

PS-900 Pattern editing INSTRUCTION MANUAL

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Chapter I Introduction to System

1.1 Software Overview

This software has the following features:

1. The software can identify graphics made by drawing software such as Autocad, Coredraw, etc. including files in dxf, dst, dsb, ai, plt, tzf and other format, and support to convert them to processing files needed for the sewing control system.

2. It can carry out a variety of editing operations to graphs, and support the layer edit

3. Supports to add special sewing graphics, such as bar tacks, multiple sewing, contraction sewing, head and tail reinforcement, etc.

4. Opening template head can be used to generate production template file to carry out line drawing, dot mark with the brush head.

5. Powerful custom functions, all kinds of control instructions can be added to any points of sewing, to realize flexible control requirements.

In case of discrepancies between actual use and this Instruction due to software update, the actual operations shall prevail.

1.2 Software version

The pattern editing software version is common to the standard type and the laser type of the PS900 sewing machine.

V*****-P(C)

"P" represents the perfect stitch, and "(C)" represents the type of the laser installed to the sewing machine.

1.3 How to check the software version

After starting the pattern editing software, the version of the software is displayed at the following position.

* For the software versions of V210112 or earlier, the version is not displayed.

	Open file	Insert	Save as	□Don't Set Ref. Remove overlap when open the file?
Layer	Output	Shape	Change layer	Version : V220108-F(C)
			Shape Clone	
			Set as Ref.	

Chapter II Basic Operations of Sewing CNC Software



Double-click **Service** to enter the software interface as shown in figure:

Open Hile	Insert	Sex as	Beers early do yo the file?	Set Salls Size	aner point Che	age Size
er Distput	Sup+		Varsies : V22200-F(2)	$\Psi=0.000~{\rm sam}$, $\Psi=0.000~{\rm sam}$	2+0.0.1+0.0	
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		Shape Close		Select the width and	Select central	
		Set as Ball		height in the layer	coordinates of graph	ics
		Revo Op.			• •	
		Compt Stage				
		fåt Slope				
		Layer Setting				
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Note: width and height of the graphics in layer: "width" refers to the length in horizontal direction (X axis) from the left endpoint to the right endpoint of all graphics in the layer. "Height" is the length in vertical direction (Y axis) from the upper endpoint to the lower endpoint."

"Select central coordinates of graphics": the actual coordinates of point as to point; the midpoint coordinates of straight line as to straight line; the center coordinates of rectangular as to rectangle; the coordinates of central point of the bounding rectangle as to other graphics.

2.1 File Operations

2.1.1 Open File

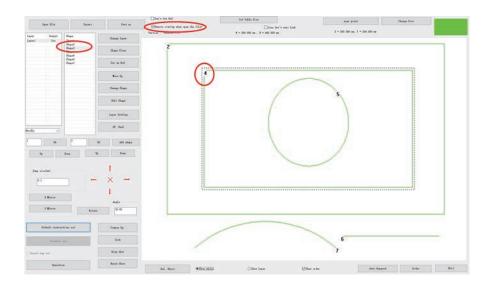
Click the ^{Open file} button on the upper left toolbar of software, and select the file to open, as shown in the figure below

🛃 打开				>
查找范围(I):	激光 sewing-soft	~ G 🦻	⊳ 🖽 ک	
名称	^	修改日期	类型	^
激光 sewing-so	ft	2019/6/12 8:	57 文件	
1.SLW		2019/6/6 17:0	05 SLW	
90.SLW		2019/3/26 16	i:11 SLW	
CS图形.SLW		2019/3/26 16	i:11 SLW	
Test2.SLW		2019/3/26 16	i:11 SLW	
📄 平车线迹.SLW		2019/3/26 16	i:34 SLW	
<			>	Ť
文件名(N):	st2.SLW		打开(O)	1
文件类型(T): M	ap file	~	取消	
	以只读方式打开(R)			

The software can identify graphics made by drawing software such as Autocad, coredraw, etc. including files in dxf, dst, dsb, ai, plt, tzf and other format

When the file is opened, you can choose whether to delete the overlapping graphics; if yes, it will only keep one of the overlapping graphics, and delete other graphics (this operation is invalid to files in tzf format)

For example: open a file test1146.dxf with the overlapping graphic (figure 3 overlaps with figure 4), not to delete the overlap graphic when opening the file as shown in the figure below (serial numbers of figure 3 and figure 4 overlap, it only shows the serial number "4"):

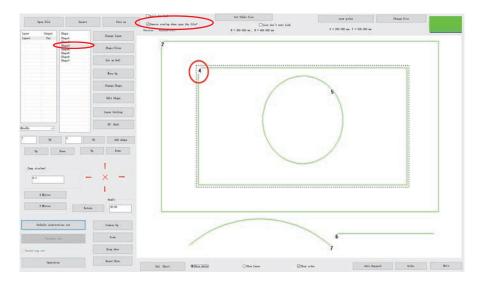


Tick "Remove overlap when open the file", and then open the file, overlapping graphic will be deleted, as shown in the figure below:

Note:

1. The overlapping graphic refers to the shape and position of one graphic (straight line or multiple line segments or curve) is exactly the same with another graphic.

2. Points of sewing will be generated as long as there is graphic. If there is overlap in graphics, the overlapping place will be sewed for many times.



2.1.2 Add Layer

On the basis of the existing opened file, if you want to add other file to add a new layer, you can click "insert" button on the upper left toolbar of software. Select the file, as shown, click "open".

查找范围(I):	激光 sewing-soft		· 0000	
名称	^	~	修改日期	美型 ^
激光 sewin	ng-soft		2019/6/6 10:00	文件
90.SLW			2019/3/26 16:11	SLW
CS图形.SU	W		2019/3/26 16:11	SLW
Test2.SLW	t l		2019/3/26 16:11	SLW
□ 平车线迹.S	EW		2019/3/26 16:34	SLW
□ 未命名 ·1.	plt		2019/6/5 16:25	PLT
<				->
文件名(N):	平车线迹.SLW			打开(0)
文件美型(T):	Map file		~	取消

Note: if a graphics file is already opened, and another graph is opened by using the "open file" function, then the previous opened graphic file will be closed.

2.1.3 Save File

If you need to save the current opened modified files, you can click on the upper left; it will pop up the save as dialog box, after setting the save path and file name,

click save as a file in tzf format. As shown in the figure below

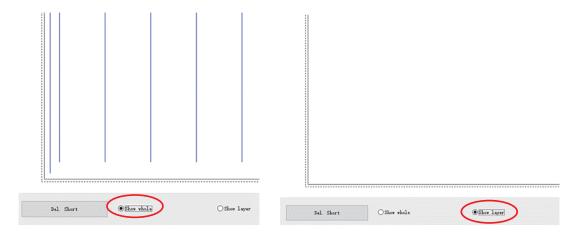
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名称	^	修改日期	类型
激光 sewing	g-soft	2019/6/6 10:00	文件夹
<			>
文件名(N):		保ィ	霁(S)
保存类型(T):	tzf(*.tzf)	Ę	消

2.2 Graphic Display

Through the toolbar at the bottom of the software, you can choose "show whole" or "show layer". "Show whole" means to display graphics of all layers in the file, and "show layer" means to display graphics of the current layer only.

2.2.1 Display Mode

Display file or layer: select "layer 1", select the graphic display mode to be ^{Show whole} then the graphic of all layers in the file will be displayed in the drawing area, as shown in the left figure below; select the graphic display mode to be ^{Show layer}, then the graphic of the current layer will be displayed in the drawing area, as shown in the right figure below



Show order: choose "show order", tick in the small box at the front, then the graphics processing sequence will be showed, as shown in the left figure below; cancel ticking "show order", the graph order won't be showed in the drawing area, as shown in the right figure below.



2.2.2 Zoom In, Zoom Out, Drag Show Area

If you need to carry out operations such as Zoom Out, Zoom In, Drag Show to graphics, you can click the display toolbar on the right side of the file or use the right mouse button to click in the drawing area; select corresponding menu item, display the toolbar (left) and right click menu item (right), as shown in the figures below

		Common Op.
Common Op.		Zoom Out
		Zoom In
7.007		Drag show
200m	Zoom Reset Show	Reset Show
		Change Shape
Drag show		Del. Short
		More Op.
Reset Show		Layer Setting
		Operation

Zoom in: click on the Zoom Out button in toolbar or drawing area [right click - > zoom in]; when the mouse becomes (+,), it means graphics zoom in operations can be performed; click once by the mouse in the drawing area, the graphic will be zoomed in to display.

Zoom out: click on the Zoom n button in toolbar or drawing area [right click - > zoom out]; when the mouse becomes, it means graphics zoom out operations can be performed; click once by the mouse in the drawing area, the graphic will be zoomed out to

display.

Drag display position: in the main interface or batch processing interface, click on the "drag show" button in the toolbar or select "Drag show" in the menu items. When the mouse into is becomes ("), hold the left mouse button to move the mouse to move graphics display position in the drawing area.

Note: it just changes the graphic display in the drawing area, and the graphic size and coordinate value stay the same.

2.2.3 Reset Show

After zoom in, zoom out, drag operations to the graphics, if you want to restore graphic display, click on the "Reset Show" button.

2.3 Graphics Drawing

In pattern production, according to the need, if you need to add graphics, you can click

Add shape button to enter add graphics dialog, as shown in the figure below:

Note: when you input coordinate point in adding graphic, if the input is with subtractive coordinates, the minus sign will be ignored. For example, if input coordinate value of the adding point is (-100, -100), the coordinates of the actual added point are (100, 100).

2.3.1 Add Point

In the add graphics dialog box, tick in front of \square Point, then input X and Y coordinates of the point, as shown in the figure below:

Add shape	×
Point	Coor. X: 600.000 Y: 45.000
Line	Line size(mm) 30.000
Rect	Wide 30.000 High 30.000
Circle	Radius(mm) 15.000
Cano	Ok

Click

0k

button to add a point with coordinates (600, 45).

2.3.2 Add Line Segment;

In the add graphics dialog box, tick in front of "line"; input the starting point coordinates and length of line, as shown in the figure below:

Add shape	×
	Coor.
Point	X: 600.000 Y: 45.000
☑Line	Line size(mm)
Rect	Wide 30.000 High 30.000
Circle	Radius (mm) 15.000
Ca	ncel Ok

Click button, you can add a line segment with starting point coordinates (600, 45), 30 mm long.

2.3.3 Add Rectangle

In add graphics dialog, tick in front of the Rect box, and enter the starting point coordinates, the width and height of rectangular, as shown in the figure below:

Point	Coor. X: 600.000 Y: 45.000
Line	Line size(mm) 100.000
Rect	Wide 112.5 High 10
Circle	Radius (mm)

Click button, you can add a rectangle with starting point (left upper corner of the rectangular) coordinates of (600, 45), 30 mm wide, 30 mm high.

2.3.4 Add Circle

In add graphics dialog box, tick in front of the "Circle" box, and input the circle's center coordinates and radius, as shown in the figure below:

□Point	Coor. X: 600.000 Y:	45.000
Line	Line size(mm)	000
Rect	Wide 112.50 H	High 100.0
☑Circle	Radius (mm) 50	
	Cancel 01	

Click ^{0k} button, you can add a circle with center coordinates of (600, 45), radius of 15 mm.

Note: if the added circle point X or Y coordinate is less than 0, the software will adjust the origin of coordinates in order to make all coordinates are greater than or equal to 0 automatically. For example, if the added circle with center coordinate of (0, 0), radius of 15 mm, after the clicking "Ok" to add the circle, the software will adjust the new origin of coordinates to the position of (-15,-15) relative to the old origin of coordinates, so coordinates of the center of the circle will be displayed as (15, 15) after adding it.

2.4 Graphic Edit

2.4.1 Copy

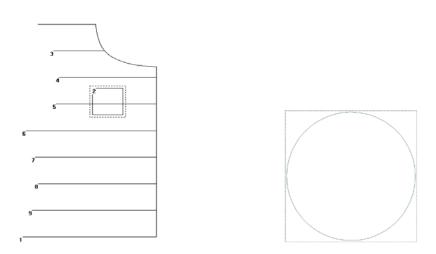
For batch processing the selected graphic need to copy in the interface, click the "Shape Clone" button to select copy way of "Copy method" dialog, and set the offset value. To copy the horizontal mirror image of 10 mm offset, vertical mirror image of 10 mm, for example, as shown in the figure below:

	Clone method	×
	Clone method X Mirror Clone Y Mirror Clone X Offset(mm) Y Offset(mm)	10 10
	Cancel	Ok
Click ^{Ok}	to complete graphics	replication.

2.4.2 Cut

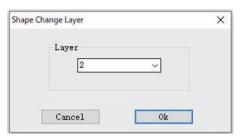
Refers to cut and paste a graph of a layer to another existing layer or a newly created layer.

Existing layer 1 (left) and layer 2 (right) as shown in the figure below, cut and paste the graphics 2 in layer 1 to layer 2, the operations are as follows:

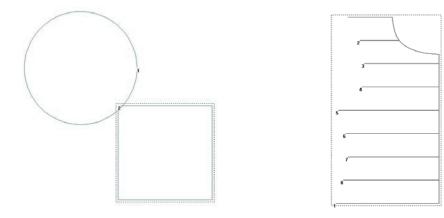


1. Select graphics 2 in layer 1 in the main interface or batch processing interface, click on the "Change Layer" button in the toolbar

2. Select layer 2 in the dialog drop-down list of "Shape Change Layer"



3. Click "Ok". After the completion, "Layer 2" is as shown on the left below, and "Layer 1" as shown on the right below



Note: 1. If the selected graphics is all the graphics of layer 1, it is equivalent to merge the layer 1 and layer 2.

2. If selecting the "new layer" in the "change layer for current graphics" dialog box, it will create a new layer, and cut the selected graphics in "layer 1" and paste on the new layer.

2.4.3 Delete

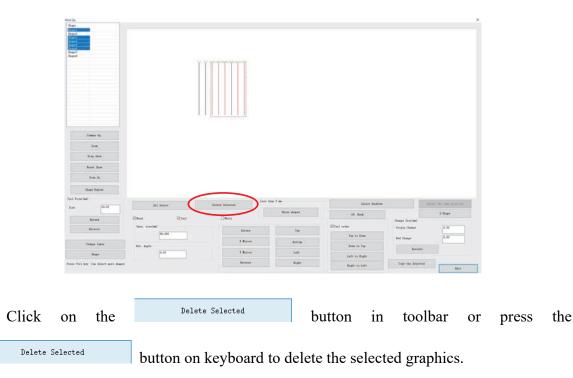
1.Single graphics deletion

Select the graphics need to delete the main interface, press the Delete key or click on

the \times button in the toolbar to delete the selected graphics.

2.Batch deletion

Click on the "More Op." (batch processing) to enter the batch processing interface, click (press Ctrl + click or Shift + click to multi-select) or use left mouse button to choose one or more graphics, as shown in the figure below.



Note: if selecting all graphics in the layer, it will delete the current layer after clicking "Delete Selected".

3.Delete the short line

Click on "Del. Short" button in the toolbar below the main interface, popping up delete short line dialog, as shown in the figure below

Spec Hile	Inert	See as	The second of the second second	for Table Size		Anny pulse	Change State
			Shares coular sharapa the file?	Dia d	er den't webr Link	1 - 200 000 m, 1 - 200 000 m	
ner Gulgel nert for	Sheet Sheet Sheet	Geep law	Notine REDEFED	* - 200 000 at . * - 400.	80 m	1-20.00 m 1-20.00 m	
	Real Real Real	Stage Great					
	Red Ref Set	Set as Sal					
		Res fg.					
		Change Slape					
		Min Hope					
		Larer Serving	Det 19	4	×		
+0+		OF Just		el, shert line land			
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	See. 10	bm	100	-			
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There	how	-					
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tear.	-	les					
lister and set		living slave			1.		
(percel)	10 C	Chevel Shine	Shi Bart Bar Alle	Other Isse	Die		and loter Dolt

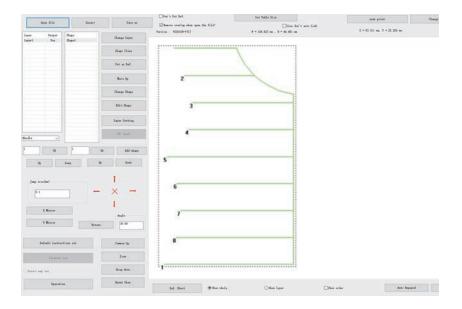
Set the value of the short line segment, click Ok to delete line segments less than the set value.

2.4.4 Cancel

Click OP. Back button to cancel the recent operation to the graphics and the layer, maximum of revocation of 16 times continuously.

2.5 Graphic Transformation

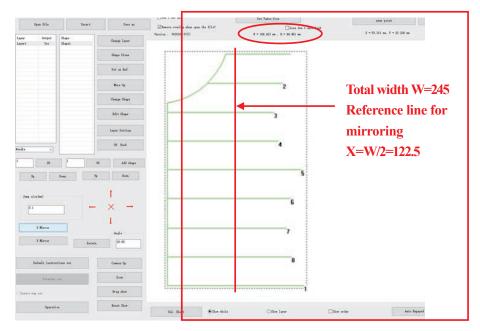
Open the file, as shown in the figure



2.5.1 Layer Integral Transformation

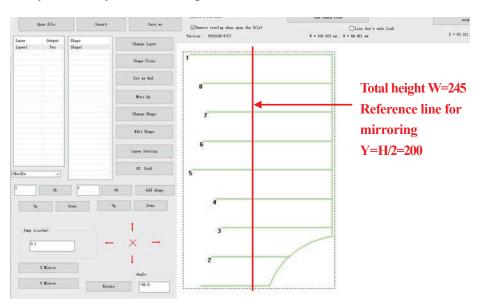
(1) Horizontal mirror image

In the main page, click on the "Horizontal Mirror Image" button in the toolbar to make horizontal mirror image to all the graphics in the opened file. In horizontal mirror image, taking midperpendicular of the whole width of the layer as a reference line, i.e., taking the line at x=w/2 to make horizontal mirror image. Graphics after horizontal mirror image is as shown:



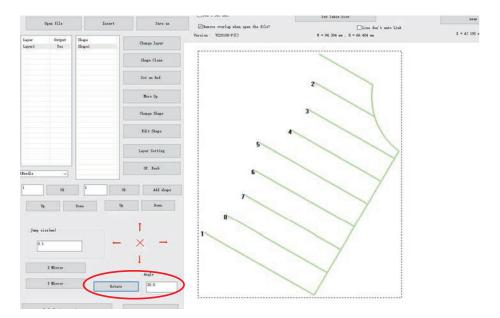
(2) Vertical mirror image

Click on the "Vertical mirror image" button in the toolbar to make vertical mirror image to all the graphics in the opened file. Image reference line is midperpendicular of the whole height of the layer, namely, Y=H/2. Graphics after the vertical mirror is as shown



(3) Rotation

Input rotation angle in the edit box, click on the "Rotate" button in the toolbar to rotate all the graphics in the opened file; the center of rotation is the center of the rectangular (that is, imaginary line box in the picture) composed by overall width and height of the layer. Graphics after rotating is as shown:



2.5.2 Single Graph Transformation

(1) Graphics image and rotation

There are two kinds of transformation methods for single graph transformation, and they are graphics transformation taking the center of the bounding rectangle rectangular as the reference point and graphics transformation taking the selected point as the reference point. Select the graphics, click on the "current graph edit" button to enter the "current graph edit" dialog, graphics transform toolbar as shown in the figure below

Can Oper. shape		□Op. base point	Angle 0.00	Rotate
Common Op. Zoom	MoveStep 1	Extend or Shorten Origin Change	10.000	X Mirror Y Mirror
Drag show Reset Show	Start pos Reverse	End Change Execute	0.000	Exit

Method 1: graphics transformation taking the center of the bounding rectangle rectangular as the reference point

Cancel the $\sqrt{}$ in front of the " $\Box^{\text{op. base point}}$ ", then the reference point for the graphics transformation will be the center of the bounding rectangle rectangular; Click X Mirror, Y Mirror, and Rotate buttons in the toolbar to carry out the corresponding graphics transformation operations.



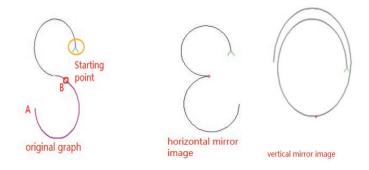
Method 2: Tick in front of the "rotation and mirror image using the reference point", selecting point as the reference point, graph transformation is in two cases:

1. Whole graph transformation. If you do not double-click the graph node to select the reference point, the default is to use the starting point as the reference point, and the mirror reference line is the horizontal or vertical line passing through the reference point, so as to mirror or rotate the whole image.



2. Section transformation.

Except for graph from the starting point to the reference point, other graph (such as the original AB segment) will be mirrored or rotated, the default mirror reference line is the horizontal or vertical line through the reference point.



(2) Graphics translation

Select graphics (take selected graphics 1 for example), input moving distance in the edit box (0 < moving distance < 100 mm), click on the direction keys to carry out translation to graphics along the four directions of up, down, left, right, translation toolbar as shown in the figure below:

Jump size(mm)		1	
0.1	~ -	X	\rightarrow
,		1	

Note: if the graphics moves to the left or up, and moves to the graphics with the coordinates less than zero, the software will adjust the coordinate origin automatically, taking coordinates of upper corner of the overall graphic bounding rectangle as the origin.

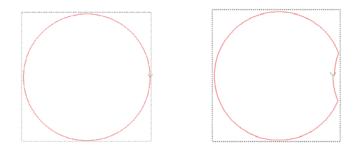
2.5.3 Graphics local transformation

Select layer, enter the "More Op." (batch processing) interface; select graphics which needs graphics transformation (single selection or multiple selection, take selecting all for example), click on the graphics transformation button in the toolbar for graphics transformation, graphics transformation toolbar is as follows:

Head	□Tail	Whole
Oper. size(mm)	50, 000	Rotate
Rot. Angle		X Mirror
	. 00	Y Mirror
L		Reverse

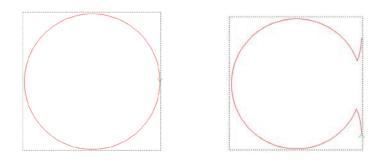
(1) Horizontal mirror image

Choose mirror part (select the head and tail at the same time, for example), and set up the "Oper.size" (head and tail length of operation) to be 20 mm, click on the X Mirror button in the toolbar to carry out horizontal mirror image to the head and tail of graphics. Every part of the image reference line is the vertical line of point 20 mm away from head or tail of graphic. The graphics before horizontal mirror image is shown in the diagram (left) below, graphics after horizontal mirror image is shown in the diagram (right) below.



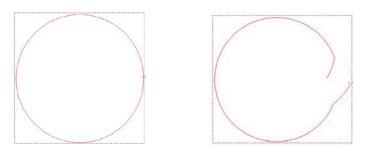
(2) Vertical mirror image

Choose mirror part (select the head and tail at the same time, for example), and set up the head and tail length of operation to be 20 mm, click on the **Y** Mirror button in the toolbar to carry out vertical mirror image to the head and tail of graphics. The graphics before vertical mirror image is shown in the diagram (left) below, graphics after vertical mirror image is shown in the diagram (right) below.



(3) Rotation

Choose rotation part (select the head and tail at the same time, for example), and set up the rotation angle to be 30^{0} , click on the "rotate" button in the toolbar to rotate 30^{0} the head and tail of graphics. The graphics before rotation is shown in the diagram (left) below, graphics after rotation is shown in the diagram (right) below.



2.6 Graphic Split, Connection Extending and Shortening

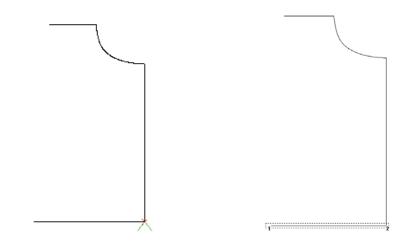
In pattern production, according to the demand, you can to connect and split graphics.

2.6.1 Graphic split

Select the graphics needs to split, click the Change Shape (Modify Current Graphics) to pop up " Change Shape " dialog box, select the split position and click, as shown in the figure below:

(2			
	-				
	pe	Delete point	Split Point	pec. Size Mark	Clear
Can Oper. shap Common Op.	De	Konstation of the second secon	Split Point New Point	pec. Size Mark Low Spd Mark	1
	pe Step Num.	Go			1
		Konstation of the second secon	New Point		Clear

Click Split Point, and the graphics will be split into two graphics from the split point, as shown in the figure below:



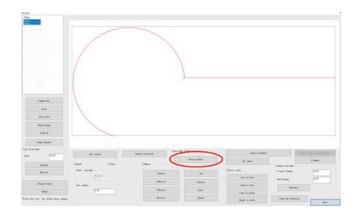
Note:

If you need to split a straight line, but a straight line only has two nodes of the beginning and end, you need to add the intermediate node. The method is: click on
 Add Node (add intermediate node), then click on "Execute" to insert the intermediate nodes between two nodes.

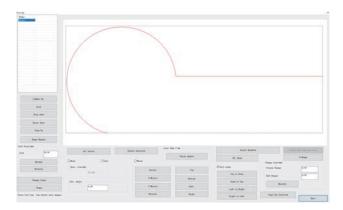
To choose split nodes, you can use the mouse, or Go, Back,
 End pos. to move
 the cursor to select.

2.6.2 Graphics connection

Click on the More Op. (batch processing) to enter the More Op. (batch processing) t interface, choose graph 1 and graph 2 need to be connected (the end of graph 1 and the beginning of graph 2 must be less than 2 mm), click "Union shapes", to connect graph 1 and graph 2.



After graphics connection, graph 1 and graph 2 are connected to be a graph, as shown in the figure below



2.6.3 Graphics extending and shortening

(1) Linear extending

Method 1: select the graphic, click on the Edit Shape (current graph edit) button to enter the Edit Shape dialog box; input values in the region of the extending and shortening, click on "Execute".

Method 2: single or multiple graphics operations. Click on the More Op. (batch processing), as shown in the figure below:

nange Size(mm) Prigin Change	0.00
rigin change	
ind Change	0.00
Execute	
Copy the Selected	1

Select the graphics need to be extended or shortened, in the ^{Can Oper. shape} (change origin and end length) edit box, input values of the changed origin and end length; click on "Execute", the graphics will be extended or shortened.

Note: 1. positive value is to extend, negative is to shorten

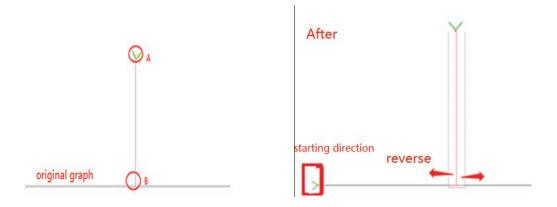
2. It is only the linear extension, as to the curve, it will be extended along the tangential direction of the head or the tail point.

(2) Extending and reverse extending

If the end point of the graphic (such as point B) (\forall marked point as the starting point) is connected to another pattern, then it can be extended (towards the end point of the connecting pattern) or reversely extended (towards the starting point of the connecting pattern) to repeat the sewing contact area. The method is as follows:

Click "More Op." to select the graphic you want to extend. At the "Tail Focus", enter the value you want to extend, and click "Extend" or "Reverse". The picture is as follows:

Note: The selected graph here must have an end point to be connected to another graphic to get the effect.



2.7 Layer and Graphics Sorting

In working, the equipment will begin sewing processing from graphics of small a number. As to a single graph, the endpoint marked with serial number or Υ mark is the sewing starting point. Set appropriate graphics serial numbers and sewing starting point, to

shorten sewing path to reduce the empty moving distance and improve processing efficiency. (Please refer to Section 2.8 for sewing starting point setting)

2.7.1 Layers Sorting

For multiple layers graphics, graphics serial number sorting will start from layer with small layer number. When opening the multiple layer files, you can use the Up and Down buttons to sort the layers according to actual needs, to determine processing order,

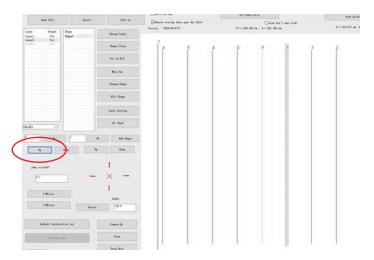
or input layer number in the edit box directly, and click the Ok button to adjust the layer order.

Specific operations are as follows:

Method 1: mouse click to select layer 3, as shown

				Libu't fet fet	Set Table Size	
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-	-		th Add shape			
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	I Keese		1			
			Angle			
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	lefeds lauro	rtion ast	Common Dp			
	Swanar	100	2.em			
-			Brug show	1/21 1/2 1/2	1	2

Click on the Up button once, to move the layer 3 order forward 1, that is layer 3 to be layer 2, as shown

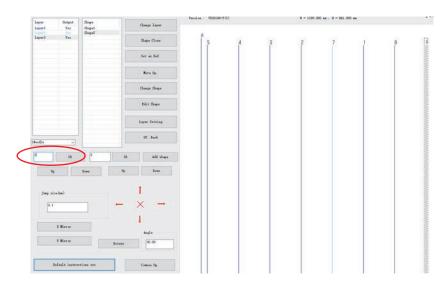


When the layer is 1, the layer cannot be $U_{\mathbf{p}}$; when it is the last layer, the layer cannot be $\mathbf{D}_{\mathbf{0}\mathbf{W}\mathbf{n}}$.

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Method 2: mouse click to select layer 3, as shown

Change the number 3 in the edit box to be number 1, click ^{0k}, that is to make layer 3 to be layer 1, as shown in the figure below.

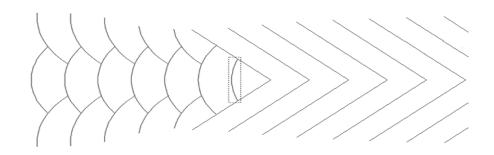


2.7.2 Graphics sorting

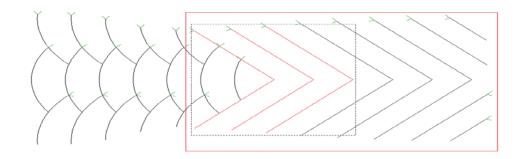
Graphics sorting methods are as following

Method 1:

To sort regular graphics, as shown in the figure below:



Click on the More Op. (batch processing) to enter the More Op. interface. Choose graphics which needs batch sorting, use the mouse to click on one of the graphics; press "Ctrl" key, and then click the graphics which also need to add or tick a few graphics, as shown in the figure below:



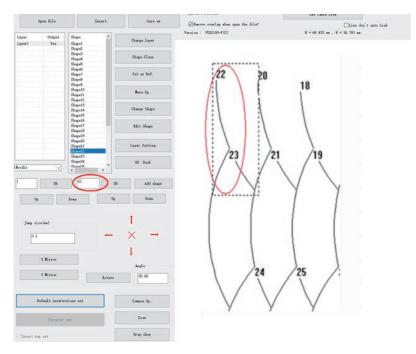
Select sorting criterion and sorting way (take first point, left to right sorting for example), as shown in the figure below:

	OP. Back	
<	Tail order	
	Top to Down	
	Down to Top	
<	Left to Right	>
	Right to Left	

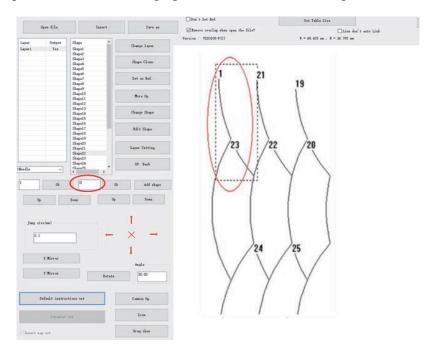
Click Left to Right, the selected graphics will be subject to coordinates of the first point (in the graphic, point with Y sign is the first point, the other end is end point), numbered from left to right.

Method 2:

As shown in the figure below:

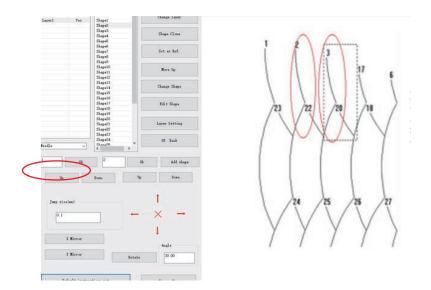


Select "graphics 22", change "22" to "1" in the input box on the left side, click "Ok" button, the graphics 22 will become graphics 1, as shown in the figure below:



Then long press "Ctrl" key, use the mouse to click on the "graphics 21" in drawing area, then "graphics 21" will become "graphic 2", and so on.

As shown in the figure below:



2.8 Graphic Sewing Starting Point Setting

(1) Batch setting

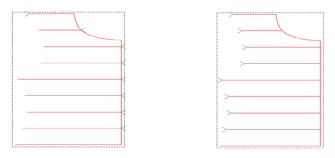
Click on the More Op. (batch processing) in main interface to enter the "More Op."

(batch processing) interface, select one or more graphics; the selected graphics as shown in the following figure (left), click button in the start settings toolbar to set the graphics starting position, the starting point settings toolbar are shown in the figure (right) below.



Click Reverse button to make the starting point of selected graphic reversed, that is the starting point and end point to be exchanged, graphics after the exchange is shown in the figure (left) below.

Click "Top" button to set the starting point of graphics to be on the top of graph, graphics after the exchange is shown in the figure (right) below.

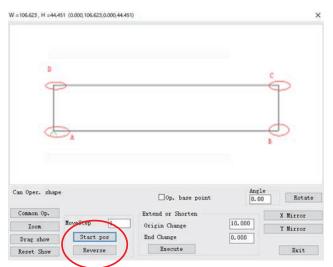


(2) Single graphics settings

Single graphics settings can be undertaken in the single selection graphics settings in **Edit Shape** interface (as above), and you can also select the graphics need to set, click "Change Shape" (current graph edit) on the toolbar to enter the graphics edit page settings.

Unclosed graph: only two nodes (starting point and midpoint) after entering graphics edit page, you can only click the Reverse button to exchange the beginning and end of the graphics.

Closed graph: entering the graphics edit page as shown in the figure below, you can click the "Reverse" button to exchange the beginning and end of the graphics, and also use the mouse to click graphic node to determine its position as the starting point of graphics, or change the starting location by setting the moving step and clicking on the "start point sewing".



As shown above, the starting point of graphics is position A

Method 1: after clicking on the Reverse button, exchange starting point and end point, the starting point of graphic becomes position D.

Method 2: use the mouse to click on the graphic node location B directly, then the starting location of the graphics becomes position B.

Method 3: set up mobile step to be 1, click on the Start pos, then the starting point will move back for a node, and the starting point of graphic becomes position B.

Chapter III Sewing Operation

3.1 Graphics Converted to Processing Path

Start the software, use "open file" to open a file as shown

3.1.1 Layer parameters setting

Double click on "layer 1", or click the "Layer Setting" button after selecting layer 1, or right-click to choose "Layer Setting" in the drawing area, it will pop up "layer parameter setting" dialog box, as shown in the figure below:

			Special Move Mode	Ch	ange Head
Will Output?	es ~		NO	~	edle 1 😽
	Double Set				
Enb node	Double S	ize	Spec. size(mm)		
Line to point	Point	2.50	3.0 =0 Car	Set other	Change needl
Point Interv. (mm)	Odd Rep.	0 ~	=0 The Spec. Si	ze don't	Needle 1 🗸
3.000	Even Rep.	0 ~	Special Spd		1800
Closed up line					
Start Repeat	0	R	epeat number 1	E	nd Repeat Needles
End Repeat	0	R	epeat number 1		0
Line repeat back					
Start Repeat		0	Open F_E_Th	nick	
End repeat		0	Thick Num.	5	
Start repeat num	L.	1			
End repeat num.		1	Density	2	
Start Turn Slo	ow		Open Turn Ti	nick	
		20	Thick Num.	5	
Turn Angle					

Related options are introduced as follows:

[^{Will Output?}]: Yes - there is processing and data output in the "operation processing" upon choosing "Yes".

[Change Head]: sewing head 1 - set the head corresponding to the sewing operation. Part of the machine expanding has other heads, such as the brush head after sewing, or a template opening head.

[Emb mode (Sewing pattern)]: Tick - the contraction sewing and the inflection point reduction function can be set after ticking.

[Line to point]: Tick - other sewing functions can be set after ticking.

[Point Interv. (mm) (Dot pitch)]: 3.000 - set stitch when sewing, minimum value cannot be 0.5 mm, otherwise it will not be able to generate processing files

[Spec. size(nm) (Special sewing)] - used to set the different speed and stitch used in part

area of the graphics, which needs to set special sewing label before being effective. Please refer to Section 3.3 of this chapter for details

[Closed up line (Closed graph reinforcement)] - only used to set the closed graph reinforcement. Closed reinforcing is to continue sewing specified number of threads forward after sewing to the end point (that is, the needle starting point), and then return to the needle starting point, carrying out overlap reinforce between the two points.

[Line repeat back (Reverse stitching of the head and the tail for unclosed line)] - used

to set reverse stitching of the head and the tail for the unclosed graphics (i.e., forward and backward reinforcing), the number of head and the tail reinforcing sewing and number of threads can be set.

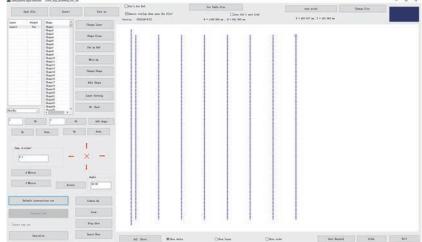
[^{Open F_E_Thick} (Enable the head and tail contraction sewing)] - used to set whether to narrow sewing stitch at the graphics head and the tail. As setting "dot pitch 3 mm", "contraction sewing points: 5", "contraction sewing multiple: 2" mean to use sewing stitch of 3/2=1.5mm within the scope of each 3 * 5 = 15 mm of each 5 stitches forward and backward the head and tail.

[Start Turn Slow (Enable turning point deceleration)] - used to set if turning point angle is less than the set value, carry out deceleration sewing at the specified number of threads on both sides of the turning point.

[^{Open Turn Thick} (Enable turning point contraction sewing)] - used to set if turning point angle is less than the set value, narrow sewing stitch at the turning points.

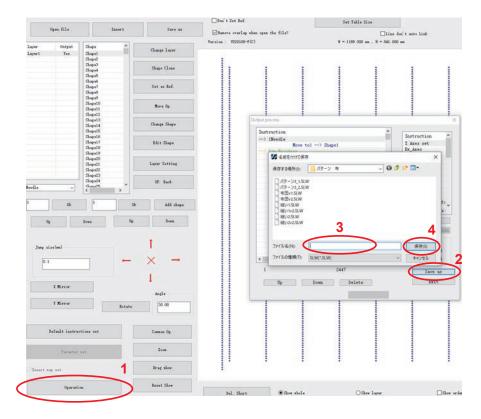
If it needs to convert the "layer 1" graphics to sewing points, it can be set as shown in the figure below:

Point Interv. (an) Odd Rep. Image: Construction of the second of th		_		Special Move Mode	Change Head
Eab node Double Size Spec. size (na) Iline to point Point 2.50 Point Interv. (na) Odd Rep. Image: Change needled in the spec. Size don't Image: Change needled in the spec. Size don't 3.000 Even Rep. Image: Change needled in the spec. Size don't Image: Change needled in the spec. Size don't Closed up line Even Rep. Image: Special Spd 1800 Closed up line Start Repeat Image: Repeat number Image: Repeat number Start Repeat Image: Repeat number Image: Repeat number Image: Repeat number Line repeat back Image: Image: Image: Repeat number Image:		Will Output?	les v	NO ~	Needle 1 V
Start Repeat 0 Repeat number 1 End Repeat Needles End Repeat 0 Repeat number 1 0 Line repeat back 0 Open F_E_Thick 0 Start Repeat 0 Thick Num. 5 Start repeat num. 1 Density 2 Start Turn Slow Open Turn Thick Turn Angle 45 Slow needle 5 Density 2		∠Line to point Point Interv.(mm)	Double Size Point 2.50 Odd Rep.	3.0 =0 Can Set of =0 The Spec. Size don'	Needle 1 V
Start Repeat 0 Open F_E_Thick End repeat 0 Thick Num. Start repeat num. 1 Density End repeat num. 1 Open Turn Thick Start Turn Slow Open Turn Thick Turn Angle 45 Thick Num. Slow needle 5 Density		Start Repeat			End Repeat Needles
Turn Angle 45 Thick Num. 5 Slow needle 5 Density 2		Start Repeat End repeat Start repeat num	0 0 1	Thick Num. 5	
		Turn Angle	45	Thick Num. 5	
Cancel Ok			Cancel	Ok	
	ck ^{Ok}	as show	n in the figu	re below.	



3.1.2 Operation processing

Use the "layer parameter setting", after converting a graphic to sewing points, you can click on the "Operation" output processing files. Click on the "operation", popping "Output process" dialog as shown below:



Instructions list on the left side is the final processing instructions, you can insert control instructions on the right, and can also carry out Up, Down, "delete" operation to instructions.

If you need to zoom the graphics files, you can tick the "Enable scaling size" function, and enter the scaling of X, Y direction. For example, the overall size of original file is X = 1000, Y = 500, dot pitch of 3 mm, set the scaling of X = 50%, Y = 50%, then overall size of the resulting processing file is X = 500, Y = 250, dot pitch with reduced proportion is 1.5 mm.

Click the "output file", select the save path and enter the required processing file name, click "save", processing file in SLW format can be generated.

3.2 Reference Points Setting

After editing sewing graphic and generating sewing point, and before the output of file, you can set double reference points for graphics.

Any two points may be as the reference points, in the general situation, and you can choose the two points at opposite angles of bounding rectangle, or two points easy to check the template for reference points.

If double reference points are not set, in the device processing for the first time, the graphics will use the sewing point in "figure 1" as reference point 1 for reference point matching by default. (Note: refer to manual human machine interface for the reference point setting)

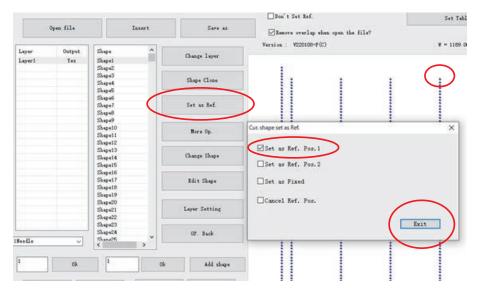
3.2.1 Double reference points setting

(1) Steps of double reference points setting are as follows:

1.Set reference point 1

After using the mouse to choose "sewing point 1", click "Set as Ref. (reference point)" tick on the Set as Ref. Pos.1 in "Cur. Shape set as Ref." dialog box and click

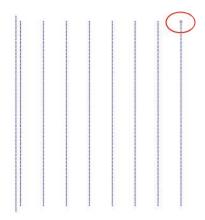
Exit . As shown in the figure below:



2. Set reference point 2

After using the mouse to choose "sewing point 2", click "Set as Ref. (reference point)" tick on the Set as Ref. Pos.2 in "Cur. Shape set as Ref." dialog box and click Exit

After setting reference point successfully, reference point becomes +, as shown.

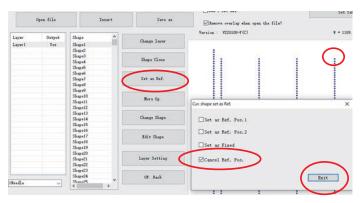


It will add reference point instructions in the "Output process ", as shown in the figure below:

Trate accient				^	1		-	
> Ref. Pos.1					Ins	truction	1	
				-	ZA	Z Axes set		
Mov	re tol> Sh	apel			Ex_	Axes		
> Run MainAzez					Del			
Laver1> Shape1						Output IO		
Mov	Move to1> Shape2				Inp	nput IO		
Layer1> Shape2						Speed Z Axes Speed		
Move to1> Shape3								
Layer1> Shape3						r_Clear		
Move to1> Shape4						Label		
Layer1> Shape4						Loop Mainâxes Pos infc		
Mov	Move to1> Shape5					nAxes Pos		
Lay	Layer1> Shape5				<	· Hotelway	>	
Move tol> Shape6 Layer1> Shape6					-	Insert		
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	Layer1> Shape7				100.000			
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<			>		Υ:	100.00	\$	
1 2448						Save as		
						pave as		

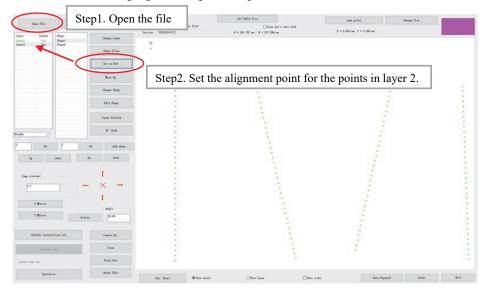
(2) Cancel the reference point setting

The method is: select the reference point, click "set as Ref." in the toolbar, and do not tick Cur. shape set as Ref. in the pop-up dialog box to cancel reference point 1. Or tick the Cancel Ref. Pos. to cancel all reference points, as shown.



3.2.2 Register mark settings

Please refer to the following figure for specific operations:



Note:

1. Please ensure that the positions of frame and designs in software are consistent with the positions of actual template frame design.

2. If the template slot is small, and the template processing joint error is big, to align positions but not to align double reference points could make the machine needle to meet template resulting in abnormal sewing at work.

3.3 Add Nodes to Straight Line and Special Stitch Settings

3.3.1 Add New Nodes to Straight Line

In pattern production, according to the need, you can add the intermediate nodes for the straight line, used for special sewing label, etc.

Steps are as follows:

1. Click on the Change Shape to pop up graphics changes dialog box. Or click on the

More Op. - Shape to modify a single graphic.

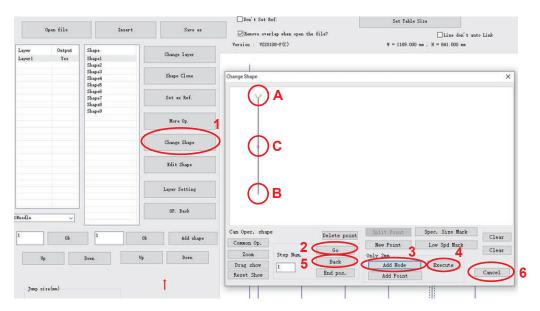
2. Click "Go" repeatedly, ">" icon will move a node forward, and straight line has only node A, B by default.

3. Click "Add Node " to add intermediate node, it will appear in the middle of AB

4. Click "execute" to generate a new node at "C".

5. Click "Go" repeatedly to know that a new node is generated successfully.

As shown in the figure below. Perform step 3,4 for many times, you can add multiple nodes.



3.3.2 Special stitch setting

In pattern production, according to the need, you can set a special stitch within the range of graphic.

Operation process is as follows:

1. Click on the More Op. to batch processing, select the graphic, click Shape to modify a single graphics. It is as shown in the figure below:

hape15	Change Shape		×
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	And a second second second second	Go	Spd Mark Clear
Ioon In	Zoon Step Num,	Only 2aa	
	Drag show 1	Back Add Node Errs	cute
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ail Focus (am)			
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ail Focus (sa) Size 20,00	All Select	Delete Selected	
	All Select	Delete Selected	
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	All Select	Delete Selected	Union shapes
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Size 20.00		□ ¥hole	Union shapes
5ize 20,00 Extend	⊠Bead ⊠Tail Oper. size(Mm)		Union shapes
5ize 20,00 Extend	⊠Bead ⊠Tail	□ ¥hole	Union shapes
Size 20.00 Extend Reverse	⊠Bead ⊠Tail Oper. size(Mm)	U Whole Botate	Union shapes Top
5ize 20,00 Extend	Oper. size(MA) 50.000	□ ¥hole	Union shapes Top
Size 20.00 Extend Reverse	⊠Bead ⊠Tail Oper. size(Mm)	U Whole Botate	Union shapes Top
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Size 20,00 Extend Reverse Change layer	Citend Citail Oper. sise(ma) Ect. Angle	□ Whole Rotate X Hirror	Union shapes Top Source Left

2. Move the mouse to double-click on point "A", move the green arrow to point "A" and click on the Spec. Size Mark, then the special stitch mark (thicker) from point "A" to the end of the graphics is generated, as shown in the figure below:

nange Shape					
		A			
an Oper, shap				Spec. Size Mark	
	e	Delete point	Split Point	Spec. Size mark	Clear
Common Op.	e	Delete point	Split Point	Low Spd Mark	
Common Op. Zoom	Step Num.	Go	New Point 🗸 Only 2mm	Low Spd Mark	Clear
Common Op.			New Point		Clear Clear Cancel

3. Move the mouse to point "B" and double-click (if no node at point B, add a node first), click on Spec. Size Mark, the special stitch mark (thicker) from point A to point B is generated, as shown in the figure below:

hange Shape					;
		В			
- Can Oper. shap		Delete point	Split Point	Spec. Size Mark	
Common Op.			New Point	Low Spd Mark	Clear
	Step Num.	Go		Low Spd Mark	Clear Clear
Common Op.			New Point	Low Spd Mark	In the second second second

4. Click

Layer Setting

as shown in the figure below:

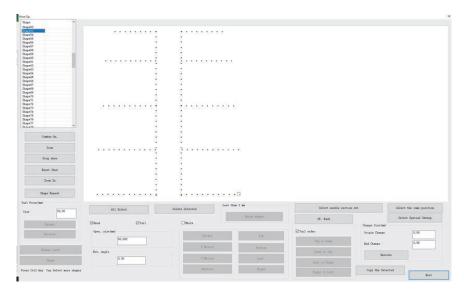
	Version . V220100-r (c) 8 - 00.433 mm , n - 30.103 mm
Change layer	
Shape Clone	
Set as Ref.	Layer parameter set Special Move Mode Change Head
More Op.	Will Output? Yes NO Needle 1 Double Set
Change Shape	Double Size Speer size (an) Double Size Speer size (an) Point 2.50 3.0 =0 Can let other Change needle Needle 1 0 Odd Rep. 0 =0 Inte Speer. Size don't Needle 1
Edit Shape	3.000 Even Rep. 0 V Special Spd 1800
Layer Setting	Closed up line Start Repeat 0 Repeat number 1 End Repeat Needles End Repeat 0 Repeat number 1 0
OP. Back	Line repeat back Start Repeat 0 Open F.E.Thick
)k Add shape	End repeat 0 Thick Num. 5
Down	Start repeat num. 1 End repeat num. 1 2
t × →	Start Turn Slow Open Turn Thick Turn Angle 45 Thick Num. 5 Slow needle 5 Density 2
	Cancel Ok

5. Input the required stitch length in the Spec. size (special sewing) space, or select Special Spd to input the required speed.

* Set the Emb mode and line transfer point to ON.

3.4 The Same Position Selected and Select Special Sewing Settings

After sewing graphics editing is complete, if it needs to set special sewing in a range of the graphics, double click the layer and enter the batch processing interface, as shown in the figure below:



3.4.1 The same position selected

Hold down the "Shift" key and click on the "shape44" and "shape53" for multiple-choice or ticking graphics directly in the list, and selected points become red, as shown in the figure below

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20,00 Entend Anverse Osney Tates	Elman Elman Oper. stan (ma) Mat. Magin	Indets Solarited	Bann, shuper Try Banna	09. Back STuil order Tay in Jaco	Orage Storbas) Oragin Orage	Select Special Sering
20.00 Textend Answere	⊠Teal Oper. size/mai 80.000	Pointe Salacted	Sara, dager Taj	07. Back STail order Top 10 Doce Doce in Top	Change Starlan) Oragin Change Rad Change	Select Special Sering 0.00 0.00
20,98 Estent Anverre Oracet Tates	Elman Elman Oper. stan (ma) Mat. Magin	Indets Solarited	Bann, shuper Try Banna	09. Back STuil order Tay in Jaco	Change Starlan) Oragin Change Rad Change	Select Special Sering 0.00 0.00
20,00 Extend Asserve Oanget haves	Stead Steal Oper. size(Ba) Ret. degle 6.00	Indets Solarited	Bann, shuper Try Banna	07. Back STail order Top 10 Doce Doce in Top	Change Starlan) Oragin Change Rad Change	Select Special Sysing 0.00 0.00

Click "Select the same position" button to select the vertical symmetry point of selected points, as shown in the figure below

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9639						
pe40						
ge43		÷.				
g+62 g+62						
apres -	÷1					
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					-	
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Stope Report				Select mode port	in of St	oct the same position
Dage Argent 1 Ferur (an)	3	1. 1. 1. 1. 1. 1. 1.				and the second
Boge Report 1 Fontation) 20	Hind St. S. 4. 18. 18. 18. 18. 18. 18. 18. 18. 18. 18	A. A. A. A. A. A. A.	Loss than 2 as	Select mode out		net the same position
Dage Argent 1 Ferur (an)	3	1. 1. 1. 1. 1. 1. 1.	Loss than 2 as			and the second
Roge Report (Ferrar Sac) 20.00	Real Street	A. A. A. A. A. A. A.	Loss than 2 as	IF. bek	Charge Travian	
Dage Japen Fernafika) In	Hind St. S. 4. 18. 18. 18. 18. 18. 18. 18. 18. 18. 18	A. A. A. A. A. A. Delete Selected	Leve than 2 as			and the second
Bage Agent I. Forurfaa) te	2	A. A. A. A. A. A. A.	Leve than 2 as	07. bas	Charge Travian	
Joge Agent Fenalisa) a D. 10 Ternal	Real States	A. A. A. A. A. A. Delete Selected	Leve than 2 as	IF. bek	Gauge Starfau) Origin Gauge	8.00
Slage Supert 1 Forur Sal 20 20 20 20 20 20 20 20 20 20 20 20 20	2	A. A. A. A. A. A. A.	Lerr than 2 m Thiss, thight	07. bas	Charge Travian	
Bage Report 1 Forus (sa) 20 Eccasi	El fotor El fotor Elfond Elfond Gane, situ (ma)	A. A. A. A. A. A. Delete Selected	Leer the 2 to Non-Mart	09. Dask Effekt erder Tag 44. Dass	Gauge Starfau) Origin Gauge	8.00
Slage Supert 1 Forur Sal 20 20 20 20 20 20 20 20 20 20 20 20 20	2. S.	Balana Salamat Delana Salamat Dibela Salama Dibela	Less than 2 an Thism strates 7 Tel 2 Letter	07. bas	Ower Starfool Origin Charge Bud Ower	8.00
Rege Report 1. Foreir (60) 2. Foreir (60) Revent Revent Comp Linter	El fotor El fotor Elfond Elfond Gane, situ (ma)	A. A. A. A. A. A. A.	Less than 2 an Thirds structs 7 m 1 Structure	07. box 12 tail order Tag 41 lines Tour 14 Tag	Gauge Starfau) Origin Gauge	8.00
Bage Report 1 Forum Bal 20 Brown Brown Brown	2. S.	Balana Salamat Delana Salamat Dibela Salama Dibela	Less than 2 an Thism strates 7 Tel 2 Letter	09. Dask Effekt erder Tag 44. Dass	Ower Starfool Origin Charge Bud Ower	8.00
Rege Report 2. Forward Same Same Concert Lanes Diago	El factor de la construction de la construcción de	Rice Stend	Les the 2 m This there 7 m Let Let	07. box 12 tail order Tag 41 lines Tour 14 Tag	Caage Eise (ad Digto Caage Bad Caage Easonts	8.00
Share Report L Forsel (al) Bo Execut Noncore Classer Lates	El factor de la construction de la construcción de	Balana Salamat Delana Salamat Dibela Salama Dibela	Les the 2 m This there 7 m Let Let	07. box 12 tail order Tag 41 lines Tour 14 Tag	Ower Starfool Origin Charge Bud Ower	8.00

Note: only symmetrical unclosed graph can be conducted with the same position selected.

3.4.2 Special sewing settings

Click Select Special Sewing to enter strengthening sewing for selected needle mode dialog box, as shown in the figure below

	Back Sew Num.	~	
Reverse stitching	Dack Dev Hun.		
	Even width Width	2.4	3.5.
_	Left Witdh	1.2	n.n.
Zigzag (knot)	Right width	1.2	nn.
	Length	2.0	лл
	Number of	2	
	Zigzag shape	¥	×
	Start Pos.	Middle	e 🗸
	Keep OldNeedle(Must W	hole Sec	ction)
	Add backtrack(must wh	ole sect	tion)
		Def	ault ~
Density stitch	Density Parameter 2		

There are three kinds of reinforcement sewing patterns, respectively:

(1) Reverse stitching

Tick in front of the Reverse stitching box, and then it will carry out two reverse sewing operations to the selected points. Different from the reverse stitching of "Layer parameter settings" in 4.1.2 of this chapter, the reverse stitching here is not confined to the head and the tail, it is for any point. While "Layer parameter settings" reverse stitching can set reverse stitching for batch of the head and the tail of all graphics.

(2) Zigzag (knot)

Tick in front of the Zigzag (knot) box, it will carry out zigzag stitching (knot) for the selected points, multiple stitching.

(3) Density stitch

Tick in front of ^{Density stitch}, it will carry out reduced stitch sewing for the selected points.

Zigzag stitching details are as follows:

Tick the small box in front of the zigzag stitching, set the zigzag stitching properties, as shown in the figure below

Select the over stitches mode		×
Reverse stitching	Back Sew Num. 1	~
🗹 Zigzag (knot)	Even width Width Left Witdh Right width Length	2.4 mm 1.2 mm 1.2 mm 2.0 mm
	Number of Zigzag shape	2 ~ V ~
	Start Pos.	
	☐Ådd backtrack(must who	le section) Default v
Density stitch	Density Parameter 2	
Cancel	Ok]

[Even width (Aequilate)]: tick in the small box in front of the option, you can set the transverse stitch length of zigzag stitching to be aequilate. Or cancel this tick in front of the option to set the left and right width value.

[^{Width}]: transverse stitch length, when zigzag stitching is set to be aequilate, set the width of zigzag stitching. Value range is from 0.5 mm to 20 mm (0.1 mm as the incremental unit)

[Left Witch]: left transverse stitch length, when zigzag stitching is not set to be aequilate, set left width. The range is 0.5 - 20 mm.

[^{Right width}]: right transverse stitch length, when zigzag stitching is not set to be aequilate, set right width. The range is 0.5 - 20 mm.

[Length (Span)]: used to set the span of zigzag stitching. The range to enter is 0.1 mm to 10 mm (0.1 mm as the incremental unit), and the actual effective range is stitch length

distance between 0.1 mm to point. When the span is less than the stitch length, it will add the needle point.

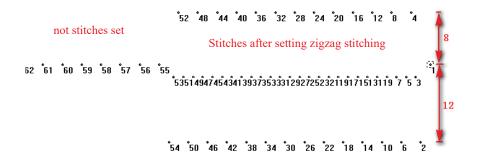
[Number of (Stitching points' number)]: set the number of threads from one tip to the next tip of zigzag stitching, values of 2, 3, and 4.

[^{Zigzag shape}]: used to generate stitch data. Select shape of zigzag stitching.

N shape: generates N shape zigzag stitching, such as multiple sewing

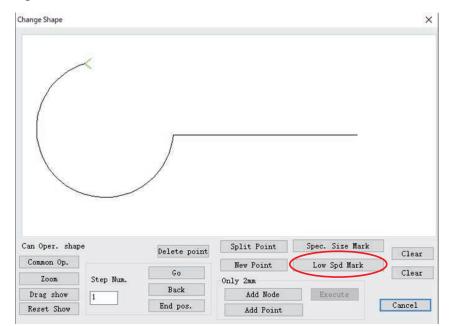
V shape generates V shape zigzag stitching, such as zigzag stitching (knot) $* \frac{1}{2} \underbrace{s}_{\pm \pm \pm \pm} \underbrace{s}_{\pm \pm} \underbrace{s}_{\pm} \underbrace{s}_{\pm \pm} \underbrace{s}$

Set as the above parameters, click "Ok" to complete the zigzag stitching settings for selected stitches, the stitches after setting as shown in the figure below

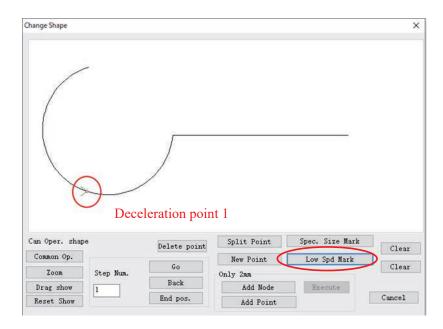


3.5 Set Speed Down Points Manually

In sewing process, if there is any need to slow down to a specific point of graphics, as shown in the figure below:



Double-click "slow down point 1" on the graphics with mouse, click Low Spd Mark (manually slow down position identification), as shown in the figure below:



After setting, you can see in the "output process", when close to the manual speed down position, there is "turning point reduction for advance" - "turning point position" - "acceleration completed after turning point" instruction.

Note: the beginning point of the graphics cannot be set to be slow down point.

3.6 Operation Procedure of Multiple Process Continuous Operation

As shown in the figure below:

			Bas's for Ref.	Set Yalda Sira	new print	Dage Size
Span Hile	Door t	Serv as	Sheers cruding shee upon the fills"	Dine des't este Link	and points	
			Farsion W20000-FIC)	4 = 81.413 as , 8 = 40.917 as	E = 53.002 am, T = 0.000 am	
er Output erl Ins	Days Days	Gauge Lawr				
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Jung minutes)		T.	5			
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f Kerie	Betate	0.00				
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			bil. there	Other Jaco	She after Anto Dep	und Order field

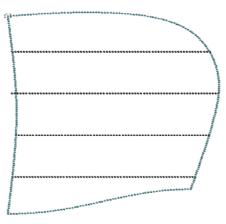
3.6.1 Sewing - change the template - sewing sample

According to the technological requirements, sew layer 1 first, remove the template to reload the cut-parts; and then sew layer 2, to realize the process requirement, the following steps can be carried out:

1. Click on the "Layer Setting", edit graphics into sewing instructions, as shown in the figure below:

Layer parameter set			×
Will Output?	Yes v	Special Move Mode	Change Head
Emb mode Line to point Point Interv. (mm) 3.000	Double Set Double Size Point 2.50 Odd Rep. Even Rep. 0	Spec. size(mm) 1.5 =0 Can Set othe =0 The Spec. Size don't Special Spd	r Change needle Needle 1 v
Closed up line Start Repeat End Repeat		epeat number 1	End Repeat Needles
Line repeat bac Start Repeat End repeat Start repeat num. End repeat num.	0	Open F_E_Thick Thick Num. 5 Density 2]
⊠Start Turn Sl Turn Angle Slow needle	ow 45 5	Open Turn Thick Thick Num. Density Ok]

Transfer the turning point of two layers to generate sewing instructions in turn.



2. Click on operation processing to enter the "output process" interface, as shown in the figure below:

Instruction		^	2	70.00	0.02	1526
-> INeedle				Inst	truction	^
	Move tol -> Shapel				kes set	
-> Run MainAx	es				lxes	
	Layer1> Shape1			Dela		
	Move to1> Shape2		<		put IO	
	Layer1> Shape2		1		at IO	
	Move to1> Shape3			Spee		
	Layer1 > Shape3				ces Speed	
> Z Axes set	1.000(nm)				r_Clear	
	Nove tol -> Shape4			Labe		
	Layer1> Shape4			Loop		
	Move tol> Shape5				Axes Pos	
	Layer1> Shape5			10.44	. Wainduaa	2
	Move to1> Shape6		3			-
	Layer1> Shape6				Insert	
	Move to1> Shape7			12.40	t Configur	and in another
	Layer1> Shape7			aux	e conrigui	acton
	Move to1> Shape8			10	Zoom	
	Layer1> Shape8		-	1.000		
	Move to1> Shape9	~		X :	100.00	%
() · · · · · · · · · · · · · · · · · ·	1. 1. 1. M. A.	>		¥:	100.00	x.
9	374			i.	Save	as
				1	Exi	

3. Move the mouse to the sewing end position of the first layer (spindle stop instruction position), and choose the right instructions -"Delay" "Back Origin", and "Up Pause", select "Insert", or double-click the instructions to insert. As shown in the figure below:

Instruction			^			0.002	
-> 1Needle				1	nsti	ruction	^
1	love to1> Shape	1		2	Axe	es Speed	
-> Run MainAxe						Clear	- 1
L	ayer1> Shape1				abel		_
Nove to1 -> Shape2					.oop		
Layer1> Shape2						axes Pos	
1	love to1> Shape	3		147	Wait MainAxes i		
-> I Axes set	1.000(nm)					axes Oper	ate
> Up pause						em reset	
	ayer1> Shape3			1.		Default	
	love to1 -> Shape	4			1111	fset Nov	re
	ayer1> Shape4					use	~
	love to1> Shape	5		<	-		>
	ayer1> Shape5						
	love to1 -> Shape	6		.8		Insert	
	ayer1> Shape6			3	dit	it Configuration	
	love tol -> Shape	7				0.000.000.000	
	ayer1> Shape7				nen	Zoom	
	love to1 -> Shape	8		100000	15	100.00	*
-	ayer1> Shape8		~		8 G	100.00	
c			>		Y:	100.00	%
9		375				Save	as
Up	Down	Delete	1			Exi	t

4. Click "output file", and input the processing file name to save.

When the above file is processed by the end of the first layer, it will return to the origin after delaying for 100 ms; preparation of next working procedure can be performed, and press the pause key after the completion to carry out the second layer processing.

Note: when inserting the instructions in step 3, if there is no required instruction in "instruction bar" in the right column:

Use the mouse to click the "edit configuration", input "tz0001" on the keyboard. The "edit configuration" becomes from gray to black, then click by mouse again, popping up "configuration settings" dialog box, as shown in the figure below:

Lay	ver1 v			-	Edit instruction	
	Shape startpos set	Copy to all			Edit Configuration	\supset
	Shape endpos set	Config set				
1	Layer begin default	Instruction list	^		Default instruction	
	Layer end default	Z Axes set Ex_Axes Delay		_>	Z Axes set Ex_Axes Delay	
	Work begin def	0 1 1 70	T		Output IO Input IO	
	Work end defa	10000 0000 1000 0			Speed	
	Emb start defa	1 1 1			Z Axes Speed Coor_Clear MainAxes Pos info	
	Emb end defau	Z Axes Speed MainAxes Pos info			Wait MainAxes info. MainAxes Operate	
	Emb range sta		~		System reset	
	Emb range en			e. 1		>
	Insert IO of B	Delete		Inse	rt Delete	
	Other Head	Cancel			Ok	
	Ratio 1.0	0			Exit	-

Select on the required instructions on the left side and click "Insert".

3.6.2 Brush sample after sewing

According to the technological requirements, sew cloth first, and then carry out draw lines operation, introduced as follows:

- 1. Set the sewing pattern as layer 1, line drawing graphics as layer 2.
- 2. To layer 1, click on the "layer parameter set", choose to use "Needle 1", check the "line to point" to generate sewing points, as 4.4.1 shown in figure 2.
- 3. To layer 2, click on the "layer parameter set", choose to use " Needle 2", do not check the "line to point", click Ok.
- 4. You can see that brush instructions are generated in the "operation " instructions list. Click "output file" to save.

3.7 Introduction to Default Instructions Set Settings

In the use of this software, users do not need to set the default instructions set.

"Default instructions set " is used to set at the starting and end of graphics, layer, operation, and sewing, insert all sorts of instructions to control the spindle or other actions, in order to realize flexible and varied use requirements.

Click " Default instructions set " and type "tz0001" on the keyboard.

Input password	×
Input password	
	Ok
Default instructions set	×
Layer Layer1 V	Edit instruction
Shape startpos set Copy to all	Edit Configuration
Shape endpos set Copy to all	Turn pos default
Layer begin default Copy to all	Before Sew End
Layer end default Copy to all	Sew Pos. Insert OutIO
Work begin default	Series Limit Set
Work end default	Head2 Start
Emb start default	Head2 End
Emb end default	Head3 Start
Emb range start	Head3 End
Emb range end	Head2 range start
Insert IO of Back	Head2 range end
	Head3 range start
Other Head	Head3 range end
Rot. Ratio 1.00	Exit
BackSew Insert IO Arcs speed :	ratio

[Shape startpos set]: aiming at the selected layer, instructions need to be performed before the execution of each graphic

[Shape endpos set]: aiming at the selected layer, instructions need to be performed after the execution of each graphic

[Work begin default]: aiming at the selected layer, instructions need to be performed before the execution

[Work end default]: aiming at the selected layer, instructions need to be performed after the execution

[Emb start default]: the settings for instructions need to be performed before the entire file operations

[Emb end default]: the settings for instructions need to be performed after the entire file operations

Click the mouse in the blank area of the "tz0001" on the keyboard to activate the Edit instruction and Edit Configuration functions.

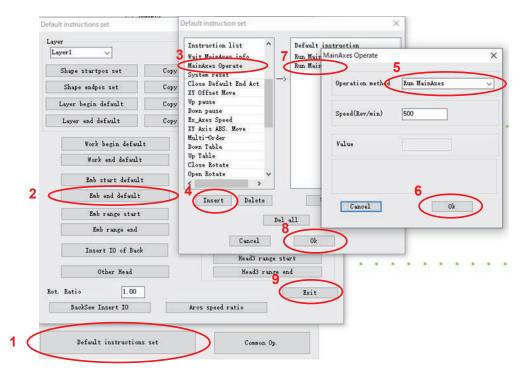
ayer1 🗸		Edit instruction	
Shape startpos set	Copy to all	Edit Configuration	
Shape endpos set	Copy to all	Turn pos default	
Layer begin default	Copy to all	Before Sew End	
Layer end default	Copy to all	Sew Pos. Insert OutIO	
Work begin defaul	t	Series Limit Set	
Work end default		Head2 Start	
Emb start default		Head2 End	
Emb end default		Head3 Start	
Emb range start		Head3 End	
Emb range end		Head2 range start	
Insert IO of Back		Head2 range end	
Insert to or back		Head3 range start	
Other Head		Head3 range end	

[Edit instruction]: it can combine the instructions of an event list into a new instruction.

[Edit Configuration]: add or delete the instructions in the "instruction list" on the left side of "default action setting".

(1) Example 1: the spindle needs to be opened and stopped at the beginning and after the end of sewing, so the spindle motions at beginning and end of sewing need to be set by default. (The software has been set up after installation, only for demonstration function here)

To set the spindle to open at the starting point of sewing as an example, the steps are as follows:



1. Click the Default instructions set

2. Click the Emb start default .

3-4. Click on the MainAxes Operate in "instruction list", and then click "insert"; Or double-click the MainAxes Operate.

5-6. Set to be Run MainAxes, click Ok

7-8. Run MainAxes instruction will be added in "default action" list, click Ok , and complete the operation.

(2) Example 2: suppose that a buzzer is connected to the output of equipment circuit boards (the machine head plate standby output IO8), it is hoped that the buzzer rings for a second every time after the sewing, operations as the following:

(Note: this is only assumption to introduce the custom introductions usage. The actual circuits IO8 may be plugged by the other devices so do not use it like this! Otherwise it may cause other consequences!)

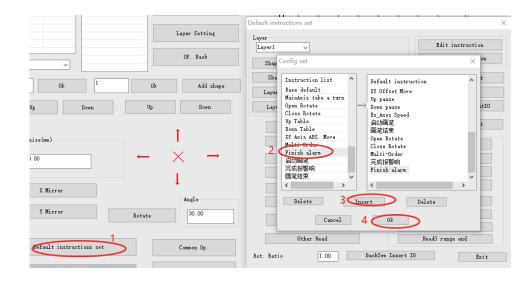
- 1) Add "Finish alarm" instruction
 - 1. According to the above instructions, activate the "edit instruction" function. Click on the "edit instruction" to pop up "default instructions set"
 - 2. In the "instruction list" on the right side, double click on the "Output IO" instruction, set "IO slogan" of 8, "level" of high, click Ok. Double-click the "delay" instruction. Set the "delay (ms) of 1000, click Ok. Add output IO8 low, delay 50 ms instruction like this.
 - 3. Click 0k , input "Finish alarm" in the "please input the self instruction name", as shown in the figure below.

er			Edit inst	han a bi a b
ayer1	Default instruction set		Edit Inst	×
Shape				ion
Snape	Instruction list	^	Default instruction	
Shap	Z Axes set		IO Output8 High	lt
-	Ex Axes set		Delay 1000.000(ms)	_
Layer	Delay		IO Output8 Low	1
Layer	Output IO	->	Delay 50.000(ms)	JutIO
	Input I0			
	Speed Please input	t self instruc	tion name X	et
	Coor_Cles			-
	Z Axes Sp MainAxes	ARM		
-	Wait Main	AM		-
	MainAxes			
	System re C	ancel	Ok	
-	Close Def			
	XY Offset			
	<	>		
	Insert Del	oto	Up Down	
-	anser t		op bonn	1
		Del	all	
-				
	Cance	1	Ok	
	1.00			
Ratio				Exit

4. Click "Ok" to complete adding the custom instruction.

2) Configure the new instruction to the default instructions set.

Click on the "Edit configuration", click the newly added "Finish alarm" instruction in the "Instruction list" on the left side of the popping up "Config set" dialog box, and then click "Insert" to insert it into the default actions. Click "Ok".



3) Add "Finish alarm" instruction in "sewing end default"

Click "sewing end default", double click "Finish alarm" instruction in the "Instruction list" on the left side of the popping up "default action setting" dialog box, click "Ok" to complete.

At this point, you can click on the "operation", in the end of "output process" instruction, and you can see the newly added custom instruction "Finish alarm", as shown in the figure below.

Instruction		^	Tree	truction	^
Move	tol> Shape166				
Laye	r1> Shape166			kes set	_
	tol> Shape167			Axes	_
	r1> Shape167		Dela		-
Move	tol> Shape168	3	/	put IO	
Laye	r1> Shape168		and the second se	at IO	
	tol> Shape169		Spe		
	r1 -> Shape169		and the second second	kes Speed	
	tol> Shape170		Lab	r_Clear	
	er1> Shape170				
	tol> Shape171		Loop	nAxes Pos	
	er1> Shape171			Maindres	
	tol> Shape172		<		>
	er1 -> Shape172			Insert	
	tol> Shape173			insert	
11.5.5.0	er1 -> Shape173		Edi	t Configu	ration
	to1> Shape174		- Andrewski		
	er1 -> Shape174		Open	Zoom	
> Stop MainAxes > ALARM	u(scop pos.)		X:	100.00	96
		×		100.00	~
<		>	¥:	100.00	%
1	385		1	Save	as
Up	Down Delete	-	1	Exi	*

3.8 Remove overlap when open the file

			1.6	Don't Set Ref.	Set Table Size	near point	
Open file		Insert Sure as		Bamove overlap when open the file?	Line don't euto Link		
				Version : V220108-P(C)	¥ = 81.813 mm , ¥ = 93.917 mm	I = 40.300 mm, T = 0.000 m	
Layer	Output	Shape ^	Second Second				
Layar1	Tes	Shapel	Change layer				
		Shapa2					
		Shape3	Shape Clone				
		Shape4	Shape Clone				
		Shape5					
		Shape6	Set as Ref.				
	Shape7	Set as Let.					
		Shape8					
		Shape10					
		Shapel1	More Op.				
		Shape12					
		Shape13					
		Shape14	Change Shape				
		Shape15					
		Shape16					
		Shape17	Edit Shape				
		Shape18					
		Shape19					

As shown in the above figure, tick the box of *Remove overlap when open the file* when opening the file, all the overlapping images are deleted when the graphic is opened, and only one is left.

After the graphic is converted into a sewing point, click "near point" to merge the adjacent points, as shown in the figure below, and turn all the points with a pitch less than 0.3mm (settable) into one point.

			Don't Set Ref.	Set Table Size		Change Size
Open file	Insert	Save as	Remove overlap when open the file?	Line don't auto Link	near point	Change Size
Luur Or	Shape	Change layer	Version : W220108-P(C)	W = 699.929 mm , H = 699.929 mm	X = 349.964 mm, Y = 34	9.964 nn
Layer1 Yes	Shape1	Change Layer				
		Shape Clone				
		Set as Ref.				
		More Op.				
		Change Shape		`		
		Edit Shape			\mathbf{i}	
		Layer Setting	/			
1Needle v		OP. Back	/			
1 0k)k Add shape				
Up	Down Up	Bown				
		Ť			1	
Junp size(nm)		· ·			/	
0.10						
X Mirror		Ļ				
	_	Angle				
Y Mirror	Rotate	30.00		/		
Default instru	actions set	Common Op.				
Paranter	r set	Zoom				
└ Insert map set		Drag show				
Operat		Reset Show				Repayed Order Exit

3.9 Adding the presser foot height setting

Select the target graphic. Then, double-click "Layer 1".

· · · · · · · · · · · · · · · · · · ·		
Layer parameter set		×
	Special Move Mode	Change Head
Will Output? Yes ~	NO ~	Needle 1 🗸
Double Set Double Set Double Point Point Interv. (mm) 3.000 Closed up line		r Change needle Needle 2 1800 End Repeat Needles
Start Repeat 0	Kepeat number	· · · · · · · · · · · · · · · · · · ·
End Repeat 0	Repeat number 1	0
Line repeat back Start Repeat End repeat Start repeat num. End repeat num.	0 Open F_E_Thick 0 Thick Num. 5 1 Density 2]
Start Turn Slow	Open Turn Thick	
Turn Angle	20 Thick Num. 5	
Slow needle	5 Density 2	
Cancel	Ok	

Click on "Emb. mode" and "Line to point". Select "Head 1". Click on "OK".

Open file	Insert	Save as	Don't Set Ref.	Set Table Size	near point	Change Size
			Remove overlap when open the file? Version : V220108-P(C)	Line don't auto Link W = 699.929 mm , H = 699.929 mm	X = 349.964 nm, Y = 34	49.964 nn
ver Ou verl Yes	Shape Shape1	Change layer				
	onayer .	Shape Clone				
		Set as Ref.				
		More Op.				
		Change Shape				
		Edit Shape				
		Layer Setting				
		OP. Back				
dle ~		UI. DECK				
0k	1 (Dk Add shape				
Up	Down	p Down				
Jump size(mm)		1 T				
0.10	→ ←	$\dot{\times} \rightarrow$			/	
		- Î				
X Mirror		Angle				
¥ Mirror	Rotat					
Default instru	otions set	Common Op.				
Paranter		Zoon				
	set					
nsert map set		Drag show				

Select the target graphic. Then, click on the "Operation" button.

Instruction > 1Needle Move to1> Shapel Layer1> Shape1	Instruction XY Offset Move Up pause
	< Down pause Z Axes set Cancel Now Cut Cut Stop poor FootUp Clip strength Back Origin Start Loosening Class Loosening Insert
	Edit Configuration
	X: 100.00 % Y: 100.00 %
1 3	Save as
Up Down De	lete Exit

Select "Motor presser foot height" from the instructions list. Then, click on "Insert".

Instruction		Instruction
> 1Needle		Instruction
Mov	ve to1> Shape1	XY Offset Move
La	ver1> Shape1 =======	Up pause
	FootUp	X wn pause Axes set
		ncel Now Cut
		t.
		op pos.
		ptUp
	Value 0.000	ip strength
		ck Origin
	100	art Loosening
	Value	Tooming)
	1	Insert
		it Configuration
		n Zoom
	Cancel Ok	100.00 %
		100.00 %
	1	
1	3	Save as
Up	Down Delete	Exit

Input the presser foot height and click on "OK".

Instruction -> INeedle -> FootUp 2 Up	4.000 Nove to1> Shape1 Layer1> Shape1	<	Instruction XY Offset Move Up pause Down pause Z Axes set Cancel Now Cut Cut Stop pos. FootUp Clip strength Back Origin Start Loosening Class Loosening	
	4 Down Delete			6 6

Click on "Output file" to save the file.

Appendix I: Descriptions of Events List Instructions

Z axis movement: Z axis moves specified distance

U axis movement: U axis moves specified distance

Delay: equipment suspended, delays specified milliseconds

Output IO: a standby output IO port of specified equipment outputs high or low level

Input IO: a standby input IO port of specified equipment detects high or low level

Z axis speed: set the Z axis working speed

Speed: set the spindle speed

Coordinates reset: set the internal coordinates of X/Y/Z/U axis system to be 0

Tags: after inserting tags, cycle jumping to tags can be set

Cycle: set the number of cycles and jumping tags, and then start cycle working from the

tags

The spindle position message:

Waiting for the spindle message:

Spindle's operation: open, stop and speed setting of the spindle

Equipment reset: equipment back to the mechanical origin

Operation mode:

Speed mode: settings of speed sewing mode and ordinary sewing mode

XY relative motion:

Up suspended: machine needle up suspended at the end of the sewing

Down suspended: machine needle down suspended at the end of the sewing

Appendix II: Quick Introduction to Use

The basic use process of this software is as follows:

(1) Open file

Click "Open File" button in the top right corner of software, select to open file drawn by Autocad and other software for processing, supporting format such as dxf, dst, dsb, ai, plt, tzf, etc.

(2) Graphics editing and sorting

This step can be skipped. If you need to edit graphics, refer to Chapter II of this Instruction; if you need to optimize the processing path to reduce the empty moving distance, or to sort graphics, refer to Section 2.7 and 2.8.

(3) Current layer settings

Click "Layer Setting" to enter "layer parameter set" dialog box, set the parameters as the second picture in Section 3.1.1, click "Ok". The graph in drawing area will be converted to stitch points. Refer to Section 3.1.1 for details.

(4) Reference point setting

This step can be skipped. Refer to Section 3.2 for details.

(5) Operation processing

Click on the "Operation " to enter "Output process" dialog box, a lot of processing instructions will be on the left side of the dialog box. Click "Output File" to input file name in the pop-up dialog box, click "Save".

(6) Copy the saved HLW suffix files to the U disk, and then copy them to the equipment to be processed.