where the frame begins to trace back, the other heads whose darning switches are in normal embroidering mode will start to embroider together.

3. Normal Embroidery and positioning floating

The machine has the following embroidery methods: normal embroidery, low-speed floating and high-speed floating. The icon“  ” is for normal embroidery; “  ” is for low-speed floating, and “  ” is for high-speed floating. Press the key “  ” to switch among the three methods.

Normal embroidery “  ” is the embroidery method in which the machine embroiders designs. Low-speed floating and high-speed floating are the assistant embroidery methods. They together with returning are for darning embroidery, which is necessary often because of thread break and so on.

If the machine is set as low-speed floating“  ”, when the user presses the startup button, the frame will move forward along the stitch trace with the main shaft not rotating; when the user presses the stop button, the frame will move backward along the stitch trace with the main shaft not rotating.

If the machine is set as high-speed floating “  ”, 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 positioning floating can make the frame directly run forwards (or backwards) to an assigned counting position, or to a latest color-changing position, or even to a latest stop-code position. Refer to the chapter “manual operation” for details. When the system comes back to the main screen, pull the bar forward/backward to perform the positioning floating.

4. Work order

Threads of different colors or different stitches (normal, chain or loop) 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 order effective, the machine will automatically change thread according to the set sequence. Otherwise the user should set in the manual operation before embroidery.

The user can choose whether to use the work order by the key "  ". When the work order is effective, "  " or "  " is displayed in area B of the main screen. Otherwise "  " is displayed in area B.

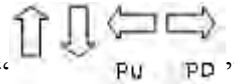
The operator has to decide whether to use the work order before embroidery. (Refer to chapter 4-6 for the setting of the work order.)

2-5 The Progress of Embroidery

The machine embroiders based on the designs in its memory. The following is the basic Flow Chart of Embroidery. Refer to the concerned chapters for details.

1. Embroidery confirmation

The following work besides the above three must be done before pull bar for embroidery. Take chain embroidery for example.

1) When the cloth is fixed in position, press the manual frame moving key " 

" to move the frame to the desired position.

2) Press successively the keys "  ", "7"or "  " (or press "  " under the main

menu) to get the looper back to the position for threading. And put the thread through to the cloth.

3) Ensure the machine is in normal embroidery status “  ”.

4) Decide whether to use the work order.

5) When the work order is not working, the chain or loop stitch can be selected manually. Press “  ”, “2” and “  ”under the main menu. And then select chain or loop stitch by pressing “  ” and “  ”.

6) Ensure that the main shaft is at the stop position (the indicator light is on). Otherwise press “  ”and “8” to manually turn the main shaft.

7) Ensure that the needle height is in the embroidery position. If not, manually set the needle height. Press “  ”, “8” and “  ” to raise the needle height to the position. The embroidery position can be selected between 0 and 9.

2. Cancel embroidery

When the machine is in embroidery confirmation status “  ” and not running, press “  ”. And the machine will ask you to confirm the instruction. Press“  ”to exit embroidery.

Chapter 3 Floppy and USB Disk Management

The user can exchange data between the disk and the machine. The user can also do some other disk management like deleting disk files and formatting disk. The system support both 1.44M and 720K floppy disks. The system can read data files in format DSB (binary system), format DST (ternary system) and format DSZ (Z coding system), and can output data files in format DSB to floppy disk. The system can forbid the output of design data, so as to protect the interests of machine owner.

Note: USB disk management discussed in this chapter has to obey appendix IV: USB disk operation regulation.

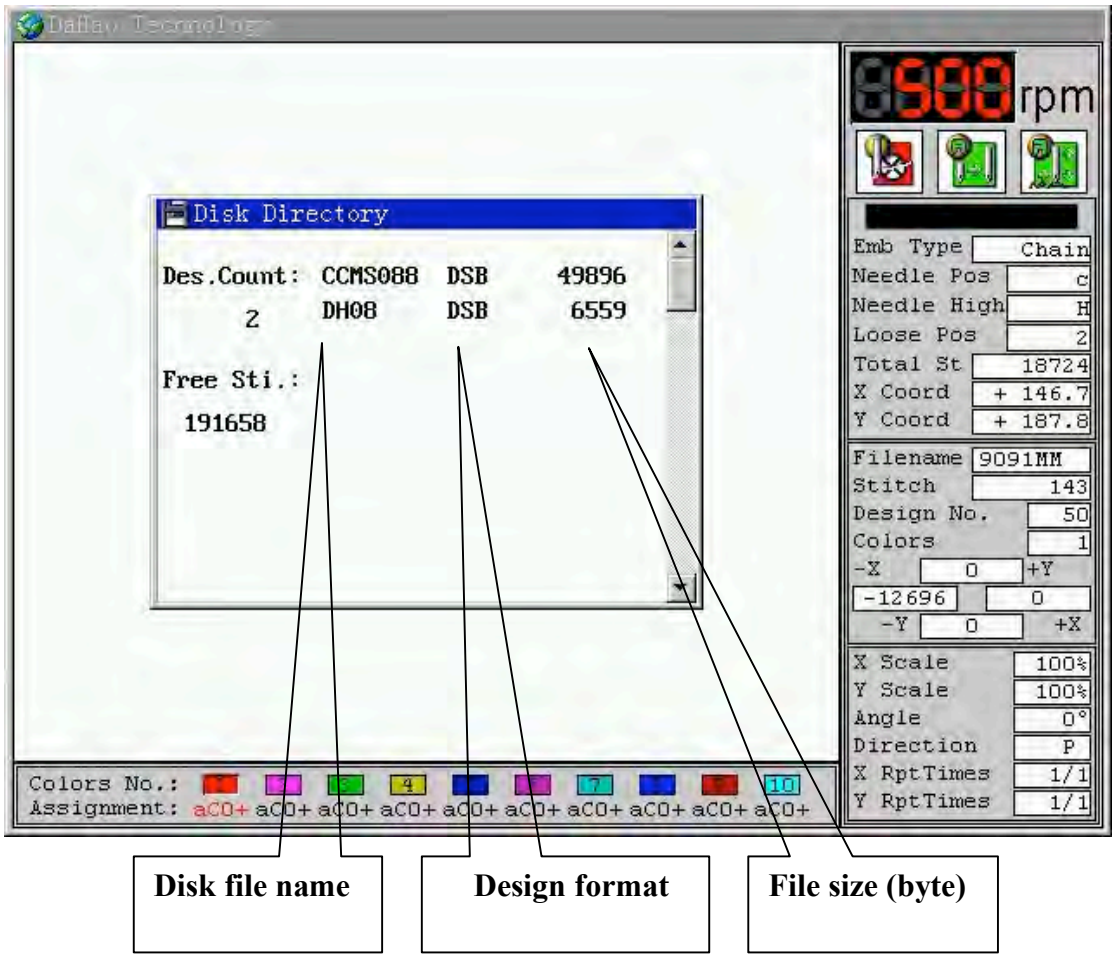
3-1 Disk Directory

This is to view the file (format DSB, DST and DSZ) directory and the free space in floppy disk (Tajima format).

Operation:

1) Under the main screen press “  ” to enter the disk management menu.

2) Press “1” and “  ” to enter the disk directory menu. The floppy driver begins to read the disk directory with its indicator LED on. The screen displays the design list as follows:



3) If the design list is more than one page, please press “ Pu PD ” turn pages.

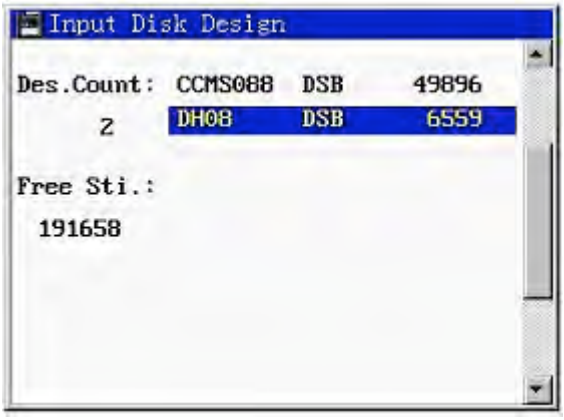
4) Press “ ESC ” to return to the former menu.

3-2 Disk Design Input to Memory

The machine can recognize the design files (“.DSB”, “.DST” and “.DSZ”) in floppy disks of TAJIMA format or BARUDAN FDR format, and input the design files to the machine memory.

1) Under the main screen press “ ” to enter the disk management menu.

2) Press “2” and “ ” to enter the menu “Design Input”. The floppy driver begins to read the disk directory with its indicator LED on. The screen displays the design list. Press the key “ ” to select a design and press “ ” to confirm the selection.



3) Then the system will provide and display an available design number (smallest number) which the user can change. For example, if the system provides a minimum number 20 and the user wants to use 65, press “6”, “5” and “ ”. If the number has been used, confirmation will fail. Otherwise continue the following operations. If you want to input a new design number, press “CL”. In most cases please use the provided number. At the same time the system asks you to input the design name in memory (memory name). If the user uses the disk name as memory name, press the key “ ”. Otherwise press the keys “ PU PD ” to select a character and then press the key “ ” to input. After input of the whole name, press “ ” to confirm the name or press “CL” to input a new name.

4) The system starts to input the selected design file. A progress bar is displayed in the

inputting process. Immediately 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 whether to embroider the input design immediately.

Press“ ⇧ ⇩ ” to select "Yes", then press“ ↵ ”, and the system will enter the parameter setting operation.

3-3 Design Output from Memory to Disk

This is to save the memory designs into the Tajima format disk in the “DSB.” format.
Operation:

1) Under the main screen shows press “ 💾 ” to enter the disk management menu.

2) Select the third option “Design Output” and the system asks you to input the design’s memory number.

3) Press the numerical key to input the design’s memory number, or press “ ↵ ” to enter the memory design directory to select by pressing keys “ ⇧ ⇩ ” and “ ↵ ”. (Refer to chapter design operation.)

4) Press the key “ ↵ ”. If there is no design in the memory which has the input No., the confirmation will fail. Otherwise the system will display its memory name and ask 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 press“ ⇧ ⇩ ⇦ ⇨ PU PD ”and “ ▭ ” to select characters. And then press “ ↵ ” to confirm the input name or press “CL” to cancel and input a new name.

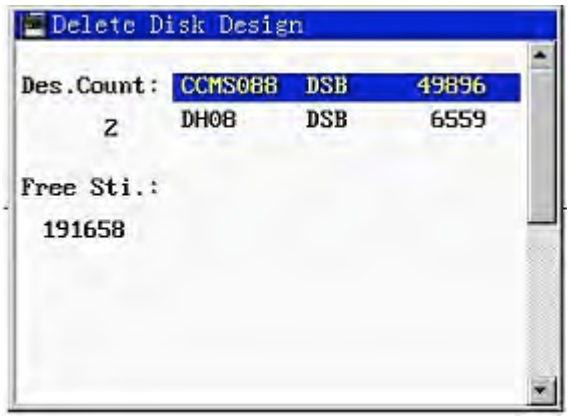
6) The output begins and a progress bar appears in the process. The system will return to the main screen after the output.

3-4 Delete Disk Design

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

1) Under the main screen press " " to enter the disk management menu.

2) Press " " and " " to enter the disk directory menu. The floppy driver begins to read the disk directory with its indicator LED on. The screen displays the design list



3) Press “ ” to select the design.

4) Press “ ” to confirm and delete the design file. Or press “ ESC ” to exit and return to the main screen.

3-5 Format Disk

The machine can format the 1.44M/720K floppy disk and USB disk in DOS format. A new disk has to be formatted before use.

Operation:

1) Under the main screen press“ ” to enter the disk management menu.

2) Press “5” to select "Format 1.44M Disk" or “6” to select “Format 720k Disk”.

3) Press“ ” to confirm the operation of formatting. A progress bar will appear and after formatting the system will return to the main screen.

3-6 Forbid Design Out

This function is to forbid copying designs in the memory to the disk. Once the password (0~9 digits) is set for this purpose, nobody can practice the operation "Design Out" without inputting the right password. The user can only output designs from the memory after closing the forbidding.

Note: Before using this function, the password of machine administrator must be set first. And only after the machine administrator password is set, it's possible to open or close this function.

3-7 PC Com Design Input

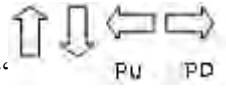
This function is to input designs from PC to the machine by the serial port. When the transmission is fulfilled, the system will return to the "Disk Management" screen. If the transmission fails, the system will show the error information. Refer to chapter 10.

3-8 USB Disk Design Input to Memory

The machine can recognize the design files (".DSB", ".DST" and ".DSZ") in USB disks and input the design files to the machine memory.

1) Under the main screen press "  " to enter the disk management menu.

2) Press "9" and "  " to enter the menu "U. Des. Input". The machine begins to read the disk directory and then displays the design list. Press the key "  " to select a design and press "  " to confirm the selection.

3) Then the system will provide and display an available design number (smallest number) which the user can change. For example, if the system provides a minimum number 20 and the user wants to use 99, press "9", "9" and "  ". If the number has been used, confirmation will fail. Otherwise continue the following operations. If you want to input a new design number, press "CL". In most cases please use the provided number. At the same time the system asks you to input the design name in memory (memory name). If the user uses the disk name as memory name, press the key "  ". Otherwise press the keys " 

" to select a character and then press the key "" to input. After input of the whole name, press "  " to confirm the name or press "CL" to input a new name.

4) The system starts to input the selected design file. A progress bar is displayed in the inputting process. Immediately 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 whether to embroider the input design immediately.

5) Press“ ⇧ ⇩ ” to select "Yes", then press“ ↵ ”, and the system will enter the parameter setting operation.

3-9 Design Output to USB Disk

This is to save the memory designs into the USB flash disk in the “DSB.” format.
Operation:

1) Under the main screen press “ 🖫 ” to enter the disk management menu. Press “ ⇦ ⇨ PU PD ” to enter the second page.

2) Select the first option “U. Des. Output” and the system asks you to select the directory for saving. Press “⇧ ⇩” to select the directory.

3) Press "↵" to enter the design selection screen. Press the numerical keys to input the design's memory number, or press "↵" to enter the memory design directory to select by pressing keys "⇧ ⇩" and "↵". (Refer to the chapter design operation.)

4) Press the key "↵". If there is no design in the memory which has the input No., the confirmation will fail. Otherwise the system will display its memory name and ask 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 press"⇧ ⇩ ⇦ ⇨ PU PD "and "▭" to select characters. And then press "↵" to confirm the input name or press "CL" to cancel and input a new name.

6) The output begins and a progress bar appears in the process. The system will return to

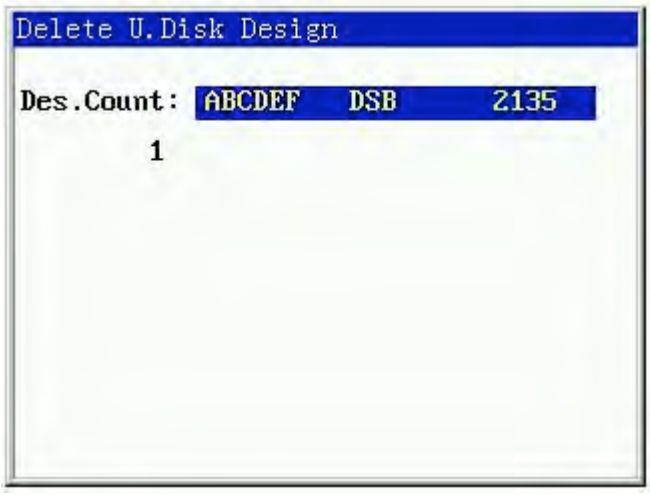
the main screen after the output.

3-10 Delete USB Disk Design

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

1) Under the main screen press " " to enter the disk management menu. Press " Pu Pd " to enter the second page.

2) Select the second option "Delete U. Design". Press " " to enter the disk directory menu. The screen displays the design list



3) Press " " to select the design.

4) Press " " to confirm and delete the design file. Or press " Esc " to exit and

return to the main screen.

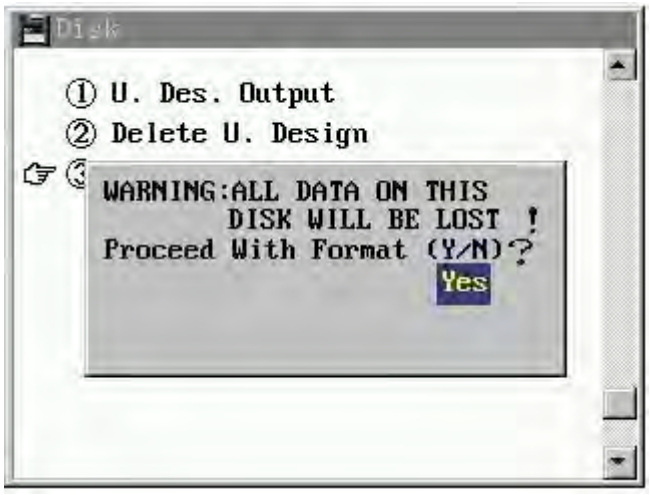
3-11 Format USB Disk

The machine can format the USB disk in its original format FAT12, FAT16 or FAT32.

Operation:

1) Under the main screen press“ ” to enter the disk management menu. Press “ Pu Pd ” to enter the second page.

2) Select the third option "Format U. Disk". Press “ ” to enter the menu and the system will give a warning information. Press “ ” to change and press “ ” to confirm the selection.



3) If you press“ ” to confirm the operation of formatting, a progress bar will appear and after formatting the system will return to the main screen.

Chapter 4 Parameter Setting

This system allows the user to set parameters for the designs to embroider before embroidery, so as to meet different embroidery requirements.

Note:

1) The parameter value can be changed only when a reverse color block appears.

2) When the parameter value is a number, you can press the up/down key to increase/decrease the value by 1 for each time until the value reaches its limit.

3) In parameter setting you can press “CL” to clear the parameter value before confirmation.

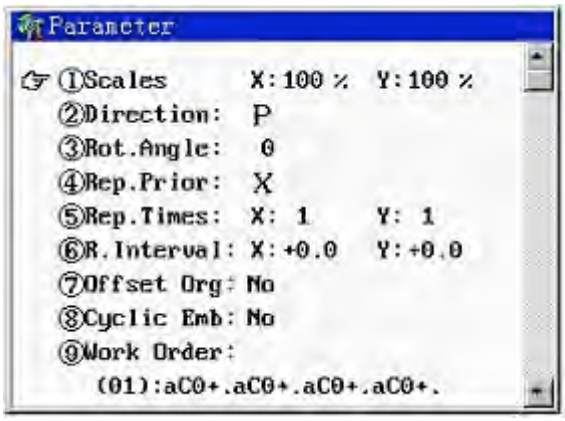
4-1 Parameter Menu

Under the embroidery preparation status and embroidery confirmation status, you can enter the parameter menu. Some options in it are unavailable in certain cases, when they are displayed in darkness.

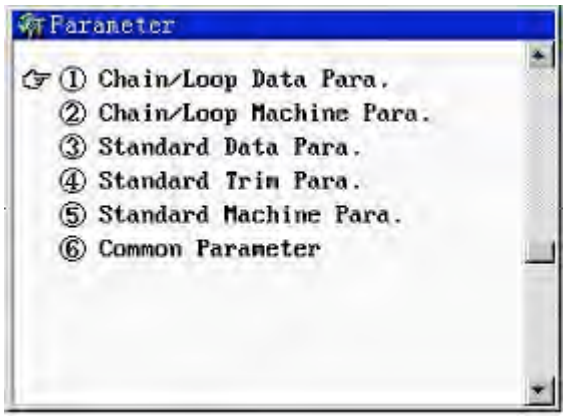
The scales, rotations and repetition parameters are saved with the design. When memory design is selected for embroidery, the above parameters restore.

Operation:

1) Press "  "to enter the parameter menu. Or after you select the design for embroidery and confirm you can enter the parameter menu under the status "  ". The first page:



The second page of parameter menu(Note: Machine type D/L has not the 3~5 standard parameters . The standard parameters display low-light.):



2) You can switch between the two pages of parameter menu by pressing "PU PD".

3) Press "⇧ ⇩" or the numerical key to select a menu option. When it is highlighted, press the confirmation key "↵" to enter its sub-menu.

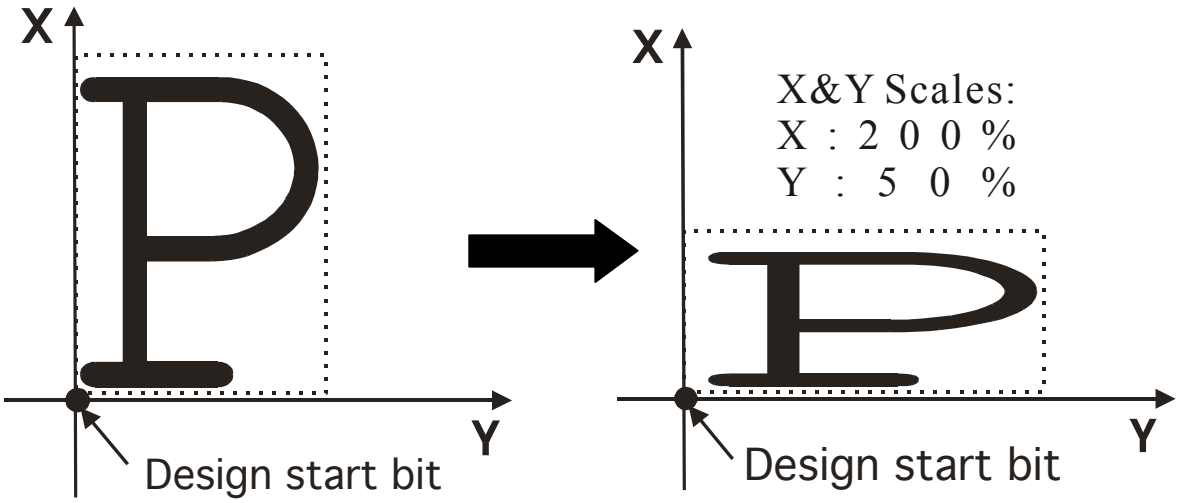
4-2 Real Time Rotation and Scaling Up/Down and Repetition

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

Note: Now introduce the operation of scaling ratio, the operation of the other parameters is similar.

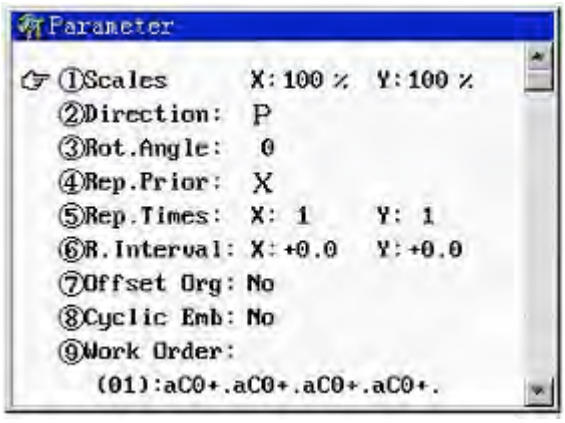
1. Setting X/Y scaling ratio

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



Operation:

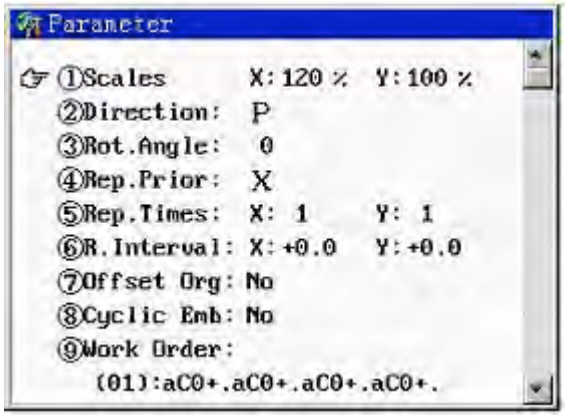
1) Under the status “ ”, press “ ” to enter the parameter menu, which is as follows:



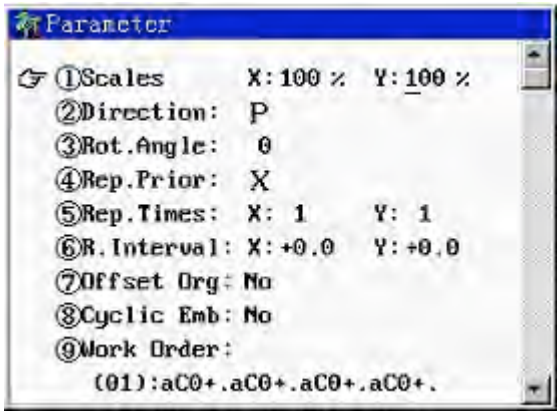
Press“⇧ ⇩” to move the icon “☞” to select a parameter, and press“ ” to confirm the selection. Then you can change the parameter value. Please read the following example.

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 ~ 200(%). E.g. "1", "2" and "0" are for 120%. And the screen is as follows:



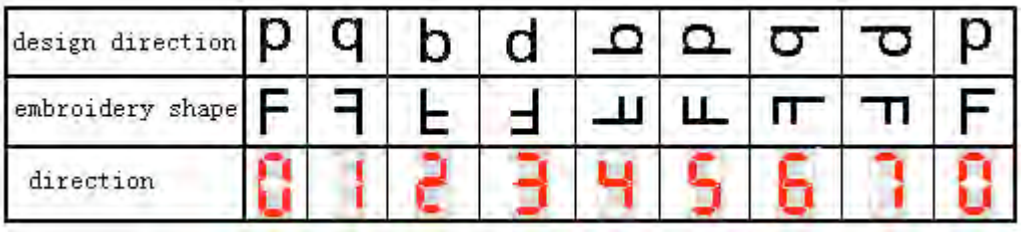
3) Press“ ” to input the Y scale where there is a cursor “_”. It is as the follows:



Input numbers to set the X scale 50 ~ 200(%). E.g. "1", "6" and "0" are for 160%. Press “ ” to return to the upper menu.

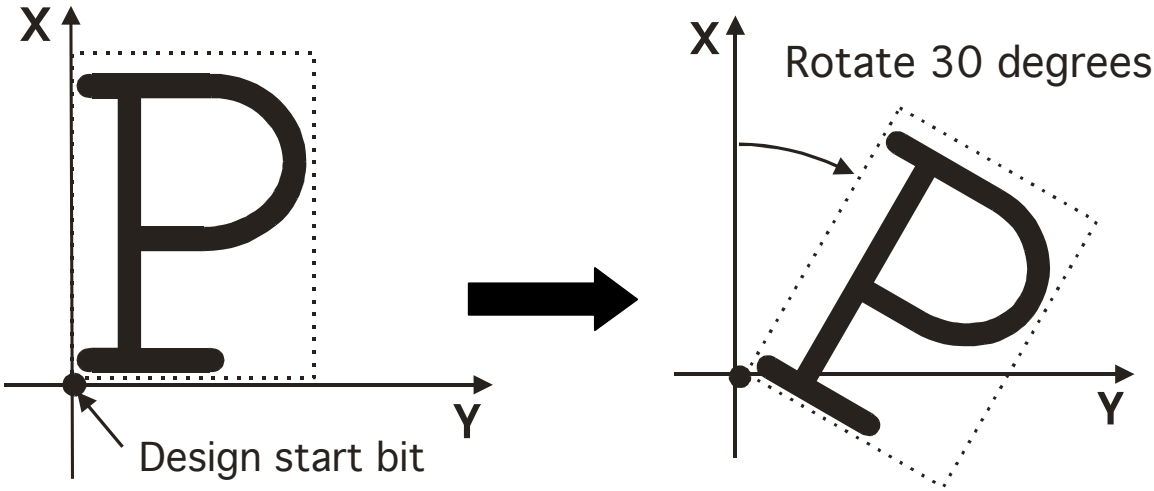
2. Setting design direction

The user can set the design in eight different directions with “0~7” displayed in “direction” of the main screen.



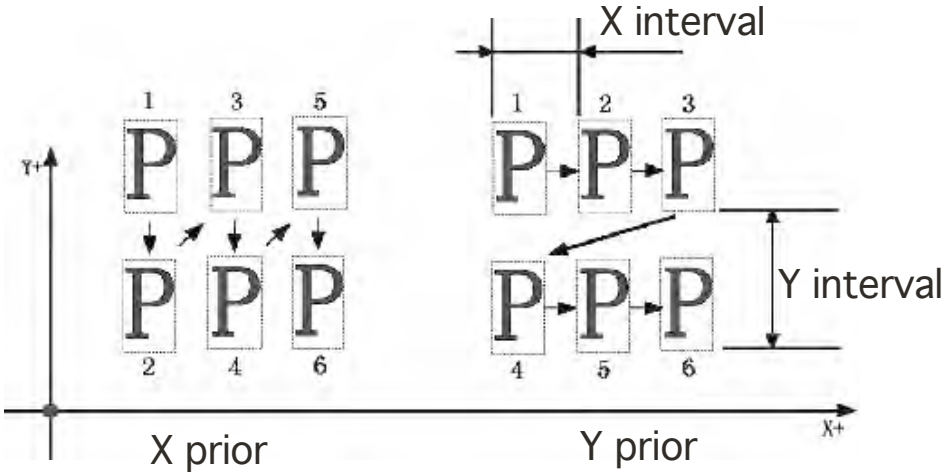
3. Setting rotation angle

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



4. Setting repetition priority

There are two choices for the parameter “Rep. Prior”: X and Y. X priority means that the machine first repeats embroidering designs on horizontal direction and then designs on vertical direction. Y priority means the contrary.



5. Setting repetition times

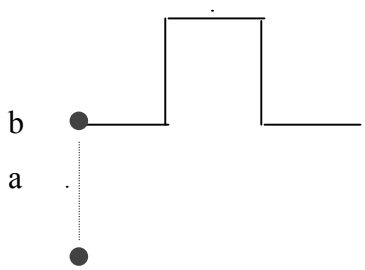
X repetition times mean those in column and Y repetition times mean those in line. In the above illustration, X repetition is 3 times and Y repetition is 2 times. The maximum repetition times in each of X and Y direction are 99. So the maximum total repetition is 9801.

6. Setting repetition interval

X interval means the distance between every two repetition designs on horizontal direction and Y interval means that on vertical direction. Usually the interval value is between -999.9 and +999.9 mm.

4-3 Offset Point

The offset point can be any point except start point. See the following picture:

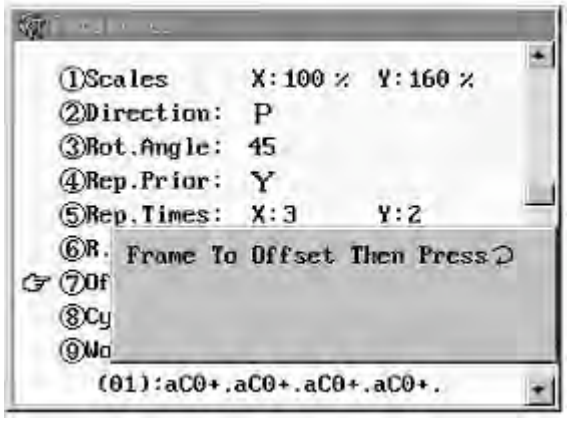


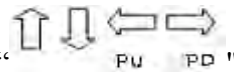
a: Offset point

b: Start point

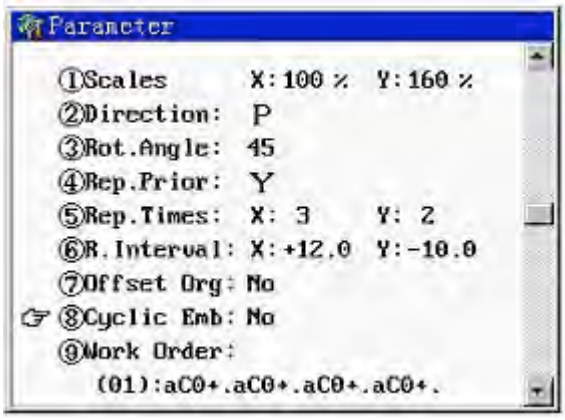
Set the offset point and the frame stays at the offset point (a) before embroidery. Pull the bar and the frame will move automatically to the start point (b). Pull the bar again and the embroidery will begin. The machine stops after embroidery. Pull the bar again and the frame will return to the offset point (a) if the frame hasn't return to the point (a) yet and whether "auto origin point return" has been set as yes or not. Pull the bar again and the above operations will be repeated.

1) Under the status "  ", press "  " to enter the parameter menu, which is as follows. Press"  " to move the icon "  " to select "Offset Org", and press"  " to enter its setting. A frame-moving menu appears:



2) Press " 

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



4-4 Cyclic Embroidery

This function is to increase the embroidery productivity. Cyclic embroidery and offset point functions can not be in working status at the same time.

When the parameter “Cyclic Emb.” is set as “Yes”, the cyclic embroidery function is enabled. When this function is enabled, after completing the designated design the machine will automatically embroider it again without pulling the bar.

If the function “Cyclic Emb.” is effective, the icon “  ” will appear next to main shaft speed in the main screen.

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

4-5 Work Order

Work order is a function designed to improve the embroidery efficiency and change color automatically. It is based on design’s color blocks and every color block has one set of parameters. Every set of parameters has different contents for chain and normal embroidery.

Chain embroidery:

Each parameter set has four parameters. The first is to show the current needle position(Machine type D/N doesn't need setting.). You can input the color change order (the using order of the looper) of the current design according to "looper Number" in machine parameters. There are six colors "a~f" for selection. The second parameter is for setting the embroidery stitch of the color block. Value "C" represents chain stitch and "L" represents loop stitch. Third parameter is for setting needle height, which can be selected from "0~9" levels. The fourth is for setting patching embroidery, which is selected among "A~0, +". "+" means no patching. "A" means setting offset point.

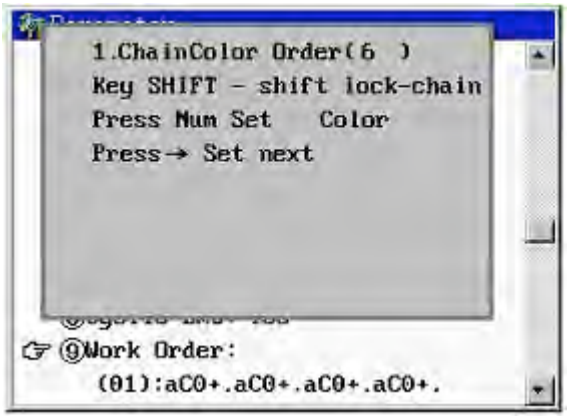
Normal embroidery(Machine type D/L doesn't need setting.):

Each parameter set has two parameters. The first is for setting needle color. The selection range is decided by the value of parameter "Needles In A Head" in the menu "Standard Machine Parameters". The second is for setting patching embroidery, which is selected among "A~0, +". "+" means no patching. "A" means setting offset point.

To use work order, you also have to under the main screen press the work order key "" to select using work order, and there will be an icon "" or "" in the main screen (near the work order).

Operation:

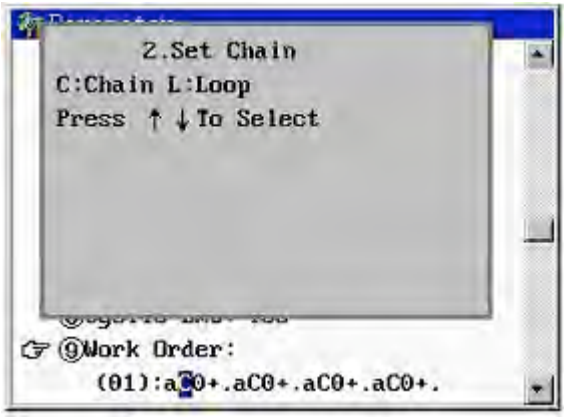
Press "" to enter the parameter menu. Press"" to move the icon "" to select "Work Order", and press"" to enter its setting. Input the stitch number and the chain/normal embroidery choice menu appears.



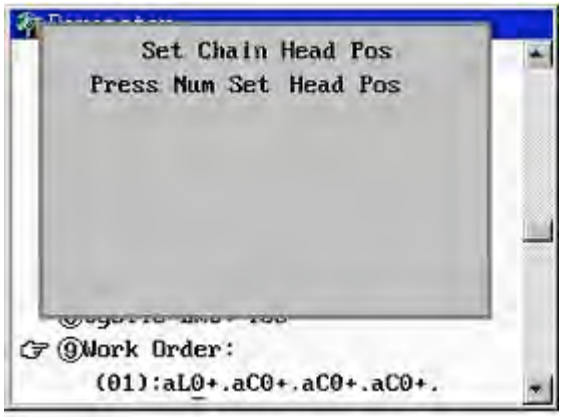
Press the key to switch between chain and normal embroidery, whose different parameter settings are introduced in the following.

Chain embroidery: The default is to enter chain embroidery parameter setting.

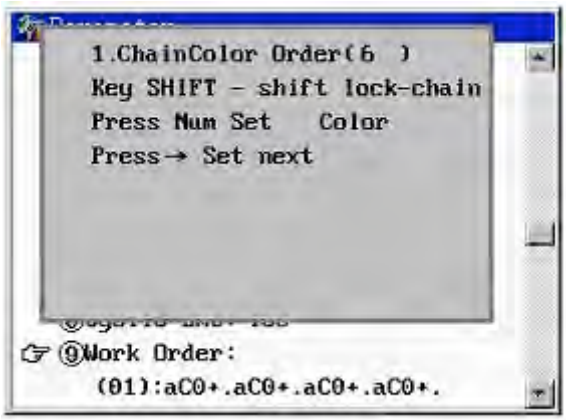
a) Press keys to input "a~f" to select the corresponding needle position. The system goes to the next parameter.



2) Press "⇧" or "⇩" to select chain stitch. Press "↵" to enter the next parameter.



3) Input "0~9" to select needle height and the system automatically enter the first parameter of the next stitch.

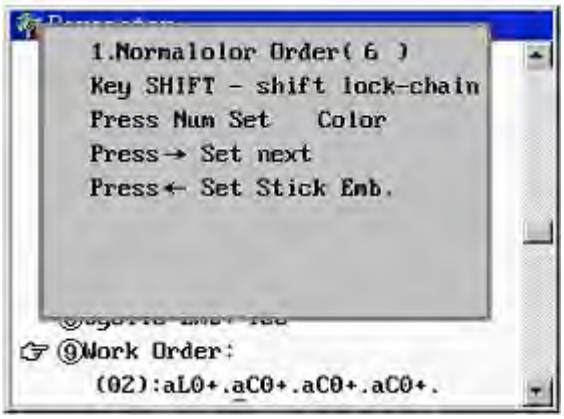


The setting of the first stitch is completed.

At this moment you can press ⇦ to set the patching parameters of last stitch.

Normal embroidery: (**(Machine type D/L doesn't need setting.**.)

Press  to switch from the chain parameter menu to normal parameter menu.

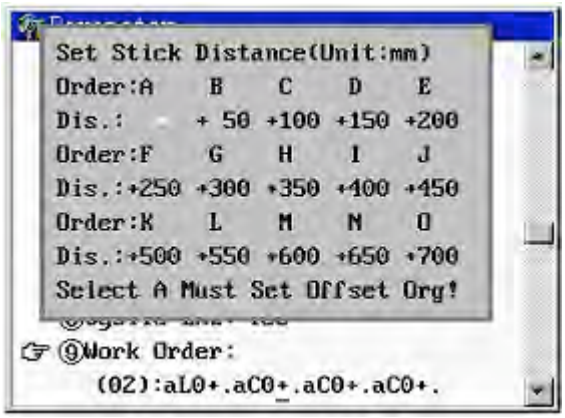


Input a number to select the corresponding needle. The system will go to the first parameter of the next stitch.

Patching embroidery:

This function can be activated both in chain and normal embroidery.

When the cursor is on the first parameter of one stitch, you can press ⇦ to activate the patching function menu of the last stitch.



Press "⇧ ⇩"to select the frame moving distance of patching among "**A ~ o,+**". "+" means no patching. "A" means setting offset point.

Cyclic of Parameter Setting:

This function can be activated both in chain and normal embroidery.

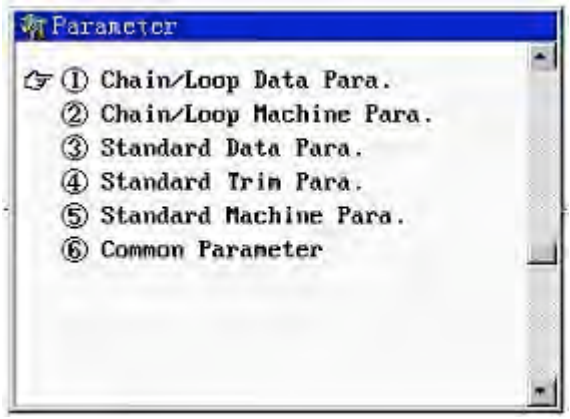
When parameters of one stitch is completed and it comes to the next stitch, you can press

“ ” to activate the cyclic function.

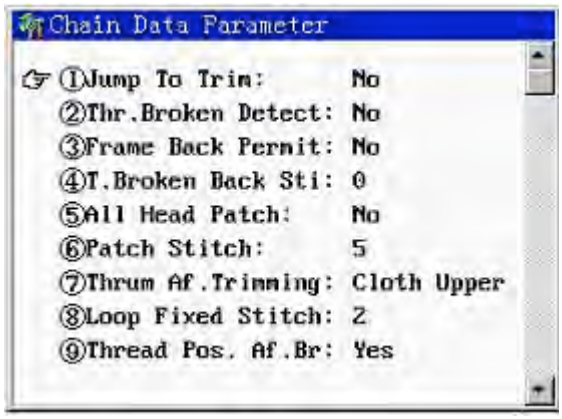
A setting menu appears. You can press “ ” to select. If “No” is selected, press “ ” to exit. If “YES” is selected, the system exits and the parameter setting of the following stitches will keep the same to those of this stitch.

4-6 Other Parameters

1. Press “ ” to enter the “Parameter” menu, and then press “ Pu PD ” to enter its second page.



2. Press “ ” to move the icon “ ” to select a parameter and press “ ” to enter its setting. Take “Chain/Loop Data” as an example.



You can press “ ” to select a parameter. When it is selected, there is a square cursor on the parameter value. Press “ ” to enter its setting.

Note: Refer to chapter 9 for parameters’ default value and setting range.

Chapter 5 Manual Operation

When the machine is not running, manually control the machine to do simple movement to get in desired status or special movement. Press “ ” in the keyboard and press “ PU PD ” under the embroidery preparation status “ ” to view the following menus (3 pages).

Note: The first page ⑨ item of Machine type D/N is not “Manual Trim” but “Take Off Thread”.

(Chain Sequin)

Note: The 1st, 4th and 5th parameters are for mix embroidery machines (M) and are

unavailable (in darkness) for loop embroidery machines (L).

5-1 Choose Head

This item of Machine type D/L display low- light.

It is to choose the proper machine head type according to embroidery requirement.

Operation:

1) Under the main screen and the embroidery preparation status “  ”, press “  ” to enter the manual operation menu. Then press “  ” to move the icon “  ” to select “Choose Head” and press “  ” to enter its setting.

2) Press “  ” or “  ” to select normal embroidery head or loop/chain embroidery head and press the confirmation key “  ”.

5-2 Stitch Sort

Only when the loop/chain machine head is selected, this parameter is effective.

This parameter is to select the proper stitch type according to the real embroidery requirement.

Option:

1) Under the main screen and the embroidery preparation status “  ”, press “  ” to enter the manual operation menu. Then press “  ” to move the icon “  ” to select “Stitch Sort” and press “  ” to enter its setting.

2) Press "⇧" or "⇩" to select chain stitch or loop stitch and press the confirmation key "↵".

Note:

"Emb Type" in the main screen is different for different settings of machine head and stitch parameters.

Standard embroidery head: Standard

Chain/loop head chain stitch: Chain

Chain/loop head chain stitch: Loop

5-3 Needle High

Only when the loop/chain machine head is selected, this parameter is effective.

Choose the proper stitch type according to the embroidery requirement. To set the value of height, you can press the numeral keys to select from 0~9, or you can press "⇧⇩" to select the highest value "H" or the lowest value "L".

Operation:

1) Under the main screen and the embroidery preparation status "", press "" to enter the manual operation menu. Then press "⇧⇩" to move the icon "☞" to select "Needle High" and press "↵" to enter its setting. The screen shows "Input Needle High: H".

2) Input the number where there is a cursor "—". In this pop-up menu, the default height value is "H". If you want to set the parameter value as "H", press the key "↵". If you want to input a number between 0~9, press the key of the number and then press "↵" to confirm.

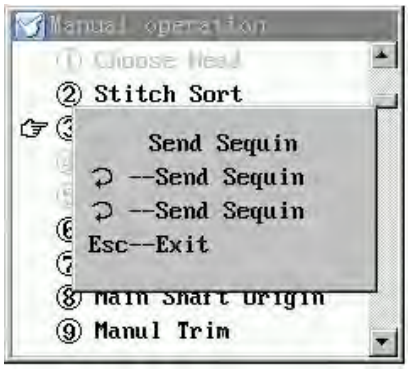
5-4 Send Sequin

This option is available only when the system supports chain sequin embroidery. This function is mainly to check whether the sequin parameters are properly set and whether the sequin device can properly work.

Operation:

1) Under the main screen and the machine stopping status, press "🧍" to enter the manual operation menu. Then press "⇧⇩" to move the icon "☞" to select "Send Sequin" and press "↵" to enter its menu.

2) The "Send Sequin" menu appears. Press the direction keys according to the system instructions, and the correspondent sequin device will deliver one sequin. If the direction key is pressed without release, a series of sequins will be delivered.



5-5 Origin Back

In embroidery process, after pulling bar to stop the machine, if you want to return to the start point of this time embroidery, you can use this operation to move the frame to the start point. At the same time the display in the main screen partly returns to the original status of this time embroidery.

Operation:

Under the main screen, when embroidery preparation status shows "  ", press "  " to enter the manual operation menu. Then press "  " to move the icon "  " to select "Origin Back" and press "  ". Then the machine will return to the start point.

5-6 Stop Back

If after machine-stop the frame has been moved or in other operations, this operation can move the frame back to the stop point.

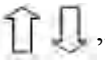
Operation:

Under the main screen, when embroidery preparation status shows "  ", press "  " to enter the manual operation menu. Then press "  " to move the icon "  " to select "Choose Head" and press "  ". Then the machine will return to the stop point.

5-7 D. Shaft Origin

This operation is to return the needle to the origin point, namely facing the front, so as to prepare for the next embroidery operation.

Operation:

Under the main screen, when embroidery preparation status shows "  ", press "  " to enter the manual operation menu. Then press "  " to move the icon "  " to select "D. Shaft Origin" and press "  ". Then the needle bar will rotate back to the origin point.

5-8 Set Sequin Embroidery

This operation is available only when the system supports chain sequin embroidery.

Operation:

Under the main screen and the machine stopping status, press "  " to enter the manual operation menu. Then press "  " to move the icon "" to select "Set Sequin Emb." and press "  ". Then all the sequin devices which are open and in upper position will decelerate the presser foot.

5-9 Thread Position

The "Thread Position" means that the needle faces the back and the thread hole faces the front. This operation is to return the looper back to thread position. But the hooker's thread hole needs to be in the same line with the thread hole in the needle bar. This parameter has the same function with pressing the key ".".

Under the main screen, when embroidery preparation status shows "  ", press "  " to enter the manual operation menu. Then press "  " to move the icon "" to select "Thread Pos." and press "  ". Then the machine will return to the thread position.

5-10 Cancel Sequin Embroidery

This operation is available only when the system supports chain sequin embroidery.

Operation:

Under the main screen and the machine stopping status, press "  " to enter the manual operation menu. Then press "  " to move the icon "" to select "Cancel Sequin Emb." and press "  ". Then all the sequin devices which are open and in lower position will accelerate the presser foot.

5-11 Main Shaft Origin

This operation is to return the main shaft to 35° in case the main shaft hasn't reached 35° and the machine can't start by pulling the bar.

Operation:

Under the main screen, when embroidery preparation status shows "  ", press "  " to enter the manual operation menu. Then press "  " to move the icon "" to select

"Main Shaft Origin" and press "  ". Then the loop main shaft will rotate to the angle 35˚ and standard will rotate to the angle 100˚ with the hooking operation completed. At this moment the indication light (of the main shaft position) in the key board is on and you can pull the bar to start embroidery.

5-12 Manual Trim

It's to manually trim when machine not working. The operation is same as above.

5-13 Take off Thread

This fuction is fit for machine type D/N without trimming thread function. The function is used for taking off thread from needle when machine stop. The operation is same as above.

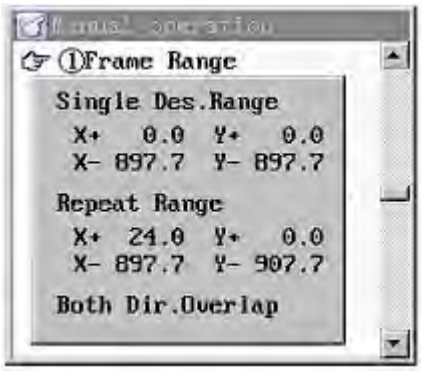
5-14 Frame Range

After selecting the design, you can use this operation to check whether the design is in the proper position of the cloth, so as to make better use of cloth and to prevent the design go beyond the frame.

This function is available only after selecting the embroidery design and before entering the embroidery confirmation status "  ".

Operation:

1) Under the main screen and the embroidery preparation status "  ", press "  ", "  " to enter the second page of manual operation. Then press "  " to select "Frame Range" and press "  " to enter this parameter setting. After a moment, the screen shows the design size and asks you to move the frame to the start point of embroidery:



2) Press keys “ PU PD ” to move the frame to the start point, click the key “ ”, and there will be a prompt for starting the operation “Frame Range”.

3) Press the bar right, and the frame will move along the design range from the start point to the stop point. Then the display will return to the main screen.

4) If the user wants to exit the operation during the above process, he can press “ ESC ” and the display will return to the main screen.

5-15 Embroider Range

The user can do this operation only after selecting the design and before the embroidery confirmation status “ ”. This is to embroider the design’s range so as to facilitate positioning operation.

Operation:

1) Under the main screen and the embroidery preparation status “ ”, press “ ”, “ PD ” to enter the second page of manual operation. Then press “ ” to select “Embroider Range” and press “ ” to enter this parameter setting.

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".

4) Now you can pull bar to embroider like embroidering a normal design. After

embroidery, the embroidery design number in the main screen changes back to the original design number. Or press the key “ ” to exit the embroidery confirmation status and return to the operation menu of the original design.

5-16 Embroider a Line

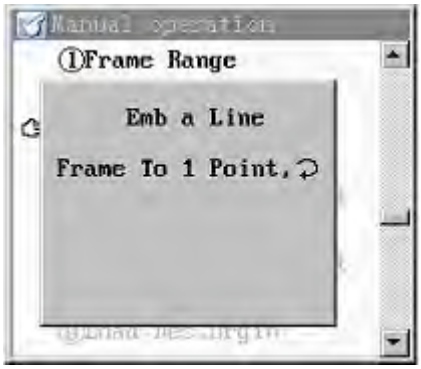
This function can help positioning operation.

It is available only after selecting the design and before entering the embroidery confirmation status “ ”.

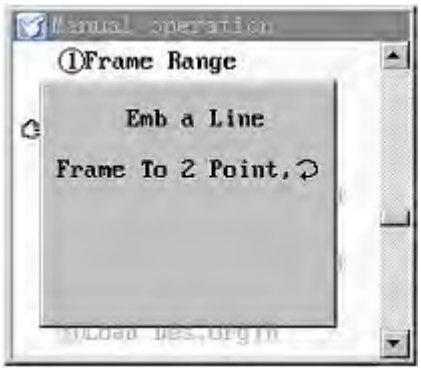
Operation:

1) Under the main screen and the embroidery preparation status “ ”, press “ ”, “ PD ” to enter the second page of manual operation. Then press “ ” to select “Embroider A lINE” and press “ ” to enter this parameter operation.

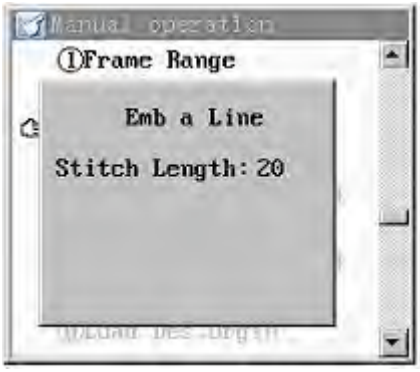
2) The system asks to confirm the first point. Press “ PU PD ” to move the frame to the start point of the line and press “ ”.



3) The system asks to confirm the second point. Press “ PU PD ” to move the frame to the end point of the line and press “ ”.



4) 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).



5) 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".

6) 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.

5-17 Forward Code Float

This operation is to move the frame to the next 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 second page of manual operation menu, press the confirmation key"  ", and then the machine will float forward to the next stop code or color-changing code and stop there.

5-18 Backward Code Float

This parameter is working only when parameter “Frame Back Permit” in “Loop Data Para” is set as “Yes”.

This operation is to move the frame backward to the last stop code in the design quickly, so as to let the machine start embroidery from anywhere.

Operation**:**

When the machine stops under the embroidery confirmation status “ ”, select the option “Backward Code Float” in the second page of manual operation menu, press the confirmation key“ ”, and then the machine will float backward to the last stop code or color-changing code and stop there.

5-19 Forward Stitch Float

This operation is to let the frame quickly move forward to the designated position according to the set stitches, so that the machine can embroider from any point.

Operation:

1) When the machine stops under the embroidery confirmation status “ ”, select the option “Forward Sti. Float” in the second page of the manual operation menu, and then press “ ”.

2) The system asks to input the floating stitches. Press the number keys to input. The minimum number is 0 and the maximum number is decided according to the real embroidery situation.

3) Press “ ”, and the frame will move forward the set stitches.

5-20 Backward Stitch Float

This parameter is working only when parameter “Frame Back Permit” in “Loop Data Para” is set as “Yes”.

This operation is to let the frame quickly move backward to the designated position according to the set stitches, so that the machine can embroider from any point.

Operation:

1) When the machine stops under the embroidery confirmation status “  ”, select the option “Backward Sti. Float” in the second page of the manual operation menu, and then press “  ”.

2) The system asks to input the floating stitches. Press the number keys to input. The minimum number is 0 and the maximum number is decided according to the real embroidery situation.

3) Press “  ”, and the frame will move backward the set stitches.

5-21 Save Des. Origin

This operation can save the start point of the current design. Later you restore the start point when embroidery of the design. To do this operation, you must set the origin point of the frame (in assistant operation). If the design’s origin point has been saved, there will be an icon “*” in front of the design number when it is in the memory design list display.

Operation:

Select the option “Save Des. Origin” in the second page of the manual operation menu and press “  ”. Then the system saves the current frame position as the origin point of the design and then returns to the main screen.

5-22 Load Des. Design

If the origin point of the current design has been saved, this operation can restore the position of the start point.

Operation:

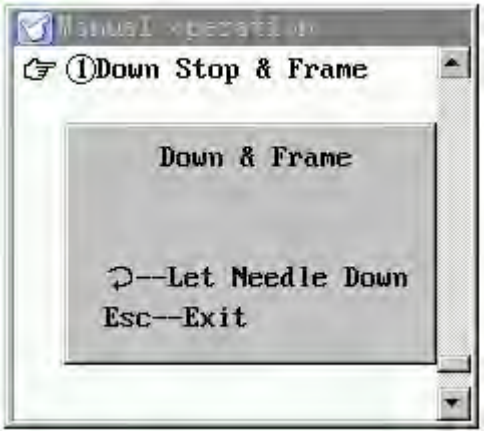
Under the main screen, when embroidery preparation status shows “ ”, press “ ” to enter the manual operation menu. Select the option “Load Des. Design” in the second page of the manual operation menu. Then press the key “ ”. If the design has a saved start point, the frame will move to the saved position.

5-23 Down Stop & Frame

The function is intended for quilt embroidery. When the needle stops in the down position, the operator can loose the cloth from the frame and move the frame by manual moving function. When the frame moves to the right position, fasten the cloth again and pull the bar to start embroidery.

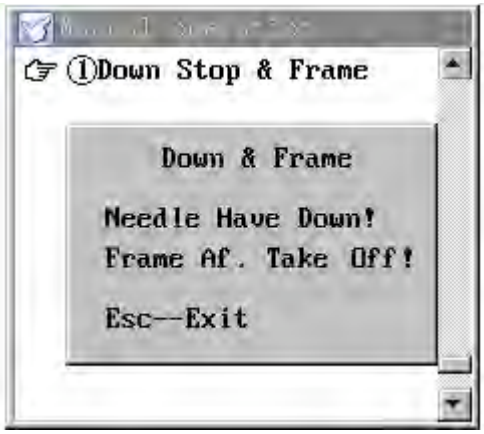
Operation:

1) Under the main screen, when embroidery preparation status shows “ ”, press “ ” to enter the manual operation menu. Select the option “Down Stop & Frame” in the third page of the manual operation menu. Then press the key “ ”.



2) If you press “ ”, the needle will stick into the embroidery cloth (Attention: careful!). Or you can press “ ESC ”to exit. When the needle is in the cloth, you can release the cloth from the frame. Then the frame-moving keys are available, and you can move

the frame.



3) When the frame arrive at the desired position, fix the cloth on the frame and press "**Esc**" to exit.

Chapter 6 Memory Design Operation

This system allows the operator to edit the memory designs so as to make the best use of the design resources. And it also provides the function “creating letter design”.

6-1 Enter the Memory Design Operation Menu

It’s possible to enter the memory design operation menu under both the non embroidery confirmation 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“  ” to enter the design operation menu and its first page is as follows:

2) Press keys “  ” to switch between the two pages.

3) Press keys “  ” or numerical keys to select a menu option. Then press the confirmation key “  ” to enter its submenu.

6-2 Select Design

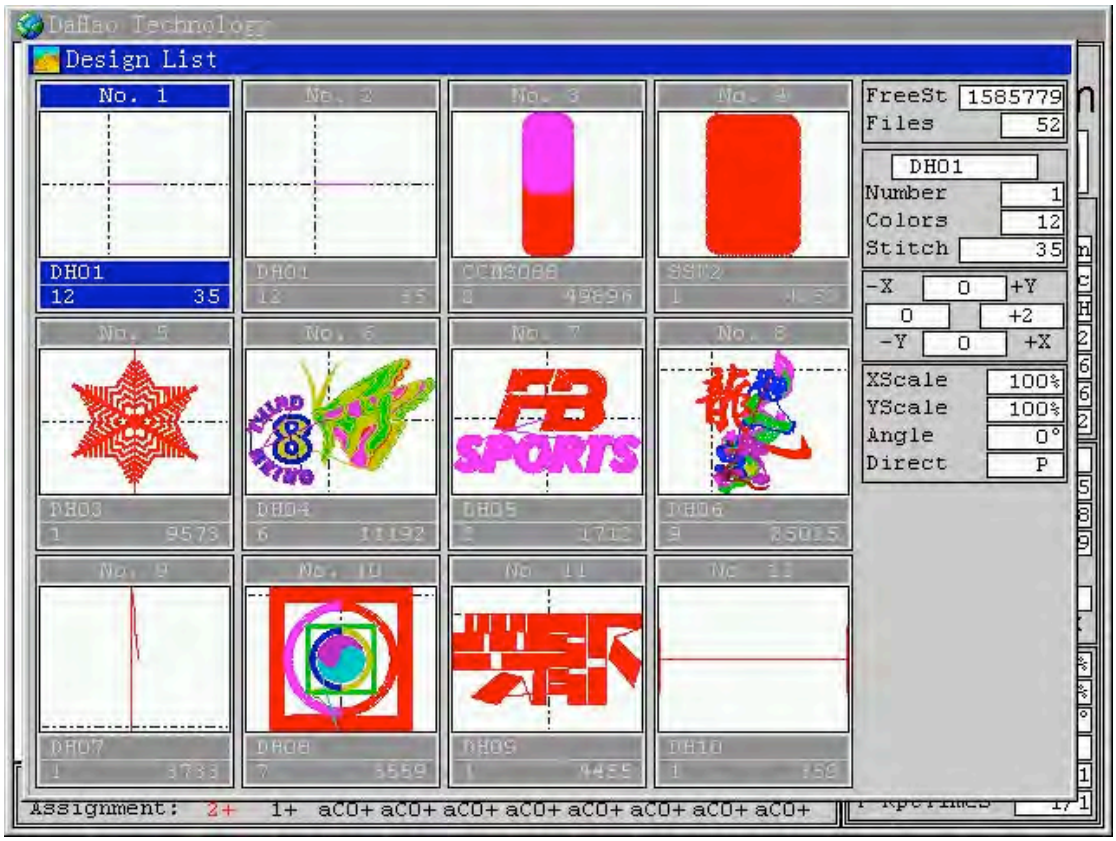
This operation is to select a design in memory for embroidery, which is only possible under the embroidery preparation status.

Operation:

1) Under the main screen and the embroidery confirmation status "  ", press "  " to enter the design menu. Press "  " to move the icon "  " to select "Select Design". Press the key "  " to enter its setting.

2) If the design's memory No. is known, press numerical keys to input the number. For example, press "1", "5" and then "  " to select No. 15. If there design No. 15 in the memory, it will be set for embroidery and the parameter setting menu will appear. Refer to chapter 4 for setting parameters. If design No. 15 doesn't exist, the selection confirmation will fail and the user can press "CL" to clear the input number and select/input a new one. If some designs in memory have been edited as a batch design and saved, the new batch design will be named by a ~ i. To embroider a batch design press the switch key to take the mode of alphabet inputting and then press keys to select a batch design.

3) If the user press "  " directly without inputting a number or after pressing "CL" to cancel the input, the directory of memory designs will be displayed on the screen.



Press keys “ PU PD ” to select a design intended for embroidery. Press the key “ ” to confirm selection. After that the screen will turn to the parameter setting menu.

If the user doesn’t change parameter setup, press “ ESC ” to exit and return to the main screen. For parameter setting refer to Part 4.

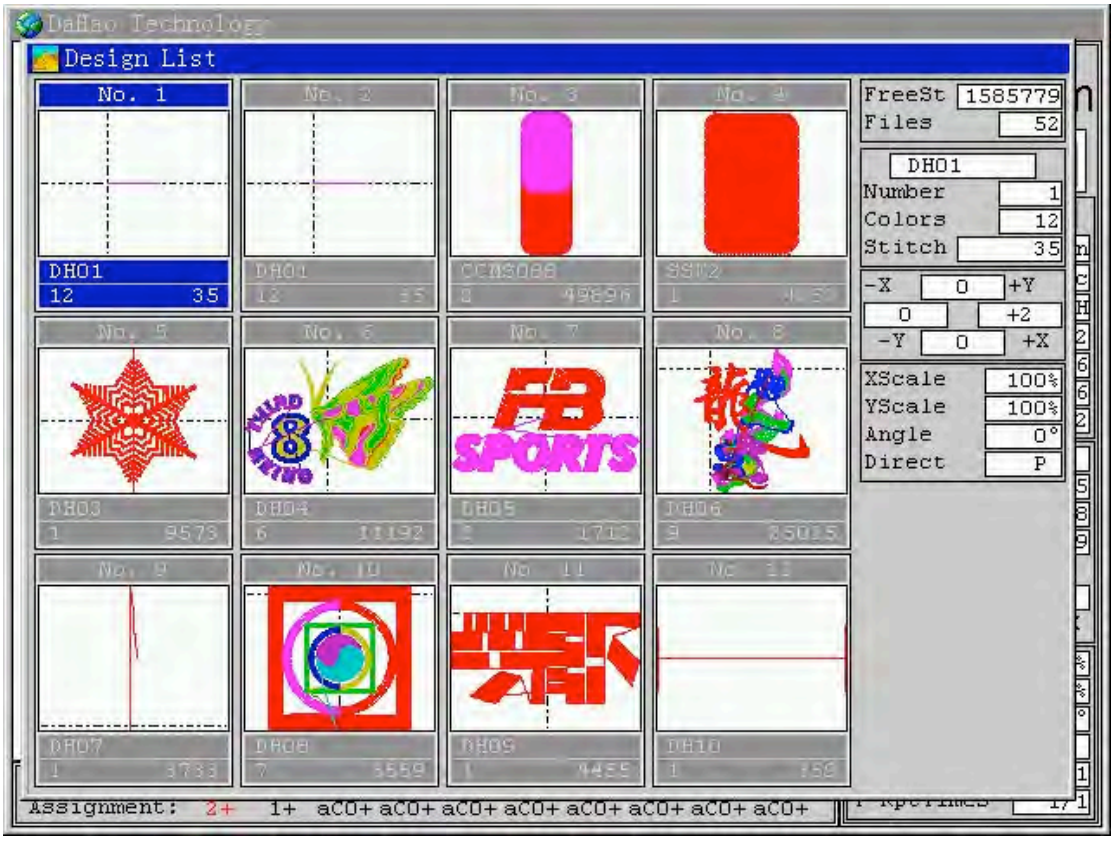
In the above operation, the user can press “ ESC ” to exit embroidery to return to the main screen at any time.

6-3 Show Memory Design

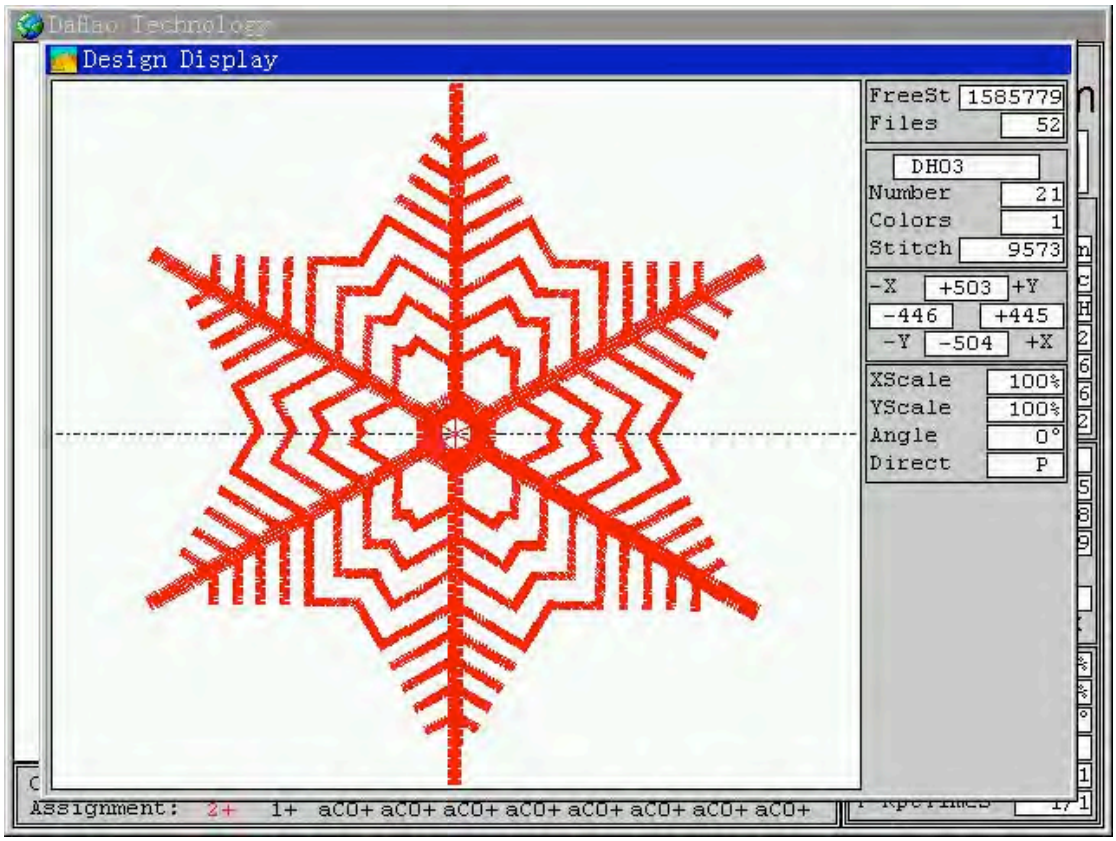
This operation is to list the memory designs and show their parameters.

1) Under the main screen, press “ ” to enter the design menu. Press “ ” to move the icon “☞” to select “Show Memory Design”. Press the key “ ” to enter its setting.

2) If you know the memory design number, press the numeral keys to input it. Otherwise press "  " and the screen will show the memory design list. In the display process of design, you can press "  " to skip any design to get quicker.



3) Press "  " to select the design. Press the key "  " to confirm the selection. The system enters the design display screen and the left side of it shows the basic information of the design.



It shows the free stitches in the memory and total designs at the right side of the screen. You can press “ PU PD ” to switch between designs.

6-4 Disk Input

This operation is the same to “Disk Des. Input” in disk operation.

See Chapter 3-2 for details.

6-5 Delete Design

It is to delete unneeded designs in the memory to save memory space. This operation must be done under the embroidery preparation status “ ”.

Operation:

1) Under the main screen and the status “ ”, press “ ” to enter the memory design operation menu. Press “ ” to move the icon “☞” to select “Delete Design”. Press the key “ ” to enter its setting.

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

6-6 Make Des. from Emb. Des.

This operation is to save the selected design and its parameters as a new design.

Operation:

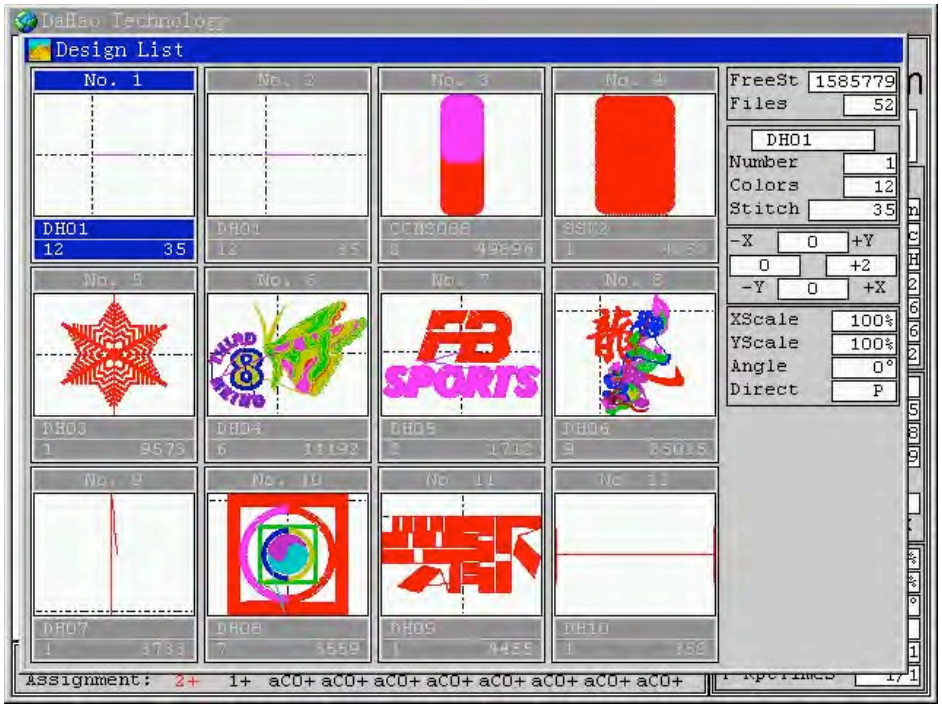
1) Under the main screen, press "☆" to enter the design menu. Press "⇧⇩" to move the icon "☞" to select "Make Des. from Emb. Des". Press the key "↵" to enter its setting.

2) As required, input the new design number and name. Usually you can use the system-provided design number. Press "↵", and the system will save the new design and show the details of the new design.

6-7 Edit Batch Design

This is to edit a batch design: combine some designs according to different scaling ratio, rotation angle, design direction, displacement, etc., so as to shape a file with all the set parameters and including some designs. Such a file is called “Batch Design”. “Design Interval” is the distance from the start point of the current design to the start point of the first design. Each batch design contains at most 9 single designs.

“Batch Design” can only be selected from the operation “Select Design” and cannot be shown in the list of “Show Memory Design”. In the design list of the operation “Select Design”, “#” means it’s a batch design. In the following picture the 19th design is a batch design.



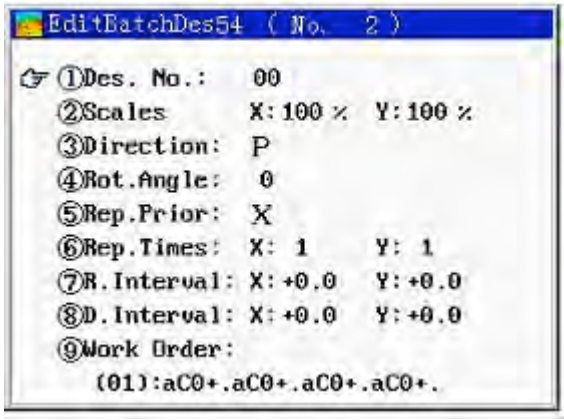
Note: When you set each single design parameter, you can only deal with them one by one according to the number order and you can not go back or skip designs.

Operation:

1) Under the main screen, press “ ” to enter the design menu. Press “ ” to move the icon “☞” to select “Edit Batch Design”. Press the key “ ” to enter its setting.

2) As required, input the batch design number and name. Usually you can use the system-provided number. Press the key “ ” to confirm the design number and name and enter the screen of editing batch design (No. 1).

3) Set the parameters according to the embroidery requirement. Press the key “ ” to switch between parameters. When setting the parameter “Work Order” is completed, press “ ” to enter the screen of editing batch design (No. 2). And the parameters of design No. 1 can not be changed any longer.



4) Set the embroidery parameters according to embroidery requirements. In this screen the interval parameter is effective. When setting the parameter "Work Order" is completed, press "↓" to enter the screen of editing batch design (No. 3). And the parameters of design No. 2 can not be changed any longer.

5) Setting the parameters of design 3~9 is the same to the way for setting those of design 2.

6) When you set any parameter, you can press " ESC " to exit editing batch design.

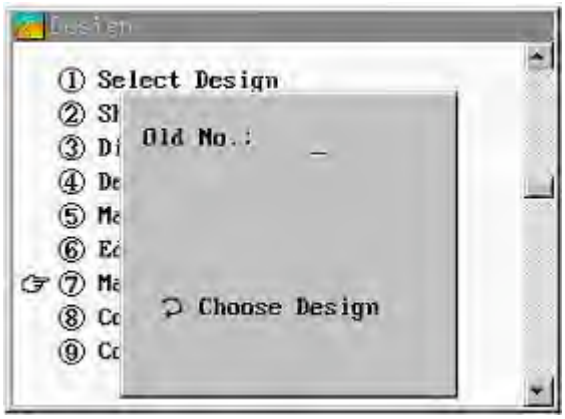
7) The system asks whether to save the batch design. Press "↑ ↓" to select "Yes" or "No" and press "↵" to return to the design operation menu.

6-8 Make Des. from Batch Des.

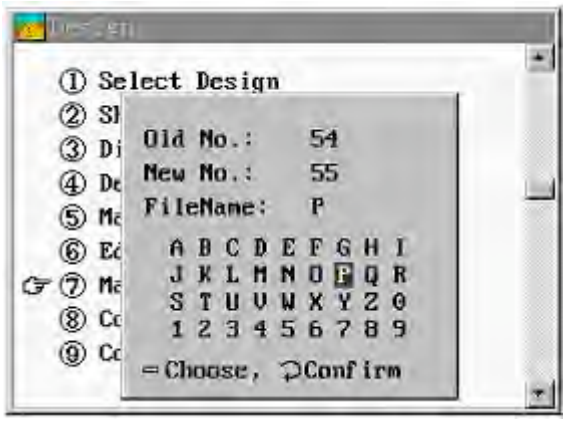
This operation is to transfer the several designs in one batch design file into one normal design file.

Operation:

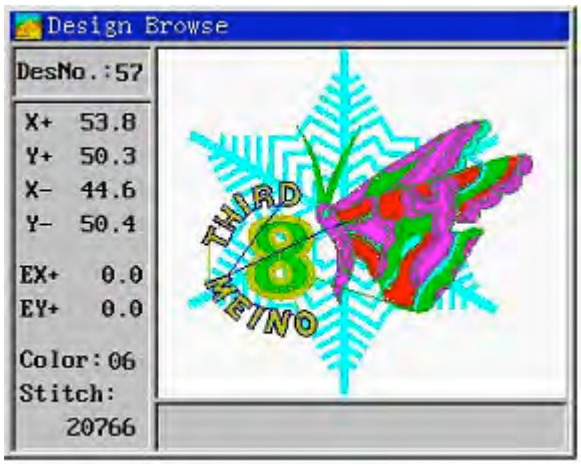
1) Under the main screen, press “ ” to enter the design menu. Press “ ” to move the icon “☞” to select “Make Des. from Batch Des.”. Press the key “ ” to enter its setting.



2) Input the origin design number as required. This number must be a batch design number. Otherwise the system will not accept it. Press the number keys to input the number or press “ ” to enter the batch design list. Press “ ” and the system will ask you to input the new design number and name. Usually you can use the system-provided new design number.



3) Press “” to confirm the new design number and name and the system shows the design display screen. Press the key “ ” to return to the design operation menu.



6-9 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 screen, press “ ” to enter the design menu. Press “ ” to move the icon “ ” to select “Copy Design”. Press the key “ ” to enter its setting.

2) 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 “ PU PD ” 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.

3) 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 to input a new name. With the new design number and name confirmed, the machine begins to copy the design. After copying the system will return to the design editing menu.

4) In the above operation the user can press “ ESC ” to exit and return to the design operation menu.

6-10 Combine Design

This operation is to combine two memory designs into one and save it as a new design in the memory. “Design Interval” is the distance from the start point of the current design to the start point of the first design.

Operation:

1) Under the main screen, press “ ” to enter the design menu. Press “ ” to move the icon “☞” to select “Combine Design”. Press the key “ ” to enter its setting.

2) Press numerical keys to input the memory number of the first design, or press“ ” to enter the design directory and then select by pressing “ PU PD ”. Press the key “ ” to confirm. If the input design number doesn’t exist, the confirmation will fail. Otherwise the system will ask to input the design number of the second design. Input the second memory design number in the same way. Then the system will provide and display the minimum available memory number for the new design.

3) If you want to use a new design number, press the number keys to input and press "". If the number has been used by another design, the confirmation will fail. Then input the new design name and press "". The system will ask to input the interval between the two designs. Press numerical keys to input X/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 operation menu.

6-11 Divide Design

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

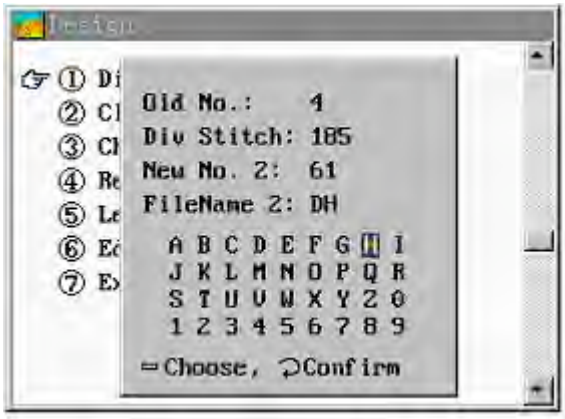
Operation:

1) Under the main screen, press " " to enter the design menu. Turn to the second page. Press " " to move the icon "" to select "Divide Design". Press the key "" to enter its setting.

2) The system asks to input the design number of the target design. Press numerical keys

to input the number of a memory design or choose one from the memory design directory. Then the system will ask to input dividing stitches. Press numerical keys to input the stitch number (1-max stitches in the original design) of the dividing point in the target design. Press "↵" and the system will provide and display a minimum available design number. Confirm the system-provided number or input and confirm a new design. Then the system will ask to input or confirm the name of the first new design. Press the confirmation key "↵" or input a new name and then confirm. The system will save the part of design before the dividing point as the first new design.

3) And the system will ask to input the number of the second new design. Confirm the system-provided number or input a new number and confirm. Then the system will ask to confirm or input the name of the second new design. Press the confirmation key "↵" or input a new name and confirm. Then the system will save the part of design after the dividing point as the second new design. After the operation the system will return to the design operation menu.

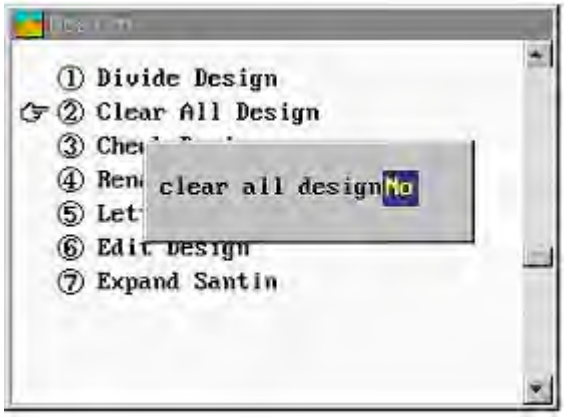


6-12 Clear All Design

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

Operation:

1) Under the main screen and the embroidery confirmation status “ ”, press “ ” to enter the design menu. Turn to the next page by pressing “ PU PD ”. Press “ ” to move the icon “ ” to select “Clear All Design”. Press the key “ ” to enter its setting.



2) Then the system will ask to confirm the operation. If you really want to clear, press “ ” to select “Yes” and press “ ”. The system will clear all designs in the memory and return to the design operation menu. If you don’t want to clear, you may press “ ESC ”to exit to the design operation menu.

6-13 Check Design

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

Operation:

1) Under the main screen, press “ ” to enter the design menu. Turn to the second page by pressing “ PU PD ”. Press “ ” to move the icon “ ” to select “Check Design”. Press the key “ ” to enter its setting.

2) 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”.

6-14 Rename FileName

For a better management of memory files, the operator can change the design name.

Operation:

1) Under the main screen, press “ ” to enter the design menu. Turn to the second page. Press “ ” to move the icon “☞” to select “Divide Design”. Press the key “ ” to enter its setting.

2) According to the prompts input the design number or press the key “ ” to enter the design list and then press “ ” and “ PU PD ” to select the target design. Press “ ” and the system prompts appear. Input the new design name.

3) Press “ ” to confirm the change and the system will complete the name change

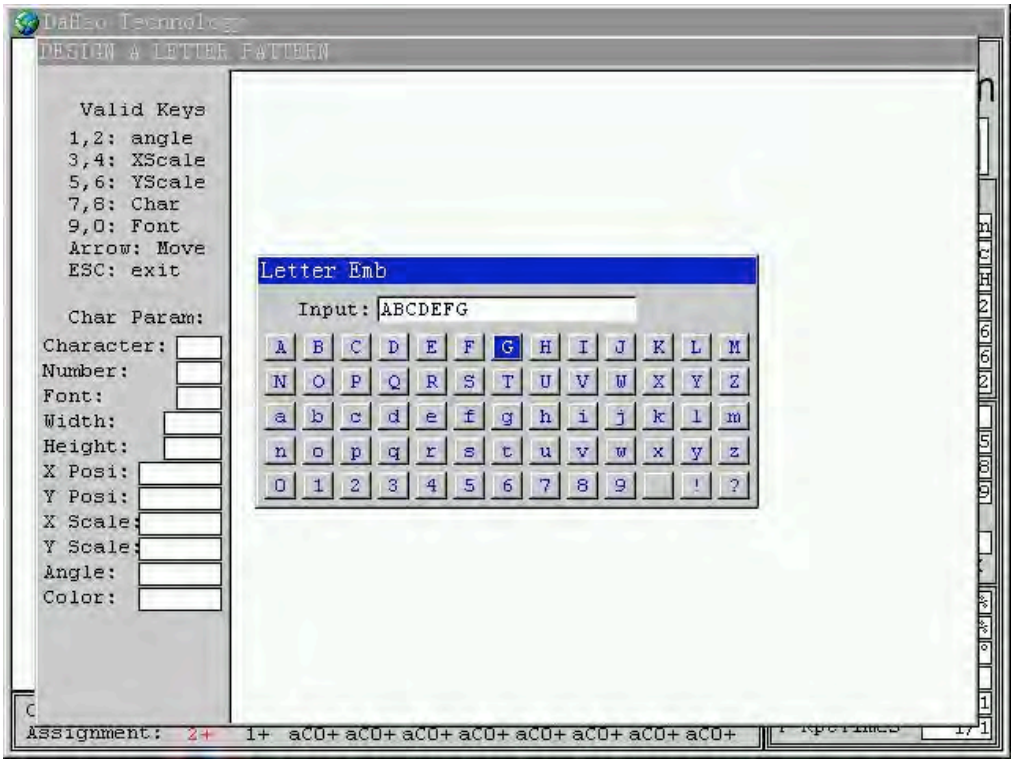
and return to the design operation menu.

6-15 Letter Design

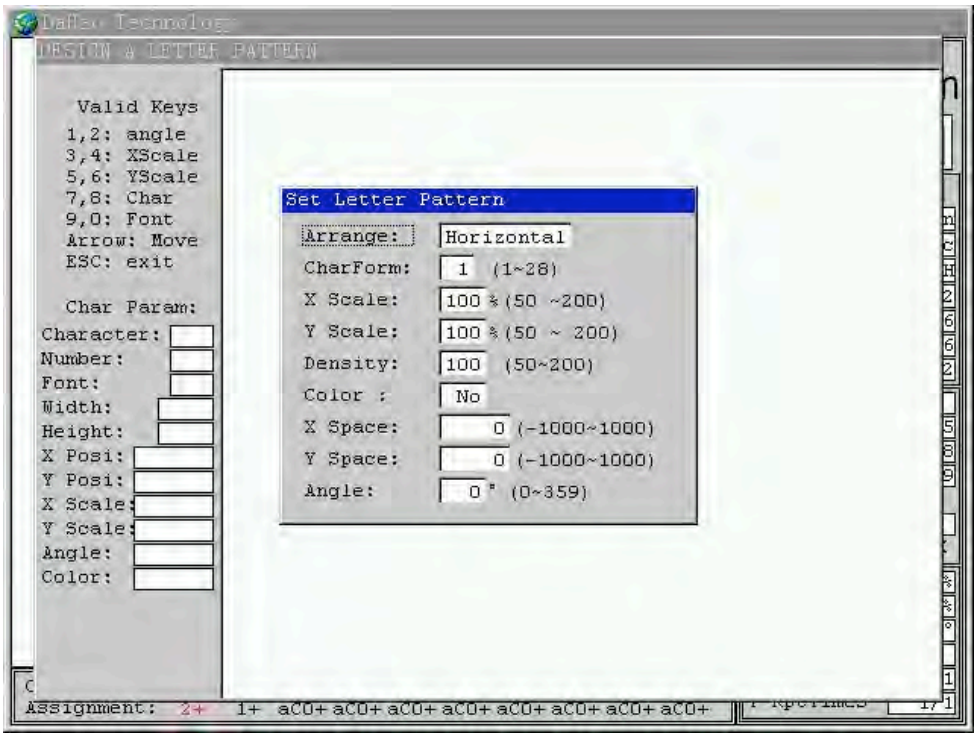
To meet special embroidery requirement, the operator can create letter design files based on the built-in letter library.

Operation:

1) Under the main screen, press “ ” to enter the design menu. Turn to the second page by pressing “ PU PD ”. Press “ ” to move the icon “☞” to select “Letter Design”. Press the key “ ” to enter its setting.



2) According to the system prompts, input letters for editing (maximum: selecting 20 letters). In the selection process, you can use “CL” to clear the selection. Press the key “ ESC ” to exit letter inputting window. The letter setting window will appear.



"Arrange": it's the arrangement way of letters. The system supports three way: horizontal, vertical and arc. Press the key " ⇧ ⇩ " to switch among the three ways.

"CharForm": it's the character form. There are 28 forms. Press the numerical keys to input the desired form. In reverse display status, press numerical keys to input the values of 2 parameters. Refer to the appendix for details.

"X Scale": increase or reduce the width of the letters combination

"Y Scale": increase or reduce the width of the letters combination

"Density": the distance between every two stitches of the created letter design.

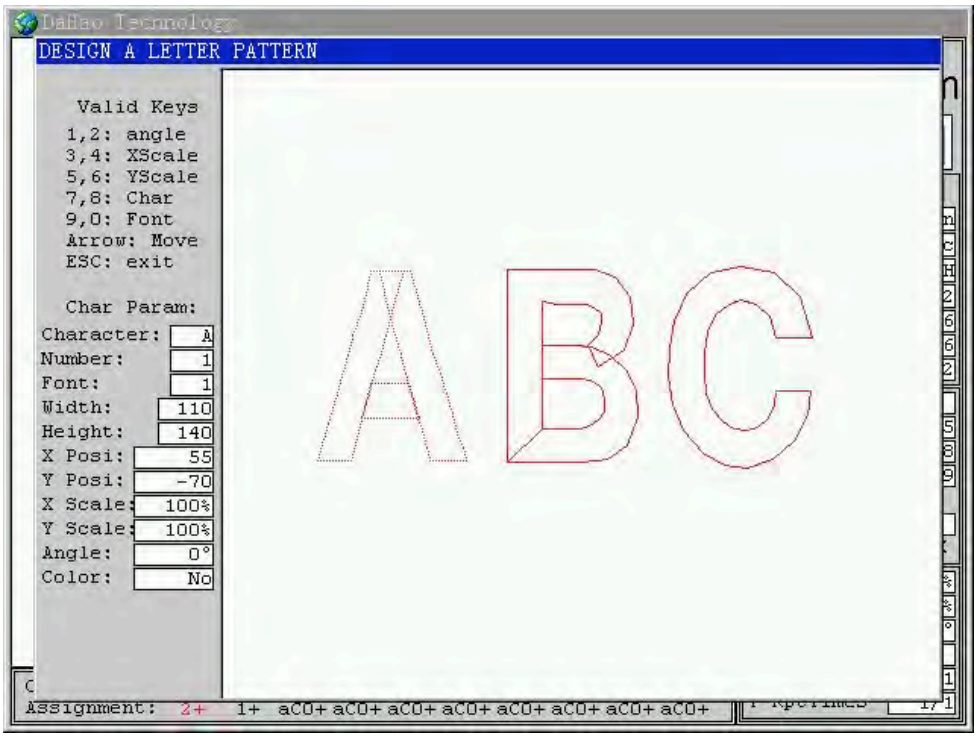
"Color": same or different color for different letter designs

"X Space": horizontal distance between letters

"Y Space": vertical distance between letters

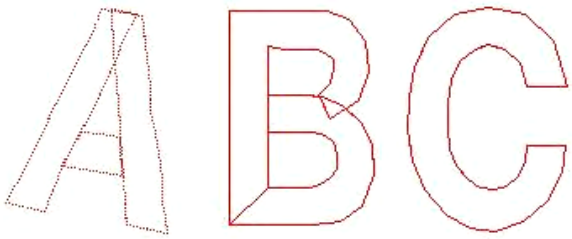
"Angle": rotation angle of the whole letter combination

3) Press " ESC " to exit letter setting window. The main letter embroidery operation window appears where you can give detailed setting to each letter parameter.



◆ Numerical keys “1”, “2”: change the letter rotation angle. Press “1”, then the letter will rotate anti-clockwise 10°and the value of “Angle” in the “letter information” will increase by 10°. Press “2”, then the letter will rotate clockwise 10°and the value of “Angle” in the “letter information” will decrease by 10°.

Rotation angle 10°

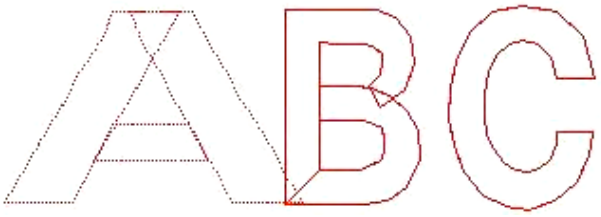


Rotation angle 350°

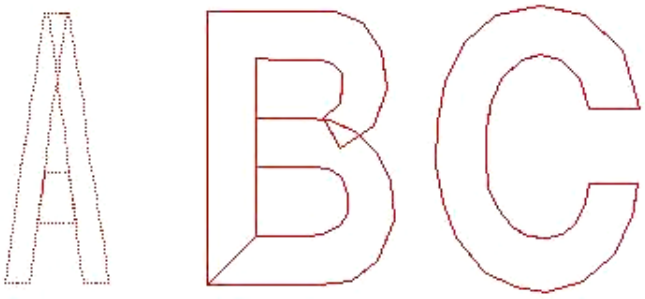
◆ Numerical keys “3”, “4”: change the letter’s X-direction scaling ratio (50%~200%). Press “3”, then the letter’s X-direction scaling ratio will increase 10% and the value of “X

Scale" and "Letter Width" in the "letter information" will increase correspondently. Press "4", then the letter's X-direction scaling ratio will decrease 10% and the value of "X Scale" and "Letter Width" in the "letter information" will decrease correspondently.

X Scale 200%

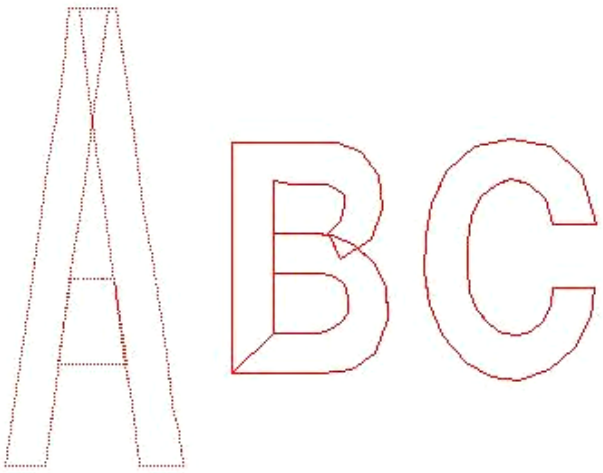


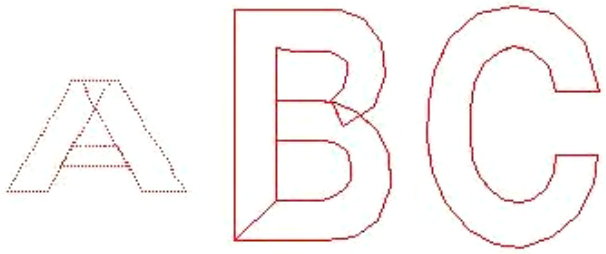
X Scale 50%



◆ Numerical keys "5", "6": change the letter's Y-direction scaling ratio (50%~200%). Press "5", then the letter's Y-direction scaling ratio will increase 10% and the value of "Y Scale" and "Letter Height" in the "letter information" will increase correspondently. Press "6", then the letter's Y-direction scaling ratio will decrease 10% and the value of "Y Scale" and "Letter Height" in the "letter information" will decrease correspondently.

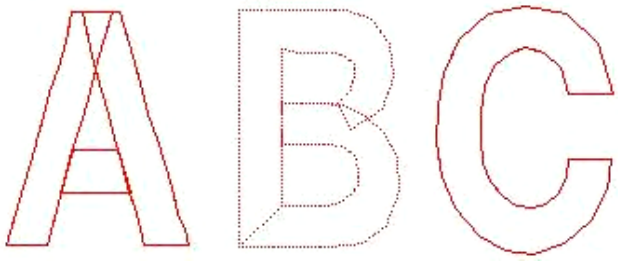
Y Scale 200%





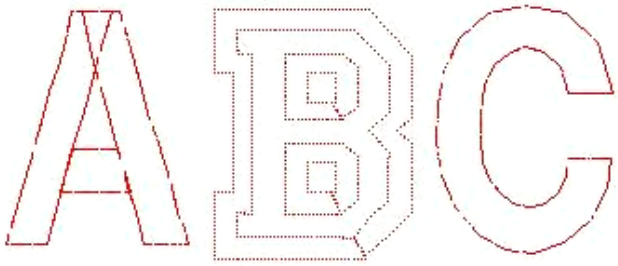
Y Scale 50%

◆ Numerical keys “7”, “8”: switch among letters. Press “7” and then switch towards the right. Press “8” and then switch towards the left.

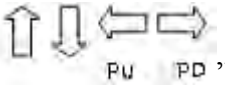
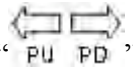


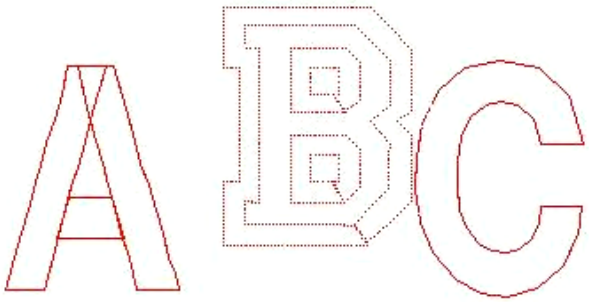
Switch to the second letter

◆ Numerical keys “9”, “0”: change the character form (28 forms) of the selected letter. Press “8” and the character form will change according to the rising form order. Press “0” and the character form will change according to the decreasing form order.



Select character form 11

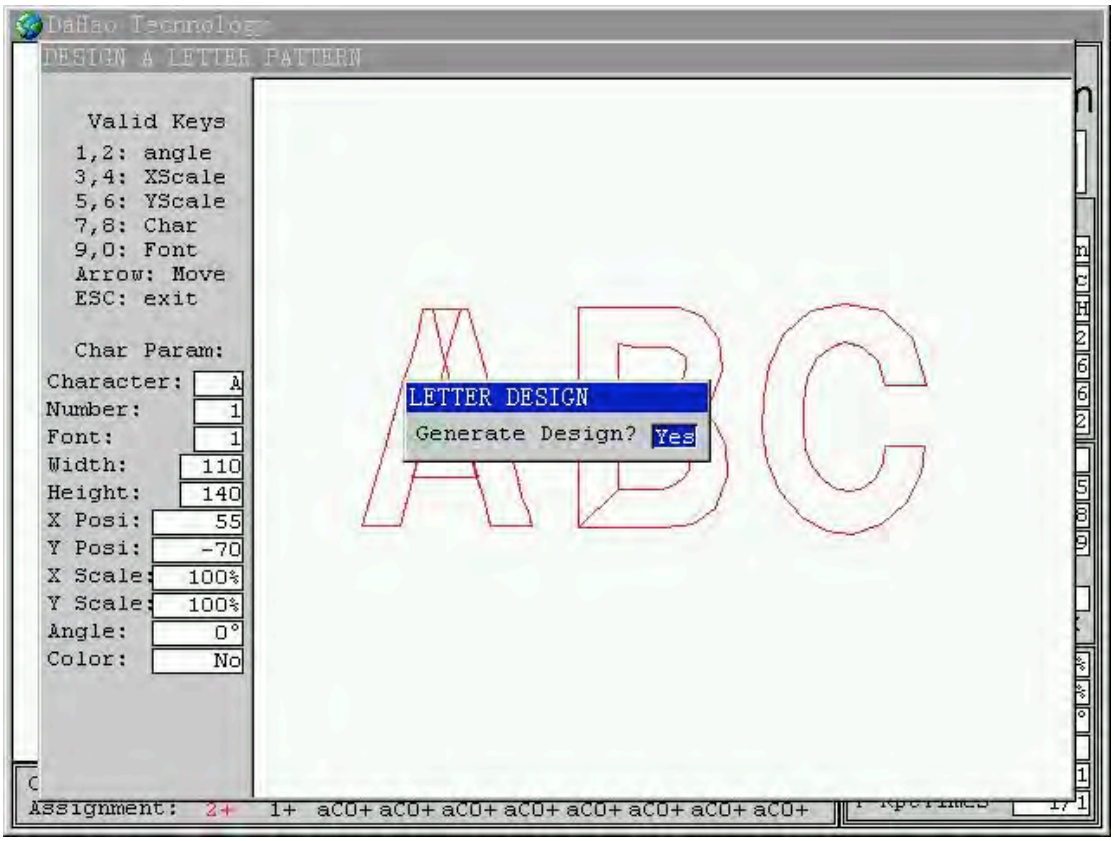
◆ Direction keys “  ”: change the coordinates of the selected letter (Unit: 10). “  ” can increase/decrease X coordinate and “  ” can increase/decrease Y coordinate.

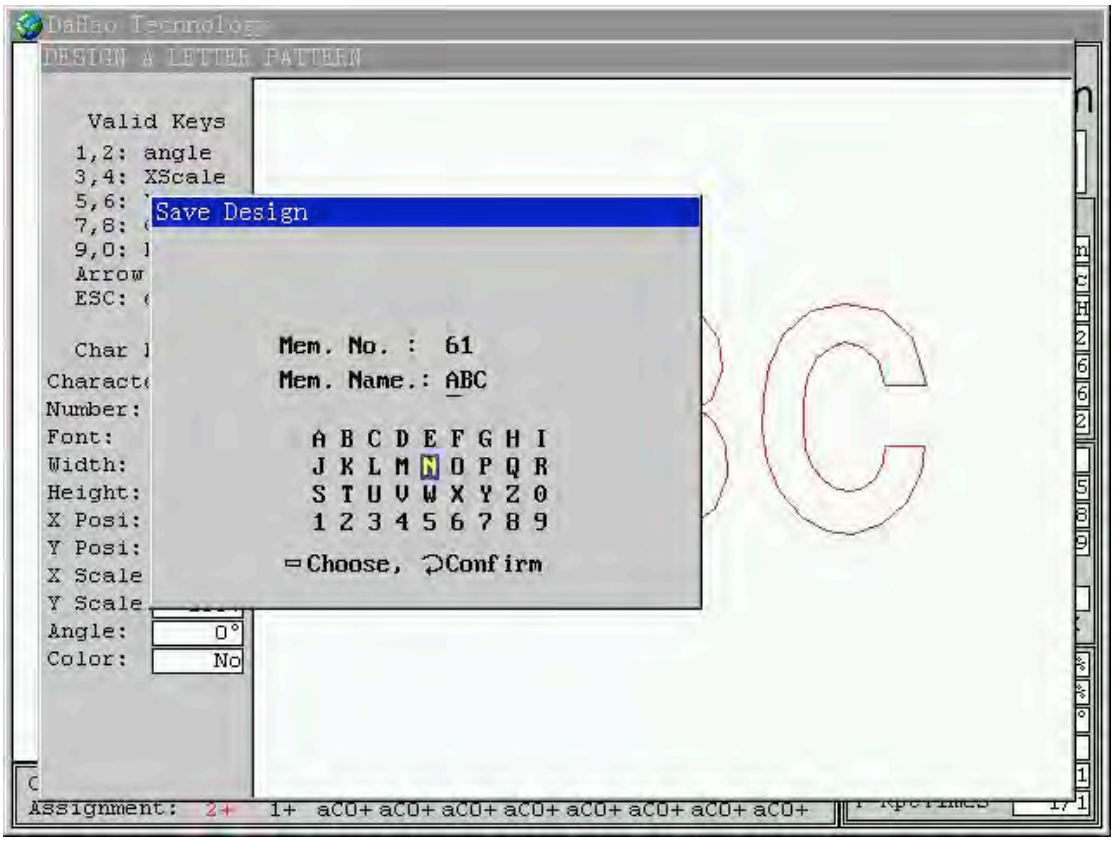
Change X/Y coordinates 

◆ Speed switching key “  ”: reflash the operation window with the best display ratio. Moving letters may cause abnormal display. This key can restore the normal display.

4) Press “ 

” and the system will ask whether to save the created letter design file. Select “No” to exit without saving. Or select “Yes” and the system will ask you to input the new letter design number and name.





6-16 Edit Design

Adopting the most convenient, direct-viewing and full-screen editing mode, the function of editing pattern in memory has more advantages, such as: easy editing, flexible, faultless. This function is able to directly carry out edit of the pattern with stitch count of less than 100,000. For the oversize pattern, indirect edit can be made. As for the oversize pattern, it is recommended to divide the pattern into several sub-patterns (the sub-patterns to be edited have stitch count of less than 100,000) which will then be edited respectively, and finally several sub-patterns are spliced in order. Owing to the oversize patterns appear seldom, therefore the contradiction between editing speed and editing oversize pattern will be solved easily.

1. Entering the Edit of Design in Memory

Operation:

1) Under the main screen, press “ ” to enter the design menu. Turn to the second page. Press “ ” to move the icon “ ” to select “Edit Design”. Press the key “ ” to enter its setting. A pop-up window appears.

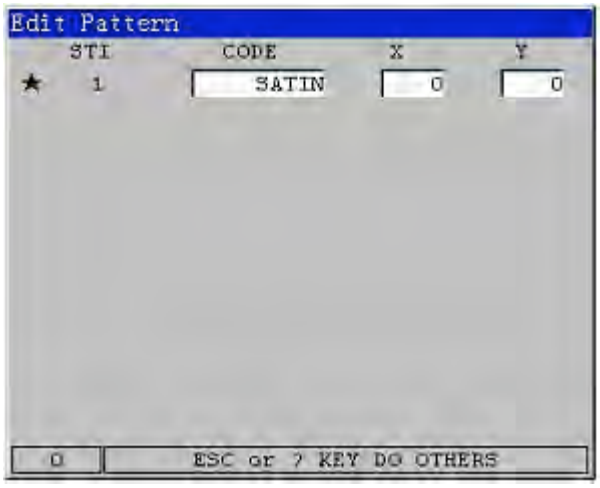
2) According to the computer prompts, if you select "Yes", you should input a new design number (the computer automatically provides one design number) and press "↵". Then the system will enter the edit of a new design. If you select "No" and press "↵", the design list will appear. You can press "↑ ↓ ← → PU PD" to select an existent design from the memory. Press the key "↵" to enter its edit.

3) After edit, return to the design management operation.

4) Press "ESC" to exit the design management operation.

2. How to edit one Stitch

After the system entering to the function of editing new pattern, on the top of the screen the following will be displayed:



In the screen every line of data represents one stitch in the design. The first row of data represents stitch type, whose options are as follows (press "⇧ ⇩" to change it). The second row is the value of X. The third row is the value of Y.

Stitch type: satin stitch, jumping, frame jumping, color change, stop

So you can directly press numerical keys to select the stitch type and the value of X/Y. (If the value of X/Y is negative, press "+/-" to change it to positive and then press numerical keys). Then press "↵" to finish editing this stitch and the cursor will move to the next line.

Press " ▭ " continuously and the screen will show continuous default-set "SATIN 0 0". Press "⇧ ⇩" to switch between stitches and the icon "★" shows the stitch under operation.

Input the required values in each line and press "↵". On the bottom of the screen shows the edit stitch quantity.

1) Modify one stitch

Press the key "⇧ ⇩ ⇦ ⇨ PU PD" to move the cursor and press numerical keys to input the values. Note: the value range of X/Y is: -127~+127.

2) Delete one stitch

Press the key "⇧ ⇩ ⇦ ⇨ PU PD" to select the line of stitch and press "CL" to delete the stitch. This stitch is kept as the stitch data of inserting stitch.

3) Insert one stitch

Press the key “ ⇧ ⇩ ⇦ ⇨ PU PD ” to move the cursor to a certain stitch and then press the space key. The stitch just deleted will be inserted here.

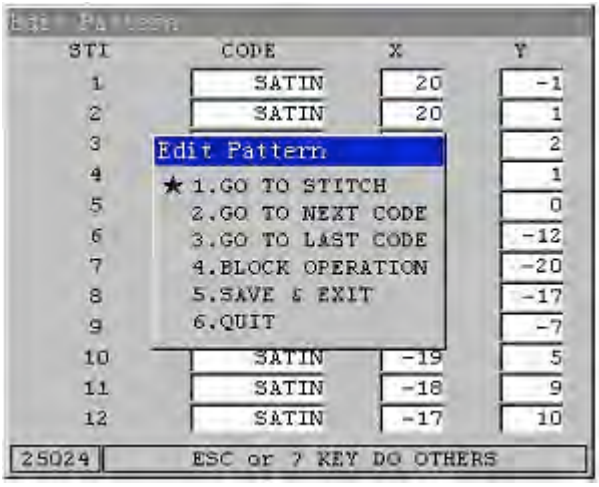
Note: you can use the operation 2 and 3 to quickly input the repeated stitches.

Attention must be paid that when a pattern requires adding one stitch, inserting a stitch must be used.

3. Search a stitch

Operation:

1) In the main screen of design edit, press “ ESC ” or “?” to enter the function menu of design edit. Press “ ⇧ ⇩ ” or press “1” to move the icon “☞” to “GO TO STI.” and press “ ↵ ” to enter its setting.



2) According to the system prompts, input the stitch number for searching and press “ ↵ ”.

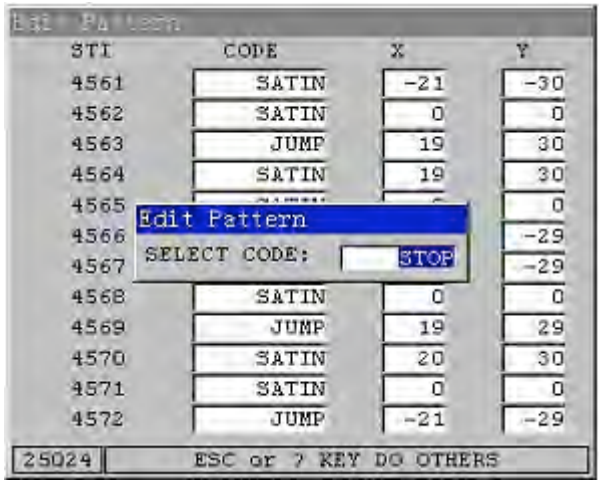
3) The cursor will move quickly to this position and stay here.

4. Search the next/last code

Operation:

1) In the main screen of design edit, press “ ” or “?” to enter the function menu of design edit. Press “ ” or press “2” to move the icon “☞” to “GO TO NEXT CODE” and press “ ” to enter its setting.

2) Input the code type for searching in the following and press “ ”. (The code type here means: satin stitch, jumping, frame jumping, color change and stop. The computer can not react to a code type beyond this range.)



3) The cursor moves to the next special stitch with this function code and the search ends.

Note: The operation “GO TO LAST CODE” is similar and is only different in searching direction.

5. Block operation

The “block” means a part of continuous stitches of the pattern in memory. Its function is intended for performing rapid operations to these continuous stitches: copying, moving, deleting and merging several patterns in memory.

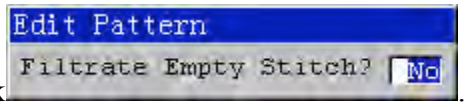
Operation:

1) In the main screen of design edit, press “ ESC ” or “?” to enter the function menu of design edit. Press “⇧⇩” or press “4” to move the icon “☞” to “BLOCK” and press “↵” to enter its setting.

2) Enter the sub menu.

In the menu: “MARK BEGIN” is the start point of the block. “MARK END” is the end point

of the block. E.g. the screen to set the block end is 

. Press numerical keys to input the stitches for block end. “Cancel” is to cancel the set block. “COPY” means copying the block to the position of cursor. “MOVE” means moving the block to the position of cursor. “DELETE” means deleting all stitches in the block. “READ” means that the machine will attach a design (you first input the design number) to the end of the current design. When the computer reads the design file, the system will ask 

. Please select according to the embroidery requirement.

6. Save & Exit

Operation:

1) In the main screen of design edit, press “ ESC ” or “?” to enter the function menu of design edit. Press “ ⇧ ⇩ ” or press “5” to move the icon “☞” to “Save & Exit” and press “ ⏎ ” to enter its operation.

2) The computer starts to save the design and returns to the design management menu after saving ends.

7. Quit

Operation:

1) In the main screen of design edit, press “ ESC ” or “?” to enter the function menu of design edit. Press “ ⇧ ⇩ ” or press “6” to move the icon “☞” to “Exit” and press “ ⏎ ” to enter its operation.

2) The system asks whether to save the edited design. Press “ ⇧ ⇩ ” to select “Yes” or “No” and press “ ⏎ ” to confirm the selection.

3) Exit the design edit function and return to the design management operation.

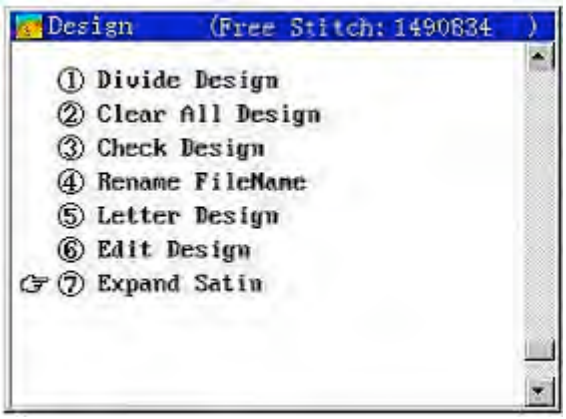
6-17 Expand Satin

This function is designed to improve the precision of satin stitch which is affected by the machine difference. This function can expand the satin design to the width as required by the

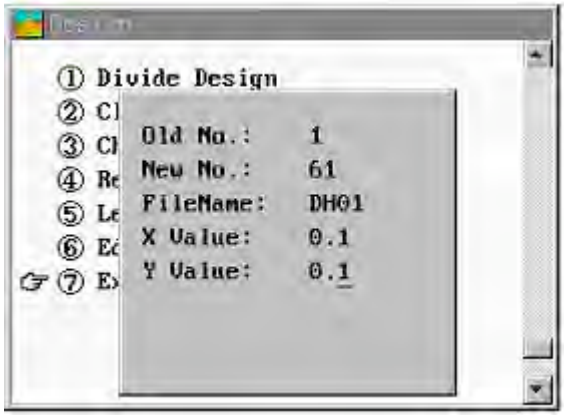
users.

Operation:

1) Under the main screen, press “ ” to enter the design menu. Turn to the second page. Press “ ” to move the icon “☞” to select “Expand Satin”. Press the key “ ” to enter its operation.



2) As required input the number of the origin design or press “ ” to enter the design list to select. After selection, the system asks to input the new design number and name. You are suggested to use the default design number. When the origin and new designs are both confirmed, the system will ask to input the expansion values of X and Y(The expansion values of X and Y range is from 0.1 to 0.3,Unit: mm) . Input the proper values according to the embroidery requirement and machine features. Then press “ ” and the system will automatically create a new design.



Chapter 7 CL Operation

In area B, option “Total St”shows the current count of stitches, while “X coord” and “Y coord” show the current X and Y directions.

7-1 Clear Stitch Count

This is to clear the current count of stitches.

Operation:

1) Under the main screen, press “CL” to enter the manual operation and then press “” to enter “Clear Stitch Count”.

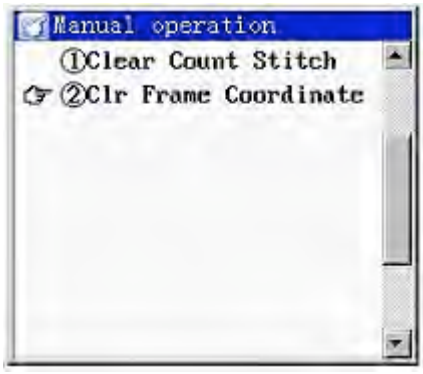
2) Press “” to activate this function and the system will set the count as 0.

7-2 Clear Frame Coordinate

It’s to clear the displacement values of X and Y and set the current frame position as the origin point of the later displacement.

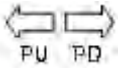
Operation:

1) Under the main screen, press “CL” to enter the manual operation. Press “” to move the icon “” to select “Clr Frame Coordinate”, and then press the key “” to enter its operation.

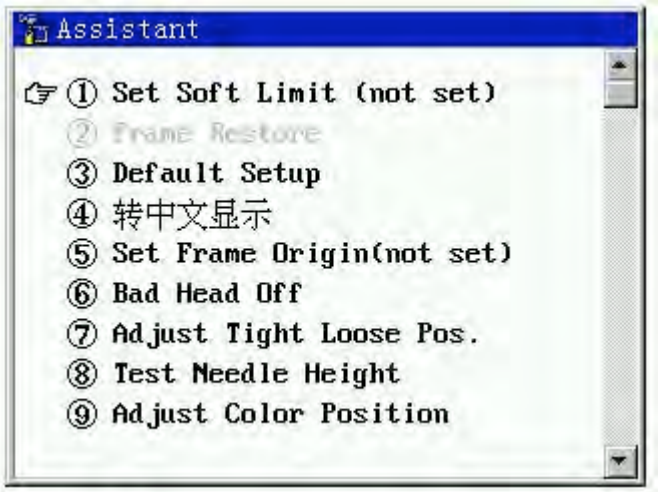


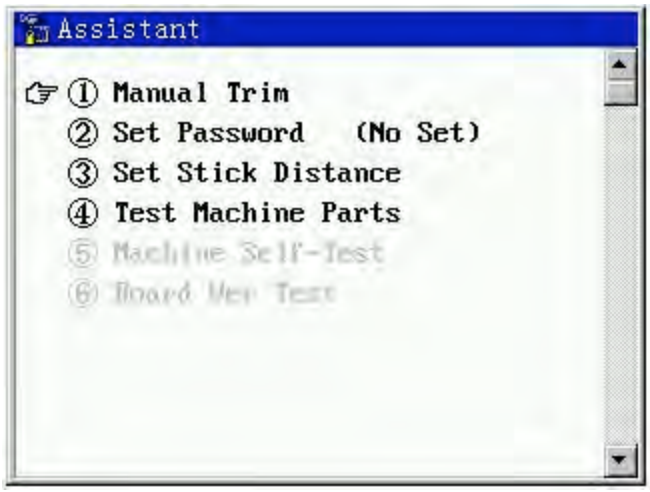
2) Press “ ” to activate this function and the system will set the values of X and Y as 0.

Chapter 8 Assistant Operation

When the machine is in the stop status, you can use "Assistant Operation" to do the system setting, machine maintenance, checks, etc. Under the embroidery preparation status "  ", press the key "  " in the key board to enter the assistant operation menu (2 pages) as follows. Press " 

" to switch between the two pages.





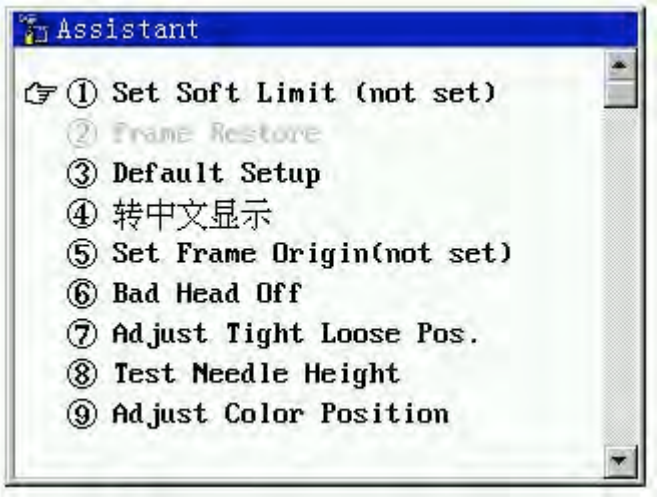
8-1 Set Soft Limit

This function is to set the embroidery range of the frame by software, so as to ensure that the design be embroidered in the frame range.

Operation:

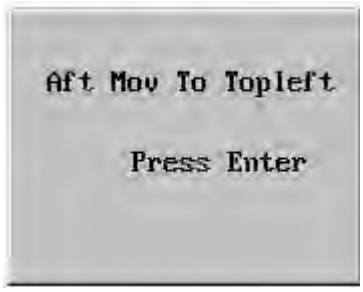
1) Under the main screen and the embroidery preparation status "  ", press

“  ” to enter the assistant operation menu. Press “  ” to move the icon “  ” to select “Set Soft Limit”. Press the key “  ” to enter its operation.



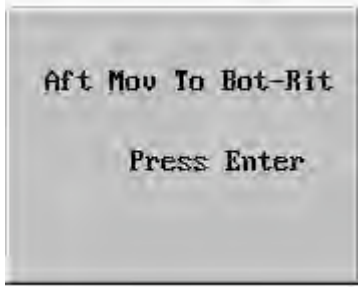
2) As required, press “ 

” to manually move the frame. Press “  ” and the system will set the current frame position as the left top of the frame range.



3) As required, press “ 

” to manually move the frame. Press “  ” and the system will set the current frame position as the right bottom of the frame range.



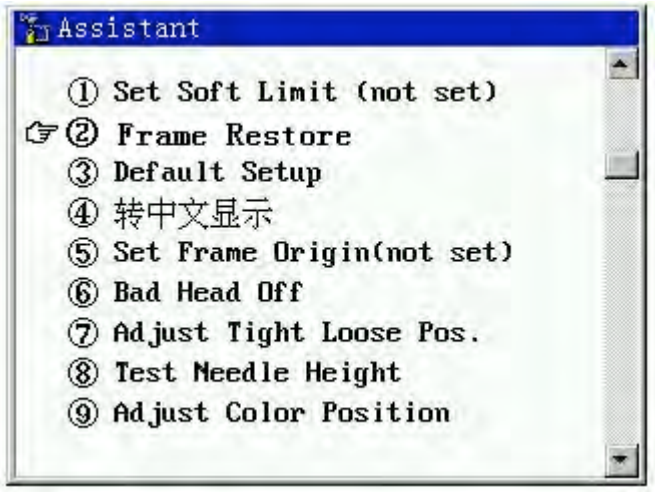
8-2 Frame Restore

When the frame has been moved away during power-off, this function can restore the frame to the position where the frame was before power-off.

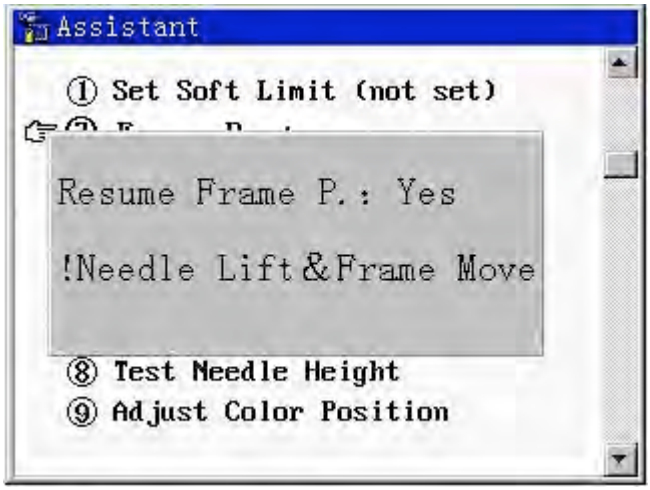
If the origin point hasn't been set, the option "Frame Restore" will be in darkness and unavailable for operation.

Operation:

1) Under the main screen and the embroidery preparation status "  ", press "  " to enter the assistant operation menu. Press "  " to move the icon "  " to select "Frame Restore". Press the key "  " to enter its operation.



2) Decide whether to restore the frame position. In the pop-up menu the default instruction is "Yes". You can press "  " to select "No". Finally press "  ", and the frame will move to the origin point of the frame first and then move the frame position where it was at the point of power-off.

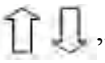


8-3 Default Setup

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

Refer to the chapter 9 for default values.

Operation:

1) Under the main screen and the embroidery preparation status "  ", press "  " to enter the assistant operation menu. Press "  " to move the icon "" to select "default Setup". Press the key "  " to enter its operation.

2) Press "  " to restore default setup and then return to the assistant management menu. Otherwise press "Esc" to exit the operation and return to the assistant management menu.

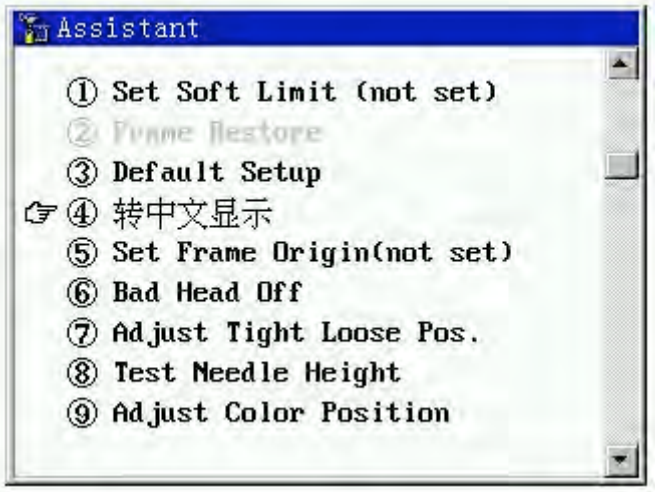
8-4 Language

The system supports the switch between English and Chinese.

Operation:

When the system language is Chinese, the assistant menu is as follows:

When the system language is English, the assistant menu is as follows:

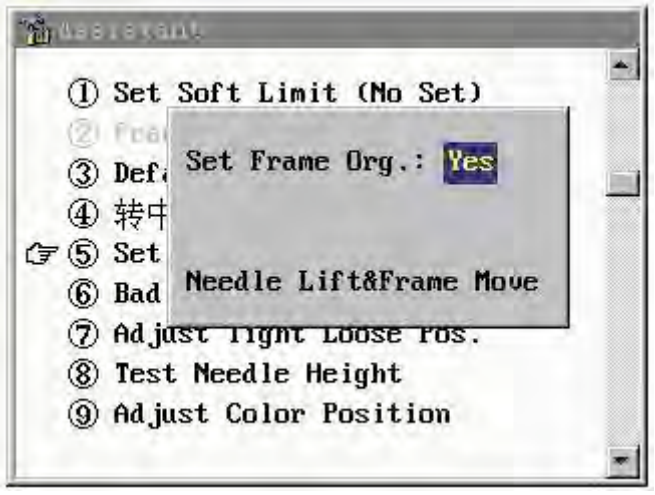


8-5 Set Frame Origin

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".

Option:

1) Under the main screen and the embroidery preparation status "  ", press "  " to enter the assistant operation menu. Press "  " to move the icon "☞" to select "Set Frame Origin". Press the key "  " to enter its operation.



2) 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 " is in brightness and available for operation.

8-6 Bad Head Off

The user can close all the machine heads which can not work properly. Note: Before activating this function, put the head switch of all the bad heads to the low position and ensure the needle height of all the bad heads have been raised the highest position.

Operation:

1) Under the main screen and the embroidery preparation status “ ”, press “ ” to enter the assistant operation menu. Press “ ” to move the icon “☞” to select “Bad Head Off”. Press the key “ ” to enter its operation.

2) According to the system prompts, press “ PU PD ” to move the cursor to the head number which is intended for closure. Press “ ” to change the number into “—” which means closure.

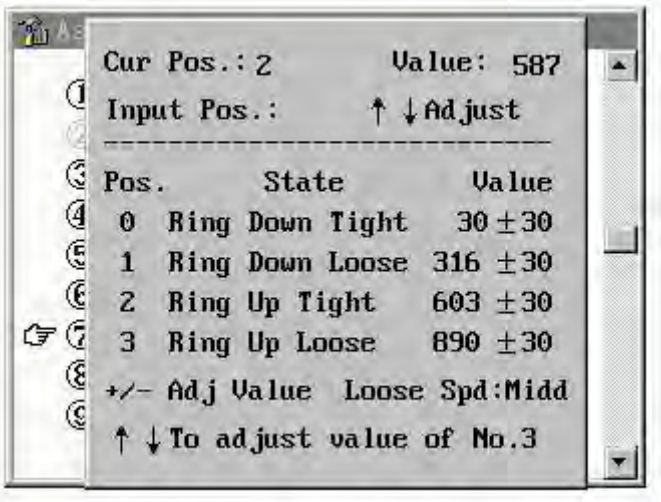
3) Press “ ESC ” to exit.

8-7 Adjust Tight Loose Pos.

This operation is designed to be used only by maintenance engineers. And some mechanical work is involved here. So pay attention to personnel and equipment safety.

This system judges whether the mechanical position is right or not by the

resistance change of the multi-ring rheostat. So ensure that the parameter value of rheostat set here be the same to its real resistance value as much as possible.



8-8 Test Needle Height

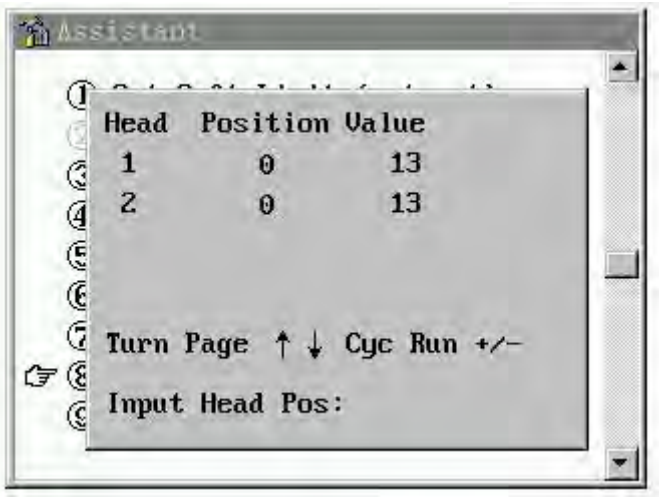
⚠ *This operation is designed to be used only by maintenance engineers. And some mechanical work is involved here. So pay attention to personnel and equipment safety.*

This system allows the user to adjust the needle height according to the requirement of embroidery quality.

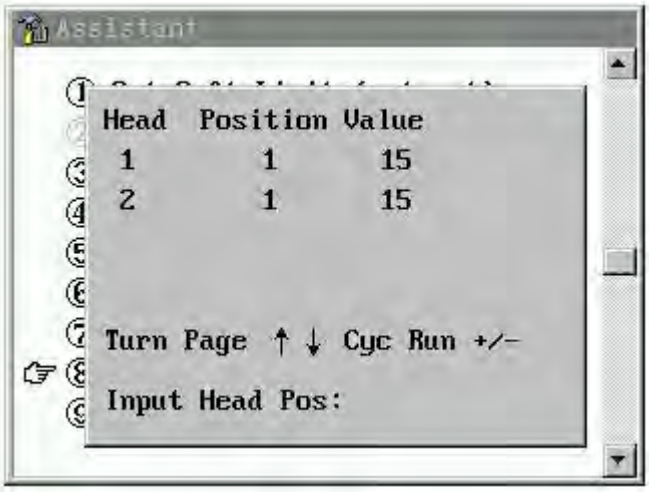
Aging test is allowed for the lift device of the needle.

Operation:

1) Under the main screen and the embroidery preparation status “ ”, press “ ” to enter the assistant operation menu. Press “ ” to move the icon “☞” to select “Test Needle Height”. Press the key “ ” to enter the operation.



2) According to the system prompts, the operator can input the predicted needle height. The maintenance engineer can use "+/-" to start or stop the aging test of the lift device of the embroidery needle.



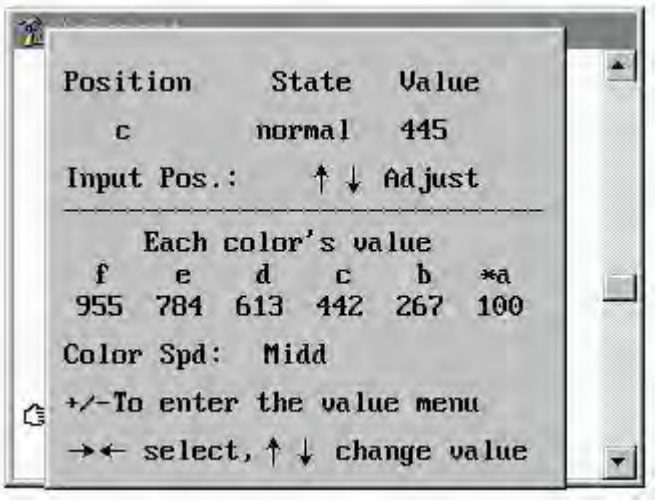
8-9 Adjust Color Position

Note: This operation is not fit for machine type D/N.

⚠ *This operation is designed to be used only by maintenance engineers. And some mechanical work is involved here. So pay attention to personnel and equipment safety.*

This system judges whether the mechanical position is right or not by the resistance change of the single-ring rheostat. When the color-changing position is abnormal, you may use "⇧⇩" to adjust the motor to meet the system requirement. The position "a" is the basic point for adjustment and is usually set by manufacturer.

So ensure that the parameter value of rheostat set here be the same to its real resistance value as much as possible.



8-10 Manual Trim

Note: This operation is not fit for machine type D/N.

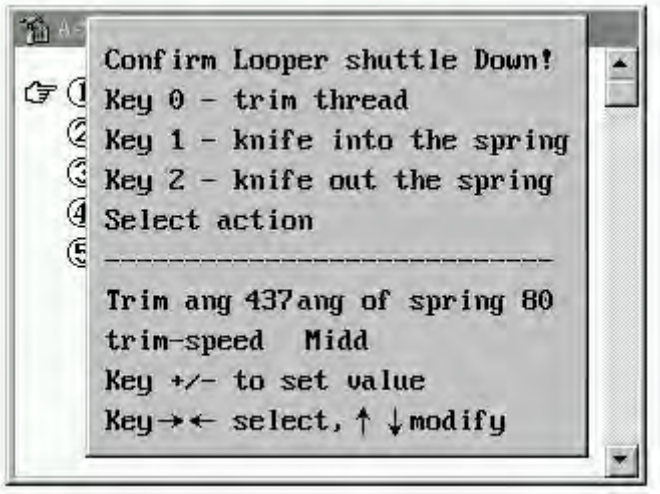
This operation is designed to be used only by maintenance engineers. And some mechanical work is involved here. So pay attention to personnel and equipment safety.

The chain trimmer has mainly two actions:

- Trim: looper decreases-------shake looper a little to let it down------extend the knife out ----return the knife----hook the thread into the clipper-------cut the thread
- Push the clipper: extend the knife out-----push into the clipper----thread off

The trimming distance of loop/chain trimmer needs to be adjusted by changing the rotation angle of the motor.

Note before adjustment: adjusting the function of chain trimmer should be on the basis that the looper can work/lift well.



8-11 Set Password

The common user cannot change all the embroidery parameters. The users are divided into three: common user, machine administrator and manufacturer. The common user has the lowest right range. They can only change the embroidery parameters of the machine. The machine administrator can further change the administrator parameters. The manufacturer can change all the parameters.

If a password is set, the administrator or manufacturer can change the parameters only after canceling the password. The administrator has to input the old password and the new password. The manufacturer will tell the machine administrator the default password. The password has to be in 9 digits. To avoid accidents, the new password has to input the same two times before it takes effect.

After the administrator change the password, the machine will be locked. The common user can not change machine appliance parameters without inputting the right password. The machine is locked when power-on.

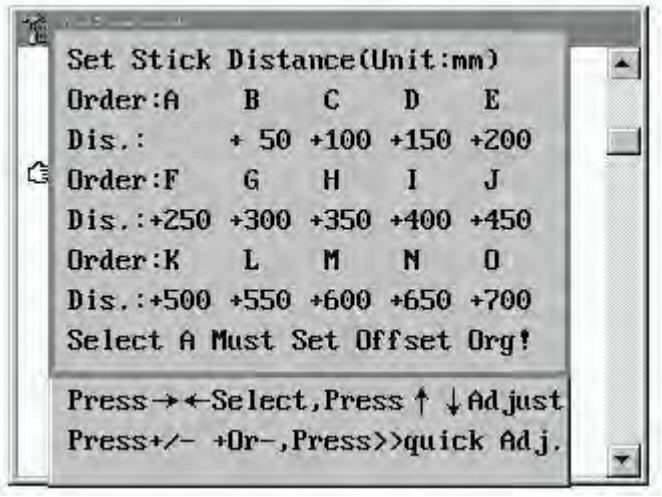
8-12 Set Stick Distance

The system supports patching embroidery. This operation is to set the patching distance used by the parameters. Parameter is set by the offset point, which is not set by this operation.

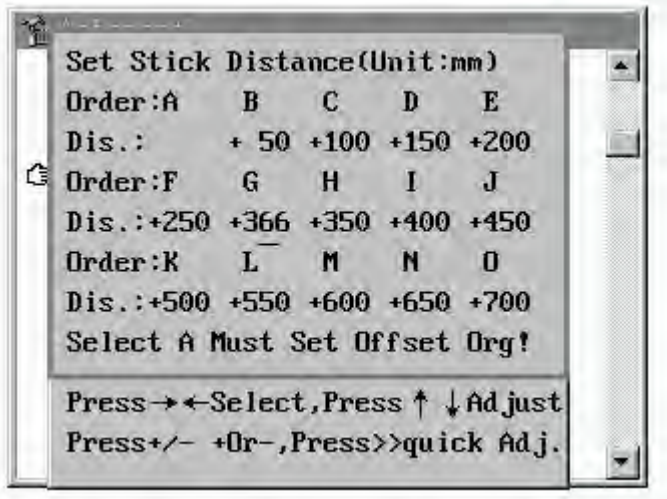
Operation:

1) Press "  " to enter the assistant operation menu. Turn to the second page. Press "  " to move the icon "☞" to select "Set Stick Distance". Press the key

“ ” to enter its operation.



2) Press “ PU PD ”to enter the setting of each frame moving point. Press the key “ ” to change the distance value so as to let them as close to the real situation as possible. The unit for quick adjustment is 10 and the unit for common adjustment is 1.



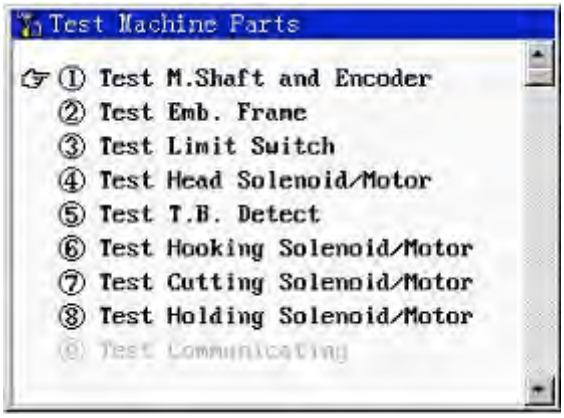
8-13 Test Machine Parts

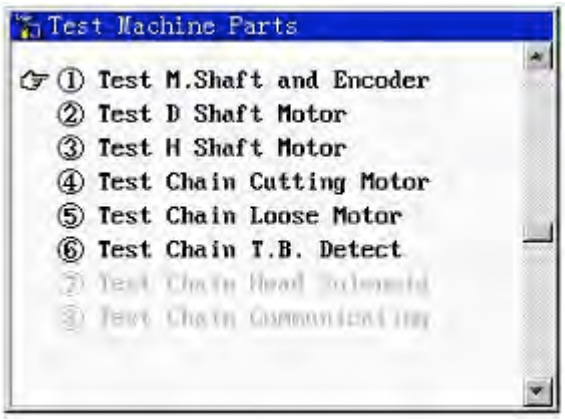
This operation is designed to be used only by maintenance engineers. And some mechanical work is involved here. So pay attention to personnel and equipment safety.

Operation:

Press the key “  ” to enter the assistant operation menu. Turn to the second page. Press “  ” to move the icon “☞” to select “Test Machine Parts”. Press the key “  ” to enter its operation.

This operation has two pages. The effectiveness of each function is decided by the status of normal embroidery or loop/chain embroidery.



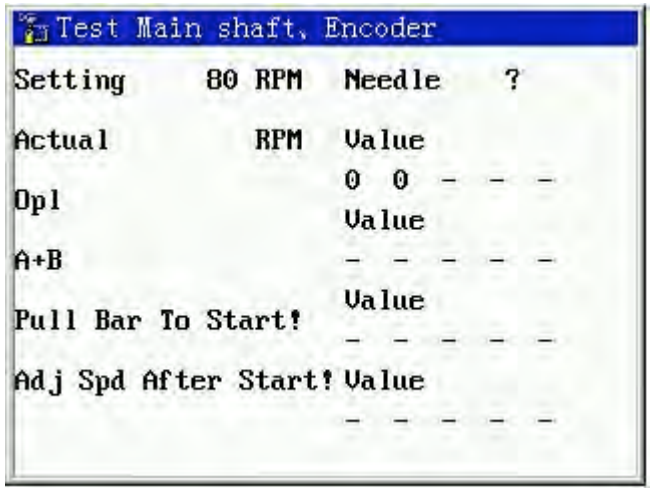


1. Test M. Shaft and Encoder

This test is through rotating the main shaft to test the 0-position pulse and continuous pulse of the optical encoder and display their values. At the same time the system displays the set rotation speed and the real speed to help adjust the main shaft board.

“  ”: decrease the imitative rotation speed of the main shaft

“  ”: increase the imitative rotation speed of the main shaft



This test is only available in the status of normal embroidery.

2. Test Emb. Frame

This test is to judge whether the frame's movement device works well by setting the four parameters: frame direction ("X"<->"Y"), stitch length(0.1mm ~ 12.7mm), frame curve

(F1->F2->F3-> F4->F1) and imitation speed (80~1000).

" 

" is for frame direction. " 

" is for frame curve.

"  " is for increasing stitch length. "  " is for decreasing stitch length.

"  ": decrease the imitative rotation speed of the main shaft

"  ": increase the imitative rotation speed of the main shaft

This test is only available in the status of normal embroidery.

3. Test Limit Switch

This test is to judge whether the limit switch works well by pressing each limit switch and watching the screen display.

This test is only available in the status of normal embroidery.

Take the low limit switch as an example.

Enter:

Press the low limit switch:

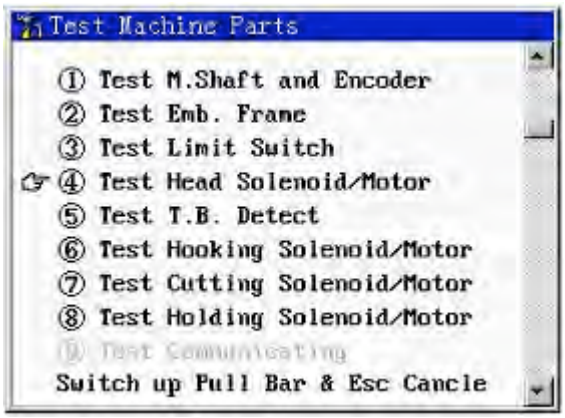
4. Test Head Solenoid/Motor

This test is to judge whether the head solenoid/motor works well by pulling bar to embroider when the head switch is on or off.

Pull the bar to start------the up head light is on and the stop light is off;

Pull the bar to stop and pull the bar to start again------the middle head light is on and the stop light is off;

Pull the bar to stop and pull the bar to start again------the low head light is on and the stop light is off.

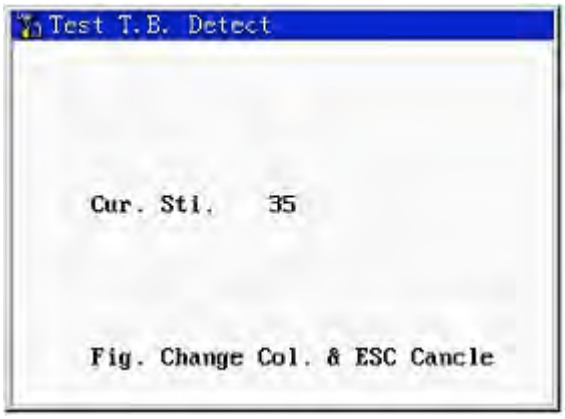


This test is only available in the status of normal embroidery.

5. Test T. B. Detect

This test is to judge whether thread break detect devices for each needle works well by turn on the T. B. detect functions one by one to activate the T. B. detect devices.

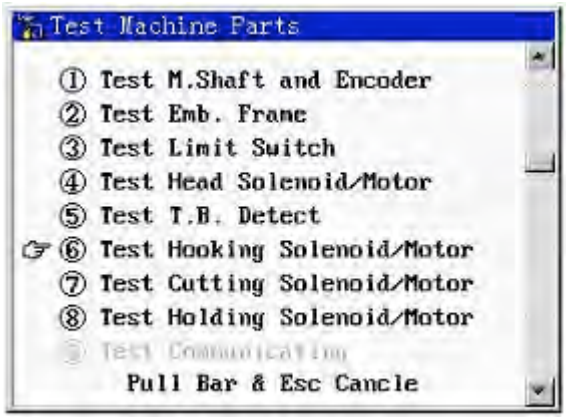
Different number keys are for activating the different T. B. detect devices.



This test is only available in the status of normal embroidery.

6. Test Hooking Solenoid/Motor

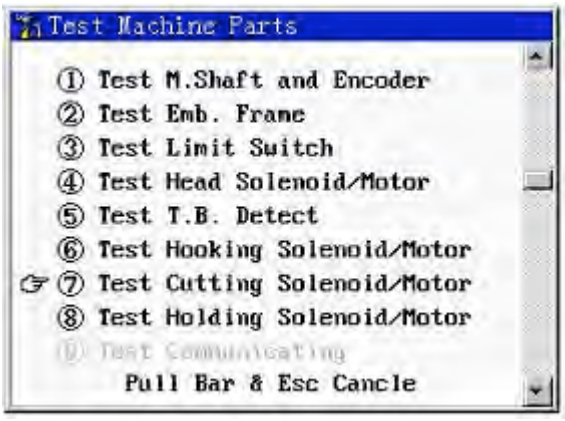
This test is to judge whether the hooking solenoid/motor works well by activating them and watching their behavior.



This test is only available in the status of normal embroidery.

7. Test Cutting Solenoid/Motor

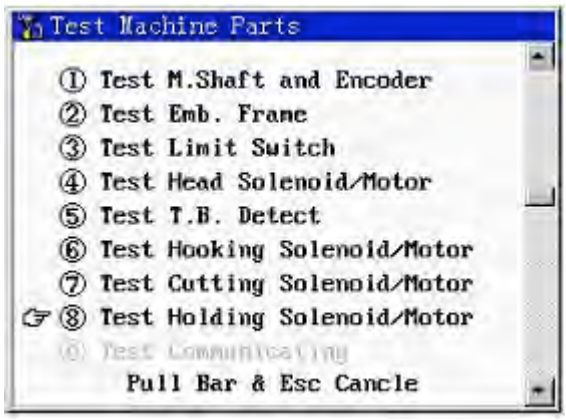
This test is to judge whether the cutting solenoid/motor device works well by activating them and watching their behavior.



This test is only available in the status of normal embroidery.

8. Test Holding Solenoid/Motor

This test is to judge whether the holding solenoid/motor device works well by activating them and watching their behavior.



This test is only available in the status of normal embroidery.

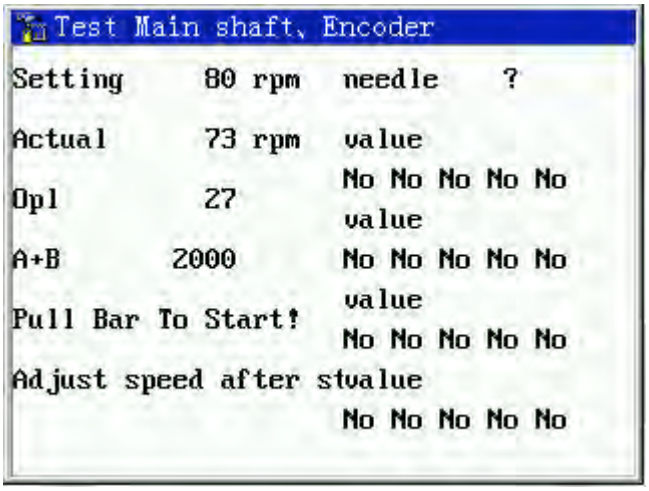
9. Test M. Shaft and Encoder (loop/chain)

This test is through rotating the main shaft to test the 0-position pulse and continuous pulse of the optical encoder and display their values. At the same time the system displays the set rotation speed and the real speed to help adjust the main shaft board.

“  ”: decrease the imitative rotation speed of the main shaft

“  ”: increase the imitative rotation speed of the main shaft

Press number key to select the needle height



This test is only available in the status of chain/loop embroidery.

10. Test D shaft Motor

This test is to judge whether the D shaft motor works well by setting the four parameters: direction (“+” <-> “--”), angle (1 ~ 180) , curve (F1~F4) and imitation speed (80~1000).

“  ” is for direction switch. “  ” is for frame curve (F1->F2->F4> F3->F1) .

“  ” is for increasing angle value. “  ” is for decreasing angle value.

“  ”: decrease the imitative rotation speed of the main shaft

“ ”: increase the imitative rotation speed of the main shaft

This test is only available in the status of chain embroidery.

11. Test D shaft Motor

This test is to judge whether the H shaft motor works well by setting the four parameters: direction (“+” <-> “--”), angle (1 ~ 180) , curve (F1~F3) and imitation speed (80~340).

“ PD ” is for direction switch. “ PU ” is for frame curve (F1->F2->F3->F1) .

“ ” is for increasing angle value. “ ” is for decreasing angle value.

“ ”: decrease the imitative rotation speed of the main shaft

“ ”: increase the imitative rotation speed of the main shaft

Pull the bar to the right and the currently selected looper begins to rotate. The rotation speed should be faster with increasing the “imitation speed”. The rotation range should be larger with increasing the “angle”. The directions “+” and “--” are just opposite. Pull the bar to the left, and the D shaft should stop.

This test is only available in the status of chain/loop embroidery.

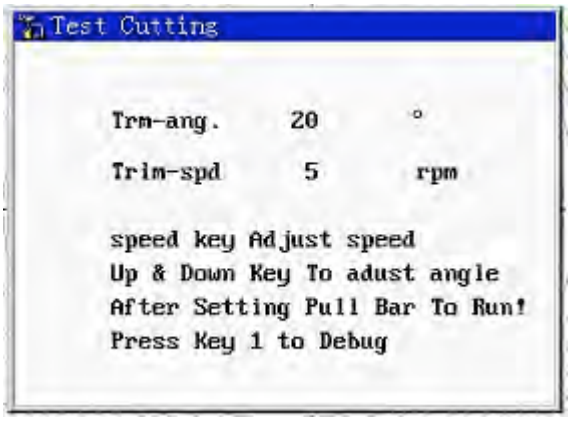
12. Test Chain Cutting Motor

This test is to judge whether the chain cutting device works well by setting the parameters: cutting angle (20~800, Unit: 10) and cutting speed(1~10).

“ ” is for increasing cutting angle. “ ” is for decreasing cutting angle.

“ ”: decrease the cutter speed

“ ”: increase the cutter speed



Press “1” to enter the screen of manual trim (adjustment of trim distance in loop/chain). Refer to chapter 8-10 for details.

This test is only available in the status of chain/loop embroidery.

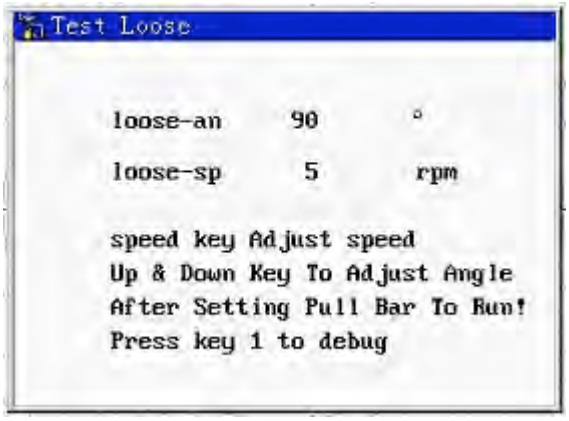
13. Test Chain loose Motor

This test is to judge whether the chain loose device works well by setting the parameters: loose angle (0~360, Unit: 9) and loose speed (0~10).

“  ” is for increasing loose angle. “  ” is for decreasing loose angle.

“  ”: decrease the loose speed

“  ”: increase the loose speed



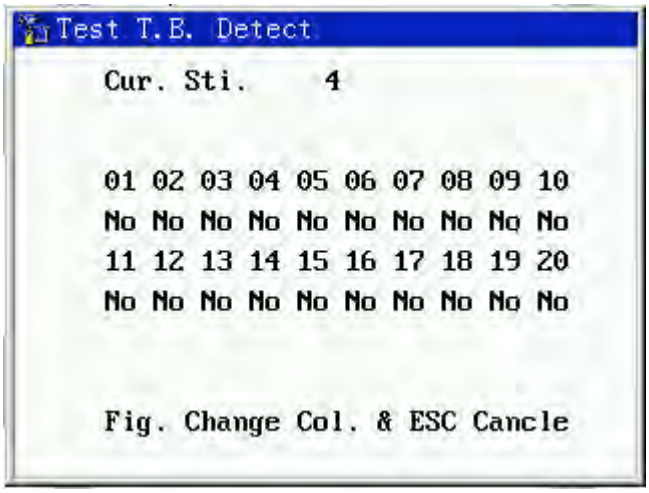
Press “1” to enter the screen of “Adjust Tight Loose Position”. Refer to chapter 8-7 for details.

This test is only available in the status of chain embroidery.

14. Test Chain T. B. Detect

This test is to judge whether thread break detect devices for each needle works well by turn on the T. B. detect functions one by one to activate the T. B. detect devices.

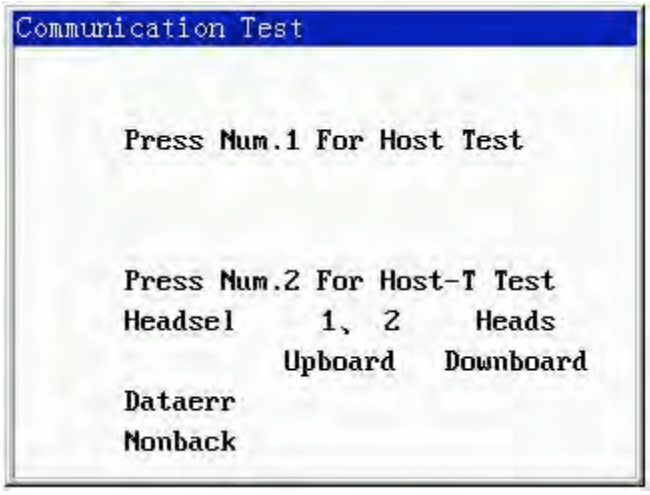
Different number keys are for activating the different T. B. detect devices.



This test is only available in the status of chain embroidery.

15. Test Chain Communication

It's to check the communication between machine head and the selected chain head card (E924/E9511) and display the related information. Normally both the "Dataerr" and "Nonback" should be "0".



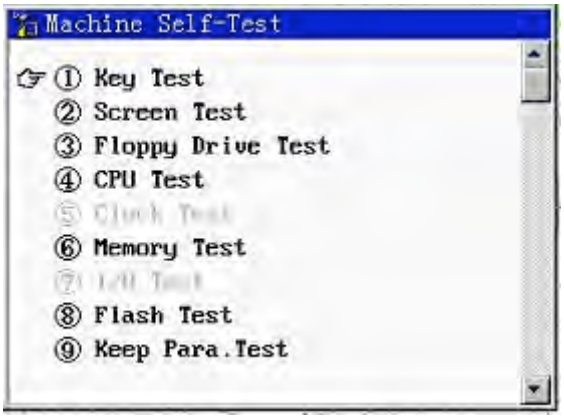
8-14 Machine Self-Test

This operation is designed to be used only by maintenance engineers. And some mechanical work is involved here. So pay attention to personnel and equipment safety.

Operation:

Press the key "  " to enter the assistant operation menu. Turn to the second page. Press "  " to move the icon "☞" to select "Machine Self-Test". Press the key "  " to enter its operation.

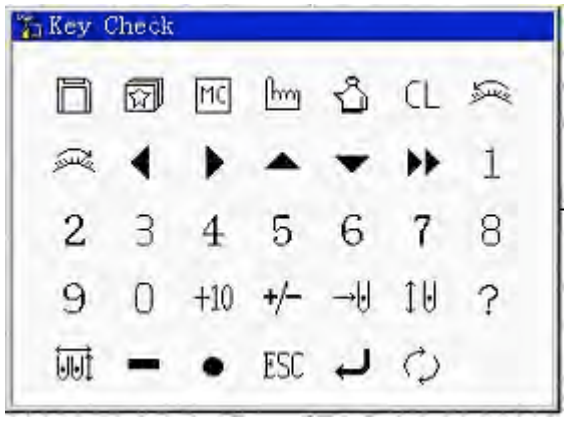
This operation has one page. The availability of each function is decided by the status of equipment.



1. Key Test

This test is to judge whether the keys works well by pressing each key in the panel one by one and watching the screen display.

When a certain key is pressed, the corresponding icon in the screen will show black.

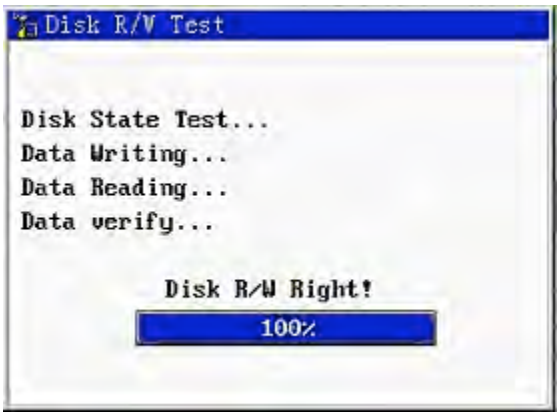


2. Screen Test

This test is to judge whether the screen can show all the colors well by displaying all-red, all-green and all-blue in the screen alternatively.

3. Floppy Drive Test

This test is to judge whether the floppy drive and the disk work well by practicing data input, data output and data check on the disk.



4. CPU Test

This test is to judge whether the CPU can meet the work requirement by controlling the CPU to do the special operations.

5. Memory Test

This test is to judge whether the memory unit and the data transfer system can work well by practicing data input, data output and data check on the memory unit. During the test, there is a process bar in the screen. When the test ends, the screen shows as follows. Press the key “ ESC ” to exit.

6 Flash Test

This test is to judge whether the flash components and data transfer system are in good working situation by practicing ID check, flash data deletion, flash data input and flash check on the flash components.

7. Keep Para. Test

This test is to judge whether the design storage unit is in good working situation by inputting certain data into the storage unit, closing the machine, restart and read the input data.

Chapter 9 Parameter Setting List

Note: This parameter list is fit for all machine, part parameter of the machine that have not the fuction about this parameter display low-light or invalidate. For example, machine type D/N "Standard Machine Para. " display low-lilight. The parameter about thread trimming don't effect to machine type D/N. The parameter about sequin embroidery don't effect to machine type without sequin embroidery function.

No	Parameter	Choice	Default	Note
1	Scales	50 – 200 %	100 %	It's to set the real-time design scaling in embroidery.
2	Direction	8 dirctions	P	It's to set the real-time design direction in embroidery.
3	Rot.Angle	0 ~ 89°	0	It's to set the real-time design rotation angle in embroidery.
4	Rep.Prior	X prior, Y prior	X prior	It's to set the repetition priority of design in repetition embroidery.
5	Rep.Times	1 ~ 99	1	It's to set the design repetition times in embroidery.
6	R.Interval	– 999.9 ~ +999.9mm	0	Unit: 0.1mm
7	Offset Org	Yes, No	No	Offset point It can be any point except the start point of the design.
8	Cyclic Emb	Yes, No	No	Cyclic embroidery is a function for increasing embroidery efficiency. Cyclic embroidery and Offset Org can't be activated at the same time.
Chain/Loop Data Para.				
1	Jump to Trim	No, 1 ~ 7	7	No: in embroidery the jump code is regarded as jump thread, namely auto stop, release thread, move frame and start again; Yes: if the continuous jump codes are less than the set number, jump and not trim; if the continuous jump codes are equal to or more than the set number, it's regarded as over-frame, namely auto stop, trim, move frame and start again.
2	Thr.Broken Detect	Yes, No	Yes	If it is set as yes, the machine automatically checks whether there is thread break with working machine heads. If there is thread break, the indicator light is on and the machine stops.

No	Parameter	Choice	Default	Note
3	Frame Back Permit	Yes, No	No	If it is set as no, “T. Broken Back Sti” isn’t effective.
4	T. Broken Back Sti	0 ~ 8	6	It’s to help darning.
5	All Head Darn	Yes, No	No	When it is set as “No”, only machine heads with thread break returns to darn.
6	Darn Stitch	0 ~ 8	5	When darning starts, only the designated machine heads darns. When the heads darns to the set stitches, all the heads start darning. This is to avoid that the thread break affects the embroidery quality.
7	Thrum Af. Trimming	Cloth Upper、Cloth Under	Cloth Under	That the thrum is on the cloth can prevent from thread release.
8	Loop Fixed Stitch	0 ~ 15	2	To avoid thread release in loop embroidery, you can change the last several stitches into chain stitches. This parameter is to set the changed stitch number.
9	Thread Pos. Af. Br	Yes, No	Yes	Setting the thread position is to help re-thread the needle after thread break. This parameter can help quick threading by making the thread hole of looper and the thread hole of the needle plate at the same line.
10	Empty			
11	Long Stich Divide	No, 4 ~ 12	No	In embroidery if the stitch is too long, the rotation speed of main shaft will decrease. The longer the stitch is, the lower the speed will be. This parameter can divide the long stitch which is longer than (or equal to) the set length into several stitches.
12	To Origin At Stop	Yes, No	Yes	This is to decide whether the ring shuttle rotates back to the origin point when pulling bar in embroidery.
13	Thrum Af. Chg Color	Yes, No	No	This parameter is set the same way to “Thrum Af. Trimming” if it is “Yes”.
14	Enable The 1st.Sti	Yes, No	No	It is to decide whether the needle goes down in the first stitch after jump in loop embroidery.

No	Parameter	Choice	Default	Note
15	StartSti.no T.B.D.	0 ~ 15	3	This is to set how many stitches to embroider after embroidery starts and before thread break detection begins.
Chain/Loop Machine Para				
1	Slow Stitch Num	1 ~ 9	3	It's to decide how many stitches to embroider in the "M. shaft slow speed" when embroidery begins.
2	Maximum Speed	500 ~ 650rpm	500	It's to set the maximum rotation speed of main shaft in embroidery. Unit: 50 rpm
3	Adjust Stop	0 ~ 6	3	It's to adjust the main shaft stop position to solve not stopping in the right position caused by inertia. Increasing this parameter value will increase the stop angle. The user can choose between 0~6 by watching whether the machine stops in the right angle range.
4	Adjust Speed	1 ~ 5	3	Adjust the real speed to approach the set speed. The speed is affected by season.
5	Looper Num	1 ~ 12	6	Choose the looper number of one machine head according to the machine specification.
6	Head Num	1 ~ 24	10	Choose the head number of your machine according to the machine specification.
7	Move Frame Angle	1 ~ 10	3	Adjust movement timing, which affects the embroidery quality.
8	Start Angle	1 ~ 10	3	Adjust movement timing, which affects the embroidery quality.
9	Chain/Loop Trim	Manual, auto, off	Manual	In case of operations like color change, over frame and when embroidery ends, the machine will trim according to the setting by the user.
10	Chain Headboard		9511FL02 old	Range: 9511c/FL01、9511FL02old、9511FL02new; E924B31、E924B20 (independently looping machine)
11	Shake Adjust	1 ~ 20	3	In color change of loop embroidery, the H axis motor will shake a little in horizontal direction, so as to ensure the looper can fall down smoothly. This parameter is to decide the shaking range.

No	Parameter	Choice	Default	Note
12, 13, 14	Chenille Mode, Chenille Speed,D. Shaft retrieve			Chenille Mode, Chenille Speed,D. Shaft retrieve: This system doesn't support for the moment.
12	Sequin Mode		Wh Double Sq	Wh Double Sq, Wh Single Sq, Sw Double Sq, Sw Single Sq。This parameter should be set according to your machine's real mechanical structure.
13	Sequin Auto Start	Yes, No	No	No: when embroidering sequin design, pull the bar, the presser foot will fall, but embroidery won't start before pulling bar again. Yes: when embroidering sequin design, pull the bar, the presser foot will fall and embroidery will start.
14	Ndl No. For Sequin		Sw11.7°	Sw 6.3,8.1,11.7,15.3,21.6,28.8,36,43.2, Wh(Wheel)14.4,18。 Set this parameter according to the sequin size. Usually select 11.7° when you use lever device to embroider 5 mm sequins.
15	Outline Mode	Yes, No		This is to create a design according to the outline of a normal design. The user can choose to embroider the created design so as to help positioning and making holes. If this function is activated, there is no thread break detection in embroidery.
16	M. Shaft Slow Speed	80 ~ 150rpm	80	This is to set the rotation speed of the main shaft at its slow starting. Unit: 10rpm
17	Head Adj. Val	0 ~ 250	100	This parameter value is adjusted to get the needle bar height reach the right position. It's for assembling and adjusting machines.
18	Head H Pos. Val	138 ~ 250	138	It's specially for machines whose head H position value needs to be set.
19	Loose Mode	D. Pulse, S. Pulse	D. Pulse	It is set according to the requirement of input signal of thread release driver. BBQ2003 is D. Pulse. E937 is S. Pulse.

No	Parameter	Choice	Default	Note
20	Acceleration	1 ~ 10	1	It's the acceleration speed of the main shaft after machine starts. The value is increased to add the acceleration speed.
21	Sequin Stop Adj.	0 ~ 8	0	It's to adjust chain sequin delivery speed after pulling bar to stop the machine. The value is added to increase the delivery speed.
Standard Data Para.				
1	Jump To Trim	1 ~ 7	1Sti	Same to chain/Loop
2	Thr. Broken Detect	Yes, No	Yes	Same to chain/Loop
3	T. Broken Back Sti.	0 ~ 8	3	Same to chain/Loop
4	Darn Stitch	0 ~ 8	5	Same to chain/Loop
5	Treat After Darn	Normal、Reduce、Stop	Normal	This is to set the machine speed after darning. If it is "Normal", the machine will keep the normal embroidery speed. If it is "Reduce", the machine will embroider several in lower speed and then return to the normal speed. If it is "Stop", the machine will stop automatically and the machine will continue normal embroidery after it is stared again.
6	Start Sti. No T.B.D.	1 ~ 15	8	This parameter is to decide in how many stitches after darning the machine won't check whether there is thread break.
7	T.B. Detect at Jump	Yes, No	No	This is to decide whether to check thread break during jump stitch in embroidery.
8	Long Sti. Divide	No, 7 ~ 12	No	Same to chain/Loop
9	Jump Length	4.5, 6.5、8.5	6.5	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.
10	All Head Patch	Yes, No	No	When it is "no", only machine heads with thread break return to darn.
Standard Trim Para.				

No	Parameter	Choice	Default	Note
1	Auto Trim	Yes, No	No	Same to chain/Loop
2	Length After Trim	1 ~ 4	2	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 becomes.
3	Action After Trim	See notes	No Action	Choice: No Action, MoveNeedle, Frame to Y, Frame to X This parameter is to set the action after trimming. This action is to separate the thread from the mechanical parts such as trimming cutter.
4	Lock Before Trim	Yes, No	Yes	Locking is the measure to prevent the fabric from moving away in the last stitch before trimming.
5	Lock Num. Af. Trim	0, 1, 2	2	This parameter is to set how many stitches to lock after trimming.
6	Speed At Trimming	80 ~ 150	80	Unit: 10 It is for setting the rotation speed of the main shaft at trimming.
7	Rounds After Trim	1, 2	2	It is for setting how many rounds the main shaft rotates after trimming.
8	StartSpeed Af. Trim	60 ~ 150	60	Unit: 10 It is for setting the start speed of the main shaft after trimming.
9	SlowStitch Af. Trim	1 ~ 9	3	This is to set how many stitches will be in “Start Speed after Trim”.
10	Check Trim is Ok	Yes, No	Yes	When this parameter is set as “Yes”, the machine will automatically check whether the cutter has returned to the original position after trimming. If the parameter is set as “No”, the machine will not check.
11	Hook Motor	1/10、1/18	1/18	This parameter is to decide the operation status of the hook motor according to the real situation.
12	Adj Hook Motor	0 ~ 10	5	This parameter is for setting when the hook device starts operation.
13	Same Color Trim	Yes, No	No	This parameter is to decide whether to trim when the nearby color-change codes are of the same color, which affects the work efficiency.
Standard Machine Para.				

No	Parameter	Choice	Default	Note
1	Maximum Speed	650 ~ 850	700	Unit: 50 This is to set the maximum rotation speed of main shaft in standard embroidery.
2	Minimum Speed	400, 450	450	This is the minimum speed the machine will automatically set according to the size of stitch codes.
3	Shift Sti.Length	3 ~ 6	6	This is to set a stitch length from which the speed will decrease from the maximum speed. Its measurement unit is mm. When the machine sets the rotation speed automatically according to the stitch length, the “Maximum Speed” will be applied for the stitches shorter than the “Shift Sti. Length”. And for the stitches longer than the “Shift Sti. Length”, the speed will decrease 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 speed is too high and the driving force is not enough.
4	Frame Curve & Angle	See notes	F2/250	Choice: F1,F2,F3,F4／ 230,240,250,260,270,280,290。 The frame curve means that the frame-moving speed change fit a certain curve. 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.
5	Max. Speed At Jump	400 ~ 750	500	This is to limit the main shaft speed during jump stitch code.
6	Start Run Speed	80 ~ 150	80	Same to chain/Loop
7	Start Slow Stitch	1 ~ 9	3	Same to chain/Loop

No	Parameter	Choice	Default	Note
8	Acceleration	1 ~ 10	5	This parameter is to set the acceleration for the speed to rise after the slow startup stitches. The larger the parameter value is, the more quickly the machine speed rise from the startup speed to the maximum speed.
9	Adjust Speed	1 ~ 5	3	Same to chain/Loop
10	Main Motor Para.	0 ~ 30	0	This is to adjust the coordination between the main shaft motor and the mechanism. The parameter value can be 0 in most of situations (choice range: 0~30). In case of braking, you can increase the parameter value if the main shaft shakes without moving or even rotates back, or the braking strength seems not enough.
11	Adjust Stop Pos.	0 ~ 6	3	Same to chain/Loop
12	Needles In A Head	3 ~ 12	6	Same to chain/Loop
13	Boring Embroidery	Yes, No		This parameter is set for the machines equipped with boring embroidery devices.
14	Sequin Mode		Off	Option: sw single sq, sw double sq, wh single sq, wh double sq, off It is to select the sequin mode according to the real mechanism situation.
15	1st Sequin Angle	See notes	Off	(Option: off, 11.7, 21.6, 28.8, 36, 43.2, 6.3, 8.1, 15.3, 14.4) When the sequin device is on the first needle of the machine head, this parameter is to set the delivery distance of the sequin device. The parameter value is set according to the real sequin size.
16	Last Sequin Angle	Ditto	Off	Ditto
17	Speed For Sequin	300 ~ 850	600	Unit: 50 It is the rotation speed of the main shaft in case of sequin embroidery.

No	Parameter	Choice	Default	Note
18	Sequin AutoStart	Yes, No	No	This parameter is to decide whether the machine automatically starts or the operator pulls the bar to start when normal embroidery switches into sequin embroidery.
19	Adjust Down Stop	0 ~ 30	3	This is to fine-tune the stop position of the main shaft at the “low stop position”, so as to fit different machine’s mechanisms. With the parameter value increasing, the stop position will be moved back further.
20	Head Distance (1mm)	-600 ~ 600	230	This parameter is for setting the moving distance of the frame in case of the switch from the normal machine head to loop/chain embroidery head.
21	Adj Thr. Broken	1 ~ 5	1	This is the sensitivity of the thread break detecting device.
22	Auto Lft When Brk	Yes, No	Yes	If it is “Yes”, when thread break happens in sequin embroidery, the pressing foot will lift automatically.
23	Adj Jump Solenid	6 ~ 12	6	This is to set the strength of the solenoid movement according to the machine situation.
24	Sequin Detect	Not Detect, Down Detect, Up Detect	Not Detect	It’s to decide whether to detect standard embroidery sequin presser foot and detection position. Select the detection mode according to the installation position of the proximity switch.
25	Boring Dist (0.1mm)	0 ~ 150	120	It’s the auto displacement in boring. The value is the same to the distance between the boring needle and the needle plate hole.
26	Sequin Lift Mode	Motor, Valve	Valve	Set this parameter according to the mechanical situation.
27	M. Shaft Motor	Has, None	Has	Set this parameter according to the mechanical structure. “No”: chain/loop and standard embroidery use the same main shaft. “Has”: chain/loop and standard embroidery use different main shafts.
Common Parameter				

No	Parameter	Choice	Default	Note
1	Auto Back Origin	Yes, No	No	When this parameter is set as "Yes", there will appear at the end of embroidery a prompt "Return to start point or offset point, press any key to continue". If press a key and the frame hasn't been at the origin point, the frame will return to the origin point.
2	OverFrame By Step	Yes, No	No	It is to decide whether to do over-frame directly or by step in case of jump stitch codes in designs.
3	OverFrame Speed	Midd, Slow	Midd	This parameter is to select the frame-moving speed as middle or low in case of machine over-frame.
4	Fast Manual Frame	0 ~ 9	5	This parameter is to set the speed for the fast manual frame-moving.
5	Slow Manual Frame	0 ~ 9	5	This parameter is to set the speed for the low manual frame-moving.
6	StopToColor & Read	Yes, No	No	This parameter is to decide whether to transform the stop codes to color-change codes when the designs are input from floppy disk.
7	Save to Work Order	Yes, No	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.
8	DIP1	0 ~ 15	10	It's to adjust the low speed embroidery quality.
9	DIP 2	0 ~ 10	< 5	It's to improve the hooking cloth situation in looping stitches.
10	DIP 3	0 ~ 5	⩾ 1	Increasing the parameter value can improve the stitch loosing situation but is also possible to increase the overload of ring axis motor.
11	DIP 4	0 ~ 10	1	It's to adjust the start angle of looping.
12	DIP 5	0 ~ 2	0	It's to select the looping frame moving curve.

0 means off.

Chapter 10 Communication System

10-1 Direct Input of Designs

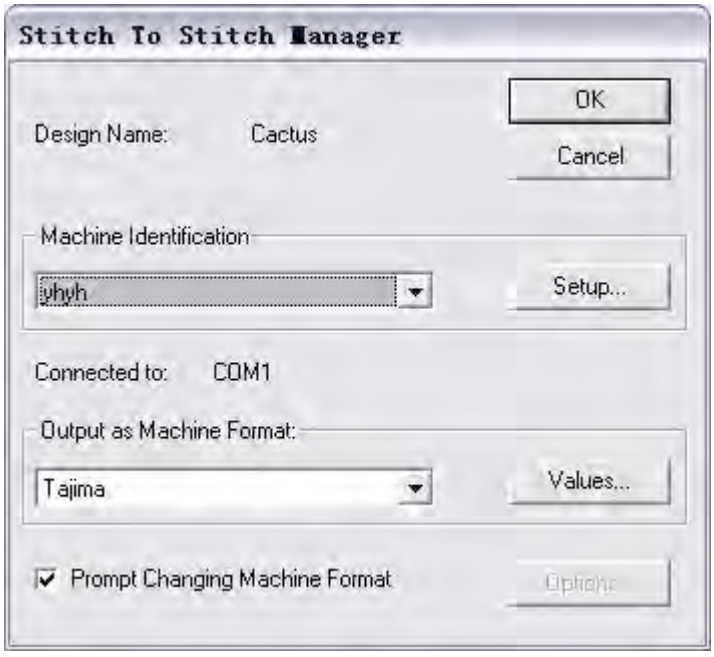
When you create design files in PC, you can input them into the embroidery machine. Our products provide such functions by means of operations in the Stitch Manager of the design editing software. Our system supports software like wilcom ES and Tajima punch software. Take wilcom ES as an example in the following.

Set the machine identification in the Stitch Manager before using,. Please refer to the part "How to Set the Embroidery Machine in the Stitch Manager".

Note: It needs to choose a machine form for inputting design files. In the software there are many standard forms to choose and you can also define and save a new form. It's important to set the form for an embroidery machine before connecting it. Here you need to set the form as Tajima.

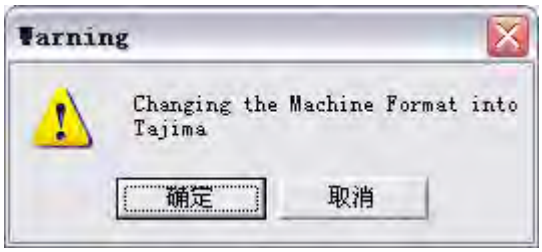
10-2 How to Input Designs into Stitch Manager

1. Create or open a design file.
2. Choose "stitch to stitch manager" from the file menu. Or press the embroidering key in the tool bar.
3. The "stitch to stitch manager" prompt will show. Choose the target machine's name in the prompt and choose the Tajima form in its pop-up menu.



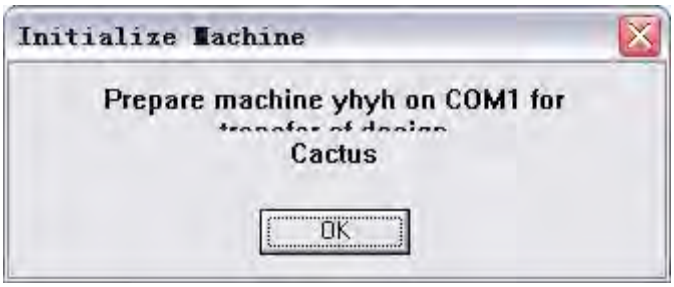
The pop-up menus include the embroidery machines set in hardware setup prompt and the machine forms set in machine form prompt. You can visit these prompts by the setup and number buttons. Please refer to the part “how to set the machine identification in the Stitch Manager”.

4. The editing software will automatically transform the designs into the target machine form Tajima if they are different. In the default setting there is a prompt before transforming. If you don’t need the prompt, you can cancel the choosing “Prompt Changing Machine Format”.



5. Press the “OK” button, and the preparing of input will begin. The .EMB form files will be transformed and input to the embroidery machine as .DST form files while the original files keeps unchanged.

6. When the “Initialize Machine” prompt shows, the embroidery machine has to be set first and then press the “OK” button.



7. Operation of the embroidery machine.

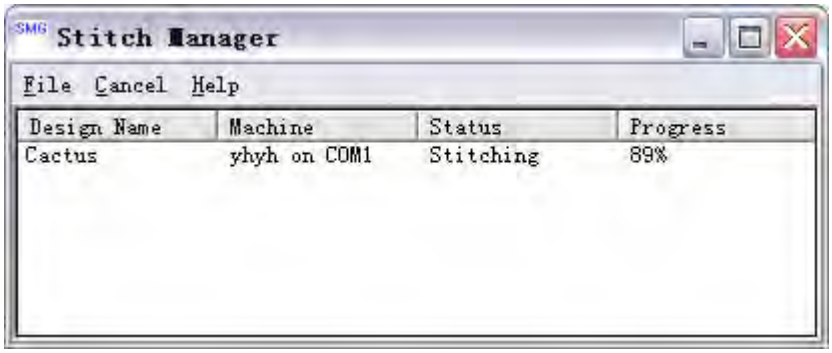
1) Press the “ ” button in the main menu and enter the disk management menu.

2) Press the "8" key or the "  " button to enter the "PC COM Des. Input" menu. And it shows " Des. Is inputting…"when the embroidery machine is ready to receive designs.

8. Press the "OK" button in the "Initialize Machine" prompt of the editing software and the design input begins.

Note: The embroidery machine has to be set before pressing the "OK" button. Refer to the step 7. Don't press the "OK" button to begin the input until "Des. Is inputting… " shows on the embroidery machine screen.

9. When the input begins, the stitch manager shows the input progress.



10. After the input, the left operations are similar to those for disk input. Please refer to chapter 3-2.

Connection Setup of the Serial Port

You can connect the Dahao embroidery machines to your computer through the serial ports of 9 or 25 pins. They are named COM1, COM2, COM3 and etc. When you set the embroidery machine connected through the serial port, you are required to input the serial port settings as part of the whole setting process. Please refer to the part “how to set the machine identification in the Stitch Manager”.

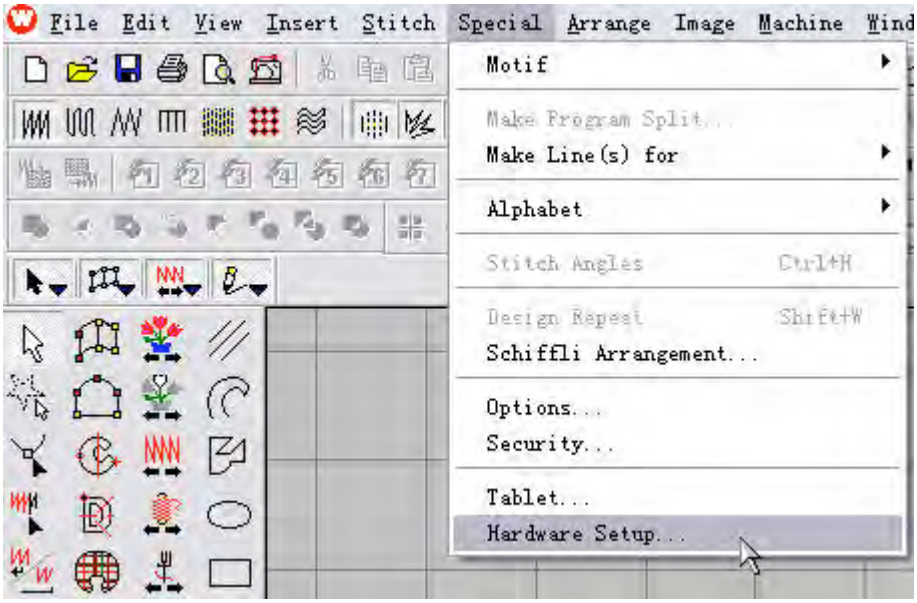
The port number of the computer limits the number of connecting equipments. If necessary, you can add additional ports or multi-port card. Be clear about your computer’s different ports. And you can ask the PC engineers for support.

10-3 How to Set the Embroidery Machine in the Stitch Manager

To set the embroidery machine, you should give a machine name and define the connecting port and communication protocols.

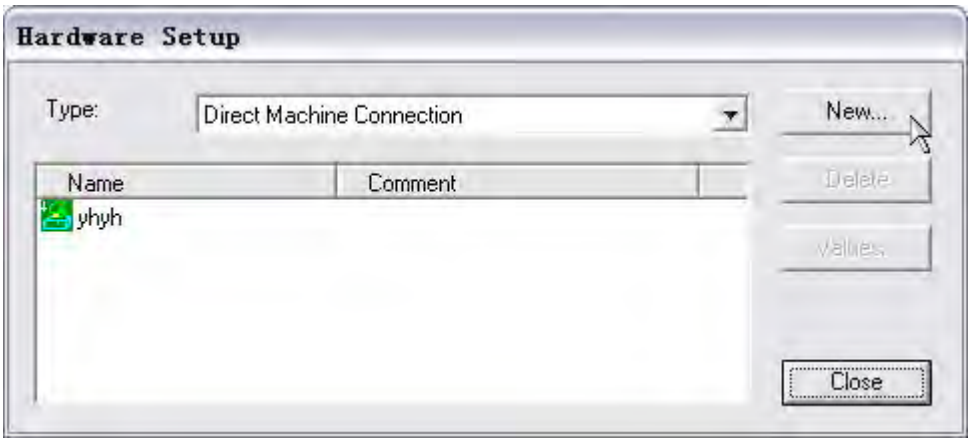
1. Shut down the power of the computer and peripheral equipments.
2. Connect the embroidery machine to the available serial port in the computer.
3. Turn on all the equipments and initialize the editing software.
4. Choose the “Hardware Setup”

Choose in the sequence: Special> Hardware Setup

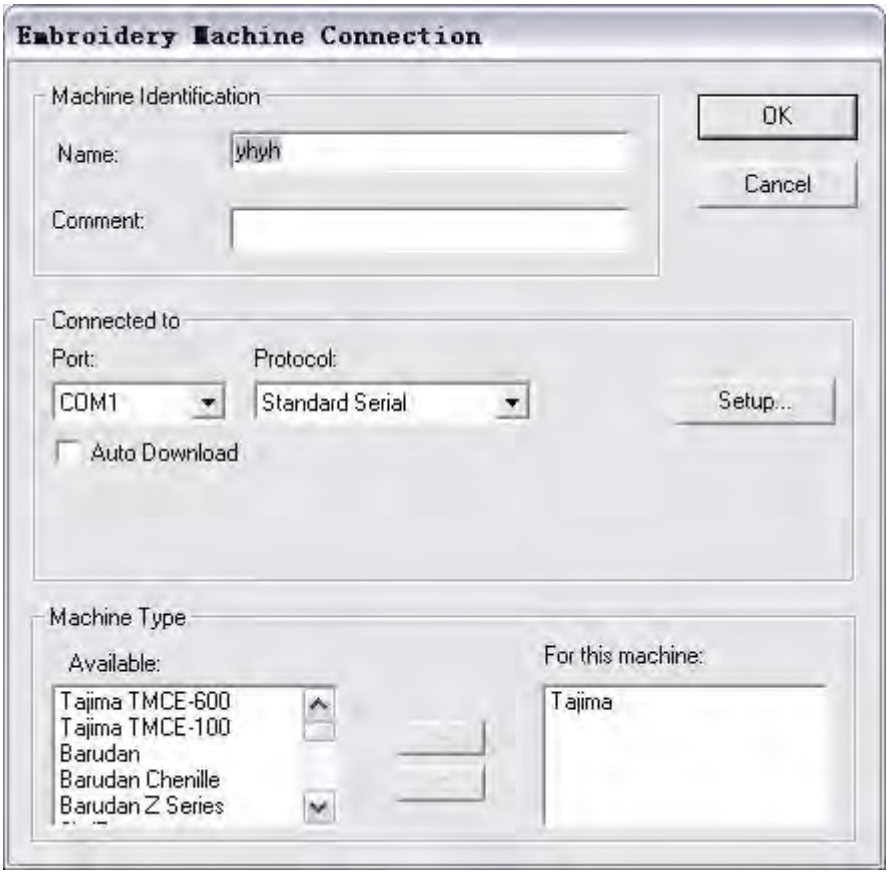


5. Open the Hardware Setup prompt

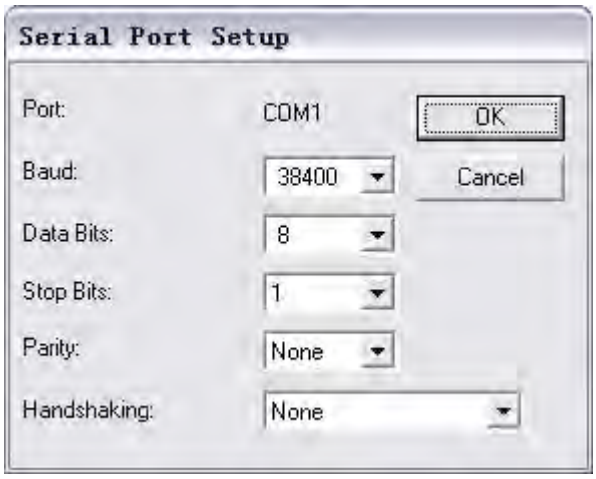
From the type option, choose “Direct Machine Connection”



6. Choose a machine form from the machine menu. Then click the number button to change the set values or click the button “new” to create a new machine form.
7. The software will show the prompt “Embroidery Machine Connection”. Input the machine name and necessary comments.



8. Choose “COM1” from the port options
9. Choose the communication protocol of the serial port connection.
10. Click the button “Setup” to confirm the set values.



11. The software will show the prompt “Serial Port Setup”. Do the proper setup.

    Baud: 38400

    Data Bits: 8

    Stop Bits: 1

    Parity: None

    Handshaking: None

12. Click the button “OK” in the Serial Port Setup.
13. Choose the Machine Type as Tajima in the prompt “Embroidery Machine Connection”.

Choose “Tajima” from “Available” (Machine Type), and click the button “>” to transfer the form to the right column “For this machine”. When you intend to remove a form in “For this machine” to “Available”, choose the form and click the button “<”.

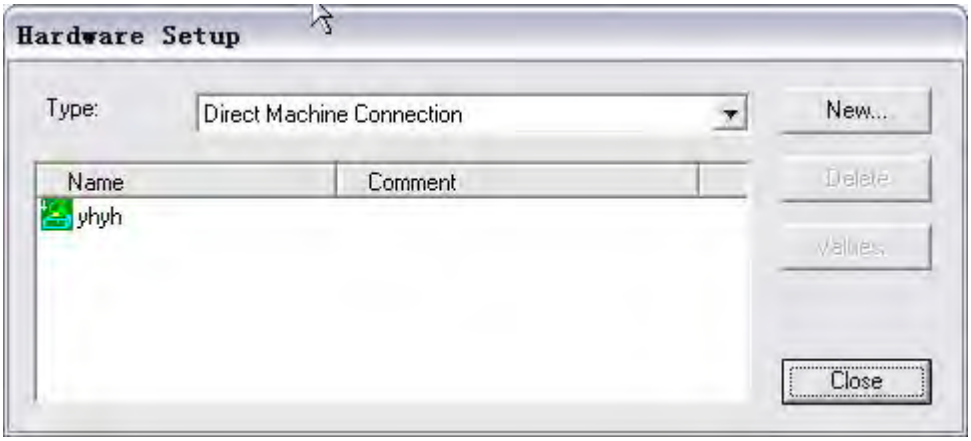
14. Click the button “OK” in the prompt “Embroidery Machine Connection”.
15. Click the button “Close” in the prompt “Hardware Setup”.
16. Exit and restart the design editing software.

10-4 Delete the Embroidery Machine in the Stitch Manager

If you don’t need some embroidery machines any longer, you can delete them in the setup. The steps are as follows:

1. Choose special>hardware

The prompt “Hardware Setup” is opened.



2. Choose “Direct Machine Connection” from type option.
3. Choose the machine and click the button “Delete”.
4. Click the button “Close”.

10-5 The Supported File and Disk Forms

The input files from the PC to the Dahao embroidery machine support the following forms (extension).

Barudan stitch form (including specified stitch data)	DSB
Barudan stitch form (Wilcom’s form=DSB)	T03
Barudan stitch form	U??
Bits&Volts	BRO
Compucon stitch form	XXX
Datastitch stitch form	STX
Gunold stitch form	STC
Melco stitch form	EXP
Pfaff stitch form	KSM
Pfaff stitch form (Wilcom’s form=KSM)	T09
Proel	PMU
Proel DOS	PUM
Tajima stitch form	DST
Tajima stitch form (Wilcom’s form=DST)	T01
Toyota stitch form	100
ZSK stitch form	DSZ
ZSK stitch form (Wilcom’s form=DSZ)	T05

10-6 Malfunction Tackling

1. Communication Time-out

After the embroidery machine enters the state of getting ready for receiving data, the machine will automatically exit receiving state if there is no data input for 36 seconds. During this period of time it is also possible to exit by press the button “ESC”.

2. Abnormal communication breaking

After the embroidery machine begins to receive the design data, you can press the button “ESC” on the embroidery machine for two times to exit when the computer system crashes or in other situations the customer considers necessary to stop receiving data.

Appendix I: Operation by Shortcuts

No	Modes / Functions	Press Key Instantly	Preparing Mode	Confirm Mode	Running Mode
1	Begin embroidering by pulling bar			✓	✓(80 revolutions)
2	Stop embroidering by pulling bar			✓ (return)	✓
3	Curve needle returning to the thread position		✓	✓	
4	D shaft and looper return to the origin point	0	✓	✓	
5	Manual color change	1~9	✓	✓	
6	Display version information		✓	✓	
7	Accelerate the main shaft speed		✓	✓	✓
8	Decelerate the main shaft speed		✓	✓	✓
9	Clear stitch count and frame displacement		✓	✓	
10	Set embroidery confirmation		✓		
11	Cancel embroidery confirmation			✓	

Appendix II: Error Information Table

Code	Name	Cause and Solution
1	Disk Error	Replace the disk.
2	Wrong Disk Type	Replace the disk.
3	No Disk	Insert the disk.
4	Write Protect	Open the write protect of the disk.
5	Disk Directory Full	In design output, the disk directories have reached the limit. Replace the disk.
6	Disk Space Full	In design output, the disk space is full. Replace the disk.
7	Format Disk Error	Replace the disk.
8	No End Code	
9	Filename Is Empty	Input the filename.
11	Not Set Emb	Press the embroidery confirmation key to enter the embroidery mode.
12	Back To End Err	After going back to the origin point, the frame can't return. Check the pulling bar start/stop switch and its cables.
13	Not Quit Emb	Some parameter setting has to be done after exiting embroidery mode. Press the embroidery confirmation key to exit the embroidery mode.
14	Parameter Lost	The battery or the main board fails.
15	Design Lost	The battery or the main board fails.
16	No Design In Memory	There is not design in the machine memory. Designs need to be input.
17	All No. Be Used	The designs in the memory have reached the limitation. Please delete some designs.
18	Design Not Exist	The input design number doesn't exist.

Code	Name	Cause and Solution
		Please select or input a design number again.
19	No Enough Memory	The memory storing space is not enough. Please delete some designs in memory.
20	Back Forbid Be Set	If the loop embroidery needs moving back the frame, set the parameter "Frame Back Permit" as yes.
50	Encoder Abnormal	Check the encoder and the cable.
51	Stop Position Error	The main shaft hasn't stopped in the right position. Perform the "Main shaft origin" operation in the manual operation menu.
52	Frame Over Limit	Frame reaches the limit or the limitation switch fails.
53	Driver Abnormal	Frame stepping driver fails.
54	Color Change Over	Over the standard embroidery needle bar number.
55	Color Change OverTime	Color change hasn't been completed in due time.
56	Half Return Err	Half Return Err
57	Needle Position Err	Needle Position Err
58	Main Motor Error	The main shaft doesn't rotate. Check whether the servo driver gives the error signal.
59	Color Motor Reverse	Color change motor runs in the reverse direction or the needle position card fails.
60	Frame Soft Limit	Frame Soft Limit
64	Chain Color OverLimit	The parameter on looper number is set wrongly.
65	Chain Color OverTime	The looper doesn't move or is mechanically blocked.

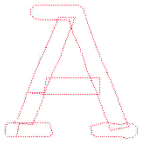
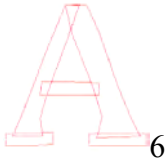
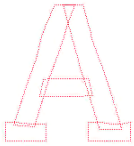
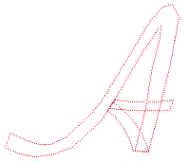
Code	Name	Cause and Solution
66	Chain Half Return Err	The rheostat hasn't reached the right position.
67	Chain Needle Pos Err	The rheostat hasn't reached the right position.
70	Chain Color Motor Reverse	The rheostat bad or Color change motor runs in the reverse direction
71	Loose Motor Reverse	The loose motor reverse or the loose rheostat is wrong.
72	Loose Motor Overtime	The loose rheostat is loose or the motor doesn't run.
73	Loose Pos Err	Loosing hasn't reached the right position. Enter the menu to adjust.
74	Scissors No Set	(Looper or standard) trimmer or trimmer proximity switch doesn't reach the position.
75	Trim Motor Over Time	Trimmer motor doesn't run or proximity switch fails.
76	Ring Position Err	The rheostat hasn't reached the position.
77	Ring Motor Over Time	Looper motor doesn't run or looper proximity switch fails.
78	D Shaft Motor Overtime	D axis motor doesn't run or D axis proximity switch fails.
79	D Shaft Position Err	D axis motor doesn't run or D axis proximity switch fails.
80	Needle Heig Disaccord	
81	Communication Fail	
82	Communication Busy	
83	Data Error	Use the communication test function to test the serial port.
84	Motor Reverse	

Code	Name	Cause and Solution
85	Motor Overtime	
86	Switch Broken	The head switch card fails or is broken.
87	Needle Height Abnorma	
88	No Effective Head	Open the malfunctioned head.
89	Hook Pos Err	Turn the standard embroidery hook to the right position.
91	Communication Fail	
92	Busy	Looper trimmer is blocked or the proximity switch fails.
93	Data Err	
94	Trim Motor Rev	
95	Trim Over	Looper trimmer is blocked or the proximity switch fails.
96	Trim Pos Err	In separate trimming use the trimmer returning function in the trimmer adjustment menu. In collective trimming close the power and manually turn the trimming motor shaft.
101	Not sequin needle	If in sequin embroidery it's not in the sequin needle position, change color to the sequin position or in parameter setting sequin position is set wrongly.
102	Sequin device down	Manually lift the sequin device.
103	Hook Over	The hook motor doesn't run or the proximity switch fails.
110	Error At Save Secret	The memory of the main board fails. Replace the main board.
111	No Lift Head	Manually lift the machine head or set the trimming mode as auto.
130	File Too Big	

Code	Name	Cause and Solution
131	Rsp Disagree Command	
150	No Device	Insert the USB disk.
151	Device Full	In design output, the USB disk space is not enough.
152	Device Error	Replace the USB disk.
153	File Exist	
154	File Not Found	
155	Length Exceed	
156	Reach End	
157	File Not Open	
158	Status Error	Insert or replace the USB disk.
159	System Error	

Appendix III: Letter Type list

Take letter “A” for example: from the top to bottom the letter types are 1~28

 1	 2	3	 4
 5	 6	 7	 8
 9	 10	 11	 12
 13	 14	 15	16
 17	 18	 19	 20
 21	 22	 23	 24
 25	 26	 27	 28

Appendix Ⅳ： Directions on USB Operations

No.	Operation	Direction	Remark
1	Supported formats	FAT12, FAT16 and FAT32	
2	Long filename	Support but no display	
3	Filename display	DOS 8.3 mode（8 digit prefix is viewable, suffix is 3 digits）	For instance: “清明上河图.DST” will be displayed as “清明上~1.DST”
4	Filename displayed in Chinese	support	
5	Sub-directory operation	support	
6	Sub-directory limit	No limitation	
7	File number limitation in one sub-directory	No limitation	
8	Reading & writing error/ change USB	Back to disk management or design management screen, plug in the disk again.	
9	Multi-logical disks in one USB disk	Not support Only support the 1st one	
10	Formatting USB	support	
11	Installing of the letter base	support	
12	Software update	Not support	
13	Special character in filename	Support all the characters in DOS system	